

---

# Kalamazoo Valley Community College

## Confined Space Entry Plan



## Table of Contents

<b>POLICY.....</b>	<b>2</b>
<b>PROGRAM ADMINISTRATION.....</b>	<b>2</b>
<b>CONFINED SPACES .....</b>	<b>2</b>
<b>AIR SAMPLING .....</b>	<b>3</b>
<b>EMPLOYEE NOTIFICATION - [1910.146(C)(2)].....</b>	<b>4</b>
<b>PERMIT – REQUIRED CONFINED SPACES .....</b>	<b>4</b>
<b>Equipment For Entering a Permit Space .....</b>	<b>4</b>
<b>Procedures For Entering a Permit Space .....</b>	<b>5</b>
<b>Entry Permit System .....</b>	<b>6</b>
<b>Entry Permit Form .....</b>	<b>6</b>
<b>CONTRACTOR NOTIFICATION - [CFR §1910.146(C)(8)] .....</b>	<b>7</b>
<b>PROCEDURE FOR RECLASSIFYING A PERMIT-REQUIRED CONFINED SPACE.....</b>	<b>8</b>
<b>TRAINING REQUIREMENTS .....</b>	<b>9</b>
<b>Appendix A – Duties of authorized entrants, attendants, entry supervisors, and college employees     who may serve on in-house rescue and emergency service.....</b>	<b>11</b>

## **Policy**

This document serves as the written Confined Space Entry Plan for KVCC. It is applicable to college operated facilities on the Texas Township Campus, the Arcadia Commons Campus and the MTEC (Michigan Technical Education Center) facility in the Groves.

This program has been developed in accordance with the MIOSHA Confined Space Entry/Permit-Required Confined Spaces Standard, Part 90 and Part 490. The provisions of 29 C.F.R. §1910.146 entitled Permit Required Confined Spaces became effective on October 30, 1993, thus the rules and guidelines established by OSHA in April 1993 are in effect and enforced in Michigan.

## **Program Administration**

Kalamazoo Valley Community College's Public Safety Department is responsible for developing and maintaining the KVCC Confined Space Entry Plan. Employees may review the plan at any time. A hardcopy is available upon request and located within the Public Safety Department.

If after reviewing this program, you discover information or improvements that should be made to this program, please contact the KVCC Public Safety Department at ext. 4575. We encourage employee comments, ideas, questions, and suggestions. Our commitment to the success of our written program and the safety of our employees is total. The Public Safety Department strives to achieve clarity in compliance requirements, encourages safe employee behavior and employee participation in safety plans and programs throughout the institution.

## **Confined Spaces**

The Safety Coordinator at the time, surveyed institutional facilities and grounds with assistance from the Director of Facility Services in 1994. The definition of a confined space found in 29 C.F.R. 1910.146(b) was used as a guide for conducting the survey. That regulation defines a confined space as a space that has the following characteristics:

Confined space means a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that may have limited means of entry)
- Is not designed for continuing employee occupancy

Based on the above guidelines, a survey of KVCC facilities and grounds produced the following list of spaces to consider:

- The lift station (Texas Township Campus)
- The Johnston Hot Water Boilers (Texas Township Campus)
- Utility Manholes (3 for electricity; 2 for telephone service, Texas Township Campus)

- Horizontal Utility Tunnel (Kalamazoo Valley Museum, Arcadia Campus)
- Large Air Handlers (Texas Township and Arcadia Campuses)

These spaces were reevaluated in 2004 during a facilities inspection conducted by the Safety Specialist and a representative from MIOSHA CET division. The following list and determinations is a product of that inspection.

#### Not Confined Spaces:

- Large Air Handlers – clear path of egress
- Hall Units – clear path of egress
- Boilers – cannot physically be entered
- Confined Space pit for training at MTEC – training purposes only, no potential for hazard
- Cooling Towers – clear path of egress

#### Confined Spaces:

- Lift Stations – KVCC conducts air-monitoring tests on a quarterly basis and keeps documentation of results. Note: there is no history of a buildup of gases, measurable carbon dioxide levels or oxygen depletion.
- Incinerator – KVCC employees do not enter. External contractors perform any maintenance as necessary.
- Horizontal Utility Tunnel at KVM – limited means of egress but no potential for hazards

#### Permit Required Confined Spaces:

- Utility Manholes – KVCC employees do not enter. External contractors perform any maintenance as necessary.
- Small Air Handler – KVCC has procedures in place to de-energize and reclassify this space to a non-permit required confined space prior to entry.

### **Air Sampling**

The two lift stations in front of the Texas Township Campus building are tested for air quality on a quarterly basis. The KVCC Maintenance Technicians perform the tests using an air-analyzing device that samples the air and checks for a buildup of gases. The Preventative Maintenance Work Orders are submitted to the Senior Office Specialist and retained on file in Facilities Services; hard copies are kept for six months; electronic files are retained indefinitely. There is an exhaust fan running continuously in both lift stations and records have never indicated a buildup of gases, measurable carbon dioxide levels or oxygen depletion.

Revised 03/12/2026 Confined Space Entry Plan

## **EMPLOYEE NOTIFICATION – [1910.146(c)(2)]**

Kalamazoo Valley Community College shall notify potentially exposed employees of the existence and location of confined spaces on its' campuses, by posting danger signs and through specific verbal instructions. The signs and instructions will provide warning and information on the potential danger posed by the spaces. Whenever physically possible, confined spaces will have a sign placed upon or near them with the words, "Danger, Confined Space."

Kalamazoo Valley Community College employees shall not enter confined spaces that the Director of Facility Services has declared "off limits" to college employees. The Director shall inform affected College employees of this restriction through written and/or verbal postings and/or warnings and/or training. This currently includes the Incinerator and the Utility Manholes.

The Institutional Safety Department will monitor changes in the use or configuration of confined spaces that might increase hazards to entrants, and reclassify those spaces as necessary.

## **Permit-Required Confined Spaces**

Currently, KVCC employees do not enter Permit Required Confined Spaces. This is communicated to employees through training. External contractors conduct all necessary maintenance in utility manholes. KVCC employees do perform maintenance services on the small air handler but only after it has been reclassified according to the procedures contained in this program.

Should the occasion arise that KVCC employees do need to enter Permit Required Confined Spaces, the Public Safety Department has developed procedures, means and practices necessary for safe entry operations. These include, but are not limited to, the following:

- Specifying acceptable entry conditions
- Isolating the permit space
- Purging, inserting, flushing or ventilating the permit space as necessary to eliminate or control atmospheric hazards
- Providing pedestrian, vehicle or other barriers as necessary to protect entrants from external hazards
- Verifying that conditions in the permit space, are acceptable for entry throughout the duration of an authorized entry

## **Equipment for Entering a Permit Space**

The College shall provide the necessary equipment to facilitate safe entry into permit spaces. The equipment shall be provided at no cost to employees, it shall be properly maintained and employees shall be trained to correctly and safely use the equipment. The types of equipment necessary may include:

- Testing and monitoring equipment necessary to evaluate permit space conditions to determine if acceptable entry conditions exist before entry is authorized to begin. However, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions shall be continually monitored in the areas where authorized entrants are working
- Testing and monitoring equipment necessary to evaluate permit space conditions when entry operations are conducted
- Ventilating equipment necessary to obtain and maintain acceptable entry conditions
- Communications equipment necessary to allow communication between the attendant(s) and the authorized entrant(s)
- Personal protective equipment shall be available and used when engineering and work practice controls do not adequately protect employees
- Lighting equipment if needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency
- Barriers and shields as needed to protect entrants from external hazards, such as unauthorized persons, vehicles, or falling objects
- Any equipment, such as ladders, needed for safe ingress and egress by authorized entrants
- Rescue and emergency equipment needed for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees and for preventing unauthorized personnel from attempting a rescue
- Any other equipment necessary for safe entry into and rescue from permit spaces

### **Procedures for Entering a Permit Space**

The College shall make sure that employees who participate in confined space entry operations observe the following procedures:

- Test for atmospheric hazards, first for oxygen level, then for combustible gases and then for toxic gases and vapors
- At least one employee shall perform as the attendant. This person shall remain outside the permit space into which entry is authorized for the duration of the entry operation. (See appendix A for information on attendant's responsibilities)
- Designate the persons who are to have active roles (for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit

space) in entry operations, identifying the duties of each such employee and provide each such employee with the training required by this regulation

- Ensure that designated employees are aware of the procedures for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees and preventing unauthorized personnel from attempting a rescue

### **Entry Permit System**

The College shall develop and implement a confined space entry permit system that will incorporate at a minimum the following items:

- Document that the preliminary testing and procedures have been completed before entry is authorized
- Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry
- The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that entrants can confirm that pre-entry preparations have been completed
- The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit
- The entry supervisor shall terminate entry and cancel the entry permit when the entry operations covered by the entry permit have been completed or a condition that is not allowed under the entry permit arises in or near the permit space
- Each canceled entry permit shall be retained for at least 1 year, to allow the College to review its permit required confined space program, which must be done annually

### **Entry Permit Form**

The entry permit form used by the College shall include at a minimum the following items:

- The identification of the permit space to be entered
- The purpose of the entry
- The date and the authorized duration of the entry permit
- The authorized entrants within the permit space, by name or by other such means (for example, through the use of rosters or tracking system) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space
- The personnel by name, currently serving as attendants

- The individual by name, currently serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry
- The hazards of the permit space to be entered
- The measures used to isolate the permit space and to eliminate or control permit space hazards before entry
- The acceptable entry conditions
- The results of initial and periodic tests performed under direction of prior sections of these rules, accompanied by the names or initials of the testers and by evidence of when the tests were performed
- The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services
- The communication procedures used by authorized entrants and attendants to maintain contact during entry
- Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with this section
- Any other information as necessary, given the characteristics of the particular confined space, in order to ensure employee safety
- Any additional permits, such as for hot work that has been issued to authorize work in the permit space

### **CONTRACTOR NOTIFICATION – [CFR §1910.146(C)(8)]**

When KVCC contracts with an outside employer to perform work in a permit-required confined space, the following activities and/or information shall be completed:

- The contractor shall be informed that the workplace contains permit confined spaces and that permit confined space entry is allowed only through compliance with the College's confined space permit program
- The contractor shall be advised of the features and possible hazards identified in each identified space that resulted in the space being designated as entry only by permit
- The contractor shall be advised of the procedures and precautions that the College has implemented for the protection of college employees in or near permit spaces where contractor personnel will be working

- In situations where college and contracted personnel will be in the same permit space, or personnel from 2 or more contractors will be working in the same space, the College will coordinate entry operations – procedures will be developed and implemented by the College to assure that employees of one employer do not endanger the employees of any other employers
- The contractor shall be interviewed by the Director of Facility Services or designee at the conclusion of entry operations or after completion of work in the space – information shall be gathered regarding the permit space program and any hazards confronted or created in the permit space during entry operations

### **Procedure for Reclassifying a Permit – Required Confined Space**

If the permit spaces pose no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the space may be reclassified as a non-permit space for as long as the non-atmospheric hazards remain eliminated.

Specifically, the Small Air Handler is a permit space when it is operational. When maintenance is required, this space must be reclassified prior to entry. Kalamazoo Valley Community College has developed and implemented the following procedures to ensure safe entry operations:

- De-energize power source by shutting off breaker
- Verify that the equipment is de-energized, thereby eliminating all electrical and mechanical hazards and making it safe to enter
- Lockout the equipment following KVCC Lockout/Tagout Program procedures and notify affected employees
- Perform maintenance
- Check area and confirm that is it clear to be re-energized
- Remove lock
- Energize
- Verify system is functioning properly

If a space must be entered in order to eliminate hazards, such entry shall be performed under the following guidelines:

- The College shall verify that the space is safe for entry and that the measures required by paragraph (C)(5)(ii) of the MIOSAH Standard have been observed, including, but not limited to the following:
  - The elimination of any conditions making it unsafe to remove an entrance cover, before the cover is opened.

- A railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space shall properly guard the opening.
- The internal atmosphere in the space shall be tested before an employee enters the space. The space shall be tested with a calibrated direct-reading instrument for the following conditions in the order given:
  - Oxygen content
  - Flammable gases and vapors, and
  - Potential toxic air contaminants
- Continuous forced air ventilation shall be used as follows:
  - To eliminate any hazardous atmosphere before an employee shall be permitted to enter the space
  - Forced air ventilation shall be so directed as to ventilate the immediate area where an employee is or will be present within the space and shall continue until all employees have left the space
  - The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space
  - To ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere the College shall test the atmosphere within the space periodically and prior to entry
- If a hazardous atmosphere is detected, the following actions shall immediately commence:
  - Each employee shall leave the space immediately
  - The space shall be evaluated to determine how the hazardous atmosphere developed
  - Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place

### **Training Requirements**

The College shall provide training for all employees whose work is regulated by this law. Employees shall acquire the knowledge, skills and understanding necessary for the safe performance of the duties assigned under its provisions. Training shall be provided for each affected employee:

- Before the employee is assigned to perform duties in spaces covered by this regulation
- Before there is a change in assigned duties related to the provisions of this regulation

- Whenever there is a change in permit space operations that presents a hazard that the employee has not previously been trained to perform
- When the College has reason to believe either that there are deviations from the permit space entry procedures as required by this regulation or that there are inadequacies in an employee's knowledge or use of those procedures

The College shall ensure that the training establish employee proficiency in the duties required and shall introduce new or revised procedures, as necessary, to maintain compliance with this law.

The College shall certify that the training required under this regulation has been accomplished. This certification shall contain each employee's name, the signatures or initials of the trainers and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

Original: 11-14-94

Revision 1: 11-23-99

Revision 2: 11-11-02

Accepted by ISAC: 11-12-04

Annual Review: 11-2005

Annual Review: 11-2006

Annual Review: 11-2007

Annual Review: 11-2008

Reviewed & Revised: 12/16/2025

Reviewed & Revised: 03/12/2026

---

## **Appendix A - Duties of authorized entrants, attendants, entry supervisors, and College employees who may serve on in-house rescue and emergency service**

### **Duties of Authorized Entrants**

Employees who serve as or are designated as authorized entrants are expected to know the following information and to be able to perform the functions indicated:

- Know the hazards that may be faced during entry, including information on mode, signs or symptoms and consequences of exposure;
- Know how to properly use testing and monitoring, ventilating, communication, personal protective, lighting, rescue and emergency equipment. Also know how to use other equipment needed for safe ingress and egress into a permit-required confined space;
- Communicate 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 entry conditions become unsafe;
- Alert the attendant whenever;
  - The entrant recognizes any warning sign or symptom of exposure or another dangerous situation or
  - The entrant detects a prohibited condition in the space;
- Exit from the permit space as quickly as possible whenever;
  - An order to evacuate is given by the attendant or the entry supervisor
  - The entrant recognizes any warning sign or symptoms of exposure to a dangerous situation.
  - The entrant detects a prohibited condition or
  - An evacuation alarm is activated

### **Duties of Attendants**

Employees who serve as or are designated as attendants for required confined space entry activities are expected to know the following information and to be able to perform the functions indicated:

- To know the hazards that may be faced during entry, including knowing the mode, signs, symptoms and consequences of exposure;
- Be aware of possible behavioral effects the exposure could cause in authorized entrants;
- Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants complies with the guidelines as specified in this regulation;

- Remain outside the permit space until relieved by another attendant during entry operations.

Note: An attendant may only enter a permit space to attempt a rescue if he/she has been trained and equipped for rescue operations and only if another attendant has relieved him/her.

- To communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space should an unsafe condition develop
- To monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and to immediately order the authorized entrants to evacuate the permit space under any of the following conditions:
  - If he/she detects a prohibited condition;
  - If he/she detect the behavioral effects in an authorized entrant caused by hazard exposure;
  - If he/she detects a situation outside the permit space that could endanger the authorized entrants;
  - If he/she cannot effectively and safely perform all the duties of attendant.
- To summon rescue and other emergency services as soon as he/she determines that authorized entrants may need assistance to escape from the permit space hazards;
- Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
  - Warn the unauthorized persons that they must stay away from the permit space;
  - Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
  - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- Performs non-entry rescues as permitted or specified in the College's rescue procedures; and
- Must perform no other duties that might interfere with his or her primary duty to monitor and protect the authorized entrants.

### **Duties of Entry Supervisor**

Employees who serve as entry supervisor for required confined space entry activities are expected to know the following information and to be able to perform the functions indicated:

- To know the hazards that may be faced during entry, including information on the mode, signs, symptoms and consequences of the exposure hazard;
- To verify that a permit is valid by checking that the appropriate entries have been made on the 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 endorsing the permit and allowing the entry to begin;
- To terminate the entry and cancel the permit as required when entry conditions covered by the permit have been completed or a condition that is not allowed under the entry permit arises in or near the permit space;
- To verify that rescue services are available and that the means for summoning them are in place and operable;
- To remove or have removed unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
- Determines when the responsibility for a permit space entry operation is transferred to another entry supervisor and at what intervals such transfer may be made as dictated by the hazards and operations performed within the space. Ensure those entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

### **Rescue and Emergency Services**

If it is decided that College employees will be trained to effect rescues from permit-required confined spaces, then the following requirements apply:

- Each member of the internal rescue service is provided with and is trained to properly use, the PPE and rescue equipment necessary for making rescues from permit spaces;
- Each member of the internal rescue service shall be trained to perform the assigned rescue duties.
- Each member of the rescue service shall also receive the training required of authorized entrants;
- Each member of the rescue service shall practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces shall, with respect to opening size, configurations and accessibility simulates the types of permit spaces from which rescue is to be performed;
- Each member of the rescue service shall be trained in basic first aid and in cardiopulmonary resuscitation (CPR). At least one member of the rescue service holding current certification in first aid and CPR shall be available during permit entry operations.

To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space. This equipment should be used unless its use would increase the overall risk or it would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

- Each authorized entrant shall use a chest or full body harness with a retrieval line attached at the center of the entrant's back, near shoulder level or above the entrants' head.
- Wristlets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.
- The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary.
- A mechanical device shall be available to retrieve personnel from vertical type permit space more than 5 feet in depth.

If an injured entrant is exposed to a substance for which a (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information shall be made available to the medical facility treating the exposed entrant.