

CONFINED SPACE ENTRY PROCEDURE POLICY VILLAGE OF NASHVILLE October 14, 2005

Purpose

The purpose of this document is to communicate the Village of Nashville's compliance with MIOSHA requirements for a permit-required confined space entry and to outline the Village of Nashville's confined space entry program.

The Village of Nashville has identified all permit-required confined spaces at this location and has determined entry and rescue procedures.

This document contains:

- the employer's procedures for permit-required confined space entry,
- the names of the entry supervisors trained to issue permits,
- the names of all employees (authorized entrants) trained to enter permit-required confined spaces or serve as attendants,
- the names of the trained rescue and emergency service members.

In addition, the document specifies:

- all personal protective equipment (PPE), air monitoring equipment, and rescue equipment that employees use at this location.
- the Village of Nashville's responsibilities to contractors and the contractor's duties to the Village of Nashville.

Scope and Application

The Village of Nashville defines a **permit-required confined space** as a space that has all four (4) of the following characteristics:

1. It is large enough and has a configuration that allows an employee to bodily enter it and perform assigned work; **and**
2. It also has limited or restricted means for entry or exit; **and**
3. It is not designed for continuous employee occupancy, **and**
4. It has one or more of the following characteristics:
 - It contains, or has a potential to contain a hazardous atmosphere,
 - Contains a material with the potential for engulfing an entrant,
 - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross-section, or
 - Contains any other recognized serious safety or health hazard.

Administrative Measures for Preventing Unauthorized Entries Into

Permit-Required Confined Spaces

The Village of Nashville has taken administrative measures to prevent unauthorized entries. These measures include the use of signs, barriers, covers, guardrails, fences, and locks.

Entry supervisors will remove unauthorized individuals who enter or attempt to enter the permit-required confined spaces.

Attendants will advise unauthorized persons that they must exit immediately if they have entered the PERMIT-REQUIRED confined space. **Attendants** will also inform authorized entrants and the entry supervisor if unauthorized persons have entered the PERMIT-REQUIRED confined space

It is the responsibility of the individual(s) entering a PERMIT-REQUIRED confined space to be sure they have been issued a PERMIT-REQUIRED confined space entry permit. Entering permit-required confined space without a permit or required training is an unauthorized entry and violates the Village of Nashville's policy.

Identification and Evaluation of Permit-Required Confined Spaces

The Village of Nashville has conducted a survey of this facility and determined that the following locations are **PERMIT-REQUIRED Confined Spaces**. Employer performed an analysis to determine the hazards, entry procedures, protective equipment required, rescue and emergency services necessary.

- **INSERT LIST (DPW must complete this list)**

Entry supervisors will review the analysis for the location for which they are to issue a permit.

An analysis of each PERMIT-REQUIRED confined space at this facility follows this section.

Means, Procedures, And Practices

It is the responsibility of the Village of Nashville to issue permits and to enforce compliance with **PERMIT-REQUIRED confined space** entry procedures.

The Village of Nashville has trained entry supervisors in the skills necessary to issue permits.

The **entry supervisor** is responsible for testing the atmosphere and evaluating the hazards the PERMIT-REQUIRED confined space. The entry supervisor will place the written permit at the entry point into the PERMIT-REQUIRED confined space prior to entry.

The **entry supervisor** will make certain that employees comply with the following means,

procedures, and practices for safe permit space entry operation.

Acceptable Entry Conditions

The **entry supervisory** shall test the PERMIT-REQUIRED confined space for acceptable entry conditions.

Acceptable Entry Conditions Are:

- more than 19.5%, but less than 23.5% oxygen, and
- less than 10% of the Lower Flammable Limit (LFL) of a flammable liquid or gas, and
- not to exceed the Permissible Exposure Level (PEL) of a toxic chemical.

Isolation and Lockout

The **entry supervisor** shall assure the isolation of the permit-required confined space from serious hazards. Mechanical equipment that poses a hazard in the space must be “locked out” accordance with the **MIOSHA** General Industry Standards. Chemical or gas lines that are open within the permit space must be isolated by appropriate means. These include blanking, misaligning or removing sections of lines, pipes, or ducts, or a double block and bleed system.

Atmospheric Hazards

The **entry supervisor** will assure adequate purging, inerting, flushing, or ventilation of the space before authorized entrants enter a permit-required confined space. This is accomplished by ventilating the atmosphere, after purging, if the space is a flammable liquid container or if purging is otherwise necessary, before an authorized entrant enters the space.

Inerting is the displacement of the atmosphere in a permit space by a noncombustible gas to such an extent that resulting atmosphere is noncombustible. This procedure produces an IDL oxygen-deficient atmosphere. The entry supervisor must ensure proper respiratory protection provided to the authorized entrant before entering the permit space using this procedure.

Barriers

The **entry supervisor** will provide (if applicable) for barriers around the permit space opening to:

- prevent unauthorized entry into the space, and
- protect authorized entrants inside the space from objects and persons outside the space.

Verification

The **entry supervisor** will assure that conditions in the permit space are acceptable for entry throughout the duration of entry operations. To accomplish this, the supervisor will

use calibrate test instruments to monitor the atmosphere within the space and make

inspections to assure that isolation is being maintained for the space.

Attendant

The **entry supervisor** will provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations.

NOTE: An **entry supervisor** who receives adequate training may serve as the **attendant**.

Personal Protective Equipment (PPE)

The Village of Nashville will provide any personal protective equipment (PPE) necessary for safe entry into and rescue from permit-required confined spaces at no cost to employees. The Village of Nashville will maintain that equipment properly and assure that employees use it properly.

Permit-Required Confined Space equipment program includes:

- testing and monitoring equipment
- ventilation equipment
- communications equipment
- lighting equipment
- barriers and shields
- ingress and egress equipment
- rescue and emergency equipment
- FFE
- any other equipment necessary for safe entry into and rescue from permit spaces.

Evaluation of Permit Space conditions

The **entry supervisor** will evaluate permit-required confined space conditions as follows when entry operations take place. The entry supervisor will:

- Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized.

If it is not feasible to isolate the space because the space is large or is part of a continuous system, pre-entry testing shall be performed to the extent feasible before entry is authorized. Entry conditions shall be monitored in the areas where authorized entrants are working.

- Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations.
- When testing for atmospheric hazards, test for oxygen first, then flammables (LFL), and then for toxic substances (PEL).

Personnel Roles and Duties

Entry Supervisors

Only the **entry supervisor** may issue permit-required confined space entry permits. The **entry supervisor** or the Village of Nashville has had training in permit-required confined space entry procedure. The training includes:

- hazard recognition,
- recognition of the physical signs and symptoms of exposure to a hazard,
- understanding the consequences of exposure to a hazard,
- communication requirements,
- personal protective equipment requirements,
- written permit-required confined space information,
- rescue procedures,
- use of appropriate air testing equipment,
- details of Employers written plan,
- hazards of temperature extremes, and
- lockout/tagout and isolation.

Duties of the entry supervisor

The entry supervisor:

1. Knows the hazards (or potential hazards) that workers may face during entry, including information on the mode, signs and symptoms, and consequences of the exposure(s) to if entrants;
2. Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit are in place before endorsing the permit and allowing entry to begin;
3. Terminates the entry and cancels the permit as required;
4. Verifies that rescue services are available (during entry operations) and that the attendant has a means of communications available for calling rescue services;
5. Removes unauthorized individuals who enter or attempt to enter the permit space during entry operations; and
6. Determines, whenever responsibility for a permit space entry operation is transferred and intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

ENTRY SUPERVISOR TRAINING

Training

The following employees have received training as **Entry Supervisors** and are, therefore, qualified to issue permits at this facility:

Name:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Authorized Entrants

Only those individuals who received training in permit-required confined space entry and stand-by procedures may enter confined spaces. Authorized entrants have received training in:

- recognizing and understanding the hazards that they may face during entry operations,
- recognizing the physical signs and symptoms of exposure to a hazard(s),
- understanding the consequences of exposure to a hazard(s),
- communication requirements for confined space entry operations,
- procedures for notifying the attendant when the entrant(s) initiate the evacuation of a permit space,
- the use of PPE, such as retrieval lines, body harness, respirators/SCBA, and protective clothing needed for safe work operations, entry, and exit,
- verifying that the atmosphere of a confined space is tested before entering the space after absence, i.e. lunch,
- the external barriers required to protect entrants from external hazards and the proper use those barriers,
- evacuating a confined space when ordered by the attendant, entry supervisor, or another entrant,
- evacuating a confined space when an alarm is activated,
- evacuating a confined space when entrants perceive that they may be in danger,
- evacuating a confined space when atmospheric monitoring equipment alarms.

Duties of the Authorized Entrant Include:

1. Knowing the hazards (or potential hazards) that they may be faced with during entry, including the mode, signs or symptoms, and consequences of the exposure(s);
2. Properly using all equipment;
3. Communicating with the attendant as necessary to enable the attendant to monitor entrant status and enable the attendant to alert entrants of the need to evacuate the space required;
4. Alerting the attendant whenever:
 - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation; or
 - The entrant detects a prohibited condition; and
5. Exiting from the space as quickly as possible whenever:
 - The attendant, the entry supervisor, or another entrant gives an order to evacuate;
 - The entrant recognizes any physical warning sign or symptom of exposure to a dangerous condition (that is, the entrant feels better or worse than before he or she did before entering the confined space),
 - The entrant detects a prohibited condition,
 - An evacuation alarm goes off; or
 - The atmospheric monitoring equipment alarms.

AUTHORIZED ENTRANTS TRAINING

Training

The following employees have been trained as **Authorized Entrants** and have the authority to enter permit required confined spaces in this facility:

Name:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Attendants

The attendant is aware of the hazards of the permit-required confined space, of the actions necessary to make the space safe for entry, and of the fact that any condition can change. Attendants have received training in:

- the duties of the attendant. This includes the requirement that the attendant must stationed and remain outside the permit space at all times during entry operations (unless another attendant relieves him or her),
- the need to continuously maintain an accurate count of all persons in the space,
- knowing and recognizing potential hazards and the symptoms of exposure to a hazard,
- monitoring activities inside and outside the permit space to determine if it is safe for entrants to remain in the space,
- the need to maintain effective and continuous communication with the entrants,
- summoning rescue services, and
- entry permits.

Duties of the Attendants include:

1. Knowing the hazards (or potential hazards) that workers may face during entry,
2. Knowing the physical signs or symptoms and consequences of the exposure(s).
3. Being aware of possible behavioral effects of hazard exposure to authorized entrants.
4. Maintaining an accurate count of authorized entrants in the permit space and assuring that the means used to identify authorized entrants accurately identifies who is in the permit space.
5. Remaining outside the permit space during entry operations unless another trained attendant relieves him or her.
6. Communicating with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
7. Monitoring activities inside and outside the permit space to determine if it is safe for entrants to remain in the space, and
8. Ordering the entrants to evacuate the permit space immediately if the attendant under any of the following conditions:
 - The attendant detects a prohibited condition such as an alarm on the air monitor,
 - The attendant detects the behavioral effects of hazard exposure in an entrant,

- The attendant detects a situation outside the space that could endanger the entrants,
- The entry supervisor orders an evacuation, or
- The attendant cannot effectively and safely perform all the duties required.

9. Summoning rescue and other emergency services as soon as the attendant determines that the entrants may need help to exit from the permit space.

10. Taking the following actions when **unauthorized** person(s) approach or enter a permit space while entry operations are underway:

- Warn the unauthorized person(s) that they should stay away from the permit space,
- Advise the unauthorized person(s) that they must exit immediately if they have entered the permit space, and
- Inform the authorized entrants and the entry supervisor if unauthorized person(s) have entered the permit space.

In addition, Attendants:

- Can perform **non-entry rescues** if they have received proper training.
- Will **not** perform any duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

ATTENDANTS TRAINING

Training

The following employees have been trained as **Attendants** and have the authority to work as **Attendants** during permit-required confined space operations:

Name:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Rescue Team

The Chief of the Village of Nashville's Fire Department has agreed to provide rescue services, needed, for the Village of Nashville permit-required confined space operations. The written agreement signed by the chief is attached.

or

The Village of Nashville has identified and trained several individuals to be members of the in-plant rescue an emergency services team. Rescue team members have received training in:

- personal protective equipment, including respirators and rescue equipment necessary for making rescues from the permit spaces in our facility,
- assigned rescue functions,
- authorized entrant training,
- making confined space rescues at least once every 12 months using mannequins personnel through representative openings and portals whose size, configuration, an accessibility closely approximate those of the permit spaces from which rescues may be required in the plant,
- basic first aid, and
- CPR.

Notification of Rescue and Emergency Services

The **Entry Supervisor** will establish a procedure by which the attendant will notify rescue an emergency services before issuing a permit-required confined space permit. The means to call for rescue services will be on the entry permit.

RESCUE TEAM TRAINING

Training

The following individuals have received training as confined space rescue and are qualified to serve on the **Rescue Team**:

Name:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Preparation, Issuance, Use, and Cancellation of Entry Permit

Permit System

Before entry begins, the **entry supervisor** identified on the permit shall sign the entry permit to authorize entry,

The permit shall be made available to all authorized entrants, by posting it at the confined space opening or by any other equally effective means. This enables entrants to confirm the pre-entry preparations are complete.

The duration of the permit may not exceed the time required to complete the task or job identified on the permit in accordance with the purpose of the entry. The duration of the permit can not exceed one shift. If the job requires two shifts for completion, then at least two permits are necessary.

The entry supervisor should terminate entry and cancel the permit when:

- The entry operations that the entry permit covers are complete; or
- A condition that the entry permit does not allow arises in or near the permit space.

Any individual designated as the entry supervisor has the authority to terminate entry and cancel a permit.

The Village of Nashville shall retain each canceled entry permit for at least **one year** to facilitate the review the permit-required confined space entry program. The entry supervisor should note any problems encountered during an entry operation on the appropriate permit so that revisions to the permit space program can be made.

Entry Permit

The entry permit that documents compliance and authorizes entry to a permit space should identify:

1. The permit space to be entered;
2. The purpose/reason of the entry;
3. The date and the authorized duration of the entry permit;
4. The authorized entrants within the space, by name, as this will enable the attendant to determine quickly and accurately, for the duration of the permit, which entrants are inside the space;
5. The personnel, by name, currently serving as the attendant(s);
6. The individual, by name, currently serving as the entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry;
7. The potential or real hazards of the space to be entered;
8. The measures used to isolate (lockout) the permit space and to eliminate or control permit space hazards during entry;
9. The acceptable entry atmospheric conditions;

10. The results of initial and periodic air monitoring tests performed, accompanied by the name or by an indication of when the tests were performed;
11. The rescue and emergency services that can be summoned and the means for calling those services;
12. The communication procedures used by authorized entrants and attendants to maintain contact during the entry operations;
13. The equipment, such as PPE, air testing equipment, communications equipment, alarm systems, and rescue equipment to be provided.
14. Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure employee safety; and
15. Any additional permits, such as for hot work, that have been issued to authorized work in the permit space.

A copy of the Village of Nashville entry permit is included at the end of this written program. The entry permit can be thought of as a safety checklist.

Concluding Permit-Required Confined Space Operations

The entry supervisor must perform four major tasks to conclude a permit-required confined space entry. They *are*:

1. Making sure that all employees are out of the confined space.
2. Securing the permit-required confined space. The entry supervisor will assure that the appropriate employees remove all lockout devices, replace any safety guards that may have been removed, and will assure that the opening to the space is left in a securely close position.
3. Assuring that appropriate personnel perform the proper maintenance of equipment.
4. Notifying rescue and emergency services that the entry is complete.

Review of Permit-Required Confined Space Operations

Employer will:

- Review entry operations whenever measures taken under the permit space program fail to properly protect employees, and
- Correct any deficiencies in the program before authorizing subsequent entries.

The following are some examples of circumstances requiring the review of the permit-required confined space program:

- any unauthorized entry of a permit-space,
- the detection of a permit space hazard that the permit did not cover,
- the occurrence of an injury or near-miss injury during entry,

- a change in the use or configuration of a permit space, and
- employee complaints about the effectiveness of the program.

Annual Review

The Village of Nashville will review the permit-required confined space program, annually, using the cancel permits from the previous year entry operations. Revisions to the program will be done, if necessary, to ensure that employees participating in entry operations are protected from the known permit space hazards.

Contractors

Employer's Responsibilities to Contractors

When the Village of Nashville arranges to have employees of another employer perform work that involves permit space entry, the responsibilities of the Village of Nashville include:

1. Informing the contractor that the workplace contains permit-required confined spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of **MIOSHA**.
2. Informing the contractor of the elements, including the hazards identified and the Village of Nashville's experience with the space (copies of canceled permits), that make the space in question permit space.
3. Apprising the contractor of any precautions or procedures that the Village of Nashville has implemented for the protection of employees in or near permit spaces where contractor personnel will be working.
4. Coordinate entry operations with the contractor if the Village of Nashville employees and contract employees will be working in or near permit spaces.

This includes developing and implementing procedures to coordinate entry operations when employees of more than one contractor are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of another employer.

5. Debriefing the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in the permit spaces during entry operations.

Contractor's Responsibility to the Company

In addition to complying with the permit-required confined space requirements that apply to all employers, each contractor whom the Village of Nashville retains to perform permit space entry operations should:

1. Obtain any available information regarding permit space hazards and entry operations from the Village of Nashville.
2. Coordinate entry operations with the Village of Nashville, when both Village employees and contract employees will be working in or near permit-required confined spaces. This includes developing and implementing procedures to coordinate entry operations when employees more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer.

3. Inform the Village of Nashville of the permit space program that the contractor will follow and any hazards confronted or created in a permit space, either through a debriefing or during entry operations. MIOSHA requires this exchange of information from both the Village and the contractor.

Name: _____

Title: _____

Date: _____

Date Revised/Reviewed: _____