

Administrative Policy 3-5-3

DISTRIBUTION: City Manager, All Departments

SUBJECT: **Confined Space Entry (Non-Sworn Employees)**

PURPOSE: It is the policy of the City of Muskogee to require all employees assigned to work in and around confined spaces to be adequately trained and protected.

BACKGROUND: See purpose

POLICY/

PROCEDURES: Confined Space Entry (Non-Sworn Employees)

A. Definitions and Terminology

1. Acceptable entry conditions means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.
2. Confined space means a space that meets the following criteria:
 - a. Is large enough and so configured that an employee can bodily enter and perform assigned work; and may consist of open-topped spaces of more than four (4) feet in depth such as pits, vaults, vessels, etc., not subject to adequate ventilation; and/or,
 - b. Has limited or restricted means for entry or exit (for example tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and is not designed for continuous employee occupancy,
 - c. Is not designed for continuous employee occupancy.
3. Oxygen Deficient Atmosphere contains less than 19.5% oxygen by volume.
4. Toxic Atmospheres have concentrations of airborne contaminants in excess of the Permissible Exposure Limits (PEL), as noted in OSHA Standard for General Industry 29 CFR 1910.1000, subpart "Z" and subpart "H".
5. Combustible Atmosphere is one in excess of 10% of the Lower Explosion Limit (LEL).
6. Contaminants are any organic or inorganic substance, dust, fume, mist, vapor, or gas, that can be harmful or hazardous to human beings when in the presence of the air they are breathing.
7. Attendant means a properly trained individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

8. Authorized entrant means an employee who is properly trained and authorized by the employer to enter a permit space.
9. Entry Supervisor means the person (such as the employer, exempt supervisor, or lead person) properly trained and 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 policy.
10. Permit-required confined space (permits space) means a confined space that has one or more of the following characteristics:
 - a. Contains or has a potential to contain a hazardous atmosphere
 - b. Contains a material that has the potential for engulfing an entrant
 - c. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
 - d. Contains any other recognized serious safety or health hazard
11. Entry Operation means the physical entry of an authorized entrant into a confined space.
12. Dry well means a confined space which houses piping, valves, and/or pumps for the purpose of assisting or controlling the flow of a material. A dry well has no open flow and in all cases has a ventilation system built into the facility which is activated by the entry door being open, air conditioning system being energized, or pumps being energized. The atmosphere under normal conditions would not be subject to radical changes.
13. Downgrade means a permit required confined space (listed dry wells) which after being ventilated and tested is determined by the entry supervisor to be non-hazardous, is changed to a non-permit confined space. A non-permit confined space does not require an entry permit or authorized entrants and attendants.

B. Permit System

1. Completion of a Confined Space Entry Permit by the Entry Supervisor is required prior to confined space entry by authorized entrants and attendants.
2. The Entry Supervisor shall be responsible for securing the permit and shall sign off before work is started. The permit shall be updated for each shift with the same requirements applying.
3. The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

4. An Entry Supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this policy for each role he or she fills. Also, the duties of Entry Supervisor may be passed from one individual to another during the course of an entry operation.

C. Testing and Monitoring

1. Confined Space Entry will be prohibited until the atmosphere of the confined space has been tested from the outside by the Entry Supervisor.
2. Entry will be prohibited if:
 - a. Concentration of combustible gases in the atmosphere is greater than 10% of the Lower Flammability Limit (LFL).
 - b. The percentage of oxygen for entry is less than 19.5% or greater than 23.5%.
 - c. The H₂S is greater than 0 ppm on an 8-hour time weighted average.
 - d. Any other hazardous atmospheric condition is determined to exist.
3. Continuous monitoring will be required anytime employees are working in a confined space.

D. Ventilation

1. A power blower will be used to purge the confined space five (5) minutes before entry, and continuously thereafter, as long as the confined space contains employees.
2. Wind direction and the position of the blower intake must be the major concern prior to confined space ventilation.
3. All blowers shall be positioned to prevent materials being pushed, by ventilation, from the confined space from being reintroduced into the confined space and unwanted materials such as Carbon Monoxide from being introduced into the confined space.

Note: For respirator or SCBA use refer to the respirator policy.

E. Safety Equipment

1. The following safety equipment shall be available for use during a confined space entry:
 - a. gas detectors
 - b. blowers and auxiliary equipment
 - c. safety harness and life line
 - d. lifting devices (when possible)
 - e. escape air pack (where a potential of rapidly changing atmosphere exists-such as sewer lines, etc.)
 - f. traffic and pedestrian control devices (where appropriate)
 - g. ladder
 - h. fire extinguisher

- i. communication system

Note: Equipment must be explosion proof where applicable.

2. Division and Section Managers shall ensure proper protective equipment is provided to workers, and Entry Supervisors shall ensure its proper use.

F. Outline of Entry Procedures

1. If the confined space is in a traffic way, establish, test and monitor traffic controls.
2. The Entry Supervisor completing the Entry Permit (Exhibit I) will test, evaluate, plan and implement procedures necessary to safely complete the work in a confined space and document these factors by completing the entry permit form. The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.
3. Continuous testing and ventilation during work in a confined space will be required.
4. Any person entering a confined space must be trained as an entrant.
6. Any person posted outside the confined space must be trained as an attendant.

G. Training and Responsibilities

1. Entry Supervisor, Entrants, and Attendants will be retrained on an annual basis on all components of this policy.
2. Entry Supervisor: Shall be the person responsible for completion of and signing of the entry permit. The entry Supervisor certifies that all existing hazards have been evaluated and the necessary protective measures have been taken to ensure the safety of each employee. Employer will be responsible for entry supervisors and employees being properly trained.
3. Duties of Entry Supervisors: Division and Section Managers shall ensure that each Entry Supervisor:
 - a. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposures.
 - b. Verifies and documents on the permit that all tests specified by the permit have been conducted and that all procedures and equipment specified by permit are in place before signing the permit and allowing entry to begin.
 - c. Terminates the entry and cancels the permit as required.
 - d. Rescue operation if needed would be carried out by the Muskogee Fire Department. In case of emergency, immediately call 911. Other persons shall only effect rescue activities if properly trained and equipped.

- e. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations.
 - f. Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operation performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.
 - g. Ensure continuous testing and ventilation during work in a confined space.
4. Duties of authorized entrants: The Entry Supervisor shall ensure that all authorized entrants:
- a. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, or consequences of the exposure;
 - b. Properly use equipment as required by this policy;
 - c. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space if any determination of imminent danger is detected by the attendant;
 - d. Alert the attendant whenever:
 - i. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
 - ii. The entrant detects a prohibited condition
 - e. Exit from the permit space as quickly as possible whenever:
 - i. An order to evacuate is given by the attendant or the Entry Supervisor;
 - ii. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
 - iii. The entrant detects a prohibited condition, or
 - iv. An evacuation alarm is activated.
5. Duties of attendants: The Entry Supervisor shall ensure that each attendant:
- a. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposures;
 - b. Is aware of possible behavioral effects of hazard exposure in authorized entrants;
 - c. Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the name of each individual in the permit space is known;
 - d. Remains outside the permit space during entry operations until relieved by another attendant;
 - e. Communicates with authorized entrants, monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to

- f. evacuate the permit space immediately, if such need is determined;
- f. Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
- g. Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway;
 - i. Warn the unauthorized persons that they must exit immediately if they have entered the permit space; and
 - ii. Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
 - iii. Inform the authorized entrants and the Entry Supervisor if unauthorized persons have entered the permit space;
- h. Performs non-entry rescues as specified by the employer's rescue procedure; and
- i. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.
- j. Anytime an usual or abnormal situation presents itself, the qualified person should gain the assistance of the section management and/or the safety section.

H. Contractors

1. When the City arranges to have employees of another employer (contractor) perform work that involves permit space entry, the City shall:
 - a. Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this policy and the related current OSHA regulations, 1910.146;
 - b. Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;
 - c. Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;
 - d. Coordinate entry operations with the contractor, when both City personnel and contractor personnel will be working in or near permit spaces; and
 - e. Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.
 - f. In addition to complying with the permit space requirements that apply to all employers, each contractor who is retained to perform permit space entry operations shall:
 - i. Obtain any available information regarding permit space hazards and entry operations from the City;

- ii. Inform the City of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

I. Dry Wells

1. The Entry Supervisor must approve all locations which may potentially be downgraded to a non-permit confined space.
 2. Prior to a department downgrading a confined space, the atmosphere must be tested and meet the following criteria upon each entry visit:
 - a. Flammable atmosphere must be less than 10% of the lower flammable limit as read by the instrument.
 - b. Atmospheric oxygen concentration must be and remain between 19.5% and 23.5%.
 - c. Hydrogen Sulfide must not exceed 0 PPM on an 8-hour time weighted average.
 3. If the above testing limits are met and the space is continuously ventilated and tested, the space can be downgraded to a non-permitted confined space. The initial test instrument readings must be recorded on the Entry Supervisors worksheet.
 4. The additional safety requirements necessary for dry well entry are as follows:
 - a. All fixed ladders entering dry wells over ten (10) feet in length must be provided with approved fall protection devices and used by any person entering the dry well.
 - b. Each dry well existing and future shall be so equipped to accept an approved retrieval system which would be maintained on all designated service trucks.
 - c. Hearing protection should be used while in dry well due to equipment noise. Noise studies will be accomplished to validate the exposure.
- J. This policy is not intended to replace the OSHA regulation 1910.146, but simply attempts to organize and clarify the major elements of the law. Department heads remain responsible to ensure compliance with all regulatory and statutory provisions.

REFERENCES: OSHA Standard for General Industry 29 CFR 1910.1000, subpart "Z"
and subpart "H"
OSHA Standard for General Industry 29 CFR 1910.146
Attached "Exhibit I"

EFFECTIVE DATE: This policy shall be effective on and after December 9, 2009.

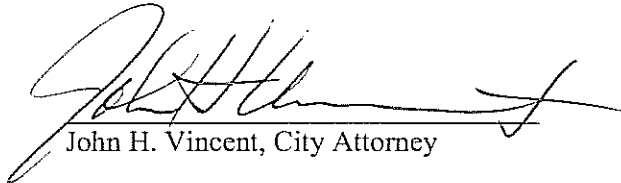
RESPONSIBLE DEPARTMENT: Human Resources



Greg Buckley, City Manager

12-9-09
Date

APPROVED as to form and legality this 9th day of December, 2009.



John H. Vincent, City Attorney