CONFINED SPACE GUIDE

CONTENT

I. PROGRAM STATEMENT

A. Confined Space Program

The _____(ENTER COMPANY/AGENCY NAME) will maintain a healthy work environment in an on-going effort to protect each employee from potentially harmful agents. It is the goal of this facility to ensure that employees will at no time suffer any adverse health effects related to their work environment. In the attainment of this goal, the _____[ENTER DEPARTMENT NAME], has implemented a Confined Space Program. In the ongoing control of injuries and deaths that may occur from improper entry into confined spaces, the primary objectives of the_____ [ENTER DEPARTMENT NAME] are: reduce the number of confined spaces (when feasible); limit the number of confined spaces entries; eliminate potential hazards within the confined spaces before entry; and protect employees from recognized and potential hazards when they must enter a confined space. A sound and effective Confined Space Program is an essential aspect in ensuring that employees required to enter and work in confined spaces are properly trained and protected from associated health hazards.

B. Purpose

The purpose of this program is to provide specific procedures/safe work practices for employees required to enter confined spaces. These procedures/practices will be implemented in compliance with all applicable state and federal regulations pertaining to confined space entry.

C. Objectives

The objectives of the Confined Space Program at _____[ENTER DEPARTMENT NAME] include:

- To comply with all state and federal regulations regarding confined spaces.
- To assess the feasibility of reducing the total number of confined spaces.
- To limit the number of confined space entries.
- To eliminate potential hazards within the confined spaces prior to entry.
- To establish and implement a permit system for entry into confined spaces.
- To train employees who may work in confined spaces on proper procedures and entry techniques

II. REGULATIONS/REFERENCES

A. Regulations

Regulations/references pertaining to the Confined Spaces Program are found in the following publications:

OSHA Standards for General Industry 29 CFR 1910.146

All area and entry supervisors must be familiar with this standard.

III. RESPONSIBILITIES/RESOURCES EMPLOYED

A. Departmental Safety Manager

_____[NAME OF DEPARTMENT SAFETY MANAGER] serves as the first contact for issues concerning the departmental confined space program. _____[NAME OF DEPARTMENT SAFETY MANAGER] is responsible for establishing a written Confined Space Program that includes evaluations of the confined spaces entered by the department. He/she is responsible for establishing and maintaining a training program that will provide exposed employees with the understanding, knowledge, and skills necessary for safe and proper work in confined spaces. The _____[NAME OF DEPARTMENT SAFETY MANAGER] shall review the Confined Space Program, using the canceled permits, at least once per year, and shall revise the program as necessary to ensure that employees participating in entry operations are protected from confined space hazards. Each department is responsible for providing employees with the equipment required to properly enter confined spaces.

B. Area Supervisors

The area supervisor _____ [NAME OF DEPARTMENT AREA SUPERVISOR] will be responsible for identifying workers that may be expected to enter confined spaces, ensuring that these workers receive required training before entering the spaces, and ensuring that their subordinates follow established entry procedures.

C. Entry Supervisors

Entry Supervisors are the persons responsible for determining if acceptable entry conditions are present at a confined space where entry is planned, authorizing entry, overseeing entry operations, and terminating entry when required. Entry supervisors shall be familiar with 29 CFR 1910.146 (j).

Entry Supervisors for this facility are listed below:

1)

2)

3)

4)

D. Trained and Qualified Entrants

Trained and qualified entrants are responsible for working in confined spaces according to guidelines and work practices established by the _____[NAME OF DEPARTMENT]. Qualified entrants are also responsible for refusing to work in confined spaces until an entry supervisor has deemed entry to be safe and has given approval for entry, or if a hazard is identified while working in the confined space.

Qualified Entrants are:

1)

2)

3)

4)

E. Training Frequency

Confined Space training will occur: before initial assignment to jobs that would require entry into confined spaces; when there is a change in assigned duties; when a change in permit space operations create a new hazard; whenever an employee deviates from

established procedure; and when inadequacies in an employee's knowledge is identified. Confined space training will establish employee proficiency in the duties required by the confined space standard.

Training documents will include the employee's name, signature of the trainer, and the dates of the training.

F. Training Content

The training programs established for _____(COMPANY/AGENCY NAME HERE) include confined space identification, proper gas meter operation, rescue procedures, ventilation techniques, permit completion techniques, and the location of permit confined spaces used by the _____ [ENTER DEPARTMENT NAME]. A copy of the established training program is available _____(LOCATION).

IV. CONFINED SPACE LISTING

A. Inventory

1)

2)

3)

4)

5)

6)

7)

8)

9)

10)

V. ENTRY PERMITS/CLASSIFICATION OF SPACES

A. Confined Space Evaluations

All confined spaces will be evaluated to determine their classification (non-permit, permit required) and to develop proper entry procedures. When performing confined space evaluations, air monitoring and inspections will be conducted from outside the space. If evaluations cannot be performed from outside the space, the space will be entered through permit procedures. A copy of the established confined space evaluation sheet is attached at the end of this Program (Appendix A).

B. Permit Required Spaces

Some confined spaces located at _____[ENTER DEPARTMENT NAME] meet the definition of a Permit Procedure confined space. The permit used for Permit Procedures entry is included at the end of this program (Appendix B). This permit includes the following: department/trade shop, location of space, purpose of entry, emergency contact, additional needed permits, possible hazards present, methods of hazard elimination, initial gas checks, periodic gas checks, entry authorization signature/date, and time in/time out form.

VI. PREVENTION OF UNAUTHORIZED ENTRY

A. Posting of Confined Spaces

All Confined Spaces that can be readily labeled are posted in a manner designed to inform employees of the existence/location of the dangerous space. The signs read as follows:

Some spaces, such as manholes, are difficult to label in the above-described manner. When labeling is not feasible, training and education will be used to inform employees of the location/classification of the confined space.

B. Other Necessary Precautions

If it is concluded that posting and training are inadequate to prevent unauthorized entry into permit spaces, covers, guardrails, fences, locks or other methods of restricting access shall be considered and implemented.

VII. ENTRY PROCEDURES

A. Entry Procedures

Entry procedures have been developed for each confined space entered by the _____[ENTER DEPARTMENT NAME]. Specific entry procedures are attached at the end of this program.

VIII. RESCUE PROCEDURES

A. Outside Rescue Services

_____[NAME OF SAFETY MANAGER] has met with a representative of the rescue service and informed them of the locations of confined spaces and the hazards rescuers may confront when called on to perform a rescue at _____(ENTER NAME).

B. Emergency Procedures

Methods for summoning rescue and emergency services have been established for the _____[ENTER DEPARTMENT NAME] and consists of notifying _____[ENTER NAME OF EMERGENCY RESCUE SERVICES] of the situation and the exact confined space location. The Entry Supervisor may delegate this responsibility if he/she deems it necessary to remain at the confined space.

C. Rescue Methods

OSHA encourages rescues through methods that do not involve entry by rescuers into confined space. Attendants should only provide rescue services from outside the space and should not enter the space to offer rescue services. The attendant and/or the Entry Supervisor are responsible for preventing unauthorized persons in attempting a rescue inside the confined space.

IX. ENTRY EQUIPMENT

A. Available Equipment

The following equipment is available for confined space work/entry and is located _____[ENTER STORAGE LOCATION OF CONFINED SPACE EQUIPMENT].

Equipment list:

1)

2)

3)

4)

5)

6)

APPENDIX A

CONFINED SPACE EVALUATION FORM

SPACE NUMBER: _____CLASSIFICATION:_____

Review Date: _____ Location: _____

Type of Space: Telecom. Electrical Sewer Storm other: _____

Space Reviewed by: _____

Space Reviewed by: _____

Space Reviewed by: _____

Space Reviewed by: _____

Reason for Entry?

List any possible reason for entry: _____

_____

_____

_____

Is this space a confined space?

All three must apply to be considered a confined space (circle all that apply).

1) Large enough to enter and perform work.

2) Has limited or restricted means for entry and exit.

3) It is not designed for continuous occupancy.

What are the characteristics of this confined space?

What did the space last contain (e.g. solvents)? _____

Are there any hazards posed by residues? _____

Does the internal configuration pose any problems (life lines hung up)? _____

_____

Are interior surfaces potentially slippery? _____

Are there any projections or objects that could cause cuts, bumps or abrasions? _____

_____

How large is entry portal? Length_____ Width _____ Diameter _____

How many portals service this space? _____

Location of all portals?

_____

Is there anything around the portal that poses a hazard?_____

_____

Are there any adjacent process or operational hazards?_____

_____

University of South Carolina, 12/14/99

What are the Possible Atmospheric Hazards?

Could the space be oxygen deficient (rust, organic matter)? _____

Could the space be oxygen enriched (O2 tanks)?_____

What air contaminants might the space contain (car exhaust, adjacent tanks, chemicals, organic matter)? _____

Will air contaminants be introduced into the space (welding, painting, solvents)?

_____

Could the atmosphere contain flammable gases/vapors (methane, nat.gas)?_____

_____

Could the atmosphere contain combustible dusts (grain, coal dust)? _____

What are the Possible Physical Hazards (body stress)?

Heat stress/cold stress? _____

Does the space contain any mechanical equipment (augers, portable equip., conveyers)?

_____

Can mechanical equipment be locked/tagged out before entry (blinds)?_____
Are there any fluid lines attached (steam, compressed air, chilled water, hydraulic)?

_____
Can fluid lines be blocked/bled before entry?_____
Will any hazards be posed by portable equipment taken into the space (electrical)?_____

_____
Does space contain high/low voltage (600-1000 volts)? _____
Is there an engulfment hazard (grain)?

_____
External Hazards (pedestrian, vehicular, exposed electrical lines, mechanical equipment)?

_____
_____

Ventilation

Approximate space dimensions? _____
What would be the recommended ventilation technique (exhaust, local-welding, natural, supply-good for low tox.gases and air displacement will not harm others)?

_____
Are there any baffles, objects that would disrupt airflow? _____
Are portal dimensions to small for ventilation duct/man entry? _____

Other Considerations

Lighting- natural, artificial? _____
Will any noise producing operations be performed? _____

_____
Radiation hazards? _____
Will any space characteristics make rescue operations difficult?_____

_____
_____

Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____

APPENDIX B

Appendix D to §1910.146 -- Sample Permits

Confined Space Entry Permit

Date and Time Issued: _____ Date and Time Expires: _____
Job site/Space I.D.: _____ Job Supervisor:_____
Equipment to be worked on: _____ Work to be performed: _____

Stand-by personnel: _____ _____ _____

1. Atmospheric Checks: Time _____
Oxygen _____%
Explosive _____ % L.F.L.
Toxic _____PPM

2. Tester's signature: _____

3. Source isolation (No Entry):	N/A	Yes	No
Pumps or lines blinded,	( )	( )	( )
disconnected, or blocked	( )	( )	( )

4. Ventilation Modification:	N/A	Yes	No
Mechanical	( )	( )	( )
Natural Ventilation only	( )	( )	( )

5. Atmospheric check after isolation and Ventilation:
Oxygen _____% > 19.5 %
Explosive _____% L.F.L < 10 %
Toxic _____PPM < 10 PPM H(2)S
Time _____
Testers signature: _____

6. Communication procedures: _____
_____

7. Rescue procedures: _____
_____
_____
_____

8. Entry, standby, and back up persons:	Yes	No
Successfully completed required training?	( )	( )
Is it current?	( )	( )

9. Equipment:	N/A	Yes	No
Direct reading gas monitor - tested	( )	( )	( )
Safety harnesses and lifelines for entry and standby person	( )	( )	( )
Hoisting equipment	( )	( )	( )
Powered communications	( )	( )	( )
SCBA's for entry and standby persons	( )	( )	( )
Protective Clothing	( )	( )	( )
All electric equipment listed Class I, Division I, Group D and Non-sparking tools	( )	( )	( )

10. Periodic atmospheric tests:

Oxygen	____%	Time ____	Oxygen	____%	Time ____
Oxygen	____%	Time ____	Oxygen	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: (Supervisor)_____
Approved By: (Unit Supervisor)_____
Reviewed By (Cs Operations Personnel) :

_____ _____
(printed name) (signature)

This permit to be kept at job site. Return job site copy to Safety Office following job completion.

Copies: White Original (Safety Office)
Yellow (Unit Supervisor)
Hard(Job site)

Appendix D - 2

ENTRY PERMIT

PERMIT VALID FOR 8 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

DATE: - - SITE LOCATION and DESCRIPTION _____
PURPOSE OF ENTRY _____

SUPERVISOR(S) in charge of crews Type of Crew Phone #
_____
_____
COMMUNICATION PROCEDURES _____
RESCUE PROCEDURES (PHONE NUMBERS AT BOTTOM) _____
_____

REQUIREMENTS COMPLETED		DATE	TIME
Lock Out/De-energize/Try-out	____	____	
Line(s) Broken-Capped-Blanked		____	____
Purge-Flush and Vent		____	____
Ventilation	____	____	
Secure Area (Post and Flag)		____	____
Breathing Apparatus		____	____
Resuscitator - Inhalator		____	____
Standby Safety Personnel		____	____
Full Body Harness w/"D" ring		____	____
Emergency Escape Retrieval Equip		____	____
Lifelines	____	____	
Fire Extinguishers		____	____
Lighting (Explosive Proof)		____	____
Protective Clothing		____	____
Respirator(s) (Air Purifying)		____	____
Burning and Welding Permit		____	____

Note: Items that do not apply enter N/A in the blank.

****RECORD CONTINUOUS MONITORING RESULTS EVERY 2 HOURS CONTINUOUS MONITORING****

Permissible _____

TEST(S) TO BE TAKEN	Entry Level	
PERCENT OF OXYGEN	19.5% to 23.5%	___ ___ ___ ___ ___ ___ ___ ___
LOWER FLAMMABLE LIMIT	Under 10%	___ ___ ___ ___ ___ ___ ___ ___
CARBON MONOXIDE	+35 PPM	___ ___ ___ ___ ___ ___ ___ ___
Aromatic Hydrocarbon	+ 1 PPM * 5PPM	___ ___ ___ ___ ___ ___ ___ ___
Hydrogen Cyanide	(Skin) * 4PPM	___ ___ ___ ___ ___ ___ ___ ___
Hydrogen Sulfide	+10 PPM *15PPM	___ ___ ___ ___ ___ ___ ___ ___
Sulfur Dioxide	+ 2 PPM * 5PPM	___ ___ ___ ___ ___ ___ ___ ___
Ammonia	*35PPM	___ ___ ___ ___ ___ ___ ___ ___

*** Short-term exposure limit: Employee can work in the area up to 15**

minutes.
+ 8 hr. Time Weighted Avg.: Employee can work in area 8 hrs (longer with appropriate respiratory protection).

REMARKS:_____

Gas tester name & check #	Instrument(s) used	Model &/or type	Serial &/or unit #
_____	_____	_____	_____
_____	_____	_____	_____

Safety standby person is required for all confined space work

Safety standby person(s)	Check #	Confined space entrant(s)	Check #	Confined space entrant(s)	Check #
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

SUPERVISOR AUTHORIZING - ALL CONDITIONS SATISFIED

_____