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Applicable OSHA Standard: 29 CFR 1910.146, 1926.21(b) (6)

1. Purpose & Scope

- 1.1. This program contains requirements for practices and procedures for Cleveland Integrity Services Inc. to protect employees in general industry from the hazards of entry into permit-required confined spaces.
- 1.2. This program applies to all employees and subcontractors working within Company controlled worksites.

2. Definitions

- 2.1. "Attendant" means an individual stationed outside a permit-required confined space who monitors the authorized entrants and who performs all attendants' duties assigned in the employer's permit-required confined space program.
- 2.2. "Authorized entrant" means an employee who is authorized by the Company to enter a permit space.
- 2.3. "Confined space" means a space that:
 - 2.3.1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
 - 2.3.2. 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); and
 - 2.3.3. Is not designed for continuous employee occupancy
 - 2.3.4. Or has inadequate ventilation
- 2.4. "Entry" means 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.
- 2.5. "Entry supervisor" means the person (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 Company.
- 2.6. "Isolation" means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

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3. General Requirements

- 3.1. The Site Supervisor will evaluate the workplace to determine if any spaces are permit-required confined spaces. The client may provide a list when working at remote locations.
- 3.2. If the workplace contains permit spaces, the Project Superintendent in conjunction with the Site Safety Supervisor/Representative and the client, will inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces.

NOTE: A sign reading DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER or using other similar language would satisfy the requirement for a sign.

- 3.3. If the Site Supervisor decides that Company employees will not enter permit spaces, effective measures will be taken to prevent employees from entering the permit spaces.
- 3.4. If the Site Supervisor decides that Company employees will enter permit spaces, a site specific written permit space program will be developed and implemented in accordance and compliance with the Company's and client's confined space entry procedures. The written program will be available for inspection by employees.
- 3.5. When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the employer will reevaluate that space and, if necessary, reclassify it as a permit-required confined space.
- 3.6. A space classified by the employer as a permit-required confined space may be reclassified as a non-permit confined space under the following procedures:
- 3.7. If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.
- 3.8. If it is necessary to enter the permit space to eliminate hazards, such entry will be performed under requirements of this program. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.
- 3.9. The employer will document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification will be made available to each employee entering the space or to that employee's authorized representative.

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- 3.10. If hazards arise within a permit space that has been declassified to a non-permit space, each employee in the space will exit the space. The employer will then reevaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions.
 - 3.10.1. When entrance covers are removed, the opening will be promptly guarded by 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.
 - 3.10.2. If the Site Supervisor has reason to believe that the measures taken under the permit space program may not protect employees, the supervisor will revise the program to correct deficiencies found to exist before subsequent entries are authorized. The Company Safety Representative will be informed about any such action and assist the Site Supervisor as needed in the revisions.
- 3.11. Examples of circumstances requiring the review of the permit space program include:
 - 3.11.1. Any unauthorized entry of a permit space,
 - 3.11.2. The detection of a permit space hazard not covered by the permit,
 - 3.11.3. The detection of a condition prohibited by the permit,
 - 3.11.4. The occurrence of an injury or near-miss during entry,
 - 3.11.5. A change in the use or configuration of a permit space, and / or
 - 3.11.6. Employee complaints about the effectiveness of the program.

4. Site Specific Written Program

- 4.1. Before entry into any confined space at any Company controlled worksite, a site specific written program must be developed.
- 4.2. The Site Supervisor will develop the site specific written program. The written program will be approved by the Company Safety Representative.
- 4.3. The site specific written program will comply with OSHA 29 CFR 1910.146 and contain the following elements:
 - 4.3.1. Measures necessary to prevent unauthorized entry;
 - 4.3.2. Methods used to identify and evaluate the hazards of permit spaces before employees enter them;
 - 4.3.3. Specify acceptable entry conditions;

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- 4.3.4. Methods used in isolating the permit space;
- 4.3.5. Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;
- 4.3.6. Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;
- 4.3.7. Methods used to verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.
- 4.3.8. Identify testing and monitoring equipment needed to comply with the Company's written confined space entry safety program.
- 4.3.9. Identification of authorized entrants, attendants and entry supervisors.
- 4.3.10. Ventilating equipment needed to obtain acceptable entry conditions;
- 4.3.11. Communications equipment necessary.
- 4.3.12. Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees;
- 4.3.13. Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
- 4.3.14. Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;
- 4.3.15. Rescue and emergency services provided.
- 4.3.16. Training provided to entry supervisors, authorized entrants and attendants.

5. Entry Procedure Guidelines

- 5.1. The following guidelines are provided to assist the Site Supervisor in preparing the site specific written program.
- 5.2. Any conditions making it unsafe to remove an entrance cover will be eliminated before the cover is removed.
- 5.3. Lockout /Tag out procedures must be followed during a permit-required confined space entry.
- 5.4. All entrants must wear a safety harness with retrieval rope attached to the d-ring on the back of the harness.

Note: More often, it is the responsibility of the client to prepare a confined space for entry. Procedures must be developed to ensure that information concerning the

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preparation of confined spaces by the client is communicated to Company personnel.

- 5.5. When entrance covers are removed, the opening will be promptly guarded by 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.
- 5.6. Before an employee enters the space, the internal atmosphere will be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:
 - 5.6.1. Oxygen content,
 - 5.6.2. Flammable gases and vapors, and
 - 5.6.3. Potential toxic air contaminants.
- 5.7. The entry supervisor who performs monitoring of the confined space will notify entrants of the potential hazards and monitoring results. Entrants will be involved and participate in the process of reviewing the written permit and signing of the permit.
- 5.8. Employees or their representatives are entitled to request additional monitoring at any time during the confined space entry operation.
- 5.9. Individuals will not enter a confined space that is immediately hazardous to life or health. Initial testing to determine potential hazards that require entry will have an approved and documented Standard Operating Procedure with a two-level approval - one of which must be the Site Superintendent and the other the Company Safety Representative.
- 5.10. There will be no hazardous atmosphere within the space whenever any employee is inside the space.
- 5.11. An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere. The forced air ventilation will be so directed as to ventilate the immediate areas where an employee is or will be present within the space and will continue until all employees have left the space. The air supply for the forced air ventilation will be from a clean source and may not increase the hazards in the space.
- 5.12. The atmosphere within the space will be continually tested to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere and providing sufficient oxygen to the worker.
- 5.13. If a hazardous atmosphere is detected during entry, each employee will leave the space immediately. The space will be evaluated to determine how the hazardous

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atmosphere developed and measures will be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

- 5.14. The entry supervisor will verify that the space is safe for entry and that the pre-entry measures required by this Company program have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification will be made before entry and will be made available to each employee entering the space. This can be accomplished by means of an entry permit provided by the client.
- 5.15. The Site Supervisor will designate the persons who are to have active roles (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by this Company program.
- 5.16. This Company will provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations.
- 5.17. If multiple spaces are to be monitored by a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of the permit spaces being monitored without distraction from the attendant's responsibilities under this program;
- 5.18. The Site Superintendent in conjunction with the Company Safety Representative and the client will develop and implement procedures 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. Emergency equipment must be inspected prior to any entrance into the confined space.
- 5.19. If an entrant is in need of rescue, the attendant's sole responsibility is to sound the alarm to evacuate any other entrants and summon emergency personnel. Under no circumstance will an attendant enter the confined space by himself.
- 5.20. Before entry begins, the entry supervisor identified on the permit will sign the entry permit to authorize entry.
- 5.21. The completed permit will 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 the entrants can confirm that pre-entry preparations have been completed.
- 5.22. All entrants must be signed in and out by the attendant every time they enter or exit the confined space.
- 5.23. The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

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5.24. The entry supervisor will terminate entry and cancel the entry permit when:

- 5.24.1. The entry operations covered by the entry permit have been completed; or
- 5.24.2. A condition that is not allowed under the entry permit arises in or near the permit space.
- 5.24.3. The work area emergency system is activated

5.25. When the Company arranges to have employees of another employer (contractor) perform work that involves permit space entry, the Company will:

- 5.25.1. Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this Company program;
- 5.25.2. Apprise the contractor of the elements, including the hazards identified and the Company's experience with the space, that makes the space in question a permit space;
- 5.25.3. Apprise the contractor of any precautions or procedures that the Company has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;
- 5.25.4. Coordinate entry operations with the contractor, when both Company personnel and contractor personnel will be working in or near permit spaces; and
- 5.25.5. Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

6. Training

- 6.1. The Company will provide training so that all employees whose work is regulated by Company and OSHA safety requirements for entering and working in confined spaces will acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.
- 6.2. The training will establish employee proficiency in the duties required by this section and will introduce new or revised procedures, as necessary, for compliance with this program.
- 6.3. The employer will certify that the training required by this program has been accomplished. The certification will contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification will be available for inspection by employees and their authorized representatives.

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- 6.4. The Company Safety Representative will ensure that training is provided so that all employees whose work is regulated by this Company program acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.
- 6.5. Training will be provided to each affected employee:
 - 6.5.1. Before the employee is first assigned duties under this Company program;
 - 6.5.1.1. Before there is a change in assigned duties;
 - 6.5.1.2. Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
 - 6.5.1.3. Whenever the Site Supervisor has reason to believe either that there are deviations from the permit space entry procedures required by this Company program or that there are inadequacies in the employee's knowledge or use of these procedures; and
 - 6.5.1.4. At least annually thereafter.
 - 6.5.2. The training will establish employee proficiency in the duties required by this Company program and will introduce new or revised procedures, as necessary, for compliance with this section.
 - 6.5.3. The Site Supervisor will certify that the training required by this Company program has been accomplished. The certification will contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification will be available for inspection by employees.
 - 6.5.4. The training will include the following:
 - 6.5.4.1. Duties of authorized entrants:
 - 6.5.4.1.1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
 - 6.5.4.1.2. Properly use equipment as required by the permit.
 - 6.5.4.1.3. Communication method used 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.
 - 6.5.4.1.4. Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a

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dangerous situation, or the entrant detects a prohibited condition;

- 6.5.4.1.5. 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 symptom of exposure to a dangerous situation, the entrant detects a prohibited condition, or an evacuation alarm is activated.

6.5.4.2. Duties of attendants:

- 6.5.4.2.1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- 6.5.4.2.2. Is aware of possible behavioral effects of hazard exposure in authorized entrants;
- 6.5.4.2.3. Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants who are in the permit space is accurate;
- 6.5.4.2.4. Remains outside the permit space during entry operations until relieved by another attendant;
- 6.5.4.2.5. Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
- 6.5.4.2.6. Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - 6.5.4.2.6.1. If the attendant detects a prohibited condition;
 - 6.5.4.2.6.2. If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;
 - 6.5.4.2.6.3. If the attendant detects a situation outside the space that could endanger the authorized entrants; or

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- 6.5.4.2.6.4. If the attendant cannot effectively and safely perform all the duties required under this Company program.
- 6.5.4.2.7. Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
- 6.5.4.2.8. Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - 6.5.4.2.8.1. Warn the unauthorized persons that they must stay away from the permit space;
 - 6.5.4.2.8.2. Advise the unauthorized persons that they must exit immediately if they have entered the permit space;
 - 6.5.4.2.8.3. Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;
 - 6.5.4.2.8.4. Performs non-entry rescues as specified by the site specific written program rescue procedure; and
 - 6.5.4.2.8.5. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.
- 6.5.4.3. Duties of entry supervisors:
 - 6.5.4.3.1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
 - 6.5.4.3.2. Verifies, 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 entry to begin;

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- 6.5.4.3.3. Terminates the entry and cancels the permit as required;
- 6.5.4.3.4. Verifies that rescue services are available and that the means for summoning them are operable;
- 6.5.4.3.5. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
- 6.5.4.3.6. Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

7. Emergency Response & Rescue

- 7.1. The Site Supervisor will confirm in advance the availability of rescue and emergency services for immediate danger to life and health situations (IDLH) and have phone numbers available at the work location.
- 7.2. The Site Supervisor will also ensure that there is a reliable method of communication available at the work location (land-line telephone, cellular telephone, two-way radio) for summoning rescue and emergency services should they be needed.
- 7.3. If rescue and emergency personnel are not able to respond to a call for assistance in a timely manner, the Site Supervisor will obtain competent confined space rescue personnel to standby at the work location while confined space operations are being performed under IDLH conditions.
- 7.4. Rescue personnel will be trained, properly equipped and authorized by the Site Supervisor to perform this service. Unauthorized personnel will be prohibited from attempting a rescue.
- 7.5. When third-party rescue services are utilized for standby at the work location, service personnel will be allowed to survey the confined space work location, select and obtain specialized equipment as required, and decline the standby assignment if that is their choice.
- 7.6. When rescue and emergency services are being provided by the host employer, this must be stipulated and specified in the written contract that the host employer has accepted and signed.
- 7.7. All personal protective equipment required when authorized and qualified employees perform rescue and emergency services will be provided by the Company at no cost to the individual employees assigned to this duty.

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- 7.8. When authorized and qualified Company employees provide rescue and emergency services at confined space entry work locations, these individuals will be provided with training and hands-on practice rescues at least annually.

8. Written Program Review

- 8.1. The Company Safety Representative will review the permit space program, using the canceled permits retained within one year after each entry and revise the program as necessary, to ensure that employees participating in entry operations are protected from permit space hazards.