DEPARTMENT OF CORRECTIONS

Policy Number:	**105.117**
Title:	**Confined Space Entry**
Effective Date:	**10/15/19**

PURPOSE: To provide safe procedures for confined space entry to protect employees against hazardous atmosphere, engulfment, and other potential hazards.

APPLICABILITY: All facilities with confined spaces

DEFINITIONS:

Attendant – an individual stationed outside one or more permit spaces who monitors the authorized entrants and performs all attendant duties assigned in the facility's permit space program.

Authorized entrant – an employee who is authorized by the entry supervisor to enter a permit space.

Confined space – a space that:

A. Is large enough, but configured in such a way, that an employee can enter and perform assigned work;
B. For which an employee has limited or restricted means for entry or exit; and
C. Is not designed for continuous employee occupancy.

Dangerous air contamination – an atmosphere presenting a threat of death, acute injury, illness, or disablement due to the presence of flammable, explosive, toxic, or otherwise injurious or incapacitating substances.

Emergency – occurrence (including failure of hazard control or monitoring equipment) or event, internal or external to the permit space, that could endanger entrants.

Engulfment – the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry – a person passing through an opening into a permit-required confined space. Entry occurs 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 entry supervisor to allow and control entry into a permit-required confined space.

Entry supervisor – the person (such as the physical plant director/designee or safety administrator/designee) responsible for determining if acceptable entry conditions are present at a permit-required confined space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry.

Hazardous atmosphere – an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes: flammable gas, vapor, or mist; airborne combustible dust;

atmospheric oxygen concentration below 19.5 percent or above 23.5 percent; atmospheric concentration of any substance for which a dose or a permissible exposure could result in employee exposure in excess of its dose or permissible exposure limit; or any other atmospheric condition that is immediately dangerous to life or health.

Hot work permit – the facility's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition. (See Policy 105.160, "Fire Prevention and Laundry Safety.")

Non-permit confined space – a confined space that does not have the potential to contain any hazard capable of causing death or serious physical harm. This type of space does not require entry procedures.

Permit-required confined space – a confined space that has one or more of the following characteristics:

A. Contains or has a potential to contain a hazardous atmosphere (e.g., silo, tank, vat, vessels, boilers, compartments, ducts, sewers, pipelines, vault, bin, tub, pit and similar spaces);
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.

Retrieval system – the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Testing – the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

PROCEDURES:

A. Training

1. The supervisor must ensure that all employees involved with confined space entries receive training in confined space entry and rescue procedures.

2. Initial confined space entry training includes the understanding, knowledge, and skills necessary for the safe performance of the duties.

3. Affected employees must successfully complete training before being assigned to a confined space entry or assistance with entry, when there is a change in procedure, or when the employer believes it is necessary.

4. Affected employees must successfully complete annual refresher training on operating and rescue procedures. All training is documented and forwarded to the employee development department for recordkeeping purposes.

5. Training must establish employee proficiency in the duties required and introduce new or revised procedures as necessary.

6. Employee development maintains all training records in the agency-approved electronic training management system for new and existing employees who receive training.

B. Duration and retention of permits

1. The duration of the permit must not exceed the time required to complete the assigned task or job identified on the permit.

2. The physical plant director or designee provides the authorized permit to the employee and the permit must be kept at the site of the entry. In the event the physical plant director or designee is unavailable, the facility safety administrator or designee provides the authorized permit.

3. The facility safety administrator or designee maintains each written permit from a confined space entry for a minimum of 12 months.

C. Staff responsibilities

1. The physical plant director or designee must:
   a) Identify and inventory all confined spaces at the facility, in conjunction with the facility safety administrator, using a Confined Spaces Location form (attached);
   b) Ensure that all employees engaging in confined space entry work are trained;
   c) Ensure that confined space entry procedures are implemented prior to employee entry;
   d) Ensure that confined space entry permits are properly completed by the entry supervisor using the Confined Space Entry Permit form (attached);
   e) Ensure that the confined space entry equipment (e.g., full body harness, tripod, winch, blower, and duct) is maintained properly. The physical plant director or designee must inform the facility safety administrator or designee if any of the equipment is not in operable condition; and
   f) When contractors perform work that involves permit-required confined space entry, the physical plant director or designee must:
      (1) Inform the contractor that the workplace contains permit-required confined spaces and that permit-required confined space entry is allowed only through compliance with a permit-required confined space program meeting the requirements of this policy;
      (2) Apprise the contractor of the elements, including the hazards identified and experience with the space, that make the space in question a permit-required confined space;
      (3) Apprise the contractor of any precautions or procedures implemented for the protection of employees in or near permit-required confined spaces where contractor personnel will be working;
      (4) Coordinate entry operations with the contractor, when both DOC employees personnel and contractor personnel are working in or near permit-required confined spaces; and
      (5) Debrief the contractor at the conclusion of the entry operations regarding the permit-required confined space program followed and regarding any hazards confronted or created in permit-required confined spaces during entry operations.

2. The facility safety administrator or designee must:
   a) Establish facility operating procedures if needed for special entries and obtain the necessary equipment to effectively implement this policy;
   b) Ensure the physical plant director or designee has identified and inventoried all confined spaces;

c) Ensure all employees who may be required to enter a confined space have appropriate training;
d) Ensure the required atmospheric testing equipment is properly maintained and calibrated according to the manufacturer's recommendation;
e) Ensure any inoperable equipment reported by the physical plant director or designee is repaired or replaced as soon as possible;
f) Maintain all completed confined space entry permits;
g) Authorize and oversee permit-required confined space entry in the event that the physical plant director or designee is not available; and
h) Designate a rescue service based on an evaluation of the service's ability to respond in an appropriate time frame and perform the needed rescue service.

D. Permit-required confined space entry procedures

1. Before entering any confined space, employees must review the facility's Confined Spaces Location form (sample attached) for space type. If unsure regarding the status of a space, attendants and authorized entrants must obtain clarification from the physical plant director or designee or from the facility safety administrator or designee.

2. Prior to entering a permit required confined space, the attendant or authorized entrant must first obtain and sign a written permit from the entry supervisor. Only properly trained employees may obtain a permit.

3. The attendant keeps the issued permit at the entry site and the entry supervisor keeps a copy.

4. All equipment must be acquired to conduct the confined space entry, including the retrieval system, air monitoring equipment, blower, and any additional equipment required.

5. If feasible, before entrance covers are removed, the vertical opening must be promptly guarded by a railing, temporary cover, or other temporary barrier that prevents an accidental fall through the opening and that protects each employee working in the space from foreign objects entering the space.

6. Prior to and during entry, applicable energy control (lockout/tagout) and hot work permit procedures must be followed. (See policies 105.120, "Lockout/Tagout Program," and 105.160, "Fire Prevention and Laundry Safety.")

7. The entry supervisor, attendant, and entrant(s) must ensure that the internal atmosphere is tested before any entry using a calibrated direct-reading instrument. The confined space must be tested first for oxygen content, then for flammable gases and vapors, and finally for other potential toxic air contaminants. The authorized entrants are provided an opportunity to observe the pre-entry testing. The atmosphere within the space is continually tested by the authorized entrant wearing the direct reading instrument during the entire entry.

8. If there is a hazardous atmosphere at the time of initial testing of the confined space, the entry must not occur. Staff must identify the source of the hazardous atmosphere and controll it prior to entry.

9. Continuous forced air ventilation must be used with a minimum of six air changes per hour and air directed as to ventilate the immediate area(s) where the authorized entrant is or may be present within the space. The air supply for the forced air ventilation must be from a clean source and may not increase the hazards in the space.

10. If at any time a hazardous atmosphere is detected during entry, the following must occur:
    a) Authorized entrants must leave the space immediately;
    b) The physical plant director or designee and the facility safety administrator or designee must be notified;
    c) The space is evaluated to determine how the hazardous atmosphere developed by consultation with the physical plant director or designee, facility safety administrator or designee, and employees conducting the confined space entry; and
    d) The physical plant director or designee and facility safety administrator or designee must develop and implement measures to protect employees from the hazardous atmosphere before any subsequent entry takes place.

10. The attendant must always be present at the site of entry. The attendant must monitor activities inside and outside the space to determine if it is safe for an authorized entrant to remain in the space. The attendant orders the authorized entrant to evacuate the space immediately under any of the following situations:
    a) The attendant detects a prohibited condition;
    b) The attendant detects the behavioral effects of hazard exposure in an authorized entrant;
    c) The attendant detects a situation outside the space that could endanger the authorized entrant;
    d) The attendant cannot effectively and safely perform all of the attendant's duties; or
    e) An evacuation alarm is activated.

11. The attendant must have a radio in case an emergency arises and must summon rescue and other emergency services. The attendant must not enter the confined space under any condition.

12. The authorized entrant entering the confined space must wear a full body harness with an attached line where practical and feasible. If an engulfment potential exists, a full body harness with an attached line is required on all workers entering these spaces. The attached line (2,000-pound test) must be secured outside the confined space.

13. Sewer systems are designated as permit-required confined spaces. The weather must be monitored prior to and during the entry. No entry is allowed if the weather compromises the safety of the authorized entrant or attendant.

14. Upon project completion, employees must remove, account for, and return all equipment, and must re-secure the confined space access opening.

15. The entry supervisor closes the confined space entry permit and forwards the permit to the facility safety administrator or designee for retention.

E. Rescue procedures

At no time may an attendant enter a confined space in an attempt to rescue an entrant. Only emergency responders qualified to perform the rescue are allowed to enter a confined space to rescue an authorized entrant.

1. All entrants entering a confined space must wear a full body harness.

2. The retrieval winch cable is connected to a single entrant at all times. The winch must be used in compliance with the manufacturer's directions and OSHA regulations.

3. If the entrant becomes unable to exit the confined space under the entrant's own means, the attendant must immediately activate the incident command system (ICS) for an employee down in a confined space, request squad and health services to respond, and winch the connected authorized entrant from the space.

4. If an emergency rescue is needed, the attendant must inform master control that there is an employee down in a confined space. The attendant may request the designated outside rescue team or the local fire department, and an ambulance if needed.

5. If one of the above ICS or emergency rescue situations occurs, the watch commander or master control must immediately contact the facility safety administrator or designee, physical plant director or designee, and officer of the day.

INTERNAL CONTROLS:

A. All training is documented and retained in the agency-approved electronic training management system.

B. Written permits are retained by the facility safety administrator or designee.

ACA STANDARDS: None

REFERENCES: 29 CFR 1910.146 (1998), Occupational Safety and Health Administration (OSHA) standards
Minn. Rule 5206, "Employee Right to Know"
Policy 105.160, "Fire Prevention and Laundry Safety"
Division Directive 105.120, "Lockout/Tagout Program"
Policy 105.113, "Personal Protective Equipment (PPE)"
Policy 105.125, "A Workplace Accident and Injury Reduction (AWAIR)"
Policy 105.115, "Respiratory Protection Program"
Policy 301.140, "Incident Command System"

REPLACES: Division Directive 105.117, "Confined Space Entry," 10/7/14.
All facility policies, memos, or other communications whether verbal, written or transmitted by electronic means regarding this topic.

ATTACHMENTS: Confined Space Entry Permit form (105.117A)
Confined Space Location form (105.117B)

APPROVALS:
Deputy Commissioner, Community Services
Deputy Commissioner, Facility Services

Assistant Commissioner, Operations Support
Assistant Commissioner, Facility Services