

<b>Volume E2:</b> Environment, Health, Safety & Security	<b>E2.10</b> <b>Confined Space Entry Program</b>  Effective Date: 04/30/2015	<b>Responsible Office:</b> Facilities Planning and Management
	<b>Responsible Officer:</b> Safety Officer	

## POLICY STATEMENT

It is the policy of Northeastern Illinois University (the "University") to ensure the safety of all University personnel and outside contractors who enter and conduct work in a confined space at the University campus and other locations by establishing procedure requirements through a Confined Space Entry program.

## PURPOSE OF THE POLICY

This program has been developed to comply with all parts of Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146 and shall apply to all confined space entry operations conducted on University property.

## WHO IS AFFECTED BY THIS POLICY

Northeastern Illinois University (NEIU) Permit Required Confined Space trained Authorized and Affected Employees as well as contractors hired by NEIU.

## DEFINITIONS

**Attendant:** A person designated by the department head in charge of entry who is to remain outside the confined space and be in constant communication with the personnel working inside the confined space.

**Authorized Entrant:** A person who is approved or assigned by the department head in charge of the entry to perform a specific type of duty or duties or to be at a specific location at the job site.

**Bonding:** The joining of two or more items with an electrical conductor so that all ends joined have the same electrical charge or potential.

**Confined Space:** (see Procedures section)

**Department Head:** Department heads are those people in charge of students or in charge of Facilities Management employees with common interests, jobs, or objectives.

**Entry:** The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

**Entry Permit:** The written or printed document that is provided by the employer (either the University or contractor hired by the University) to allow and control entry into a permit space. The permit must also contain the information specified in this program.

**Entry Supervisor:** Department Head or the designated representative (such as the foreman or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this program.



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**Note:** An **entry supervisor** also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this program for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of entry operation.

**Hazardous Atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, impaired ability to self-rescue (that is, ability to escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL.

**NOTE:** This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

- Atmospheric oxygen concentration below 19.5% or above 23.5%.
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910 and that could result in employee exposure in excess of its dose or permissible exposure limit. (SEE NOTE BELOW)

**NOTE:** An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

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

**NOTE:** For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

**Hot Work:** Any work involving burning, welding or similar fire-producing operations; also, any work that produces a source of ignition, such as grinding, drilling, or heating.

**Hot Work Permit:** The written authorization of the employer (either the University or contractor hired by the University) to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

**Immediately Dangerous to Life or Health:** An atmosphere that poses an immediate threat of loss of life. May result in irreversible or immediate severe health effects; may result in eye damage/irritation; or may result in another condition that could impair escape from a confined space.

**Lower Explosive Limit (LEL):** The minimum concentration of a combustible gas or vapor in air that will ignite if an ignition source is introduced.

**Non-Permit Required Confined Space:** (see Procedures)

**Oxygen-Deficient Atmosphere:** An atmosphere that contains an oxygen concentration of less than 19.5% by volume.

**Oxygen-Enriched Atmosphere:** An atmosphere that contains an oxygen concentration greater than 23.5% by volume.

**PPE - Personal Protective Equipment:** Devices or clothing worn by the worker to protect against hazards in the environment. Examples are respirators, gloves, and chemical splash goggles.



**PEL - Permissible Exposure Level:** Concentration of a substance to which an individual may be exposed repeatedly without adverse effect.

**Permit Required Confined Space:** (see Procedures)

**Purging:** The removal of gases or vapors from a confined space by the process of displacement.

## PROCEDURES

### 1. IDENTIFYING CONFINED SPACES

Recognition is an important aspect of making a safe entry into a confined space. Not all confined spaces are considered permit-required confined spaces, and being able to identify the difference between the two is important. To clarify what constitutes a Confined Space, the following definition is used.

A **Confined Space** is any space that has the following characteristics:

- A. It is large enough or so configured that an employee can bodily enter and perform assigned work.
- B. It has limited or restricted means for entry or exit.

Confined-space openings are limited primarily by size and location. Openings may be small in size and may be difficult to move through easily. In some cases, openings may be very large or open-topped spaces such as pits or excavations. Entrance and exit may be required from top, bottom, or side. In some cases, having to access the work area by a fixed ladder may constitute limited or restricted entry or exit. Size or location may make rescue efforts difficult.

- C. Is not designed for continuous employee occupancy.

Most confined spaces are not designed for employees to enter and work on a routine basis. They may be designed to store a product, enclose materials and processes, or transport products or substances. Because they are not designed for continuous occupancy, frequently they do not have good ventilation or lighting. Therefore, occasional employee entry for inspection, maintenance, repair, cleanup, or similar tasks can be difficult and dangerous. The danger associated with entry may come from chemical or physical hazards within the space.

A **Non-Permit Confined Space** is a confined space that does not contain, nor has the potential to contain, any hazard capable of causing death or serious physical harm (with respect to atmospheric hazards). Examples of non-permit required confined spaces might include the interiors of HVAC units, certain air plenums and pipe chases, attics, walk-in freezers or refrigerators, and some building crawl spaces.

A **Permit-Required Confined Space (permit space)** is a confined space that is potentially hazardous. A permit-required confined space has one or more of the following characteristics:

- A. Contains or has a potential to contain a hazardous atmosphere.
- B. Contains a material that has the potential for engulfing an entrant.
- C. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly-converging walls or by a floor that slopes downward and tapers to a smaller cross-section; or
- D. Contains any other recognized serious safety or health hazard. Examples of serious safety or health hazards might include:
  - Fall hazards
  - Unguarded machinery
  - Extreme heat or cold
  - Steam pipes or chemical lines
  - Hazardous noise levels
  - Electrical hazards



- Presence of asbestos
- Potentially hazardous levels of dust

Supervisors are directly responsible for ensuring the safety of their employees in regards to confined spaces. It is their responsibility to evaluate potentially hazardous spaces within their facilities and areas to ensure that the proper precautions are taken for safety. This includes clearly marking permit-required confined spaces, training employees, and ensuring proper entry procedures are followed.

All confined spaces located within a facility or under the facility's control must be identified. Facilities Management supervisors and the EHS department will conduct periodic reviews to maintain a current list of confined spaces and permit required confined spaces. See Appendix A.

## **2. IDENTIFYING CONFINED SPACE HAZARDS**

Once a space has been identified as confined, the hazards that may be present within the confined space must be identified. Confined-space hazards can be grouped into the following categories: 1) oxygen-deficient atmospheres, 2) flammable atmospheres, 3) toxic atmospheres, and 4) mechanical and physical hazards.

Every confined space must be evaluated for these four types of hazards. The three types of atmospheric hazards are often the most difficult to identify since they might not be detected without the assistance of a gas monitor.

- A. **Oxygen-Deficient Atmospheres:** The normal atmosphere is composed of approximately 21% oxygen and 79% nitrogen. An atmosphere containing less than 19.5% oxygen shall be considered oxygen-deficient. The oxygen level inside a confined space may be decreased as the result of either consumption or displacement.

There are a number of processes that consume oxygen in a confined space. Oxygen is consumed during combustion of flammable materials, as in welding, cutting, or brazing. A more subtle consumption of oxygen occurs during bacterial action, as in the fermentation process. Oxygen can also be consumed during chemical reactions such as in the formation of rust on the exposed surfaces of a confined space. The number of people working in a confined space and the amount of physical activity will also influence oxygen consumption. Oxygen levels can also be reduced as the result of oxygen displacement by other gases.

- B. **Flammable Atmospheres:** Flammable atmospheres are generally the result of flammable gases, vapors, dust mixed in certain concentrations with air, or an oxygen-enriched atmosphere.

Oxygen-enriched atmospheres are those atmospheres that contain an oxygen concentration greater than 23.5%. An oxygen-enriched atmosphere will cause flammable materials such as clothing and hair to burn violently when ignited.

Combustible gases or vapors can accumulate within a confined space when there is inadequate ventilation. Gases that are heavier than air will accumulate in the lower levels of a confined space. Therefore, it is especially important that atmospheric tests be conducted near the bottom of all confined spaces.

The work being conducted in a confined space can generate a flammable atmosphere. Work such as spray-painting, coating, or the use of flammable solvents for cleaning can result in the formation of an explosive atmosphere. Welding or cutting with oxyacetylene equipment can also be the cause of an explosion in a confined space and shall not be allowed without a hot work permit. Oxygen and acetylene hoses may have small leaks in them that could generate an explosive atmosphere, and therefore should be removed when not in use. The atmosphere must be tested continuously while any hot work is being conducted within the confined space.

- C. **Toxic atmospheres:** May be present within a confined space as the result of one or more of the following:
1. **The Product Stored in the Confined Space:** When a product is stored in a confined space, the product can be absorbed by the walls and emit toxic vapors when removed or during cleaning



the residual material. The product can also produce toxic vapors that will remain in the atmosphere due to poor ventilation.

2. The Work Being Conducted in the Confined Space: Toxic atmospheres can be generated as the result of work being conducted inside the confined space. Examples of such work include: Welding or brazing with metals capable of producing toxic vapors, painting, scraping, sanding, etc. Many of the solvents used for cleaning and/or degreasing produce highly toxic vapors.
3. Areas Adjacent to the Confined Space: Toxic fumes produced by processes near the confined space may enter and accumulate in the confined space. For example, if the confined space is lower than the adjacent area and the toxic fume is heavier than air, the toxic fume may "settle" into the confined space.

- D. **Mechanical and Physical Hazards**: Problems such as rotating or moving mechanical parts or energy sources can create hazards within a confined space. All rotating or moving equipment such as pumps, process lines, electrical sources, etc., within a confined space must be identified.

Physical factors such as heat, cold, noise, vibration, and fatigue can contribute to accidents. These factors must be evaluated for all confined spaces.

### **3. THE PERMIT SYSTEM**

When a permit required confined space must be entered, a permit shall be completed and authorized by department heads, supervisors, or their designated representatives and all employees participating in the entry. This permit shall serve as certification to all involved that the space is safe for entry.

Entry shall not be authorized until all conditions of the permit have been met and all participants have signed the permit. The permit to be used by NEIU personnel can be found in Appendix B.

### **4. PLANNING THE ENTRY**

The first step towards conducting a safe confined-space entry is to plan the entry. This will allow for the identification of all hazards, and for the determination of all equipment necessary, to complete the project.

#### **4.1. GATHERING GENERAL DATA**

- a. Identify the date and authorized time of the entry.
- b. Identify the confined space. Give the name or location of the confined space.
- c. Give the specific reason for entering the confined space. Also, identify if hot work will be done.
- d. Identify the contents of the confined space, and any chemicals or other materials that are usually present in the confined space.

#### **4.2. IDENTIFYING THE HAZARDS**

**NOTE:** Atmospheric testing shall be conducted prior to entering permit-required confined spaces.

- a. The oxygen content must be determined and recorded on the entry permit.
- b. The flammable gas content must be determined and recorded on the entry permit.
- c. The H<sub>2</sub>S and Carbon Monoxide levels must be determined and recorded on the entry permit.
- d. If a toxic substance is determined to be in the confined space during testing, entry shall be prohibited until the confined space can be cleaned and ventilated, or information is obtained to determine what type of personal protective equipment is required, the potential health effects, the Permissible Exposure Limits, and any other information needed to safely conduct the work.
- e. Trained/ qualified personnel will determine mechanical and physical hazards. They should list all items and energy that will require lockout/tagout, blanking and bleeding, disconnecting, or securing. Physical hazards should also be listed.

#### **4.3. VENTILATION OF THE CONFINED SPACE**

Indicate whether mechanical or natural ventilation will be used. Describe the procedures to be used.

**NOTE:** If mechanical ventilation is to be used, the exhaust must be pointed away from personnel or ignition sources. Also, mechanical ventilators must be bonded to the confined space.



#### **4.4. ISOLATING THE CONFINED SPACE**

All mechanical, electrical, or heat-producing equipment should be disconnected, or locked and tagged out. This includes any pumps that pull fluid from, or pump fluid into, the confined space.

#### **4.5. PURGING/CLEANING THE CONFINED SPACE**

- a. Indicate if the confined space will be purged.
- b. Indicate if cleaning methods are to be used. If chemical cleaners are to be used, name the type and describe the procedures. The SDS for the chemical must be consulted prior to use.

**NOTE:** If steam is to be used, the hose must be bonded to the confined space.

#### **4.6. PLACEMENT OF WARNING SIGNS**

Indicate if warning signs or barriers will be needed to prevent unauthorized entry or to protect workers from external hazards. If the confined space will be left open and unattended for any length of time, warning signs and barriers such as barricades and/or caution tape are required.

#### **4.7. IDENTIFYING ALL PERSONNEL**

List all employees who will be required to prepare the confined space and complete the work inside the space.

#### **4.8. IDENTIFYING NECESSARY EQUIPMENT**

List all equipment necessary to complete the project.

### **5. PREPARING THE CONFINED SPACE FOR ENTRY**

The following steps are to be followed when preparing the confined space for entry:

1. Place warning signs or barriers around the confined space to prevent unauthorized entry as necessary.
2. Place all tools, safety equipment, monitoring equipment, etc., near the confined space.
3. Isolate all mechanical and/or electrical hazards as necessary.
4. Purge/ventilate the confined space as necessary.
5. Test the atmosphere using an appropriate gas monitor.
  - a. If oxygen content is less than 19.5% or greater than 23.5%, perform additional ventilation. Then shut off ventilation equipment and re-test the oxygen content.
  - b. If oxygen content is between 19.5% and 23.5%, continue entry preparation.
6. Test for flammable gases.
  - a. If the meter reading is less than 10% of the lower explosive limit (LEL), continue entry preparations.
  - b. If the meter reading is above 10% of the LEL, continue ventilation of the confined space. Then shut off the ventilation and have the atmosphere re-tested.
  - c. If the meter reading is still above 10% of the LEL, the confined space must be cleaned before entry is permitted.
7. Test for toxics. If a toxic atmosphere is present, no person may be permitted to enter the confined space at a level exceeding the Permissible Exposure Limit without proper Personal Protective Equipment. Environmental Health & Safety must be called to assist in identifying proper precautions and the protective measures to be taken.
8. Assemble all personnel involved and review entry and rescue procedures. The employee in charge will complete the permit by having the entrant(s) and attendant(s) sign the permit.
9. Notify the Department Head or supervisor that entry is commencing.



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## **6. UTILIZING SAFETY EQUIPMENT**

When possible, all personnel entering a confined space must be equipped with a retrieval line secured at one end to the entrant by a full-body harness with its other end secured to a tripod lifting hoist, retrieval device or anchor point.

## **7. ATMOSPHERIC TESTING PROCEDURES**

1. All of the manufacturer's operating instructions must be followed.
2. The test equipment must be tested in a known atmosphere to insure its accuracy.
3. Ventilation equipment must be shut off before conducting any atmospheric tests.
4. The atmosphere must be tested at the bottom, top, and middle of all confined spaces.
5. The atmosphere must be periodically or continuously monitored while work is being conducted in the confined space.
6. If the confined space is left for any reason, the atmosphere must be re-tested before re-entering the space.

## **8. RESCUE PROCEDURES**

In the event of an emergency, the attendant should:

1. Immediately summon the City of Chicago Fire Department by radio or telephone. (Dial 911).
2. Attempt to remove the victim from the outside confined space by use of the retrieval line if this can be accomplished without creating further hazard for the entrant or the attendant.
3. If the attendant is able to remove the victim with the retrieval line, he/she should administer aid within the limits of his/her training until emergency medical services (EMS) arrive.
4. If the attendant is unable to remove the victim by using the retrieval line, he or she must wait for help to arrive. The attendant(s) is/ are not to enter the confined space for any reason.
5. Give EMS personnel any information they request.

## **9. PERSONNEL RESPONSIBILITIES**

Everyone involved in a confined-space entry project has certain responsibilities and requires a certain amount of training. It is very important that every individual is familiar with his/her responsibilities. This section outlines the responsibilities and training requirements of each individual involved in a project.

### **9.1. RESPONSIBILITIES OF THE SAFETY COORDINATOR**

- A. Reviewing and updating the Northeastern Illinois University Confined Space Entry Program to conform to current OSHA 29CFR 1910.146 standards.
- B. Ensuring compliance with standards set forth in the program by periodic inspection of entry sites and canceling permits where unsafe conditions are present.
- C. Assisting Supervisors with:
  1. Providing training as set forth in the program
  2. Identification of confined spaces
  3. Identifying spaces that require a permit for entry
  4. Labeling Permit-Required Confined Spaces.
- D. Performing a single annual review covering all entries performed during a 12-month period to ensure employees participating in entry operations are protected from permit space hazards.



## **9.2. RESPONSIBILITIES OF SUPERVISORS OR THEIR DESIGNATED REPRESENTATIVE**

- A. Identifying confined spaces within facilities or areas under their control.
- B. Identifying hazards within a confined space under their control.
- C. Documenting all training requirements for all affected employees within their area of responsibility.
- D. Ensuring that the required atmospheric tests are performed at the confined space and results are recorded on the permit prior to entry authorization.
- E. Obtaining and maintaining all equipment necessary to complete the confined-space entry project.
- F. Authorizing entry by signing the Entry Authorization space on the entry permit after all conditions for a safe entry have been met.
- G. Terminating the entry and canceling the permit when:
  1. Entry operations covered by the entry permit have been completed.
  2. A condition that is not allowed under the entry permit arises in or near the permit space.
- H. Determining that acceptable entry conditions are maintained and consistent with the terms of the entry permit.

## **9.3. RESPONSIBILITIES OF AUTHORIZED ENTRANTS**

The person(s) authorized to enter a confined space shall be responsible for the following:

- A. The knowledge of hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure.
- B. Proper use of equipment, which includes:
  - Atmospheric testing and monitoring equipment.
  - Ventilating equipment needed to obtain acceptable entry conditions.
  - Communication equipment necessary to maintain contact with the attendant.
  - Personal protective equipment as needed.
  - Lighting equipment as needed.
  - Barriers and shields as needed.
  - Equipment, such as ladders, needed for safe entry and exit.
  - Rescue and emergency equipment as needed.
  - Any other equipment necessary for safe entry into and rescue from permit spaces.
- C. Communication with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space if required.
- D. Alert the attendant (standby person) whenever:
  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
  - The entrant detects a prohibited condition.
- E. Exiting the permit space as quickly as possible whenever:
  - An order to evacuate has been given by the attendant or the entry supervisor;
  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
  - The entrant detects a prohibited condition; or
  - An evacuation alarm is activated.

## **9.4. RESPONSIBILITIES OF ATTENDANTS**

Persons authorized to perform duties as attendant shall be responsible for the following:

- A. Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.



- B. Awareness of possible behavioral effects of hazard exposure in authorized entrants.
- C. Continuously maintaining an accurate count of authorized entrants in the permit space and ensuring that the means used to identify authorized entrants accurately identifies who is in the permit space.
- D. Remains outside the permit space during entry operations until relieved by another attendant.
- E. Attempting non-entry rescue if proper equipment is in place and the rescue attempt will not present further hazards to the entrant or attendant.
- F. Communicating with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant.
- G. Monitoring activities inside and outside the space to determine if it is safe for entrants to remain in the space and ordering the authorized entrants to evacuate the permit 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 entrant.
  - If the attendant detects a situation outside the space that could endanger the authorized entrants.
  - If the attendant cannot effectively and safely perform all the duties required by this program.
- H. Summoning rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
- I. Taking the following actions when unauthorized persons approach or enter a permit space while entry is underway:
  - Warning the unauthorized persons that they must stay away from the permit space.
  - Advising the unauthorized persons that they must exit immediately if they have entered the permit space.
  - Informing the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- J. Performing no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

**APPENDIX**

Appendix A – List of Confined Spaces and Permit Required Confined Spaces  
 Appendix B – Confined Space Entry Permit

**CONTACT INFORMATION**

Please direct questions or concerns about this policy to:

Contact	Phone	E-Mail
Safety Officer	(773) 442-5215	<a href="mailto:R-Matus@neiu.edu">R-Matus@neiu.edu</a>

**DISCLAIMER**

The University reserves the right to modify or amend sections of this policy at any time at its sole discretion. This policy remains in effect until such time as the Responsible Officer calls for review. Requests for exception to any portion of this policy, but not to the policy statement, must be presented in writing to the Responsible Officer.



## APPENDIX A – LIST OF CONFINED SPACES AND PERMIT REQUIRED CONFINED SPACES

### NORTHEASTERN MAIN CAMPUS

NOTE: Use OSHA 29CFR1910.146 definitions of confined space and permit required confined space to identify the NEIU Permit required confined spaces.

BLDG	Confined Space (Identify/ list)	Permit Required Confined Space (Y/ N)	If Permit Required Confined Space explain what hazard(s) exist			
			Atmospheric	Engulfment	Internal Configuration	Other safety hazard
A	AHU -1 air handler	No				
A	Crawl space	No				
B	AHU -1 air handler	No				
B	Crawl space	No				
C	AHU -1 air handler	No				
C	AHU 1 outdoor air intake	No				
D	AHU D -1 air handler	No				
SU	AHU - 1 air handler	No				
SU	AHU - 2 air handler	No				
SU	AHU - 3 air handler	No				
SU	AHU - 4 air handler	No				
SU	AHU - 6 air handler	No				
FA	AHU - 1 air handler	No				
FA	AHU 1 outdoor air intake	No				
FA	AHU - 2 air handler	No				
FA	AHU 2 outdoor air intake	No				
FA	AHU - 3 air handler	No				
FA	AHU 3 outdoor air intake	No				
FA	AHU - 4 air handler	No				
FA	AHU 4 outdoor air intake	No				
FA	<u>Outdoor air intake for tunnel</u>	No				
FA	air intake shaft for Generator	No				
CLS	air intake shaft for Generator	No				
H	# 1 boiler ( inside )	Yes	Nat Gas		X	
H	# 2 boiler ( inside )	Yes	Nat Gas		X	
H	# 3 boiler ( inside )	Yes	Nat Gas		X	
H	Mezz Exp Tank ( inside )	Yes			X	
H	H-1 AHU Air handler	No				
Dock	Garbage Compactor	Yes			X	mechanical
LIB	AHU - 1 air handler	No				
LIB	AHU 1 outdoor air intake	No				
LIB	AHU - 2 air handler	No				
LIB	AHU 2 outdoor air intake	No				
LIB	AHU - 3 air handler	No				
LIB	AHU 3 outdoor air intake	No				
LIB	<u>Outdoor air intake for tunnel</u>	No				
LIB	AHU -4 air handler	No				



**APPENDIX A – LIST OF CONFINED SPACES AND PERMIT REQUIRED CONFINED SPACES (CONTINUED)**

**CARRUTHERS CENTER FOR INNER CITY STUDIES (CCICS) LOCATION**

NOTE: Use OSHA 29CFR1910.146 definitions of confined space and permit required confined space to identify the NEIU Permit required confined spaces.

LOCATION	Confined Space (Identify/ list)	Permit Required Confined Space (Y/ N)	If Permit Required Confined Space explain what hazard(s) exist			
			Atmospheric	Engulfment	Internal Configuration	Other safety hazard
BSMT	S1 AHU	No				
3rd FL Mech RM	S2AHU	No				
3rd FL Mech RM	S3 AHU	No				
Pent Mech RM	S4 AHU	No				
Pent Mech RM	E4 Return Fan	No				
BSMT	# 1 Boiler	Yes	Nat Gas			
BSMT	# 2 Boiler	Yes	Nat Gas			
BSMT	Ejector Pumps	Yes	Sewer Gas			Below grade
SW Parking Lot	Ejector Pumps	Yes	Sewer Gas			Below grade
E Bldg Exterior	Ejector Pumps	Yes	Sewer Gas			Below grade
BSMT	North Elevator Pit	No				
1st FL	South Elevator Pit	No				

**EL CENTRO LOCATION**

None



## APPENDIX B – CONFINED SPACE ENTRY PERMIT

**NORTHEASTERN ILLINOIS UNIVERSITY  
 ENVIRONMENTAL HEALTH & SAFETY  
 CONFINED SPACE ENTRY PERMIT**

Permit Number \_\_\_\_\_ Date \_\_\_\_\_

Location & Description of Confined Space: \_\_\_\_\_  
 \_\_\_\_\_  
Purpose of Entry: \_\_\_\_\_  
 \_\_\_\_\_

Scheduled Start \_\_\_\_\_ a.m. \_\_\_\_\_ p.m. Day / Date / Time  
 Scheduled Finish \_\_\_\_\_ a.m. \_\_\_\_\_ p.m. Day / Date / Time

Employee(s) in charge of entry: \_\_\_\_\_  
Entrants: \_\_\_\_\_  
Attendants: \_\_\_\_\_

*{Check those items below which are applicable to your confined space permit.}*

- TYPES OF HAZARDS**
- Oxygen-Deficient Atmosphere
  - Oxygen-Enriched Atmosphere
  - Welding/Cutting
  - Engulfment
  - Toxic Atmosphere
  - Flammable Atmosphere
  - Energized Electrical Equipment
  - Entrapment
  - Hazardous Chemical

- SAFETY PRECAUTIONS**
- Self-Contained Breathing Apparatus
  - Purging/ cleaning
  - Air-Line Respirator
  - Fire-Retardant Clothing
  - Ventilation
  - Protective Gloves
  - Rescue devices/ Harness/ lifeline
  - Respirators
  - Lockout/Tagout
  - Fire Extinguishers
  - Barricade Job Area
  - Signs Posted
  - Clearances Secured
  - Lighting
  - Ground Fault Interrupter

Remarks \_\_\_\_\_  
 \_\_\_\_\_

**ATMOSPHERIC MONITORING**

DATE/ TIME: \_\_\_\_\_  Continuous  Periodic \_\_\_\_\_ (minute intervals)

TESTS TO BE TAKEN (INITIAL)	INITIALS	DATE/ TIME	RE-TESTING (CONTINUED ON BACK)				INITIALS
			OXYGEN	LEL	CO	H <sub>2</sub> S	
Oxygen: _____ %	_____	_____ a/p	%	%	%	%	_____
Lower Explosive Limit (LEL): _____ %	_____	_____ a/p	%	%	%	%	_____
Carbon Monoxide (CO): _____ %	_____	_____ a/p	%	%	%	%	_____
Hydrogen Sulfide (H <sub>2</sub> S): _____ %	_____	_____ a/p	%	%	%	%	_____

<p style="text-align: center;"><b>ENTRY AUTHORIZATION</b></p> <p>All actions and/or conditions for safe entry have been performed.</p> <p>Person in Charge of Entry _____  <small>PLEASE PRINT</small></p>	<p style="text-align: center;"><b>ENTRY CANCELLATION</b></p> <p>Entry has been completed and all entrants have exited permit space.</p> <p>Person in Charge of Entry _____  <small>PLEASE PRINT</small></p>
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**IN CASE OF EMERGENCY CALL 911**  
 {CFR 1910.146 (f)(11)}

