

NORTHERN KENTUCKY UNIVERSITY	POLICY LINK: OCCUPATIONAL SAFETY POLICY
ISSUE DATE: 11/02/2018 REVISED DATE: 12/15/2021	TITLE: CONFINED SPACE ENTRY PROCEDURE

OBJECTIVE AND PURPOSE

The purpose for this procedure is to establish clear and consistent guidelines for confined space entry on Northern Kentucky University's campus. The requirements of this document apply to all individuals entering confined space on NKU campus. This procedure is administered under the authority of University Occupational Safety Policy.

DEFINITIONS

Alternate Entry Procedure: A procedure that may be used to enter a confined space if the only hazard present in the space is atmospheric in nature and the atmospheric hazard can be controlled by mechanical ventilation alone; and the permit-required confined space will not become immediately dangerous to life and health (IDLH) if the mechanical ventilation should fail.

Attendant: An individual stationed outside one or more permit-required confined spaces who monitors the authorized entrants and performs all Attendant's duties as assigned in this program.

Authorized Entrant: An NKU employee who is authorized to enter a permit-required confined space.

Confined Space: A confined space means a space that is large enough and so configured that an employee can bodily enter and perform assigned work; and has limited or restricted means for entry or exit (for example, manholes, vaults, and pits are spaces that may have limited means of entry or exit); and is not designed for extended employee occupancy.

Entry Permit: The written document provided by Northern Kentucky University (Office of Safety and Emergency Management) which allows and controls entry into a permit required confined space.

Entry Supervisor: The person responsible for determining if acceptable entry conditions are present at a permit-required space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this program.

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

Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL);

1. Airborne combustible dust at a concentration that meets or exceeds its LEL; (note: this condition may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less)
2. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
3. Atmospheric concentration of any substance which could result in an exposure greater than the Permissible Exposure Level (PEL).
4. Any other atmospheric concentration that is immediately dangerous to life and health (IDLH).

Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a confined space.

Lower Explosive Limit (LEL): The minimum vapor concentration of a flammable liquid in air, below which flame propagation does not occur on contact with an ignition source.

Non-Permit Confined Space: A 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.

Oxygen Deficient Atmosphere: An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen Enriched Atmosphere: An atmosphere containing more than 23.5 percent oxygen by volume.

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

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. 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
4. Contains any other recognized serious safety or health hazard.

Testing: The process by which hazards that may confront entrants of a permit space are identified and evaluated.

Ventilation: A process used to control the atmospheric hazards of confined spaces by replacing unsafe air with clean, breathable air.

RULES AND PROCEDURES

Identifying Confined Spaces on Campus

Safety and Emergency Management with department supervisors will jointly determine which types of spaces or specific spaces are defined as "Confined Spaces". A list of these spaces can be found at the end of this procedure. Spaces that will always be considered "Permit Entry Confined Spaces" will be designated on the list as well. All confined spaces on campus will be considered "Permit Required" until pre-entry procedures determine otherwise. The only individuals authorized to downgrade the entry requirements for a particular space (i.e. from "permit required to "Alternate Entry Procedure") are designated "Entry Supervisors".

Confined Space Entry Procedures

Space Evaluation:

Note: Refer to Confined Space Entry Decision Flow Chart listed at end of this procedure

1. All confined spaces are to be evaluated by an Entry Supervisor prior to authorizing an entry (refer to Appendix A for a list of Confined Spaces on campus).
2. The primary purpose of the evaluation will be to determine if the entry will be via "Alternate Entry Procedures" or by "Permit Required Entry Procedures."
3. To be reclassified as an "Alternate Entry" space, the following conditions must exist:
 - The only hazard in the space is the potential for a hazardous atmosphere;
 - The potential hazard can be eliminated through the use of continuous forced ventilation; and
 - Previous and current atmospheric monitoring data (gas tests) must demonstrate that the above are true (i.e. there has never been a record of an atmospheric hazard during an entry).

Contractors

Contractors that enter confined spaces on the NKU campus must comply with the Confined Space Standard as defined in 29 CFR 1910.146.

NKU is not responsible for employees of contractors who may enter university confined spaces.

RESPONSIBILITIES

Safety and Emergency Management

Safety and Emergency Management is responsible for procedure development, review, and compliance with all applicable federal and state regulations. Safety and Emergency Management will coordinate training as needed. Safety and Emergency Management staff are authorized to halt any unsafe work practice that is not in accordance with this or any other NKU safety policy or procedure.

Chair/Director Responsibilities

It is the responsibility of the chair/director to comply with applicable environmental, health and safety laws and regulations, University policies and procedures, and accepted safe work practices.

Chairs/directors shall ensure that their employees receive required training prior to beginning work and annual/refresher training as needed. The chair/director is also responsible for maintaining their employee training records.

Chairs and Directors may delegate the details of program implementation to appropriate personnel within their authority. The ultimate responsibility, however, for ensuring implementation of these programs at the academic department/administrative unit level remains with the chairs/directors.

Superintendents and Supervisor

Superintendents and Supervisors will provide and maintain equipment that is needed for confined space entry including (but not limited to): atmospheric testing equipment, protective barriers, ventilation devices, and rescue equipment.

Superintendents and supervisors shall ensure that all confined space entries involving Operation and Maintenance employees are conducted according to this procedure and forward records of all confined space entries to the Director of Safety and Emergency Management.

Confined Space Entry Supervisor

Ensure that all persons involved in a confined space entry are properly trained and follow the procedures outlined in section. Evaluate and classify the confined space prior to entry. Complete the Confined Space Entry Permit and confirm that canceled permits are forwarded to the Director of Safety and Emergency Management

Note: The Entry Supervisor does not need to be present during the entire confined space entry operation.

Confined Space Entrant(s)

Confined Space Entrant(s) must have completed confined space training, must stay in constant contact with the Attendant (i.e. sight, voice, or radio) during a Permit Required Confined Space entry, and use the appropriate safety equipment as specified on the Entry Permit.

Entry Attendant

Entry Attendants must have completed confined space training, obtain and install any required safety equipment for Permit Required Confined Space Entries, monitor the atmosphere within the confined space during the entire entry operation, remain in position until relieved by another trained Attendant, ensure that all Lockout/Tagout measures (if implemented) remain in place, and is responsible for ordering an evacuation if a situation develops that could endanger the Entrant.

TRAINING

Departments shall ensure adequate training for each employee prior to performing work related to this procedure. Documentation shall be maintained for each employee. Additional information on training and documentation requirements can be found in corresponding regulations. For additional assistance contact Safety and Emergency Management.

For additional information, forms, training, and other resources visit inside.nku.edu/safety.

Please review OSHAs [PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART](#) for additional information and guidance.

CONFINED SPACE LIST

Space Type & Location	Location	Oxygen Deficiency YES or NO	Combustible YES or NO	Toxic Atmosphere What Toxics?	Electrical Hazard	Mechanical Hazard	Classification	Alternate Entry?
		Documented or Potential						
Sanitary Manholes	Campus Wide	Yes, Potential	No	Yes, Potential, H2S	No	No	Permit Required	With Air Monitoring
Stormwater Pits	Campus Wide	Yes, Potential	No	No	No	No	Permit Required	With Air Monitoring
Water Pits	Campus Wide	Yes, Potential	No	No	No	No	Permit Required	With Air Monitoring
Tel/Com Manholes	Campus Wide	Yes, Potential	No	No	Yes	No	Permit Required	With Air Monitoring
Electrical Manholes	Campus Wide	Yes, Potential	No	No	Yes	No	Permit Required	With Air Monitoring
University Owned House Attics	Campus Wide	No	No	No	No	No	Non-Permit Required	N/A
Crawlspace	Landrum Academic Center	Yes, Potential	No	No	No	No	Permit Required	N/A
Fume Hood Exhaust Plumes	Science Center	Yes, Potential	Yes, Potential	Yes, Potential, Varied Hazards	No	Yes	Permit Required	No
Air Handler with exception of Fan/Motor Bays	Campus Wide	No	No	No	No	No	Non-Permit Required	N/A
Air Handler Fan/Motor Bays	Campus Wide	No	No	No	Yes	Yes	Permit Required	With Lockout of Unit

Documentation of Updates and Changes:

Updated by Audra Points December 2021