



OHIO
UNIVERSITY

CONFINED SPACE ENTRY PROGRAM

Department of Environmental Health & Safety
Department of Facilities Management

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OHIO UNIVERSITY

CONFINED SPACE ENTRY PROGRAM

1.0 SCOPE

This document establishes the precautions, training, responsibilities, requirements, and methods, which are to be used by all Ohio University personnel and contractors while preparing for and entering confined spaces at Ohio University.

2.0 PURPOSE

The purpose of this program is to insure that Ohio University does everything possible to prevent injury or illness to employees and contractors who may be entering a confined space. It is also the intention of this policy to comply with the OSHA Standard 29 CFR 1910.146. It is the responsibility of all employees to follow all procedures outlined in this program without exception.

3.0 REFERENCES AND DEFINITIONS

3.1 REFERENCES

3.1.1 OSHA Permit-Required Confined Spaces for General Industry, 29 CFR 1910.146.

3.1.2 OSHA Lockout/Tagout Standard for General Industry, 29 CFR 1910.147.

3.2 DEFINITIONS

3.2.1 Attendant: Individual stationed outside one or more permit spaces who monitors the authorized entrants and performs all duties assigned in the confined space program

3.2.2 Authorized Entrant: Employee who is authorized by the employer to enter a confined space.

3.2.3 Blanking or Blinding: The absolute closure of a pipe, line or duct. This is done by fastening a solid plate or "CAP" across its bore that completely covers the bore; which extends at least to the outer edge of the flange at which it is attached; and that is capable of withstanding the maximum upstream pressure.

3.2.4 Confined Space: A space that is large enough and so configured as to allow bodily entry and perform assigned work, has limited or restricted means of entry/exit, and is not designed for continuous occupancy.

3.2.5 Double block and bleed: The closure of a line, duct, or pipe by locking and tagging a drain or vent which is open to the atmosphere in the lines between two locked closed valves

3.2.6 Emergency: Any occurrence, including any failure of hazard control or monitoring equipment, or event affecting the confined space that could endanger entrants.

3.2.7 Entry: Action by which a person passes through an opening into a confined space. Entry is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

3.2.8 Entry Permit: Written or printed document that is provided by the employer to allow and control entry into confined spaces, and contains the required information.

3.2.9 Entry Supervisor: Person responsible for determining if acceptable entry conditions are present in a confined space where entry is planned for authorizing and overseeing entry operations, and terminating entry as required by law. Authorized Entry Supervisors are those persons trained and authorized by Ohio University to act in this capacity.

3.2.10 Ground Fault Circuit Interrupter (GFCI): A GFCI is a fast-acting circuit breaker that is sensitive to very low levels of current leakage to ground. The GFCI is designed to limit the electric shock to a current and time duration value below that which can produce serious injury. The unit operates only line to ground fault currents, such as insulation leakage currents or currents likely to flow during accidental contact with a "hot" wire of a 120 volt circuit and ground. It does not protect in the event of line-to-line contact.

3.2.11 Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10 percent of the lower flammable limit (LFL).
- Airborne or combustible dust at a concentration which meets or exceeds its LFL.
- An atmospheric concentration of oxygen below 19.5 % or above 23.5%.
- An atmospheric concentration of any substance for which the permissible exposure limit is published by OSHA, and may be exceeded by employee exposure to the space.

- Any other atmospheric condition that is immediately dangerous to life or health.

3.2.12 Hot Work: The cutting, welding, brazing, grinding or torch soldering of materials. All work of this type must be done in accordance with the Ohio University hot work permit system and appropriate ventilation.

3.2.13 Isolation: The separation of a permit entry space from unwanted forms of energy, which could be a serious hazard to entrants. Isolation is usually accomplished by such means as blanking or blinding, removal or misalignment of pipe sections or spool pieces, double block and bleed, or lockout and tagout.

3.2.14 Low Hazard Confined Space: 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 physical harm(non-permit confined space) or where the atmospheric or potential atmospheric hazard can be controlled with ventilation (alternate procedures).

3.2.15 Permit-Required Confined Space: A confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains or has 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.

3.2.16 Physical Hazards: Examples include but are not limited to:

- Confinement, restricted entry and exit, physical impediment of the body, use of the hands or a contortion of the body to enter into or exit from the confined spaces.
- Engulfment: The surrounding and effective capture of a person by a liquid or finely divided solid substance, bridging.
- Other Common Hazards: Temperature extremes, noise, excessive moisture, vibration, ionizing radiation, electrocution, particle abrasion/impaction, combustible dusts, animals, slippery footing conditions, and water falls.

3.2.17 Prohibited Condition: Any condition in a permit space that is not allowed by the permit during the period entry is authorized.

3.2.18 Testing: Process by which the hazards that may confront entrants of a confined space are identified and evaluated. This includes specifying tests that are to be performed in the space.

4.0 GENERAL

4.1 All potential Confined Spaces have been evaluated per OSHA Permit-Required Confined Space Decision Tree (Appendix A).

4.2 A completed permit shall be completed and approved to enter any confined space. No employee shall enter a confined space without a signed and valid permit (Appendix D).

4.3 Each confined space will have a standard operating procedure (SOP) specifically developed by Facilities Management or appropriate department, which specifically addresses issues required to make the space safe for human occupancy. These issues will include but not be limited to the following:

- Lockout/Tagout
- Respirator usage
- Hazard Communication
- Emergency rescue equipment necessary and its configuration
- Combustible gas and other potential toxic air contaminants
- Other contaminant determinations
- Ventilation
- Hot work permits for welding and cutting
- Two-way communications
- Intrinsically safe equipment, bonding, and grounding where needed

4.4 Only trained and authorized personnel shall be permitted to enter a confined space.

4.5 Confined spaces shall be monitored at the minimum of three levels in the space: at the top, middle, and bottom.

4.5.1 Monitoring shall be conducted only by trained personnel.

4.5.2 Atmospheric testing equipment shall be calibrated per manufacturers recommendation daily if an entry will be made.

4.5.3 Facilities Management or other designees shall be trained to use atmospheric monitoring equipment.

4.5.4 Once a space is determined atmospherically safe, the instrument(s) may be taken inside the space by the authorized entrant and utilized to continuously monitor

the space if required by the EHS office or used as a remote sampling probe as appropriate.

4.6 All confined spaces shall be posted as a “permit requiring confined spaces”; a permit being required, unless it is declassified or alternate work procedures are authorized per this program and OSHA requirement. Ohio University will make every effort to declassify for all spaces before entry and use non-entry rescue techniques only, or in some cases “alternate procedures”.

4.7 All contractors required to enter a permit required confined space shall be informed of the requirement to adhere to this program and shall also be informed of the training requirements of permit required confined spaces. Ohio University Confined Space entry requirements will be considered and included in all bids for work by contractors.

4.8 Only Authorized Entry Supervisor’s shall certify on the entry permit that the confined space is safe for entry.

- Superintendent, Heating Plant
- Confined Space Designee, Heating Plant
- Superintendent, Plumbing Shop
- Superintendent, Environmental Services Shop
- Edwards Accelerator Designee (Physics Dept. only)
- Authorized Alternates, EHS

4.9 The confined space entry permit shall be posted at or adjacent to the entry point of the confined space.

4.10 Declassification of Permit Required Confined Space to a Low Hazard Permit Space may be accomplished if the following hazards are not present:

4.10.1 Potential for engulfment

4.10.2 Potential for hazardous or toxic atmospheric conditions.

4.10.3 Initial monitoring shall be conducted to confirm that oxygen concentrations are >19.5% and < 23.5%, combustible gas concentrations are <10.0% LFL, other toxics which are known to exist in adjacent areas are not detected or less than their respective permissible exposure limits (if applicable).

4.10.4 Potential for physical hazards such as live moving parts, water pressure, live electrical energy, stored energy, steam pressure, falls, etc.

4.11 If all the above conditions are met then the space may be entered without standby rescue personnel, ventilation or constant instrument monitoring surveillance.

4.12 Alternate Procedures-If all the above concerns have been removed and the only hazard is an actual or potential atmospheric hazard that can be controlled with ventilation, this can be done without stand-by rescue services as long as the requirements of the Standard are met for “alternate procedures”:

- Entry cover removed safely
- Access protected or guarded
- Continuous ventilation provided
- Internal atmosphere tested and continuously monitored
- Proper permit record is kept

4.13 Once the space has been declassified from its permit space designation then the posted permit shall reflect this by checking the "low hazard confined space" (non-permit or alternate procedures) designation in the appropriate section of the permit (Appendix D).

5.0 ENTRY PERMITS

5.1 Confined space entry permits must be completed and authorized only by the Authorized Entry Supervisor's before entry into a confined space (Appendix D - Permit). Entry permits that authorize entry into a confined space must include the following information:

- Specific location of the permit space to be entered.
- The purpose of the entry.
- The date and authorized duration of the entry permit.
- Identification of authorized entrants to the space.
- Identification of persons who will serve as attendants, as required.
- Name of entry supervisor.
- The hazards of the space to be entered.
- Measures used to isolate the space, as necessary.
- Measures used to eliminate or control the hazards of the space.
- The acceptable entry conditions for the space.
- Results of initial and periodic testing along with the names of the testers and the times the tests were performed and identification of equipment used by serial number.
- Equipment available for rescue and emergency operations.
- Phone numbers for rescue and emergency services.
- Communications procedures used by entrants and attendants during the entry.
- A list of equipment (personal protective, testing, rescue, alarm, etc.) to be available.
- Any additional permits that have been issued.

5.2 The triplicate permit form shall be distributed as follows:

- Original at the confined space work site
- One copy to the Authorized Entry Supervisor
- One copy to EHS, Confined Space Program Administrator

6.0 DUTIES AND RESPONSIBILITIES

6.1. Authorized Entrant Duties:

6.1.1 Utilize working knowledge of the hazards present during entry, including: information on the mode, signs, or symptoms and consequences of exposure.

6.1.2 Possess adequate knowledge and skill to use equipment necessary to perform the task safely and effectively.

6.1.3 Maintain communication with the attendant as necessary to enable the attendant to monitor entrant status and allow attendants to alert entrants of the need to evacuate confined space for any reason.

6.1.4 Alert the attendant whenever entrant recognizes or suspects the presence of a dangerous situation.

6.1.5 Exit the space as quickly as possible should any of the following occur:

- An order to evacuate is given by the attendant or entry supervisor.
- The entrant recognizes a warning sign or symptom of exposure to a dangerous situation or hazard.
- An evacuation alarm is activated.
- Prohibited conditions are recognized.

6.1.6 Remove equipment and any work materials used inside confined space upon completion of work.

6.2 Authorized Attendant Duties:

6.2.1 Possess working knowledge of the hazards that may be present in the confined space including: information on the mode, signs or symptoms, and consequences of exposure

6.2.2 Be aware of possible behavioral effects of hazard exposure in authorized entrants

6.2.3 Continuously maintain an accurate count of authorized entrants in the confined space

6.2.4 Remain outside the permit space during entry operations until relieved by another authorized attendant

6.2.5 Communicate with authorized entrants as necessary to monitor entrant status, and to alert entrants of the need to evacuate the space.

6.2.6 Monitor activities inside and outside the space to determine if it is safe for entrants to remain inside the space.

6.2.7 Order authorized entrants to exit the space immediately under any of the following conditions:

- If the attendant detects a prohibited condition.
- If the attendant detects the behavioral effects of hazard exposure in an authorized entrants.
- If the attendant detects a situation outside the space that could endanger the entrants.
- If the attendant cannot safely and effectively perform his required duties for any length of time.

6.2.8 Take the following actions when unauthorized persons approach or enter a confined space while entry is in progress:

- Warn unauthorized persons that they must stay away from the confined space.
- Advise unauthorized persons that they must exit the space immediately if they have entered the permit space.
- Inform the authorized entrants and entry supervisor if unauthorized persons have entered the permit space.

6.2.9 Perform non-entry rescue as specified in the emergency rescue plan

6.2.10 Perform no other concurrent tasks that may interfere with primary duty of monitoring and protecting the authorized entrants.

6.2.11 Continuously monitor the space for hazardous atmospheres when needed.

6.3 Entry Supervisor Duties

6.3.1 Possess working knowledge of hazards that may be faced during entry, including: information on the signs or symptoms, and consequences of exposure.

6.3.2 Verify, by checking entry permit, that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place, before authorizing the permit and allowing entry work to begin.

6.3.3 Terminate the entry and cancel the permit as required by this program.

6.3.4 Verify that rescue services are available and that the means for summoning them are operable (if a permit required confined space can not be declassified to non-permit or alternate procedures).

6.3.5 Remove unauthorized individuals who enter, or attempt to enter the confined space during entry operations.

6.3.6 If responsibility for an entry operation is transferred, that entry operations remain consistent with terms of the entry permit.

6.3.7 Notify affected area supervision and the EHS Representative in advance of anticipated confined space entry.

6.3.8 It is recommended that entry supervisors inspect the entry site in the field to verify conditions.

7.0 CONFINED SPACE ENTRY PROGRAM

7.1 Pre-Entry

7.1.1 The Entry Supervisor shall notify affected area supervision and the EHS Representative well in advance of anticipated confined space entry.

7.1.2 Acquire entry permit from the Entry Supervisor or the EHS Representative and complete it.

7.1.3 Review MSDS if potential chemical hazards exists.

7.2 Assemble authorized entry / support team.

7.2.1 Assemble authorized entry workers (enough to complete the task)

7.2.2 Assemble authorized attendants (at least one)

7.2.3 Assemble entry supervisor (one)

7.3 Organize Required Equipment (Appendix B).

7.3.1 Check operation of required equipment

7.3.2 Check the departments Standard Operating Procedures (SOP) for entering the space

7.4 Determine atmospheric conditions of confined space.

7.4.1 Ensure that atmospheric test equipment is calibrated according to the manufacturers recommendations.

- Test equipment is maintained by the Lauche Heating Plant and Environmental Services Shop at Facilities Management
- EHS has back-up equipment

7.4.2 Test for potential atmospheric hazards, which are anticipated in the confined space.

- oxygen
- flammable gases, vapors, or mists
- flammable and respirable dusts
- toxic atmospheres and residues

7.4.3 Flush, purge, and ventilate as needed to prevent exposures.

7.4.4 Continue to ventilate space if this will eliminate existing hazards.

7.4.5 Only trained personnel shall be permitted to assess atmospheric conditions.

7.5 Physical Hazards

7.5.1 Ensure that confined space has been reduced to Zero Energy State (Consult lockout/tagout program).

7.5.2 Ensure that items brought into space will not create an atmospheric, electrical, physical, chemical, flammable, or mechanical hazard.

7.5.3 Hot work (i.e. welding, cutting, brazing, and grinding)

- Examples listed above require also a hot work permit, ventilation, and fire watch in a confined space.
- Avoid any activity that may generate materials that may make a previously monitored and declassified space a permitted one again

7.5.4 Ensure that all hazards have been recognized and accounted for.

7.5.5 The Entry Supervisor shall be responsible to ensure that 7.5.1, 7.5.2, 7.5.3, and 7.5.4 have been taken care of.

7.6 Control or eliminate hazards.

7.6.1 Atmospheric hazards

- Ventilation
- Purge and vent
- Respiratory protection (only if previously reviewed and approved by EHS)

7.6.2 Lock Out and Tag Out

- System at main power source.
- Block and bleed all hazardous inlets and outlets.
- All associated equipment.
- Isolate area around confined space.

7.6.3 This confined space entry program shall be reviewed annually by EHS and Entry Supervisors and when conditions warrant its review such as:

- An unauthorized entry into a permit space.
- Any near miss condition.
- Any accident, which occurs within the confined space.
- The detection of any prohibited permit condition.
- New confined spaces are created or discovered.

7.7 The signature of the authorized entrant securing the confined space for entry shall be on the permit.

7.8 Submit completed permit to Entry Supervisor for entry authorization signature.

7.8.1 No permit will be authorized until pre-entry tasks have been completed and documented on the permit.

7.8.2 The Entry Supervisor shall insure that the Entry Permit is cancelled upon completion of the confined space entry procedure.

7.8.3 Canceled entry permits shall be retained for a period of one year after entry was made. These are reviewed during the annual program review.

7.8.4 The duration of the permit shall not exceed the time required to complete the task or the end of the shift that the current workers are completing.

7.8.5 The permit shall be a three-piece carbonless form. After the entry has been completed one sheet is sent to the EHS office, one sheet is maintained by the entry supervisor, and the original sheet is maintained by the affected supervision.

7.9 Entry Work

7.9.1 Appropriate personal protective equipment shall be used (Appendix B).

7.9.2 Be sure emergency equipment is in place (Appendix B).

7.9.3 Continue atmospheric monitoring throughout entry work, if necessary.

7.9.4 All entry personnel will perform their assigned duties without interruption.

7.9.5 Any detected change in work space conditions or unexpected hazards found to be present will require that operations be suspended and authorized entrants be removed until further evaluation is performed.

7.9.6 Ensure that all authorized entry personnel have been accounted for and that they are out of the confined space.

7.9.7 Ensure that unauthorized personnel, vehicle traffic or other external conditions which may potentially cause an external hazard to entry personnel are prevented.

- No vehicular traffic, heavy equipment, or heavy loads shall be permitted over a confined space while employees are in the space

7.9.8 Remove equipment and any work materials used inside confined space upon completion of work.

7.10 Post-Entry

7.10.1 Restore space and equipment to operational condition.

7.10.2 Inform area supervisor that control of confined space equipment has been returned to their control.

7.10.3 Restore equipment to proper locations and refill supplies as needed.

7.10.4 The Entry Supervisor shall distribute and maintain copies of the permit in accordance with 5.2.

8.0 RESCUE AND EMERGENCY PROCEDURE

8.1 O.U. will generally strive to declassify all permitted spaces to non-permitted or alternate procedures before entry and use non-entry rescue equipment.

8.1.1 In the unlikely event of an accident or other situation where the non-entry retrieval of an entry worker becomes necessary, the attendant is responsible for initiating emergency/rescue procedures as defined on the permit and University procedures.

8.1.2 Attendant should immediately summon help, then attempt to rescue entrant(s) using non-entry emergency equipment already in place. Attendant shall not enter the confined space or otherwise endanger himself; rather, wait until hazards are determined and protective action taken.

8.1.3 If an emergency rescue is needed, notify 911 Emergency immediately and provide as much information as possible about the emergency situation. Ohio University will rely on outside emergency services (Athens Fire Department) if an entry rescue is necessary. If you are at offsite locations or are performing field operations, implement this procedure in conjunction with a project specific document on Confined Space Entry. SEOEMS ambulance is used for medical emergencies. Both can be called through the 911 system.

8.1.4 If emergency involves release/spill of a hazardous material, the Hazardous Materials Coordinator at EHS should immediately be notified.

EMERGENCY PHONE NUMBERS FOR OHIO UNIVERSITY
ATHENS OPERATIONS

Athens County Emergencies-----**911**
Athens Fire Department-----592-6624
Athens Police Department-----593-6606
O'Bleness Memorial Hospital-----593-5551
Environmental Health & Safety Office-----593-1666
Campus Police-----593-1911
Facilities Management-----593-2911
Hudson Health Center-----593-1660
EHS, Confined Space Program Manager-----593-1666

8.1.5 Always inform the Confined Space Program Manager at EHS any time any type of rescue or emergency occurs.

8.2 If a true permitted confined space entry is ever needed for any purpose, contact EHS ahead of time to arrange for trained and equipped entry rescue contractors to be hired to be on site for the entry.

9.0 TRAINING

9.1 Each employee who may enter a confined space or be an Attendant or Entry Supervisor shall be trained prior to any assignment to work in a confined space entry. Training shall consist of:

- Hazard awareness training
- Entry equipment training
- Lockout/Tagout training
- Emergency response training
- Respirator training
- Other applicable personal protective equipment training
- Site rescue training
- Any necessary special work practices
- Complete review of confined space policy

9.2 Each employee shall be retrained if there is a change in operations or assigned duties within a specific confined space.

9.3 Each employee shall be retrained if there are inadequacies in the employee's knowledge concerning confined spaces.

9.4 Each employee shall be retrained if their Entry Supervisor has reason to believe that there have been or are deviations from this policy or the entry permit.

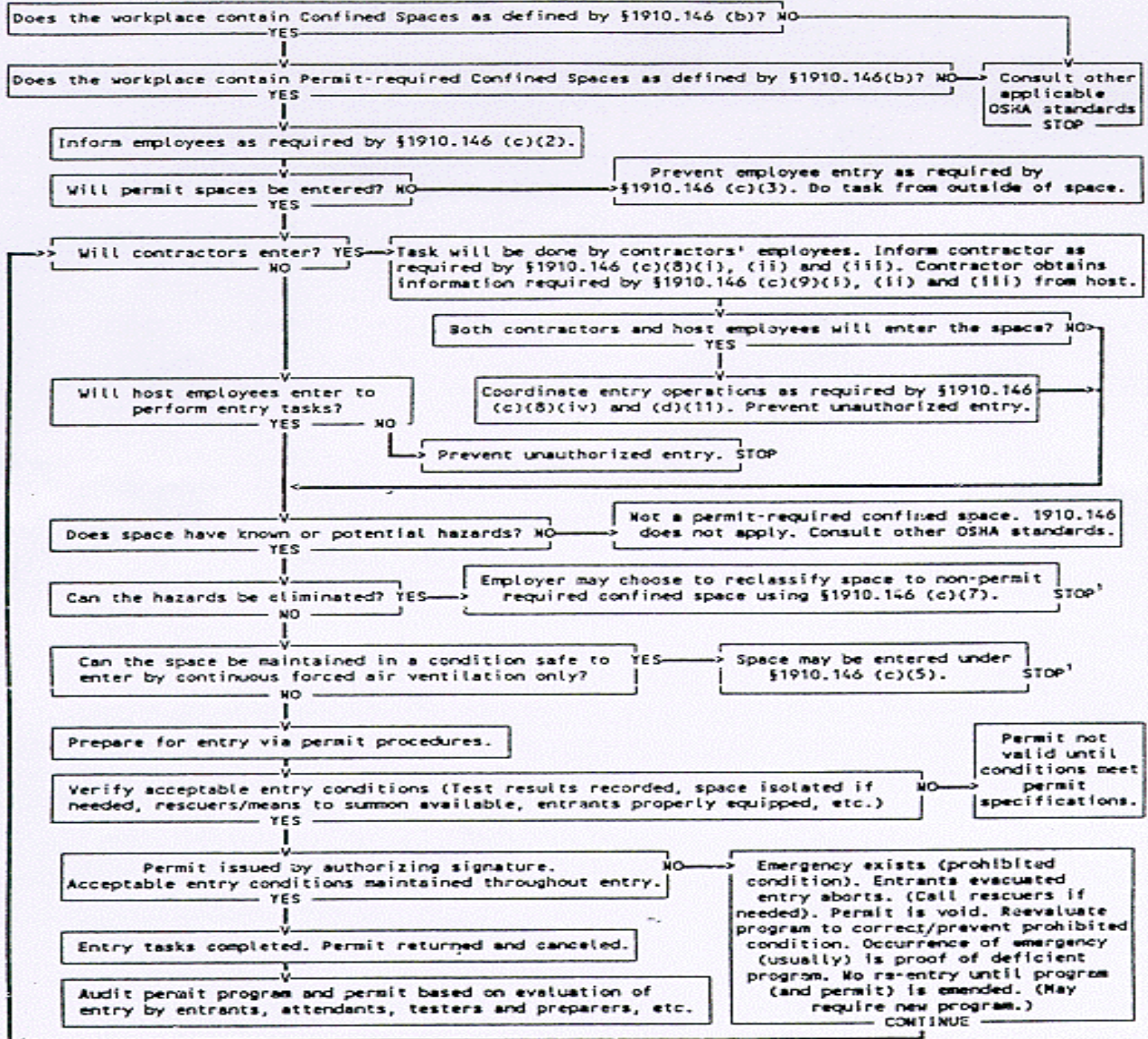
9.5 All training pertaining to this policy shall be documented and maintained in the employees training records by the departmental supervisor. EHS also maintains records of employees trained through courses provided by EHS.

9.6 See Appendix C for training outline.

9.7 Periodic retraining is recommended for all Confined Space personnel.

Appendix A
OSHA Permitted Confined Space
Decision Flow Chart

APPENDIX A TO § 1910.146—PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART



¹ Spaces may have to be evacuated and re-evaluated if hazards arise during entry

APPENDIX B

EQUIPMENT CHECKLIST

The following is a list of equipment which may be used for permit required confined space entry operations.

1. Testing and Monitoring Equipment
 - air sampling devices and monitors
2. Ventilating Equipment
 - fans, blowers, etc.
 - gases for purging or inerting ie. argon
3. Communication Equipment
 - two way radios
 - hand signals
4. Personal Protective Equipment
 - protective suits
 - respiratory protection
 - gloves, hard hat, boots etc.
 - fall protection
 - "Man down" alarms
5. Lighting and Electrical Equipment
 - intrinsically safe flood lights
 - explosion-proof fixtures
 - ground fault interrupters (GFCI's)
 - grounding or bonding wires
6. Barriers and Shields
 - barricades
 - cones, rope, caution tape etc.
7. Equipment For Ingress /Egress
 - scaffolds
 - portable ladders, steps etc.
 - hoists, lifts, slings etc.
 - tripod with winch
 - permanent attachment points in place
8. Rescue and Emergency Equipment
 - alarms
 - lifeline-dynevac

- safety harness
- tripod and 2-way winch, davit arm

9. Other - Specify _____

APPENDIX C

CONFINED SPACE ENTRY TRAINING OUTLINE

I. Introduction

A. Definitions

B. University Policy

1. All confined space entrants will be properly trained before entry is allowed.
2. No entry will be made without following permit procedures requirements.
3. No unauthorized personnel will be permitted entry.
4. All OSHA rules/regulations will be followed without exception.

C. Reasons for training

1. OSHA Law
2. Employee Safety

II. Confined Space Entry- General Requirements

A. What and where are our hazards?

1. Point out permit required confined spaces at this facility

III. Air Monitoring

A. Demonstrate the various air monitoring devices available.

B. Describe use of these instruments and have authorized personnel demonstrate their use.

IV. Ventilation

V. Hot Work

VI. Rescue Procedures

A. Show/ Demonstrate extraction equipment

VII. Procedure Outline

VIII. Entry Permit

- A. Create scenarios for authorized employees to use the permit
- IX. Demonstrate Entry and “hands-on” training

APPENDIX D
CONFINED SPACE PERMIT FORM

CONFINED SPACE ENTRY PERMIT

Ohio University

A. Confined Space # _____ Purpose of Entry _____
 Dept. Entering _____ Date _____ Time: Entry _____
 Building & Description of Space _____ Exit _____
 Work Order No. _____

B. Potential Hazards (check all that apply)

- | | |
|--|---------------------|
| <input type="checkbox"/> Oxygen (O ₂) deficiency | <u>Action Level</u> |
| <input type="checkbox"/> Oxygen enrichment | <19.5% |
| <input type="checkbox"/> Combustible vapors | >23.5% |
| <input type="checkbox"/> Carbon Monoxide (CO) | >10% of LEL |
| <input type="checkbox"/> Hydrogen Sulfide (H ₂ S) | >25ppm |
| <input type="checkbox"/> Electrical shock | >10pp |
| <input type="checkbox"/> Hot work | |
| <input type="checkbox"/> Engulfment/Drowning | |
| <input type="checkbox"/> Moving mechanical equipment | |
| <input type="checkbox"/> Heat stress | |
| <input type="checkbox"/> Biohazards | |
| <input type="checkbox"/> Chemical Contact | |

C. Monitoring Record

Time *	%O ₂	% LEL	CO (ppm)	H ₂ S (ppm)	Initials

*Monitor top, middle, and bottom of space for each

Monitoring Equipment _____
 (specify type and model)
 Calibration By _____ Cal. Date _____

Notes _____

D. Safety Equipment Checklist

- | | |
|------------------------------|---------------------------|
| ___ Hard Hat | ___ Foot protection |
| ___ Safety Eyewear | ___ Protective clothing |
| ___ Air-supplied Respirator | ___ First aid kit |
| ___ Air-purifying Respirator | ___ Fire extinguisher-ABC |
| ___ Type of resp. cartridge: | ___ Traffic barricades |
| HEPA ___ Org. Vapor ___ | ___ GFCI |
| Acid Gas ___ Ammonia ___ | ___ Low voltage lights |
| | ___ Other |
| ___ Harness/lifeline/hoist | |
| ___ Spark proof tools | |

E. Hazard Control Checklist

- | | | |
|------------|------------|--|
| <u>Yes</u> | <u>N/A</u> | |
| ___ | ___ | Warning signs posted & barricade in place? |
| ___ | ___ | Ventilation |
| ___ | ___ | Mechanical systems locked out and tagged? |
| ___ | ___ | Electrical systems locked out and tagged? |
| ___ | ___ | Piping blanked or disconnected? |
| ___ | ___ | Ignition sources isolated? |
| ___ | ___ | Communication system (specify) _____ |
| ___ | ___ | Other controls (specify) _____ |

F. Confined Space Team (specify names)

Authorized Entrants: 1) _____
 2) _____
 3) _____
 Authorized Attendant: _____
 Entry Supervisor: _____
 Non-entry rescue in place _____

G. Authorization For Entry

I certify that all precautions have been taken as required by the O.U. Confined Space Entry Program for safe entry and work in this confined space.
 ___ All hazards listed above have been removed and space has been declassified to "non-permit"
 ___ All hazards except potential atmospheric hazards have been removed, ventilation and monitoring is in place for "alternate procedures entry"
 ___ Permitted confined space, all precautions apply

Entry Supervisor: (signature) _____ Date _____

PERMIT VALID ONLY DURING DATE & TIMES INDICATED. POST PERMIT OUTSIDE ENTRY. PERMITS ONLY GOOD FOR ONE DAY AND ONE SHIFT PER PERMIT

H. Cancellation of Entry

This permit is effectively cancelled for entry into this confined space

Entry Supervisor (signature) _____ Date _____

APPENDIX E
OHIO UNIVERSITY'S CONFINED SPACES LIST

Contact the following Departments for a listing of confined spaces on campus, a description of them, standard operating procedures (SOP's) for entry, and trained entry supervisors, attendants, and entrants:

- Environmental Health & Safety: 593-1662
- Facilities Management, Lausche Heating Plant: 593-4715
- Facilities Management, Environmental Services Shop: 593-9146
- Facilities Management, Plumbing Shop: 593-4704