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CONFINED SPACE ENTRY PROGRAM

Purpose

This Confined Space Entry program has been established in conformance with the applicable OSHA standards. It is the intent of this program is to make <Company Name> a safe workplace by identifying and documenting all confined space areas and the hazards associated with each space.

Each confined space will be identified as Permit Required or Non-Permit Required based on the hazards and access of the individual confined space. Training will be provided to educate our employees and any contractor working at this facility of the risks associated with confined spaces.

All employees will be trained to identify confined space areas and required to follow the procedures outlined in this program when pertinent.

Scope

All vessels and enclosures shall be considered as permit required confined spaces until pre-entry procedures demonstrate otherwise.

Prior to entry into any confined space, all potentially dangerous health and safety hazards must be identified, evaluated, and eliminated or controlled. Minimum acceptable conditions for entry are:

ITEM	ACCEPTABLE CONDITION
Oxygen	19.5% Minimum. 23.5% Maximum.
Flammable Gasses	No greater than 10% of the Lower Flammability Limit (LFL).
Acutely Toxic Substances	Cannot exceed permissible exposure limit (PEL) for the substance as established by the applicable OSHA standard.
Flammable Dusts	Must not reduce vision to five feet or less. Note: Fire/explosion hazard does not take respiratory health hazard or PEL into consideration.
Engulfment Hazards	May not be present.
Hazardous Flows	Secured and locked out.
Hazardous Energies	Secured and locked out.
External Hazards	Identified and controlled.
Other Hazards	Identified and controlled.

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<Company Name> “Confined Space Entry” program establishes site specific:

1. Confined Space inventory list
2. Confined Space entrance warning labeling
3. Employee training requirements
4. Periodic inspection and review requirements
5. Requirements for outside contractors
6. Emergency response

Responsibilities

The <Title> is the coordinate of the <Company Name> Confined Space Entry Program. The coordinators responsibilities at a minimum will include:

1. Coordinate program implementation.
2. Coordinate training required for the authorized entrant, attendant, supervisor, and others as required by this program.
3. Maintain program documentation for regulatory compliance.
4. Retain expired entry permits.

However it is everyone’s responsibility to follow this program and to report any deviations or violations to their immediate supervisor.

Department Managers

Department managers are designated as *entry supervisor* within their respective sections and are responsible for:

1. Identifying and labeling all confined space areas.
2. Determining if entry conditions are acceptable in the confined space prior to entry and are maintained during the entry
3. Completion of the entry permit and posting the permit at the entry portal.
4. Implementing confined space entry procedures.
5. Immediately providing each authorized entrant with the results of atmospheric testing.
6. Managing confined space entry program.

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7. Providing at least one attendant outside the permit-required space into which entry is authorized for the duration of the entry.
8. Facilitating employee training.
9. Ensuring that all confined space entry equipment is inspected/calibrated.
10. Enforcing program compliance.
11. Terminating of the entry permit upon completion of the authorized work or in the event conditions decline to outside the standards allowed by the permit.

Employees

Each and every employee is responsible for observing the confined space entry procedures and duties established in this program.

Authorized Entrants have a duty to:

1. Observe all confined space entry procedures.
2. Know the signs, symptoms, and consequences associated with the hazards of the confined space to be entered
3. Inspect and use confined space entry equipment as per the manufacturer's recommendations.
4. Maintain communications with the attendant for the purpose of assessing entrants well being.
5. Alert the attendant of any warning signs or symptoms of a dangerous exposure, or of any detected prohibited condition.
6. Immediately exit the confined space whenever ordered to do so by the attendant or whenever a hazardous condition is detected or perceived.
7. Report program violations to their immediate supervisor.

Attendants

The main function of the attendant in a confined space emergency is to summon assistance. **The attendant must never enter the confined space to perform an internal rescue.**

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In the course of their duties the attendant:

1. Must maintain verbal contact with (or have another suitable means of communication for high noise environments) and keep accurate count of confined space entrants.
2. Must prevent unauthorized entry and ward off intruders.
3. May (as appropriate and prudent) monitor multiple confined space entries so long as the openings are in close proximity and a high level of entrant safety can be maintained.
4. Must remain in the immediate vicinity of the confined space opening(s) at all times or until relieved by another trained attendant.
5. Must order the entrants to evacuate the confined space if required to leave the immediate vicinity of the confined space (designated work area).
6. Must remain alert for external and internal hazards.
7. Know the signs, symptoms, and consequences associated with the hazards of the confined space to be entered
8. Must immediately order an evacuation of the confined space if a hazardous condition is detected or perceived and prevent re-entry.
9. Must have a positive means to summon emergency assistance to the work site; and must provide emergency information to on-scene emergency response personnel.
10. Must have suitable and appropriate rescue and extrication equipment available.
11. Must report program violations to immediate supervisor.

Outside Contractors

Confined space entries involving an outside contractor shall be pre-planned and coordinated by the contractor's job site supervisor and the project manager.

Prior to entry the project manager and the contractor's job site supervisor will exchange information and discuss the confined space entry. Information provided to the contractor's job site supervisor will include, but may not be limited to:

1. A copy of the Confined Space Entry Program.
2. Specific information on the confined space to be entered, (e.g. material safety data sheets, potential hazards, and procedures and precautions followed by in-house personnel when entering the space).
3. Information regarding our emergency procedures.

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During pre-job planning the contractor's job site supervisor and the project manager will jointly identify the entry procedures to be followed (the contractor's program or the <Company Name> program).

Upon completion, the project shall be terminated jointly by the contractor's job site supervisor and the project manager. At that time the two parties shall discuss any problems or other unusual situations that occurred in regards to the project.

Training

Employee Training

All existing, new and transferred employees shall receive training and information prior to working in confined spaces that is commensurate with their assigned job duties.

Additional training and/or retraining shall be provided:

1. Whenever confined space entry procedures are changed.
2. Whenever a program review reveals a deficiency.

Records of the training will be maintained, including an outline of the topics addressed, the date the training was conducted, names, and signatures of attendees and name of the trainer. (Refer to Employee Training Sign-up Sheet in the Record Keeping section.) These records will be filed by the program administrator.

Entry Supervisors

1. Review of the confined space entry program.
2. Duties and responsibilities of the entry supervisor, authorized entrant and attendant.
3. Recognition of confined spaces, and the methods and means used to identify confined spaces in the work place.
4. Hazards associated with confined spaces; including their consequences, recognition, evaluation, and control.
5. Conditions required for entry and prohibited conditions and work practices.
6. Completion of confined space entry permits; including job planning and employee briefings.

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7. Procedures to prepare a confined space for entry; including isolation and lockout/tagout procedures, and the selection, use, care and calibration of air monitoring and ventilation equipment.
8. Confined space entry procedures; including the selection use and care of any required personal protective equipment.
9. Confined space emergency procedures; including implementation of the emergency action plan (alert and notification procedures) and the selection, use, and care of confined space emergency and extrication equipment.
10. Review and cancellation of confined space entry permits; including employee debriefings.
11. Duties and responsibilities to outside contractors, and established procedures for working with employees of an outside contractor.
12. Program administration and documentation.

Authorized Entrants

1. Review of the confined space entry program.
2. Duties and responsibilities of the entry supervisor, authorized entrant, and attendant (stand-by person).
3. Recognition of confined spaces and the methods and means used to identify confined spaces in the work place.
4. Hazards associated with confined spaces; including their consequences, recognition, evaluation, and control.
5. Conditions required for entry and prohibited conditions and work practices.
6. Review of confined space entry permits; including job planning.
7. Procedures to prepare a confined space for entry; including isolation and lockout/tagout procedures, and the selection, use, care and calibration of air monitoring and ventilation equipment.
8. Confined space entry procedures; including the selection, use, and care of any required equipment.
9. Confined space emergency procedures; including implementation of the emergency action plan (alert and notification procedures) and the selection, use, and care of confined space emergency and extrication equipment.
10. Termination of a confined space entry.

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Attendants

1. Review of the confined space entry program.
2. Duties and responsibilities of the entry supervisor, authorized entrant, and attendant (stand-by person).
3. Recognition of confined spaces, and the methods and means used to identify confined spaces in the work place.
4. Hazards associated with confined spaces; including their consequences, recognition, evaluation, and control.
5. Conditions required for entry and prohibited conditions and work practices.
6. Review of confined spaces entry permits; including job planning.
7. Procedures to prepare a confined space for entry; including isolation and lockout/tagout procedures and the selection, use, and care of air monitoring and ventilation equipment.
8. Confined space entry procedures; including the selection, use and care of any required equipment.
9. Confined space emergency procedures; including implementation of the emergency action plan (alert and notification procedures) and the selection, use, and care of confined space emergency and extrication equipment.
10. Termination of a confined space entry.

Rescue Team

Training of employees assigned to the rescue team will include:

1. Confined space entry procedures (same as for confined space entrants).
2. Basic emergency response training (ERT training); including alert and notification procedures, incident command system, emergency response procedures, and selection, care, and use of personal protective equipment including self contained breathing apparatus and post incident critical stress.
3. Use of confined space entry and emergency equipment including; air monitoring devices, ventilation equipment, safety harnesses, retrieval lines, and retrieval hoists.
4. Annual hands-on practice with simulated confined space rescues.

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Identification of Confined Spaces

Several methods will be used to identify confined spaces for <Company Name> employees.

1. Appendix V of this program contains an inventory listing of all confined spaces identified in <Company Name>.
2. Is labeled "Danger – Permit Required Confined Space – Entry by Authorized Personnel Only".

Hazard Evaluation

A hazard evaluation of each confined space is tabulated using Appendix V. Potential atmospheric hazards, engulfment hazards, entrapment hazards, hazardous energies, and other serious hazards are identified for each confined space listed.

Confined Space Entry Equipment

All equipment for confined space entry shall be furnished by the <Company Name>. The equipment shall be inspected frequently and maintained in good working condition by <Title>.

Each employee bears the primary responsibility for inspecting all equipment before each use to ensure it is in good working order.

Calibration of Air Testing Devices

The calibration of air testing devices will be checked (and recorded on the entry permit) before each use.

Air testing devices will be inspected and calibrated as per the manufacturer's recommendations. Calibration records will be maintained for each device.

Other Confined Space Entry Equipment and Procedures

Respirators

Respirators used for confined space entry will be selected, used, and maintained as per procedures established in the <Company Name> Respiratory Protection Program.

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Equipment Lockout/Tagout

Equipment lockout/tagout shall be accomplished as per procedures established in the <Company Name> Hazardous Energy Control Program.

Authorization of Hotwork

Hotwork (e.g. welding, cutting, and brazing) will be indicated on confined space entry permits, the hot work permit will also be attached to the entry permit.

Prevention of Unauthorized Entry

The following precautions will be taken to prevent unauthorized entry into confined spaces.

1. Use of properly authorized permits are required for entry into permit required confined spaces.
2. Attendants are instructed to ward off intruders.
3. Training and signage are used to inform employees of permit required confined spaces.
4. Outside contractors are informed of vessels or enclosures identified as confined spaces during pre-construction meetings.

When appropriate and prudent, barricades and/or banner tape will be used to identify and isolate the work area.

Emergency Response And Rescue

Employers are given the choice to establish an in-house rescue team, or to rely on qualified outside rescue services (e.g.: local fire department). However, if reliance will be on using outside rescue services then it is the employer's responsibility to verify that the outside rescue service is qualified to perform these duties, have the necessary equipment and have received all required training.

Potential Emergencies

A confined space emergency requiring extrication of the entrant might result from:

1. Entrant is overcome by the sudden development of a hazardous atmosphere.
2. Entrant is suddenly engulfed by free flowing solid or liquid material.

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3. Entrant is injured and incapacitated by a mechanical or physical hazard.
4. Entrant is incapacitated by sudden illness.

A confined space rescue might require:

1. An external rescue (entrant is wearing a safety harness/lifeline and is extricated without rescuers entering the confined space).
2. An internal rescue (rescuers must enter the confined space to extricate the entrant).

Outside Rescue Services (*Option 1*)

The <Local> Fire Department, along with paramedics from the <Company Name> are available to provide emergency response services to a confined space emergency at <Company Name>.

To facilitate a rescue the <Company Name> will provide information to the <Local> Fire Department on confined spaces identified at the <Company Name>.

The <Local> Fire Department will be invited to tour the facility and perform simulated confined space rescues.

<Company Name> will assist all local agencies designated to respond to a confined space emergency to develop a confined space emergency pre-plan.

In-House Rescue Team (*Option 2*)

<Company Name> has established an in-house confined space rescue team. Employees assigned to the rescue team are:

Name	Title and Work Location	Date Training Completed and Assigned to Team	Date of Current CPR/FA Certification

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Alert and Notification of Rescue Team

In the event of a confined space emergency the attendant shall alert the rescue team by **(Method)**.

First Aid/CPR Certification

All employees assigned to the rescue team will be provided basic first aid and CPR training. The training will include instruction on blood borne pathogens and the <Company Name> Blood Borne Pathogen Exposure Control Plan.

Each member will be required to maintain a current certification in basic first aid and CPR.

Annual Refresher Training

Employees assigned to the confined space rescue team will practice simulated confined space rescues at least every twelve months.

Pre-Plan for Confined Spaces Emergencies

A pre-plan has been developed for confined space emergencies.

Respirators for Confined Space Emergencies

Respirators used for emergency entry into confined spaces shall be used as per procedures established in <Company Name> Respiratory Protection Program.

Post Emergency Debriefing.

A post emergency debriefing will be conducted with all personnel (in-house employees and personnel from outside agencies) involved with a confined space emergency/rescue. The debriefing will include discussion of post-incident critical stress.

Availability of Emergency Equipment

Appropriate confined space emergency and rescue equipment shall be available at all confined space entries.

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Retrieval Equipment

To facilitate external rescue, each person entering a permit required confined space shall wear a safety harness attached to a retrieval line that is secured to a point outside of the confined space, unless the retrieval equipment would increase overall risk or would not contribute to the rescue of the entrant. (If retrieval equipment is not used a justification must be made on the entry permit.)

A mechanical device (e.g. retrieval hoist) must be available to retrieve personnel from vertical type confined spaces that are more than 5 feet deep.

Annual Program Review

The effectiveness and proper application of the confined space entry program shall be reviewed annually by <Title>. The review will include an audit (using the compliance Checklist) of:

1. Completed and canceled confined space entry permits.
2. Results of confined space air testing.
3. Equipment inspection and calibration logs.
4. Employee training records.

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Compliance Checklist

REQUIRMENT	DATE COMPLETED
Conduct a survey to determine if work place contains confined spaces as defined in the applicable OSHA standard. Record name and location of all confined spaces on Appendix V.	
Evaluate each confined space identified in the workplace for atmospheric hazards, engulfment hazards, entrapment hazards, hazardous energies and other serious hazards. Record assessment on Appendix V and place in Appendix 1.	
Evaluate severity of hazards to determine whether confined spaces is entry permit required or non-permit required as defined in the applicable OSHA standard.	
Establish methods and means to identify confined spaces for employees (e.g. posting of signs, training and site plans).	
Establish a confined space entry procedure that includes the use of written confined space entry permits as required by the applicable OSHA standard.	
Establish procedures to prevent unauthorized entry (e.g. employee training and information, and posting of signs).	
Establish procedures to provide outside contractors with information of confined space hazards and entry procedures.	
Contact local agencies that will respond to a confined space emergency. Provide information, arrange for a facility tour, develop an emergency response plan and conduct simulated rescues or establish an in-house rescue team. In conjunction with all agencies that will respond to an emergency establish a pre-plan or confined space emergencies.	
Identify employees affected by confined space entry procedures, and individuals that will function as entry supervisors, attendants, and authorized entrants. Define roles, duties, and responsibilities.	
Purchase equipment necessary for confined space entry (e.g. air monitoring devices, ventilators, safety harness, and retrieval lines/hoists).	
Establish procedures to inspect, calibrate, and maintain air- monitoring equipment. Refer to Appendix IV.	
Conduct employee training. Use the Employee Training Sign-Up Sheet to document training.	
Establish procedures to document and compile results of confined space air testing. Refer to Appendix II.	
Conduct annual evaluation of confined space entry program. Audit completed entry permits, results of confined space air testing, equipment inspection and calibration logs, and employee training records.	

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Program Documentation

All records pertaining to the Confined Space Entry Program shall be maintained on file as required by the standard. Records shall include:

1. Training session documentation.
2. Completed confined space entry permits
3. Equipment calibration and inspection logs.

The records will be maintained on file in <**Office**>.

Program Administration

PROGRAM COMPLIANCE

All personnel are required to comply with the confined space entry procedures established by this program.

Failure to comply with the provisions of this program will result in disciplinary action and possible termination.

Confined Space Entry Procedures

A pre-job briefing or review of the entry permit by the entry supervisor and all employees involved with the confined space entry will be required prior to any confined space entry. This briefing will include:

1. Define scope of work to be done.
2. Identify and evaluate all potential hazards.
 - Inherent to the confined space.
 - Created by worker activity.
 - Chemical products taken into the confined space. (Appendix V)
 - Hotwork and other safety hazards.
3. Identify means and methods to control hazards.
 - Engineering controls; ventilation, isolation of space, and lockout/tagout.
 - Modify work practices.
 - Selections and use of personal protective equipment.
4. Review emergency procedures.

Permit Required Confined Space Entry Procedure

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General Requirements

1. Entry will be accomplished by a properly completed confined space entry permit (Refer to Appendix II).
2. The completed permit must be present at the job site and return to **<program coordinator>** at completion of work.
3. The entry supervisor must authorize entry.
4. Any hotwork must be indicated on the entry permit and hotwork permit attached.
5. All personnel must have current training for Confined Space Entry.

Prior to Entry

1. Isolate and identify work area.
 - Barricade opening.
 - Identify and isolate work area with signage, barricades or banner tape.
2. Secure and isolate confined space as applicable.
 - Secure and lock/tag all moving machinery in confined space.
 - Secure, lockout, and double block & bleed all hazardous inflows.
3. Drain, rinse and/or purge the confined space as applicable.
4. Test confined space atmosphere with a suitable instrument and record results on the entry permit.
5. Ventilate confined space with a suitable blower.

Note: Each person entering the confined space has the right to see all air testing results and to personally verify that all hazards have been eliminated/controlled.

During Entry

1. Station stand-by person (attendant) at opening-maintains contact with entrants.
2. All entrants must use extrication equipment, (e.g. safety harnesses attached to a retrieval line) unless the use of such equipment creates a significant hazard or inhibits self rescue.

Note: If retrieval equipment is not used by all entrants, a written justification must be made on the entry permit by the entry supervisor.

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3. Monitor (continuous or periodically) atmosphere in confined space.
4. Ventilate the confined space as applicable.
Note: Provide for continuous monitoring and/or ventilation in situations where a hazardous atmosphere could unexpectedly and rapidly develop.
5. All entrants must use personal protective equipment required for the assigned task.
6. All entrants must remain alert for the sudden development of a hazardous condition and immediately evacuate the confined space if a hazard is detected or perceived.

Emergency Procedures

1. All personnel will immediately evacuate the confined space if ordered out by the stand-by person or if a hazardous condition is detected or perceived. Contact immediate supervisor for assistance. No person will re-enter the confined space until all hazards have been re-evaluated and eliminated/controlled.
2. In the event of an emergency, use nearest telephone (or two-way radio) to **call 911** to summon emergency assistance.
3. If the entrant is attached to a lifeline, the stand-by person will attempt to extricate from the confined space. **The stand-by person may not enter the confined space to perform an unassisted confined space rescue.**

Non-Permit Required Confined Space Entry Procedure

General Requirements

1. All vessels and enclosures will be considered as permit-required confined spaces until pre-entry procedures demonstrate otherwise.
2. Permit required confined spaces may be reclassified to non-permit required confined spaces and entered without a permit and stand-by person (attendant) provided that all atmospheric, engulfment, entrapment and other serious hazards are eliminated prior to entry. Refer to Logic Diagram at the end of this section.
3. Entry will be accomplished by a properly executed confined space entry permit (Refer to Appendix II).
4. The completed checklist must be present at the job site.
5. Immediate supervisor must be informed of the entry and it's location.
6. Must have a means of communication to summon assistance.

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Prior to Entry:

1. Inform immediate supervisor of the entry and location.
2. Identify work zone and barricade opening as required to protect workers, pedestrians and motorists.
3. Test the atmosphere in the confined space with a suitable device, and record results on confined space entry permit.

Note: If a hazardous atmosphere is detected provide mechanical ventilation and then re-test. If hazardous atmosphere can not be eliminated by mechanical ventilation, then do not enter. Contact immediate supervisor for assistance.
4. Evaluate potential engulfment hazards. Potential engulfment hazards must be eliminated prior to entry. Verify hazard control on confined space entry permit.
5. Evaluate potential entrapment hazards. Potential entrapment hazards must be eliminated prior to entry. Verify hazard control on confined space entry permit.
6. Evaluate all hazardous energies and flows, (e.g. exposed energized electrical conductors, moving machinery, and chemical lines that discharge into the confined space). All hazardous energies and flows must be secured and locked/tagged out prior to entry. Verify hazard control on confined space entry permit.
7. Evaluate all other recognizable serious hazards, (e.g. falling object hazards, worker fall hazards, hazards created by worker activities, or any other dangerous condition). All serious hazards must be eliminated prior to entry. Verify hazard control on confined space entry permit.

If all serious hazards have been evaluated and eliminated, one or more persons may enter the space without a confined space entry permit or a stand-by person (attendant).

Note: Each person entering the confined space has the right to see all air testing results and to personally verify that all hazards have been eliminated.

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During Entry

1. All entrants must use personal protective equipment required for the assigned task.
2. All entrants must remain alert for the sudden development of a hazardous condition and immediately evacuate the confined space if a hazard is detected or perceived.
3. Provide for continuous monitoring and/or ventilation in situations where a hazardous atmosphere could unexpectedly and rapidly develop.

Emergency Procedures

1. All personnel will immediately evacuate the confined space if ordered out or if a hazardous condition is detected or perceived. Contact immediate supervisor for assistance. No person will re-enter the confined space until all hazards have been re-evaluated and eliminated.
2. In the event of an emergency, use nearest telephone (or two-way radio) to *call 911* to summon emergency assistance.

Definitions

Confined Space

A *confined space* is defined by the applicable OSHA standard as an area which:

1. Has adequate size and configuration for an employee to enter,
2. Has limited means of entry or exit,
3. And is not designed for continuous employee occupancy.

Permit Required Confined Spaces

1. A vessel or enclosure large enough and so configured that an employee can bodily enter and perform assigned work.
2. Has limited means of entry/exit, (e.g. through a manhole or hatch).
3. Is not designed for continuous employee occupancy.
4. Contains or has the potential to contain a hazardous atmosphere that could cause death or serious acute health effects.
5. Contains or has potential to contain free flowing solids or liquids that could engulf a person.
6. Has inwardly converging walls or floors that slope downward that could cause entrapment.
7. Contains other serious safety or health hazards, (e.g. hazardous energies, or a fall hazard) that could cause death or serious injury.
8. Is labeled "Danger – Permit Required Confined Space – Entry by Authorized Personnel Only".

Note: Permit required confined spaces may be reclassified to non-permit confined spaces after all potential safety and health hazards have been eliminated.

Non-Permit Required Confined Space

1. A vessel or enclosure large enough and so configured that an employee can bodily enter and perform assigned work.
2. Has limited means of entry/exit, (e.g. through a manhole or hatch).
3. Is not designed for continuous employee occupancy.
4. Does not contain an atmospheric hazard which could cause death or serious acute health effects; or which contains a hazardous atmosphere that can be eliminated by pre-entry testing and mechanical ventilation.

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5. Does not contain an engulfment hazard.
6. Does not contain an entrapment hazard.
7. Does not contain any other serious safety or health hazards, (e.g. hazardous energies or a fall hazard) that could cause death or serious injury.

Entry

Confined space entry is said to occur when any part of a person passes through an opening into a permit-required confined space.

Authorized Entrant

The *authorized entrant* is the person authorized to enter the confined space to perform an assigned task.

Attendant

The *attendant* is an individual stationed outside one or more permit required confined spaces and monitors the entrants and conditions in the space.

Entry Supervisor

"*Entry supervisor*" means the person (such as the employer, 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 section.

Entry Permit

The *entry permit* is an authorization and approval in writing that specifies the location and type of work to be done, certifies that all existing hazards have been evaluated by the entry supervisor, and necessary protective measures have been taken to insure the safety of each worker entering the confined space.

Hazardous Atmosphere

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to do self-rescue, injury, or acute illness from; (1) flammable gasses at concentrations greater than 10% of the lower flammability limit (LFL), (2) airborne combustible dust at a concentration that meets or exceeds its lower flammable limit, (3) an oxygen content less than 19.5% or greater than 23.5%, (4) an air borne concentration of a substance that exceeds its permissible exposure limit, or (5) any other atmospheric condition that is immediately dangerous to life and health.

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Engulfment

Engulfment means 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.

Entrapment

Entrapment means a confined space that 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.

Hazardous Energy

A *hazardous energy* is any energy source, (e.g. electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or the sudden release of stored energy) that could cause injury or death to an employee while servicing or repairing a piece of machinery.

Serious Hazard

A *serious hazard* means a recognizable and dangerous condition that is reasonably capable of causing death or serious physical injury.

Potential Hazard

A *potential hazard* means a dangerous condition that could possibly be present or develop.

Hotwork Permit

"*Hot work Permit*" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

Emergency

An *emergency* is any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

IDLH

"*Immediately Dangerous to Life or Health (IDLH)*" means any condition that poses an immediate or 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 permit space.

APPENDIX III

Confined Space Entry Permit

To be kept at job site and returned to safety director after job completion

Date and time issued ____ / ____ / ____ : ____ Date and time expires ____ / ____ / ____ : ____

Job site / entry space I.D. _____

Copy of safety plan from inventory listing attached (Yes) (No)

Equipment to be worked on _____

Work to be performed _____

Hot work authorization attached (Yes) (No) Scope _____

Job Supervisor _____ Initials _____

Stand-by Personnel 1) _____ Initials _____
Date of Required Training ____ / ____ / ____

2) _____ Initials _____
Date of Required Training ____ / ____ / ____

3) _____ Initials _____
Date of Required Training ____ / ____ / ____

Entry Personnel 1) _____ Initials _____
Date of Required Training ____ / ____ / ____

2) _____ Initials _____
Date of Required Training ____ / ____ / ____

3) _____ Initials _____
Date of Required Training ____ / ____ / ____

4) _____ Initials _____
Date of Required Training ____ / ____ / ____

5) _____ Initials _____
Date of Required Training ____ / ____ / ____

6) _____ Initials _____
Date of Required Training ____ / ____ / ____

HAZARDS (Check all that apply)

Hazardous Residue: _____	Hazardous Atmosphere: _____	Engulfment: _____
Flash Fire: _____	Electrocution: _____	Poor Lighting: _____
Minimum Work Room: _____	Moving Machinery: _____	Poor Footing: _____
Solid Mat'l. In-Flow: _____	Injury/Sudden Illness: _____	Hot Surfaces: _____
Solid Mat'l Out-Flow: _____	Respirable Dust: _____	Fall Hazard: _____
Steam/Hot Wtr In-Flow: _____	Hotwork: _____	Other (Specify): _____

Atmospheric Checks Initials _____ Time _____
(Pre Isolation)
Oxygen _____ % (>19.5% <23.5%)
Explosive _____ % (<10% LFL)
Toxic _____ PPM

Isolation Initials _____

Area Secured (Barricade And Sign)	(Yes)	(No)	(N/A)
Isolated From Other Systems	(Yes)	(No)	(N/A)
Electrical Equipment Locked Out Or Disconnected	(Yes)	(No)	(N/A)
Potential Energy Blocked, Chocked, Or Disengaged	(Yes)	(No)	(N/A)
Pressure Lines Blanked Or Bled	(Yes)	(No)	(N/A)

APPENDIX III

Hot Work Permit

For cutting and welding with portable gas or arc equipment

Location: _____
Work Date: ____/____/____ Time: starting ____:____ ending ____:____
Work Order Number: _____ Work To Be Done: _____
Special Precautions: _____

Job Supervisor: _____

Are fire sprinklers in service at the site? (Yes) (No)
Is fire watch required? (Yes) (No)

Pre Inspection

The above work site has been evaluated, precautions taken, and permission granted for the commencement of the authorized work.

Signed _____
Job Supervisor

Before approving any welding or cutting operation, the supervisor or his appointee shall inspect the work area and confirm that precautions have been taken to prevent fire in accordance with NFPA 51B.

General Guidelines

- Floors swept clean, combustible floors either wet down, covered with damp sand, or covered with metal or other suitable shield.
- Combustible material or flammable liquids removed or covered with guards or suitable shields. Equipment cleaned and containers purged of combustibles or vapors.
- All wall and floor openings covered, covers suspended beneath work if needed, to collect sparks.
- Combustibles moved away from opposite side of any walls being worked on or near.
- Fire watch to be posted during hot work plus an additional 30 minutes after completion of work. Watch to be supplied with and trained to use an extinguisher and able to activate the fire alarm system.
- All cutting and welding equipment, including cords and hose, to be in good working condition.

Fire Inspection

The above defined work site and adjacent areas have been inspected both immediately and 30 minutes after completion of all hot work and found free of any signs of potential fire.

Signed _____
Job Site Fire Watch

Emergency Response Dial 911