Confined Space Entry 29 CFR 1910.146 DSPS 332.28 & 332.29			
CITY OF APPLETON POLICY		**SECTION:**	Safety
ISSUE DATE:	January 1990	**LAST UPDATE:**	May 2016
POLICY SOURCE:	Human Resources Department		
POLICY AUDIENCE:	Employees who enter confined spaces		

I. PURPOSE

To provide requirements for practices and procedures to all employees who are involved with entering confined spaces and to identify and train employees required to enter confined spaces in accordance with the Department of Safety and Professional Services (SPS 332.28 & 332.29) and the Occupational Safety and Health Administration (OSHA 29CFR 1910.146).

II. POLICY

To provide a safe work environment for City employees who enter confined spaces. Violations of this policy will result in disciplinary action, up to and including discharge.

III. DISCUSSION

The policy defines the specific procedures for safe entry into confined spaces.

IV. DEFINITIONS

A. Air sampling – Measuring and evaluating the amount of toxic material in the air a worker is exposed to. Samples shall be taken continuously in the breathing zone of the worker.

B. Alternate Entry Confined Space – One in which:
   1. The only hazard is actual or potential hazardous atmosphere.
   2. Continued ventilation and air monitoring is sufficient to ensure the space is safe for entry.

C. Asphyxiants – Certain gases, vapors and fumes that may cause interruption of breathing, unconsciousness and death from oxygen deficiency or toxicity.

D. Atmosphere – Refers to the gases, vapors, mists, fumes and dusts within a confined space.

E. Attendant – A trained individual stationed outside of the confined space that performs all attendant duties.

F. Authorized Entrant – A trained employee who is authorized by the employer to enter a confined space.

G. Blanking or Blinding – The absolute closure of a pipe, line or duct by the fastening of a solid plate that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

H. Contaminant – Any organic or inorganic substance, dust, fume, mist, vapor or gas, the presence of which can be harmful or hazardous to human beings.

I. Confined Space – A confined space that is large enough and so configured that an employee can bodily enter, has limited or restricted means for entry or egress and is not designed for continuous employee occupancy.

J. Double Block and Bleed – The closure of a line, duct or pipe by closing and locking/tagging two in-line valves and by opening and locking/tagging a drain or vent in the line between the two closed valves.

K. 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.

L. Entry – 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.

M. Entry Permit – A permit required for entry into a confined space.

N. Hazardous Atmosphere – An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness from one or more of the following causes: flammable gas, vapor or mist in excess of 10 percent of its lower explosive limit (LEL), airborne combustible dust at a concentration of any substance for which the permissible exposure limit is exceeded or any other atmospheric condition that is immediately dangerous to life or health.

O. Hot Work Permit – The employer's written authorization to perform operations capable of providing a source of ignition (e.g., welding, cutting, burning, heating, etc.).

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

Q. Isolation – 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, 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.

R. Lower Explosive Limit (LEL) - The lowest concentration of a gas or vapor expressed in percent by volume in air that burns or explodes if an ignition source is present at room temperature.

S. Non-Permit Confined Space – A confined space that does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

T. Oxygen Deficient Atmosphere - An atmosphere which contains less than 19.5% oxygen by volume.

U. Oxygen Enriched Atmosphere – An atmosphere containing more than 23.5% oxygen by volume.

V. Reclassified Confined Space – See section VI(C)(5) of this policy for more information.

W. Permit Required Confine Space (Permit Space) – A confined space that has one or more of the following characteristics: contains or has a potential to contain a hazardous atmosphere, contains a material that has the potential for engulfing an entrant, has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section, or contains any other recognized serious safety or health hazard.

X. Rescue Services – the personnel designated to rescue employees from permit spaces.

Y. SCBA - Self contained breathing apparatus

V. RESPONSIBILITIES

A. Duties of Confined Space Entry Supervisor (Departmental Safety Coordinator or Designee):

1. Coordinating with the Appleton Fire Department (AFD) 48 hours prior to entry and verifying that rescue or other emergency personnel are available, ensuring the means for summoning them are operable if an emergency occurs, and suspending the entry when AFD personnel become unavailable. Entry may resume after AFD rescue personnel are available again.
2. Know the hazards that may be encountered during entry and informing the entrants about the hazards, including information on the mode, signs, or symptoms and consequences of exposure.
3. Conduct/coordinate hazard assessments to determine the classification and location of the confined spaces within the respective department.
4. Development of specific entry procedures for each applicable confined space. Departments will be responsible for developing, maintaining records of, revising (as needed) and making accessible to applicable employees, their specific confined space entry procedures.
5. Verify, by checking, that the appropriate entries have been made on the permit, that all atmospheric tests specified by the permit have been conducted and that all procedures and equipment specified in the permit are in place before endorsing the permit and allowing entry to begin. Note: Any employee who enters the space shall be provided with an opportunity to observe the pre-entry testing.
6. Maintain completed entry permits, calibration records and other air sampling test records as required.
7. Coordinate posting of appropriate danger/caution signs by each confined space.
8. Supervise the selection and use of respirators in conjunction with the City's Respiratory Protection Policy.
9. Conducting and/or coordinating employee confined space entry training and submitting training records to the Human Resources Department.
10. Assist in the annual evaluation of the overall program to determine its continued effectiveness.
11. Ensure assigned personnel are knowledgeable of all aspects of the confined space entry program.
12. Ensure that employees comply with all elements of the confined space entry program.
13. Ensure appropriate PPE and equipment is properly utilized and maintained.
14. Ensure that any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.
15. Ensure that when entrance covers are removed, the opening is promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and it will also protect each entrant working in the space from foreign objects entering the space.
16. Removing unauthorized individuals who have entered or who attempt to enter any permit space.
17. Determining that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

18. Terminating the entry and canceling the permit whenever required and notifying AFD when the entry has been terminated.

    Note: The Entry Supervisor may also serve as an attendant or as an authorized entrant providing that person is properly trained and equipped. The duties of the Entry Supervisor may also be passed from one individual to another individual during an entry operation.

B. Duties of Authorized Entrants:
   1. Know and recognizing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
   2. Receive training relating to confined space entry prior to any entry.
   3. Know how to properly use all equipment required for entry into confined spaces.
   4. Communicate with the attendant as necessary to enable the attendant to properly monitor entrant status.
   5. Verifying the conditions in the permit space are acceptable for entry through the duration of the authorized entry. For example, regularly testing the atmosphere within the space to ensure that continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.
   6. Alerting the attendant when hazardous conditions, dangerous situations, prohibited conditions, warning signs, or symptoms of exposure are detected, recognized, identified or suspected.
   7. Exit the confined space immediately when the following arises:
      a. An order to evacuate is given by other entrants, the attendant or the entry supervisor.
      b. When a prohibited condition or dangerous situation arises.
      c. When an evacuation alarm is activated.
      d. When warning signs or symptoms of exposure are identified or recognized.
   8. Complying with all other aspects of this confined space entry program.

C. Duties of Attendant:
   1. Receive training relating to confined space entry.
   2. Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
   3. Verifying the conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.
   4. Continuously monitoring all entrant(s) in the confined space including maintaining an accurate count of those individuals in the permit space.
   5. Remain outside the confined space during entry operations until relieved by another attendant.
   6. Communicate with authorized entrants as necessary to monitor their status and to alert of the need to evacuate the confined space.
   7. Do not enter confined space to perform a rescue. Summon rescue and other emergency services as soon as it is determined that an entrant(s) may need assistance to escape.
   8. Monitor activities inside and outside the space to determine if it is safe for entrant(s) to remain in the space and order the entrant(s) to evacuate the space immediately under the following conditions:

a. If you detect a prohibited condition (e.g., entry by unauthorized individual, etc.).
b. If a hazardous atmosphere is detected during entry, entrants and attendants must immediately leave the space. The space must then be evaluated to determine how the hazard atmosphere developed and the steps to implement to protect employees from the hazardous atmosphere before any subsequent entry takes place.
c. If you detect the behavioral effects of hazard exposure in an authorized entrant.
d. If you detect a situation outside the space that could endanger the authorized entrant.
e. If you cannot effectively and safely perform all the duties required.

9. Warn unauthorized personnel to stay away from the confined space.
10. Advise unauthorized personnel that they must exit the confined space immediately if they have entered the confined space.
11. Inform the authorized entrant(s) and the supervisor, if applicable, of unauthorized person(s).
12. Perform non-entry rescue as specified by the City's rescue procedure, as in hoisting entrant from a vertical confined space.
13. Perform no other duties that might interfere with the primary duty to monitor and protect the authorized entrant(s).
14. Summoning rescue and other emergency services as soon as the attendant determines that entrants may need assistance to escape from the permit space hazards.

D. Duties of Rescue Services (Appleton Fire Fighters):
1. The City will ensure that each member of the rescue service will be provided with, and a are trained to use properly, the personal protective and rescue equipment necessary for making rescues from confined spaces.
2. Rescue team members will be trained to perform their assigned duties.
3. Rescue team members will practice making permit space rescues at least once every twelve months using simulated rescue operations.
4. The City shall inform the rescue service of the hazards that they may encounter when called on to perform a rescue.
5. The City will provide the rescue service with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.
6. Based on hazard(s) and time requirements for Rescuer(s) to make entry, the Rescue Team will be on site or positioned in such a location that response would meet the necessary response time.

E. Responsibilities relating to outside contractors working on City projects:
1. The City as the "host employer" must:
a. Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only with a permit space program.
b. Apprise the contractor of hazards and elements of the space as well as our experience in the space and the reasons the space is identified as a permit space.
c. Apprise the contractor of any precautions or procedures the City has

implemented for the protection of City employees in or near permit spaces where contractor personnel will be working.

d. Coordinate entry when both City employees and contractor personnel will be working in or near permit spaces.

VI. PROCEDURES

A. Workplace Evaluation and Confined Space Classification - The evaluation and identification of confined spaces will be made under the guidance of OSHA 29 CFR 1910.146 (see Appendix A). A detailed assessment will be made of each space to determine the type and location of each space, its approximate dimensions, number of exits, the reason(s) for entry, actual or potential health and safety hazards, and its classification. Spaces will be classified as one of the following:

1. Non-Permit Confined Space

2. Permit Required Confined Space (Permit Space) – Appendix B shall be completed to detail what steps were taken to eliminate hazards prior to entry into the space.

3. Reclassified Confined Space - A confined space may be reclassified from a permit space to a non-permit space under the following conditions:

   - If the permit space poses no actual or potential atmospheric hazards and if all hazards withing the space are eliminated without entry into the space; the permit space may be reclassified as a non-permit space if the non-atmospheric hazards remain eliminated.
   - Employees entering a confined space through this re-classification process must complete Appendix C detailing what steps were taken to eliminate the hazards prior to entry into the space.
   - Note: Control of atmospheric hazards through continuous forced air ventilation does not constitute the elimination of hazards and cannot be used to re-classify a confined space.

4. Alternate Entry Confined Space - A confined space may be entered through the alternate entry process if all the following conditions are met:

   - If the only hazard posed by the confined space is an actual or potential hazardous atmosphere.
   - If it can be demonstrated through air sampling and continuous forced air ventilation that entry will be safe.
   - Employees entering a confined space through this alternate entry process must complete Appendix D detailing the steps taken to verify safety entry.

5. Confined Spaces That Will Never Be Entered

B. Identification of Confined Spaces – Employees must be made aware of the existence, location, and danger of permit-required confined spaces. This can be done by posting signs at the access points to the permit spaces unless other equally effective means of warning personnel are thoroughly communicated.

C. Entry Procedures

1. General Safety Rules and Work Practices:
    a. No unauthorized open flame allowed, and no employee may smoke within 10 feet of a confined space per WI 332.29.
    b. Any confined space with an atmosphere which has a combustible gas content of 10% or more of the lower explosive limit shall not be entered even if a breathing apparatus or respirator used.
    c. Boiler and Vessels – Before any employee enters a boiler or any other vessel type confined space (whether permit or non-permit), the following safety precautions
    shall be implemented.
        i. Ensure that the interior temperature of the confined space closely equals the ambient temperature outside the vessel before any entry is made into it to avoid extreme hot or cold temperatures.
        ii. Ensure that hazardous materials (solids and liquids) inside the work area are removed from the vessel as much as possible before entry is allowed.
        iii. Ensure that all lines leading into and away from the vessel are addressed
        appropriately regarding lockout/tagout requirements.
        iv. Develop proper confined space entry procedures for the specific boiler employees will be entering.
    d. Traffic Safety – Entrances to all confined spaces that are in the streets shall be guarded in accordance with the following requirements when work is required at these spaces (in accordance with SPS 332.29):
        i. Employee shall activate the following warning lights upon approach to an entrance to a confined space: vehicle's beacon light and vehicle's four-way hazard flashers.
        ii. A vehicle shall be parked to permit traffic to flow in an unobstructed manner, and where possible, to provide protection for the employees.
        iii. Employee shall park the vehicle in such a manner that the vehicles exhaust fumes cannot accumulate in the confined space. If this is not possible, the vehicle's exhaust pipe shall be extended away from the confined space. Note: If a hazard cannot be avoided, this may require further consideration such as changing a non-permit space into a permit space.
        iv. Employees shall properly place traffic safety cones around the manhole to adequately warn oncoming traffic. Traffic safety cones shall be visible to traffic in all directions and in such a manner as to protect the employees from the traffic flow. Traffic cones should also be placed far enough from the confined space to give drivers adequate notice.
    e. Cleaning Purposes: When a confined space is required for cleaning purposes, the entry supervisor, shall review and authorize the procedures and processes to be used while cleaning the confined space before entry can take place. Considerations for cleaning include:
        i. Initial cleaning shall be done, if possible, from outside the tank.

ii. The cleaning agent or process itself may create a hazard within a confined space and must be accounted for. Therefore, when additional hazards are created or possible by the cleaning process, the entry supervisor shall develop additional safety procedures to control the newly created hazards and ensure employee safety. These special precautions shall be developed before a confined space cleaning process takes place. Note: this may require reclassification of a non-permit space to a permit space.

f. Use of Equipment and Tools Inside the Confined Space: When entry into a confined space requires the use of equipment and tools inside the space, this equipment shall be inspected and must meet the following requirements:

i. Hand tools must be in good condition.

ii. Portable electrical tools shall be listed and rated appropriately for the environment they will be used in.

iii. All electrical grounds must be checked before electrical equipment is used
in a confined space. Ground fault circuit protectors should be used whenever possible to protect employees from electrical shock when working in damp or wet locations.

iv. All electrical cords, tools, and equipment must be constructed of a heavy-duty, double-insulated cord and/or equipped with a 3-prong plug.

v. All electrical cords, tools and equipment must be visually inspected for defects before being used in a confined space. If found defective, they must either be replaced or repaired before they are to be used in a confined
space.

vi. Cylinders of compressed cylinders (except those that are part of a SCBA or resuscitation equipment) must not be taken into a confined space.

vii. Ladders must be adequately secured or of a permanent type that provides the same degree of safety. Note: Permanent ladders must be inspected for rust or corrosion and repaired or replaced, if necessary.

viii. The tool or process itself may create a hazard within a confined space and must be accounted for. Therefore, when additional hazards are created or possible while using a given tool in a confined space (e.g., grinding, welding, sanding, etc.), the entry supervisor shall develop additional safety precautions (e.g., utilize hot work permit, etc.) to control the newly created hazards and ensure employee safety. These special procedures shall be developed before an entry takes place. Note: this may require classification of a non-permit space to a permit space.

ix. For powered tools utilizing compressed air, ensure the air source for the compressor is safe and not drawing any contaminated air into the confined space.

2. Confined Space That Will Never Be Entered: If employees will never enter permit spaces, the responsible department shall take effective measures to prevent employees from entering the permit space such as locking the space entryway or sealing it off and marking the space as a permit space that may never be entered. No further entry procedures are required if the space will never be entered, and it is safe to be left in this status. If there are changes in the use or configuration of the space, the space shall be re-evaluated and if necessary, the space will be re-classified and entry procedures will be established.

3. Permit Required Confined Space (Permit Space) Entry Procedures:
   a. The confined space entry permit (Appendix B) must be completed before approval can be given to enter a permit required confined space.
   b. A written copy of operating and rescue procedures, as required by this policy shall be at the work site for the duration of the job.
   c. The entry permit checklist shall be kept at the work site for the duration of the job. If circumstances dictate an interruption in the work (the entrant within the confined space leaves the confined space) the permit must be re-evaluated, and a new checklist completed.
   d. The atmosphere within the authorized entrant's immediate area shall be continuously monitored for oxygen, combustible gas, potential toxic air contaminants and any other hazardous substance which the employer has reason to believe may be present in the confined space. Note: Entry personnel should use caution as there may be unanticipated compounds within the space that are undetectable by gas meters. An alarm only type gas monitor may be used. Meters shall be calibrated per manufacturer's recommendations. Meters shall be "bump" tested prior to metering the atmosphere. Testing shall be conducted by a trained individual only.
   e. A written record of the pre-entry test results shall be made and kept at the work site for the duration of the job.
   f. A monitoring probe shall be lowered slow enough to detect stratification of atmosphere contamination at all levels.
   g. The authorized individuals will certify in writing based upon the results of the pre-entry testing that all hazards have been eliminated.
   h. Affected employees shall be able to review the testing results.
   i. Call Rescue Service (Appleton Fire Dept.) with a 48-hour notice (recommended). (Contact Fire Shift Commander at 920-832-5815)
   j. When dangerous air contamination is attributable to flammable and/or explosive substances, lighting and electrical equipment shall be Class I, Division I rated per national electrical code and no ignition sources shall be introduced into the area.
   k. Entry is prohibited for 10% or greater lower explosive limit (LEL) atmospheres.
   l. While in the confined space, if the air quality falls outside the limits for a safe atmosphere, the authorized entrant shall exit the confined space.
   m. Ventilation may not be used in lieu of monitoring devices. An employee may not enter the space until forced ventilation has eliminated any hazardous atmosphere.
   n. No employee may enter a confined space without an attendant stationed at the entrance of the permit required confined space.

o. If the attendant must leave their post, the entrant must immediately exit the confined space.
p. A flagman who is directing traffic may not serve as the attendant. The attendant must remain outside the confined space for the duration of entry operations.
q. While in the confined space, an authorized entrant shall have voice or other means of communication with the attendant.
r. An authorized entrant entering vertically into the confined space shall wear a full body harness secured to a retrieval line.
s. Entrants must obtain and use the proper personal protective equipment (PPE), tools and emergency rescue equipment.
t. An authorized entrant who makes a horizontal movement into a confined space such as a sewer, or who descends in such a manner that renders a mechanical retrieval device useless for a rescue attempt shall wear a full body harness.

4. Non-Permit Required Confined Space Entry Procedures:
   a. Non-permit spaces may be entered without further procedures (other than following the general safety rules and work practices under section C.1. of this policy), though basic everyday safety precautions must be followed as applicable.
   b. When there are changes in the use or configuration of a non-permit confined space that may increase the hazards to entrants and generate permit space-related hazards, the space shall be re-evaluated and classified as a permit-required confined space.

5. Permit-Required Confined Spaces That Can Be Reclassified to Non-Permit Confined Spaces: A permit space can be reclassified to a non-permit space if the following conditions and procedures are met and maintained:
   a. All actual and potential atmospheric hazards have been eliminated (i.e. draining chemical tanks of their contents, purging any residual chemicals with water, and ventilating the space after purging is complete). 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. Control of atmospheric hazards through continuous forced air ventilation does not constitute elimination of the hazards. Section C.6 covers permit space entry where it can be demonstrated that continuous forced air ventilation alone will control all hazards in the space.
   b. All non-atmospheric hazards within the space must be eliminated (e.g., by lockout tagout, empty of contents, shutting boilers down, opening access ports to allow for temperature reduction and natural ventilation, etc.) to render the space safe for
   entry.
   c. All other hazards must remain eliminated while non-permit entry is occurring. If hazards develop during entry, employees must leave the space and the space must be re-evaluated by the entry supervisor to determine whether it must be

reclassified as a permit space.

d. A written reclassification permit certification must be prepared for each entry of this type. The certification must document how all hazards in a permit space were eliminated and will remain eliminated. This document at a minimum must include the date, the location of the space and the signature of the person making the determination. It must be available to the employee(s) entering the space or to that employee's authorized representative. Appendix C should be utilized for the document this reclassification of permit spaces.

e. If a permit confined space is reclassified to a non-permit space prior to entry of it, an attendant, entry supervisor and rescue service provisions are not required.

Spaces reclassified to non-permit status may be entered as such upon satisfying the conditions described above. However, if entry is necessary to eliminate permit-space hazards, such entry must be done under permit conditions and following the permit entry requirements. Once elimination of the hazards has been completed and verified, non-permit status may be granted.

6. Permit-Required Confined Spaces Utilizing Alternate Procedures: Alternate entry procedures may be used when the only hazard present in a confined space is an actual or potential atmospheric hazard that can be controlled through continuous forced air ventilation. If alternate entry procedures are used, an attendant or entry supervisor is not required, and rescue provisions are also not required. Training and entry documentation (completed Appendix D) is required though.
    a. Requirements to Utilize Alternate Entry Procedures:
        i. The only hazard by the confined space is an actual or potential hazardous atmosphere.
        ii. Continuous forced air ventilation is sufficient to maintain a safe space. The ventilation shall be directed to the immediate areas where employees are or will be present and will continue until all employees have left the space. The air supply shall be from a clean source and not increase hazards within the space.
        iii. Monitoring and inspection data that supports the space is safe is documented. The atmosphere within the space shall be continuously tested to ensure that ventilation is adequate. If a hazardous atmosphere is detected:
            1) Each employee shall leave the space immediately.
            2) The space shall be evaluated to determine how the hazardous atmosphere developed.
            3) Measures must be taken to protect employees from the hazardous atmosphere before any entry can be made.
        iv. If initial entry is necessary to obtain the atmospheric sampling data, it shall be performed with the procedures for permit space entry.
        v. Entry documentation and atmospheric testing data must be made available to entrants.

7. Rescue Procedures

a. The attendant shall call 911 for rescue service (Fire Department) on a two-way radio or cellular phone.
b. The attendant shall perform rescue only if they can remove the disabled worker via their lifeline. The attendant must not enter the confined space.
c. If the rescue cannot be performed via the lifeline, the following will take place:
    i. The attendant shall notify the supervisor.
    ii. The attendant will continue to monitor the activities inside and outside the confined space.
    iii. When the Fire Department arrives, fire department personnel will determine if it is safe to conduct a rescue operation.
    iv. All rescue workers shall follow all Appleton Fire Department confined space policies and standard operating guidelines (SOG).
    v. When dangerous air contamination is attributable to flammable and/or explosive substances, lighting and electrical equipment shall be Class I, Division I rated per national electrical code and no ignition sources shall be introduced into the area.

D. Training

1. Training shall be provided to each authorized employee:
    a. Before an employee is first assigned to confined space entry duties.
    b. Before there is a change in assigned duties.
    c. Whenever there is a change in permit space operations that presents a hazard
    about which an employee has not previously been trained.
    d. Whenever it is believed either that there are deviations from established entry procedures or there are inadequacies in the employee's knowledge.
2. Training and testing shall establish employee proficiency in the duties described in this policy and when new or revised procedures are implemented.
3. Each department/division that falls under confined space entry requirements must coordinate First Aid and CPR training for all authorized entrants and attendants.
4. Training records will be sent to the Human Resources Department.

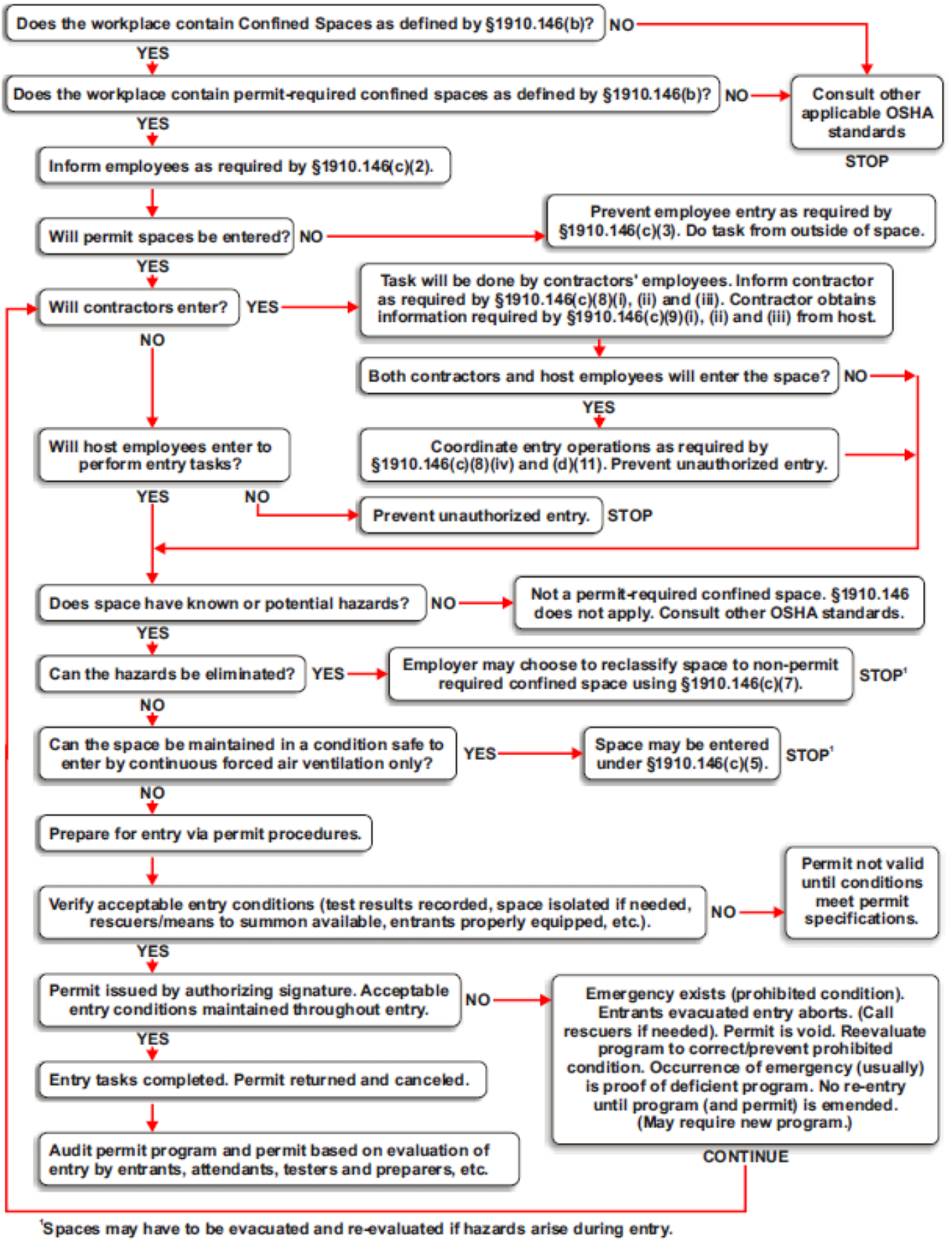
E. Record Keeping

1. Each department/division involved in confined space entry and the Human Resource Department will maintain the following records:
    a. Documents for inspection, repair and calibration results of all monitoring equipment must be retained at least five years by the applicable department.
    b. The Human Resource Department will maintain CPR and First Aid training documents.
    c. Respirator fit testing records that are required yearly will be maintained in the Human Resource Department for a period of five years.
    d. Entry permits must be maintained by individual departments/ divisions for no less than one year. Entry permits must be reviewed to determine if changes are needed in any confined space entry procedures.

e. SCBA equipment – Each department/division will follow the City's Respirator Policy and will maintain their individual records.

2. Respirator Medical Evaluation
   a. All employees who are required to wear a respirator to enter confined spaces will complete a medical questionnaire to be reviewed by the City occupational health provider. The occupational health provider will determine if clearance can be granted or if a medical exam will be necessary. The Human Resources Department will maintain clearance records from the occupational health provider. These records will be retained for the worker's employment plus five years.

APPENDIX A TO §1910.146 - PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART



[1]Spaces may have to be evacuated and re-evaluated if hazards arise during entry.

PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART - APPENDIX A (CONTINUED)

Referenced Statutes:

- 1910.146(b): 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 and is not designed for contionuous employee occupancy.
- 1910.146(c)(2): If the workplace contains permit spaces, the employer shall 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.
- 1910.146(c)(3): If the employer decided that its employees will not enter permit spaces, the employer shall take effective measures to prevent its employees from entering the permit space.
- 1910.146(c)(8)(i) – 1910.146(c)(8)(iii): Host employers should inform contractors of any applicable permit spaces, the hazards of them, host employer's experience with them, that entry into permit spaces is only allowed through a permit space program, and the precautions or procedures, if any, that will be taken to protect its employees working in or near the permit space where the contractor will be working.
- 1910.146(c)(9)(i) – 1910.146(c)(9)(iii), 1910.146(c)(8)(iv) and 1910.146(d)(11): Contractor should obtain information from the host employer on the hazards of any permit spaces they will be entering. Contractor must coordinate entry operations with host employer if host employer's employees and contractor personnel will be working in or near permit space so that employees of one employer do not endanger the employees of any other employer. Contractor must inform the host employer of the permit space program that the contractor will follow and of any hazards encountered or created while working in permit space either through a debrief or during entry operations.
- 1910.146(c)(5): Reclassification of Confined Spaces: All actual and potential atmospheric hazards have been eliminated (i.e. draining chemical tanks of their contents, purging any residual chemicals with water, and ventilating the space after purging is complete, etc.). 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. Control of atmospheric hazards through continuous forced air ventilation does not constitute elimination of the hazards.
- 1910.146(c)(7): Alternate Entry of Confined Spaces: Alternate entry procedures may be used when the only hazard present in a confined space is an actual or potential atmospheric hazard that can be controlled through continuous forced air ventilation. Monitoring and inspection data supports the space is safe is documented. The atmosphere within the space shall be continuously tested to ensure that ventilation is adequate.

CITY OF APPLETON
CONFINED SPACE ENTRY CHECKLIST
APPENDIX B - FOR PERMIT-REQUIRED ENTRIES ONLY
Revised: 09-01-2021

Location: _____ Date Issued: _____ Time Issued: _____

Date Expires: _____ Time Expires: _____

Description of confined space (tank #, etc.): _____

Description of work to be performed in space: _____

	02	H2S	LEL	CO
Permissible Limits for Entry:	19.5% - 23.5%	Less than 10 ppm	Under 10%	Less than 35 ppm
Initial Readings:				

	YES	NO	N/A
1. Do you have a CSE Procedure Sheet that documents the hazards and the safety procedures to follow for entry into this space?			
2. Has the gas monitor been bump tested and has the space been tested and found safe for entry?			
3. Has the space been adequately ventilated?			
4. Have all machinery, pumps, etc., associated with the space been locked out?			
5. Have all chemical and / or pressurized lines which can open into the confined space been shut off and locked out?			
6. Does the employee entering the confined space have the proper PPE (refer to the PPE Hazard Assessment) and the proper tools for the work to be performed?			
7. Have the communication procedures (e.g., verbal contact, radio contact, etc.) between entrant(s)/attendant been discussed?			
8. Has the worker been fitted with a safety harness and lifeline? (For Permit Required)			
9. Has adequate and safe lighting been provided?			
10. Has one attendant been assigned to watch the worker and has he/she been told what to do if the worker in the confined space encounters difficulties? (For Permit Required)			
11. Have employees involved been instructed on the safe method of doing this job?			
12. Has the rescue service (AFD) been notified prior to entry? Call 832-5810, ask for on-duty Shift Commander or Special Operations Battalion Chief. (For Permit Required)			
13. If hot work (torching, welding, cutting, etc.) operations will take place in the space, has a written hot work permit been issued?			

If you have answered "no" to any of the previous questions, stop work and contact your supervisor.

Equipment Needed:

___ Hard Hat	___ Gas Monitor	___ Barricades	___ Goggles/ Safety Glasses
___ Safety Harness	___ Fire Extinguisher	___ Gloves	___ Communications Equip.
___ Hearing Protection	___ Protective Clothing	___ Respirator	___ Retrieval Hoist / Lifeline
___ SCBA or SAR	___ Explosion-Proof Lighting	___ Ventilation Blower & Hose	
___ Other (Specify)	_____		

have inspected and verified each requirement on this permit and to the best of my knowledge state that this work can be done safely and in compliance with the rules of the City of Appleton.

_____ _____ _____

Entrant/Date Attendant/Date Supervisor/Date

_____

Entrant/Date

APPENDIX B - CONFINED SPACE ENTRY CHECKLIST - CONTINUED

PERIODIC ATMOSPHERIC READINGS: RECORD GAS MEASUREMENTS EVERY **30 MINUTES (AT A MINIMUM).** IF ENTRY SUPERVISOR INDICATES MORE FREQUENT RECORDING OF GAS MEASUREMENTS ARE NEEDED, LIST THIS SPECIFIC TIME FREQUENCY HERE: _____. ENTRY SUPERVISOR's SIGNATURE: ___________________.

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

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O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

O_2 __________ LEL __________ CO __________ H_2S __________ TIME __________

CITY OF APPLETON
APPENDIX C - RECLASSIFICATION OF PERMIT-REQUIRED CONFINED SPACES

(DO NOT USE FOR SPACES WITH HAZARDOUS ATMOSPHERES)

Revised: 09-01-2021

Location: _____ Date Issued: _____ Time Issued: _____

_____ Date Expires: _____ Time Expires: _____

Description of confined space (tank #, etc.): _____

Description of work to be performed in space: _____

	02	H2S	LEL	CO
Permissible Limits for Entry:	19.5% - 23.5%	Less than 10 ppm	Under 10%	Less than 35 ppm
Initial Readings:				

Guidance of Temporarily Reclassifying Permit-Required Confined Spaces

CSE Procedure Sheets developed and approved for specific areas will identify permit-required confined spaces and the minimum steps necessary to reclassify to a non-permit spaces. To reclassify, employees must verify that the confined space meets the following requirements"

- Continuous four gas air monitoring is required while in the space.
- There is no actual or potential hazardous atmosphere in the confined space.
- Any hazards capable of causing death or serious physical harm have been eliminated.
- The confined space can be classified as a non-permit space only for as long as all the hazards remain eliminated.
- If anyone must enter the space to remove the hazards, the space must be treated as a permit-required confined space until all the hazards have been eliminated.

List any additional hazards identified that will be eliminated prior to entry which may not be described on the CSE Procedure Sheet.

_____

_____

_____

Were methods used to eliminate hazards effective? If not, list why. If unsure how to proceed, contact your supervisor.

_____

_____

_____

_____ _____ _____

Entrant/Date Attendant/Date Supervisor/Date

_____

Entrant/Date

If performing any type of hot work, the confined space cannot be re-classified; permit entry must be used instead.

CITY OF APPLETON
APPENDIX D - ALTERNATE ENTRY PROCEDURES OF CONFINED SPACES

Revised: 09-01-2021

Location of Space: _____ Date: _____ Time: _____

Description of confined space (tank #, etc.): _____

Description of work to be performed in space: _____

Alternate Entry Procedures of Confined Spaces – Guidance

Alternate entry procedures can only be utilized if the only actual or potential hazard in the confined space is atmospheric (e.g., oxygen-deficient, high levels of hydrogen sulfide, etc.) and this hazard can be controlled through continuous forced air ventilation. If atmospheric levels should at any time exceed the allowable limit or if a new hazard is discovered, all employees must leave the space immediately and prohibit entry until the space can be re-evaluated. Any conditions making it unsafe to remove an entrance cover (to a confined space) must be eliminated before the cover is removed. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and will protect employees working in the space from foreign objects entering the space. If entry is required into the space to obtain the initial or pre-entry readings, this form cannot be used; instead use the city's permit-required confined space form.

	02	H2S	LEL	CO
Permissible Limits for Entry:	19.5% - 23.5%	Less than 10 ppm	Under 10%	Less than 35 ppm
Initial Readings (Pre-Entry):				

PERIODIC ATMOSPHERIC READINGS: RECORD GAS MEASUREMENTS EVERY **30 MINUTES (AT A MINIMUM).** IF ENTRY SUPERVISOR INDICATES MORE FREQUENT RECORDING OF GAS MEASUREMENTS ARE NEEDED, LIST THIS SPECIFIC TIME FREQUENCY HERE: _____. ENTRY SUPERVISOR's SIGNATURE: _____.

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

O_2 _____ LEL _____ CO _____ H_2S _____ TIME _____

_____ Entrant/Date

_____ Attendant/Date

_____ Supervisor/Date

_____ Entrant/Date

If performing any type of hot work, alternate entry process may not be used; permit entry must be used instead.