

Risk Management & Safety: Confined Space Program

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Introduction

The purpose of this written program is to protect the health and safety of employees who enter confined spaces (CS) and/or are assigned to serve as attendants or rescue personnel. This program is also intended to insure compliance with state and federal Confined Space regulations, 29 CFR 1910.146, of the Occupational Safety and Health Administration (OSHA).

Policy

The policy at UW-Eau Claire is to limit employee work to [Level One confined spaces](#). Our [Level Two confined spaces](#), if identified on campus, will be reclassified to Level One by ventilation, or other engineering means, prior to entry by campus employees. If reclassification is not possible, campus policy will be to contract out such work to qualified off-campus subcontractors.

Caution: Level One confined spaces identified in this document are level one only for entry for inspection or other routine work. The use of hazardous chemicals - such as paint or paint solvents - or non-routine procedures - such as welding - requires a task- and site-specific job hazard analysis and may result in reclassification of the space. This document contains information on Level Two ([Appendix A](#)) and Level Three ([Appendix B](#)) confined spaces for use and training as needed.

Management Responsibilities

1. The University of Wisconsin-Eau Claire campus will maintain an up-to-date confined space program.

2. The department supervisors working with confined spaces, such as Facilities Management and Voice Communications, will be responsible for the program and will be supported by UW-Eau Claire's Environmental Health and Safety office.
3. The University of Wisconsin-Eau Claire campus will maintain a current inventory of all confined spaces (See Appendix K). They will be listed in the appropriate confined space category:

- A. Level 1 Confined Space
- B. Level 2 Confined Space
- C. Level 3 Confined Space
- D. Special Hazard Spaces

Refer to [Definitions](#) for detailed explanations of these spaces.

1. All confined spaces will have a posted sign at the entrance. The sign will state either "Danger Confined Space Do Not Enter," "Authorized Personnel Only," or equivalent language.

Level One Entry Procedures

Definition: The atmosphere is within the limits specified in ILHR 32.64 (1) listed below.

1. **Lockout/tagout** all energy sources to the confined space: electrical, mechanical, steam, gas. [Follow U.W. Eau Claire [Lockout/Tagout Procedures](#)]

2. **Before entering**, check the air quality of the confined space. Below are the ILHR limits:

Contaminant Type	Acceptable Range
Oxygen	19.5%-23.5%
Carbon Monoxide	Less than 35 ppm
Flammables	Less than 10% LEL
Hydrogen Sulfide	Less than 10 ppm

3. **Put on** appropriate protective clothing for working in the confined space, hard hat, gloves, protective clothing, footwear.
4. **Attach** the air sampling device/monitoring device to the employee. **If this device sounds an alarm, immediately exit from the confined space.**
5. **Hook up** the appropriate forced air ventilation equipment. The air source must be good and it must not provide contamination within the confined space.
6. **Enter** the confined space and proceed with the maintenance.
7. **Continually monitor** the air quality while in the confined space. **Exit immediately if the alarm on the air monitoring equipment sounds!** Refer to the [air monitoring log](#).
8. **If the alarm sounds** while in the confined space, report this information **immediately** to

your supervisor and the Environmental Health and Safety office. This space automatically becomes a level two confined space.

Training Program

Authorized entrants should be trained to:

1. read the permit for a Level 3 Confined Space entry carefully and follow all guidelines and procedures listed;
2. **know space hazards**, including information on the mode of exposure, inhalation or dermal absorption, signs or symptoms of exposure, and consequences of the exposure ([Appendix G](#) contains checklists which may be used to assess hazards and prepare for entry);
3. **cut off**, according to campus procedures, steam, water, heat, gas, power lines, or other sources of energy;
4. **use** lock-outs and tags to protect against accidental start up of equipment or energize sources while occupying the confined space;
5. **wear** proper respirators, retrieval lines and harnesses if authorized for Level 2 or Level 3 entry;
6. **ventilate** the confined space;
7. **prepare** for and control physical hazards;
8. **check** for an escape route and be ready to get out if ordered;
9. **use** only safe, grounded, explosion-proof equipment;
10. **communicate** regularly with attendants;
11. **exit** from confined space when ordered by an authorized person, when the entrant recognizes the warning signs or symptoms of exposure, when a prohibited condition exist, or when an automated alarm is activated;
12. **alert** the attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist;
13. **maintain** skills in CPR and First Aid. .

Attendants should be trained to:

1. **know** all emergency reporting procedures and who to call for help;
2. **keep** in constant touch with the workers in the space;
3. **know** what the hazards of the space are and what symptoms to look for;
4. **be** prepared to order an evacuation;
5. **be** aware at all times the number of workers in a confined space.
6. **be** prepared to properly perform rescue duties from outside the permit space;

7. **maintain** skills in CPR and First Aid.

Permit authorizers and supervisors should be trained to:

1. **identify** the potential/specific hazards and work activities involved;
2. **prepare** entry permits and to identify when to terminate entry or cancel a permit if conditions are no longer appropriate;
3. **determine** the type of equipment to use to test and to monitor the atmosphere while working in the confined space;
4. **determine** how the workers will communicate with each other and with the attendant on the outside;
5. **determine** the type of personal protective equipment to be used;
6. **determine** the type of rescue procedures and equipment that will be needed if an emergency arises.

Definitions

A. ACCEPTABLE ENTRY CONDITIONS - conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit?required confined space can safely enter and perform work.

B. AFFECTED EMPLOYEE (per CFR 1910.147(b)) – An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

B. ATTENDANT- an individual designated to remain outside the permit required confined space and maintain constant communication with the authorized entrants inside the space.

C. AUTHORIZED ENTRANT - employee who is authorized to enter a permit required space.

D. BLANKING OR BLINDING - absolute closure of a pipe, line, or duct by fastening across its bore a solid plate that completely covers the bore and can withstand the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

E.CONFINED SPACE (CS)- a space that meets all the following criteria:

1. is large enough and so configured that an employee can bodily enter and perform assigned work;
2. has limited or restricted means for entry or exit; AND
3. is not designed for continuous employee occupancy; Examples include tanks, silos, boilers,

pits, bins, manholes, vaults, degreasers, and hoppers.

F. ENGULFMENT- surrounding and effective capture of a person by a liquid substance or finely divided particulate matter (i.e. sand, corn. grain, sawdust etc) that can cause asphyxiation, drowning, or can exert enough force on the body to cause death by strangulation, constriction or crushing.

G. ENTRY- a person's intentional passing through an opening into a permit required confined space.

H. ENTRY PERMITS - a written or printed document provided by the entry supervisor that must be completed before entry into a permit-required confined space for a stated purpose during a specified time.

I .ENTRY SUPERVISOR - person responsible for:

1. determining if acceptable conditions are present before entering a permit space;
2. for authorizing entry;
3. coordinating and supervising all entry operations; and
4. terminating entry.

J. 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:

1. Flammable gas, vapor or mist in excess of 10 of its Lower Flammable Limit (LFL).
2. Airborne combustible dust at a concentration that meets or exceeds its LFL.
3. Atmospheric oxygen concentration below 19.5 percent or above 23.3 percent
4. Atmosphere concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environment Control, or in Subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910 and which could result in employee exposure in excess of its dose or permissible exposure limit (PEL).
5. Any other atmospheric condition that is immediately dangerous to life or health.

K. HOTWORK/ WELDING PERMIT - employer's written authorization to perform operations(for riveting, welding, cutting, burning, and heating) capable of providing a source of ignition or a hazardous atmosphere.

L. IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH) - any condition that poses an immediate threat to life, a delayed threat to life, or that would cause irreversible adverse health effects, or interfere with an individual's ability to escape unaided from a permit space.

M. ISOLATION - process by which a permits pace is removed from service and completely protects against the release of hazardous energy or material into the space.

N. LOWER EXPLOSIVE LIMIT (LEL) - the lowest concentration of gas or vapor, expressed in percent by volume in air that burns or explodes if an ignition source is present at room temperature.

O. LINE BREAKING - intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas or any fluid at a volume, pressure, or temperature capable of causing death or serious physical harm.

P. NON PERMIT CONFINED SPACE- A confined space that does not contain or, with respect to atmospheric hazards, have the potential of causing death or serious physical harm.

Q. OXYGEN DEFICIENT ATMOSPHERE - an atmosphere containing less than 19.5% oxygen.

R. OXYGEN RICH ATMOSPHERE - an atmosphere containing more than 23.5% oxygen.

S. PERMISSIBLE EXPOSURE LIMIT (PEL) - the airborne concentration of a hazardous material that must not be exceeded over a specified time or instantaneously. This value is established by(OSHA).

T. PERMIT-REQUIRED CONFINED SPACE - a confined space that has one or more of the following characteristics: Contains or has a reasonable potential for hazardous atmospheres.

1. Contains a material that has the potential for engulfment.
2. Is internally configured so an employee could become trapped or asphyxiated by inwardly converging walls or a floor that slopes downward into a smaller cross section.
3. Contains any other recognized serious safety or health hazard.

U. PROHIBITED CONDITION - any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

V. RESCUE SERVICE - personnel designated to rescue employees from permit spaces.

W.RETRIEVAL SYSTEM - equipment used for a non?entry rescue of persons from permit spaces(i.e., tripod).

X. TESTING- process by which hazards that may affect entrants of a permit space are identified and evaluated.

Y. THRESHOLD LIMIT VALUE (TLV) - the airborne concentration of a hazardous material that should not be exceeded over a specified time or instantaneously. This value is established by the American Conference of Governmental Industrial Hygienists (ACGIH).

V. RESPONSIBILITIES

A.PROGRAM ADMINISTRATOR

The Program Administrator for the Confined Space Entry Program (CSE) at UW-Eau Claire is the Director of Loss Prevention & Safety. Program Administrator responsibilities include:

1. Coordinating with CSE Supervisors in conducting hazard assessments for new confined spaces.

2. Assisting CSE Supervisors & FP&M Safety Coordinator with determining the classification (permit required/non permit space) of each confined space.

3. Developing and implementing, in conjunction with FP&M, a written permit space program for employees who will enter permit spaces; for those employees not entering permit spaces, effective measures are to be taken to prevent employees from entering the permit area.

4. Collaborating with FP&M to develop employee confined space training.

5. Conducting an annual evaluation of the overall program to determine its continued effectiveness, and maintain a current posting of the program on the safety website.

B. DIRECTOR of the Confined Space Entry Program

The Director of FP&M will oversee the daily activities associated with the Confined Space Entry (CSE) program. Responsibilities include:

1. Coordinating with the Director of Risk Management & Safety (LPS) in conducting hazard assessments for new confined spaces.

2. Actively supporting the CSE Program and provide funding to purchase equipment when needed.

3. Ensuring all assigned personnel are knowledgeable and comply with all aspects of the CSE Program.

C. CONFINED SPACE ENTRY (CSE) SUPERVISORS

The Confined Space Entry (CSE) Supervisors for UW-Eau Claire are the following positions:

· Heating Plant Superintendent and Asst. Superintendent

Hazards

Possible hazards that employees could be exposed to in a confined space are:

1. flammable gases, vapors or mists;
2. air-borne combustibles such as dusts;
3. hazardous chemicals above the Permissible Exposure Levels (PELs);
4. toxic substances commonly encountered are:
 1. Carbon monoxide, a colorless odorless gas created by internal combustion. It can kill by decreasing the capability of the blood to carry oxygen.
 2. Hydrogen sulfide is a toxic gas that quickly deadens the sense of smell.
5. Oxygen concentrations pose dangers if outside a narrow range:

1. An oxygen deficient atmosphere contains less than 19.5% oxygen. This may not be enough oxygen to supply the employee's respiratory needs when performing physical work. Atmospheres at 19.5% and lower are immediately dangerous to life and health.
2. Oxygen concentrations above 23.5% have the potential to be an explosive atmosphere or accelerate combustion.
3. Oxygen deficiencies could be caused by:
 - a. fire or explosion;
 - b. displacement of oxygen by other materials such as methane, produced by rotting organic matter, or carbon dioxide produced by fermentation;
 - c. corrosion or rust.
6. Other hazards may include:
 1. engulfment caused by finely divided, flowable solids such as grain or coal that can collapse around a person filling or plugging the respiratory system or cause death by strangulation, constriction or crushing;
 2. poor space design. Odd shapes such as sloping sides, floors that taper to small sections, or confusing internal shapes could cause a person to become trapped and possibly cause suffocation;
 3. combustion due to fire or explosion caused by build-up of flammable vapors, gases, or dusts which can be ignited by grinding, welding, unapproved electrical equipment, metal friction, smoking, or static electricity;
 4. heat can build up quickly in a confined space and cause exhaustion or heat stroke;
 5. falls and slips in a confined space can be fatal. A person can be rapped in an area with low oxygen levels or toxic gases. Rungs, railings, and walking surfaces in damp environments are dangerous; shallow water depths could cause drowning;
 6. noise reverberates in a confined space; workers may not be able to hear important directions or warnings. Over time, permanent hearing problems could develop;
 7. mechanical hazards pose special problems in confined spaces; valves and pipes not disabled may explode; moving parts are dangerous; equipment must be locked out/tagged out before entering. UW-Eau Claire's [Lockout/Tagout policy](#) shall be followed.

Sampling and Calibration of Air Monitoring Device

1. No person shall enter any confined space until the air quality is determined to be satisfactory in all areas of a confined space.

2. The atmosphere will be tested for oxygen, hydrogen sulfide, combustible gases, and any other recognized potential contaminant.
3. The sampling device should simultaneously test for the above items.
4. The device shall have an audible warning signal, be calibrated relative to the oxygen content of the ambient air at the time of sampling, and have a zero setting for combustible gases.
5. The air sampling device shall be calibrated a minimum of every 7 days. A calibration log shall be maintained. A sample log can be found in [Appendix J](#) . If the calibration log is not current (within the last seven days), then the air sampling device shall be calibrated before use.
6. An air monitoring log will be filled out every time a Level 2 or Level 3 Confined Space is entered. [Appendix H](#) contains a sample Air Monitoring Log.

Appendix A

Level Two: Confined Space Entry

Definition: The confined space atmosphere has contamination sources other than the employee activities and the atmosphere is not within specified limits in **ILHR 31.04**. The standard is listed below. No employee shall enter this space unless an attendant is outside the confined space.

1. Lockout/tagout all energy sources to the confined space: electrical, mechanical, steam, gas. [Follow UW-Eau Claire [Lockout/Tagout Procedures](#).]
2. Before entering, check the air quality of the confined space. Below are the ILHR limits:

Contaminant Type	Acceptable Range
Oxygen	19.5%-23.5%
Carbon Monoxide	Less than 35 ppm
Flammables	Less than 10% LEL
Hydrogen Sulfide	Less than 10 ppm

3. Put on appropriate protective clothing for working in the confined space, hard hat, gloves, footwear.
 - If the employee is making a vertical entrance they shall be equipped with a full body harness, waist belt, shoulder straps, leg straps, and "D"-rings. The life line shall be attached to a winch drum on a tripod support.
 - If the employee is making a horizontal entrance then they shall wear a full body harness and be equipped with a SCBA or an air line respirator. If an airline respirator is used, the unit shall be equipped with a five minute escape air tank.
4. Put on the appropriate respirator for the confined space atmosphere. [Refer to UW-Eau Claire Respirator Program.]
5. Attach the air sampling monitoring device to the employee.
6. Maintain communication with the outside attendant. An intrinsically safe portable communication device is required if worker is out of attendant's view.
7. Hook up the appropriate forced air ventilation equipment and turn it on. Do not enter the

- space until forced ventilation has eliminated any hazardous atmosphere. Repeat air sampling readings. The air supply for the forced air ventilation shall be from a clean source.
8. Enter the confined space and proceed with the maintenance. The forced air ventilation shall continue until all employees have left the confined space.
 9. Continually monitor the air quality. If the alarm sounds, immediately exit from the confined space and report this information immediately to your supervisor and the Environmental Health and Safety office.
 10. The outside attendant's job is to maintain communication with the employees, know the hazards of the space, what symptoms to look for, and know emergency procedures.

Appendix B

Level Three Confined Space Entry

Definition: The confined space atmosphere has contamination sources other than the employee activities and the atmosphere is not within specified limits in ILHR 31.04. The level three confined space entry [permit](#) satisfies the OSHA regulation 29 CFR 1910.146. No employee shall enter this space unless one attendant is outside the confined space. The permit must be posted outside the confined space.

1. Obtain a confined space entry permit from the department supervisor. This permit will state the type of hazards, precautionary measures, and current confined space air sample results. Follow all permit requirements before entering the confined space.
2. Lockout/tagout all energy sources to the confined space: electrical, mechanical, steam, gas. [Follow UW-Eau Claire [Lockout/Tagout Procedures](#).] Verify that the space has been isolated from outside hazards.
3. Put on appropriate protective clothing for working in the confined space, hard hat, gloves, footwear.
 - *If the employee is making a vertical entrance, they shall be equipped with a full body harness and a life line attached to a winch drum on a tripod support.
 - *If the employee is making a horizontal entrance then they shall wear a full body harness and be equipped with a SCBA or an airline respirator. If an airline respirator is used, the unit shall be equipped with an escape air tank.
4. Put on the appropriate respirator for the confined space atmosphere. [Refer to UW-Eau Claire [Respirator Program](#).]
5. All entrants and attendants will sign in and out on the confined space entry [permit](#).
6. Attach the air monitoring device to the employee.
7. Maintain communication with the outside attendant. Intrinsically safe portable communication device is required if worker is out of attendant's view.
8. Hook up the appropriate forced air ventilation equipment and turn it on. Repeat air sample tests and record results. The air supply for the forced air ventilation shall be from a clean

source and remain on until all employees have exited the confined space.

9. Enter the confined space and proceed with maintenance.
10. Continually monitor the air quality. If the alarm sounds, immediately exit from the confined space and immediately report this information to your supervisor and the Environmental Health and Safety office. The level 3 confined space permit becomes void.
11. The outside attendant's job is to maintain communication with the employees, know the hazards of the space, what symptoms to look for, and contact emergency help when needed.
12. After a level 3 confined space entry has been completed, the person testing the air samples will sign the permit and entrants will indicate if there were problems during the entry into the confined space. The department supervisor will cancel the permit and keep it in records for the yearly confined space program review.

Appendix C

Rescue

Current campus policy is to use the City of Eau Claire's Fire Department as an off-site rescue service. Familiarization tours and practice rescue sessions will be scheduled on a regular basis to:

1. Inform the Fire Department of the hazards they may confront when called on to perform rescue on the UW-Eau Claire campus; and
2. Provide the rescue service with access to all confined spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

If the UW-Eau Claire campus chooses to establish a campus rescue team, these requirements would apply: All Department supervisors shall keep a current list of rescuers and update this list every six months or when a change takes place on the rescue team. A copy of the list will be on file with the department of Environmental Health and Safety.

UW-Eau Claire shall ensure that each member of the rescue service is provided with, and trained to use the personal protective equipment and rescue equipment necessary for making rescues from permit spaces. Each member of the rescue service shall:

1. Be trained to perform the assigned rescue duties.
2. Receive the training required of authorized entrants.
3. Practice making confined space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, mannequins, or actual persons from the actual confined spaces or from representative permit spaces.
4. Be trained in basic first-aid and in CPR. All members of the rescue service shall hold current certifications.
5. To facilitate non-entry rescue, retrieval systems shall be used whenever an authorized entrant enters a [Level 2](#) or [3](#) confined space, unless the retrieval equipment would increase

the overall risk of entry or would not contribute to the rescue of the entrant.

6. If an injured entrant is exposed to substances for which a MSDS or other similar written information is available, this information shall be kept at the work site and given to the medical facility treating the exposed entrant.

Appendix D

Outside Contractors

When UW-Eau Claire arranges to have employees of another employer, contractor, perform work that involves confined space entry, UW-Eau Claire Facilities Management shall:

1. Inform the contractor that the workplace contains confined spaces and that CS entry is allowed only through compliance with a confined space program that complies with CFR 1910.146. Any permit-required CS requires a permit before entry.
2. Inform the contractor of the hazards identified and the employer's experience with the CS that make the space in question a confined space. Include information from the CS Permit Form 3 and the Hot Work permit Form 4, if applicable.
3. Coordinate entry operations with the contractor when personnel from both employers will be working in or near the confined space. Inform the contractor of emergency rescue procedures with the Eau Claire Fire Dept. and of attendant procedures to protect both UWEC employees and contractor employees.
4. Verify that the contractor has an appropriate CS Entry program.
5. Debrief the contractor at the conclusion of the CS entry operation(s) regarding the permit space entry procedures that were followed (if applicable) and the hazards that were confronted or created during entry operations.
6. If the contractor is not working in confined spaces, but is on the same work site as UWEC employees, the UWEC Supervisor shall inform the contractor of the confined spaces where UWEC employees will be working, when UWEC employees will be working, and of the need to maintain the site conditions for the safety of UWEC employees.

Appendix E

Air Monitoring Log

Substance Monitored	Acceptable	Result	Result	Result	Result	Result
_ Oxygen	19.5-23.5%					
_ Flammables	< 10% LEL					

Substance Monitored	Acceptable	Result	Result	Result	Result	Result
<input type="checkbox"/> Carbon Monoxide	<35 ppm					
<input type="checkbox"/> Sulfur Dioxide	<2 ppm					
<input type="checkbox"/> Hydrogen Sulfide	<10 ppm					
<input type="checkbox"/> Toxics (Specify)	< PEL / TLV					
<input type="checkbox"/> Toxics (Specify)	< PEL / TLV					
<input type="checkbox"/> Toxics (Specify)	< PEL / TLV					
<input type="checkbox"/> Toxics (Specify)	< PEL / TLV					
Date:	Time:					
	Air tester initials:					

I, _____, certify that this space does not contain any hazards as of the date of _____. This certificate shall be to be available to all employees who enter the space. One copy will be given to the supervisor. One copy to the department manager and one copy will be on file in the office of Environmental Health and Safety.

Signature: _____
Date: _____

Appendix F

Written Permit

HAZARDS EXPECTED (CHECK)	REQUIREMENTS
LOCATION/DESCRIPTION OF CONFINED SPACE: _____	PERMIT EXPIRATION DATE: _____
	PERMIT EXPIRATION TIME: _____
<input type="checkbox"/> Oxygen deficiency	<input type="checkbox"/> Respiratory protection (specify):
<input type="checkbox"/> Flammable vapors or gases	<input type="checkbox"/> Protective clothing (specify):
<input type="checkbox"/> Oxygen enrichment	<input type="checkbox"/> Lifeline and escape harness
<input type="checkbox"/> Toxic air contaminants	<input type="checkbox"/> Tripod
<input type="checkbox"/> Corrosive materials	<input type="checkbox"/> Fire Extinguishers
<input type="checkbox"/> Engulfment	<input type="checkbox"/> Lighting appropriate for conditions
<input type="checkbox"/> Mechanical equipment	<input type="checkbox"/> Non-sparking tools
<input type="checkbox"/> Electrical shock	<input type="checkbox"/> Continuous air monitoring for:
<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Continuous ventilation with fresh air
<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Other (specify):

Appendix G

Level 3 Entry Preparation

PREPARATION FOR ENTRY	AUTHORIZED ENTRANTS	AUTHORIZED ATTENDANTS
<input type="checkbox"/> Affected departments notified of service interruption		
<input type="checkbox"/> Tank drained or contents of space removed		
<input type="checkbox"/> Space isolated		
<input type="checkbox"/> Energy sources locked out		
<input type="checkbox"/> Stored energy relieved (Zero Energy State)		
<input type="checkbox"/> Hot work permit obtained		
<input type="checkbox"/> Area around confined space secured		
<input type="checkbox"/> Space atmosphere tested		ENTRY SUPERVISORS
<input type="checkbox"/> Space purged with fresh air		
<input type="checkbox"/> Air monitoring equipment available and calibrated		
<input type="checkbox"/> Employees briefed on hazards		
<input type="checkbox"/> Communication with entrants established		
<input type="checkbox"/> Rescue Service alerted and available		

Appendix H

Entry Air Test Log

ENTRY AIR TEST WITHIN CONFINED SPACE			
TEST	ACCEPTABLE RESULT	TEST	ACCEPTABLE RESULT
<input type="checkbox"/> Oxygen	19.5-23.5%	<input type="checkbox"/> Sulfur Dioxide	< 2 ppm
<input type="checkbox"/> Flammables	< 10% LEL	<input type="checkbox"/> Toxic (specify)	< PEL\TLV
<input type="checkbox"/> Carbon Monoxide	< 35 ppm	<input type="checkbox"/> Toxic (specify)	< PEL\TLV
<input type="checkbox"/> Hydrogen Sulfide	< 10 ppm	<input type="checkbox"/> Toxic (specify)	< PEL\TLV
Air Test Done By:		Date:	Time:

Entry Authorization (To be completed by the Entry Supervisor):

I certify that the authorized entrants have been trained specifically for this confined space entry.

DATE: _____	TIME: _____
NAME (PRINT) _____	
SIGNATURE _____	
NOTE ANY PROBLEMS ENCOUNTERED DURING ENTRY:	

Appendix I

Level Three Confined Space Entrant Log

Entrant Name: _____

Time In: _____

Time Out: _____

Time In: _____

Time Out: _____

ATTENDANT SUPERVISOR LOG

ATTENDANT'S NAME: _____

ON DUTY: _____

OFF DUTY: _____

ENTRANT SUPERVISOR'S NAME: _____

ON DUTY

OFF DUTY

Appendix J

Calibration Log for Air Sampling Units

DATE:

GAS TYPE:

INITIAL READING:

FINAL READING:

DIFFERENCE

CALIBRATION PERSON:

- COMBUSTIBLE (LEL):

- TOXIC (ppm):
- OXYGEN (%):
- COMBUSTIBLE (LEL):
- TOXIC (ppm):
- OXYGEN (%):
- COMBUSTIBLE (LEL):
- TOXIC (ppm):
- OXYGEN (%):
- COMBUSTIBLE (LEL):
- TOXIC (ppm):
- OXYGEN (%):
- COMBUSTIBLE (LEL):
- TOXIC (ppm):
- OXYGEN (%):

Appendix K

Confined Space Inventory

Important: All the inventoried confined spaces listed below are assigned to specific levels based on the assumption of routine inspection and work normally done in the particular space. Unusual or non-routine work requires a job hazard analysis which may result in a change of level or increase in personal protective equipment. Activities in confined spaces such as painting or use of materials containing solvents, welding, or asbestos remediation present unique hazards which must be addressed on a case by case basis prior to beginning work.

Level 1 Confined Spaces:

- Athletic/Recreation Fields, North Storage/SE of building (manhole)
- Crest Wellness Center, 124,215 (ceiling)
- Davies Center, 1,123/133, 139, 350
- Fine Arts Center, 3 (bottom of stair case), 145, 163
- Governors Hall, Dumbwaiter (elevator shafts) one on each wing
- Heating Plant Boilers 1, 2, & 3 mud drums, steam drum, fire box, boilers 1 & 2 back passes, boiler 1, 2 and elevator coal hoppers, bunker hoppers north/center and south, UWEC and SHH condensate tanks, D.A. Tank, ash silo, #1 & 2 softeners, and #1 & 2 filters
- Hibbard Humanities Hall, 115
- Human Sciences & Services, NE corner of building outside of 1
- Kjer Theater, 235A Brewer Hall
- L.E. Phillips Hall, roof hatches (4)

- Library, 1153, 1158, 1150
- McPhee PE Center, 202A entry to 304 (ladder & hatch), 301 (1 & h)
- Schnieder, 112?
- Schofield hall, roof hatches (4)
- Sutherland Hall, 48, 29, 3 (hallway entry covered w/ carpet)
- Zorn Arena, crawl space in basement (4 entries)

Special Hazard Spaces Requiring Some confined Space Procedures:

- Electrical Pit, Allied Health Building, ____ Corner, first floor
 - Mechanical Room subject to freon
-