

Chief Administrative Office	Date of Issue	Expiration Date	No.
POLICY MEMORANDUM	May 7, 2001	N/A	35
TO: ALL Divisions and Departments	SUBJECT:		
SIGNATURE:	PERMIT-REQUIRED CONFINED SPACE ENTRY POLICY 29 CFR 1910.146 (General Industry Standards) 29 CFR 1926.21 (Construction Standards)		
COMMENTS: Developed by the Division of Risk Management Safety, Health, and Environmental Compliance Section			

POLICY

It is the policy of the Lexington-Fayette Urban County Government to comply with all regulations regarding confined space entry operations. Any Department, Division, LFUCG worker, or contractor involved with confined space operations shall follow all procedures outlined in this program and any other duties necessary to ensure a safe work environment is maintained at all times. Where applicable, all Commissioners, Directors and any affected government employee shall adhere to the program elements of this policy. A summary of each element is presented below.

PURPOSE

Confined space entry operations pose extraordinary hazards and can be potentially dangerous and/or fatal if not addressed properly. It is the purpose of this plan to address these hazards and to establish safe operating procedures to be followed by ALL affected areas and employees involved with confined space operations. The provisions of this program are outlined in the following sections.

REVIEW AND UPDATE

Review, evaluation and update of the program is required annually by law in order to identify deficiencies necessary to improve the functionality, quality, and level of protection provided to the worker. Other conditions that can require a program review and update are described in this section.

KEY DEFINITIONS

The terminology used throughout the regulations and this program are specific and not used casually. This section presents a few of the key definitions that must be understood in order for the reader to have a common dialogue and understanding of the text. Other

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frequently used terms and definitions are found in the “Definitions” section of the Permit-Required Confined Space Entry Standard, 1910.146 (b).

FUNCTIONAL DUTIES AND RESPONSIBILITIES

Confined spaces can be potentially life threatening for the employees who must enter the space. Because of this, each individual involved in confined space operations is assigned specific duties and responsibilities to ensure the safety of the entrant(s) as well as the public. The duties and responsibilities described in this section of the program are very specific, must be clearly understood and must be practiced by each participating individual. The duties listed in this program include Division Director/Commissioner, Confined Space Coordinator, Entry Supervisor, Authorized Entrant, Attendant, Rescue Team, LFUCG Division of Fire and Emergency Services, Division of Purchasing, and the Division of Risk Management.

HAZARD ASSESSMENT

The law requires that each confined space be evaluated and that the inherent hazards associated with each space be identified. A “Confined Space Hazard Assessment Form” is attached as part of this program and should be completed for each confined space in order to properly evaluate and document the hazards. Under no circumstances shall work proceed in a confined space area that has not been assessed. The Hazard Assessment section of this program describes the basic steps that must be taken to comply with this requirement.

IDENTIFICATION OF CONFINED SPACES

The Lexington-Fayette Urban County Government requires that all confined spaces be identified and properly posted – not just ‘permit-required’ confined spaces. All confined space areas must be posted with words stating: “Danger Confined Space” or “Permit-Required Confined Space Do Not Enter.” This will eliminate any confusion on behalf of an employee or contractor from unknowingly entering a confined space and will ensure that precautions and safety procedures are considered prior to starting work. In the event that an employee or contractor must enter a suspected confined space area or an area that is posted where the entry procedures are unclear, the Division of Risk Management should be contacted at 258-3095 prior to entering the space. Each Division is responsible for identifying and posting all confined spaces in all areas for which they are accountable and for maintaining a current log of these areas. A Confined Space Log sheet is provided in this program. Proper identification procedures are listed in this section of the program.

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ADDRESSING THE HAZARDS

For each permit-required confined space, entry procedures must be developed which describe the precautions and measures to be taken to control or eliminate all hazard(s) associated with the space. These procedures must also list all required personal protective equipment and safety equipment to be used as well as a “step-by-step” list of pre-entry procedures and checks. This section of the program describes the methods that can be used to develop entry procedures for confined spaces.

ENTRY PERMIT AND PROCEDURES

An entry permit must be completed prior to entering a ‘permit-required’ confined space. The entry permit system is the primary method used to verify pre-entry safety checks, atmospheric monitoring, safety equipment, and all other safety measures conducted and implemented prior to and during entry. All items on the entry permit must be addressed and the permit must be signed in order to authorize entry of the space. The permit must be posted at or near the opening of the confined space for the duration of the work. When the entry operations are complete, the permit must be cancelled and placed on file.

TRAINING

Training and education of the affected employees, supervisors, and upper management is critical to the success of the program. ALL involved employees, supervisors, and affected management must attend and successfully complete a training and education program on confined spaces. For employees and supervisors who are involved with the entry operations, the training must also include a hands-on training element. Competency and proficiency must be demonstrated for both the classroom instruction and hands-on training elements. This section of the program describes the minimal training requirements for all employees.

CONTRACTORS AND VENDORS

With all contracted work, the LFUCG must establish that any contractor or vendor involved with confined space operations meets compliance with the regulations. It is the responsibility of the Division Director, and ultimately the Department Commissioner, to review the written safety plan and entry procedures of the contractor or vendor. Failure to properly review safety plans and compliance programs of contractors and vendors can create a liability for the government as well as for the employees charged with this responsibility. This section of the program describes our obligation in assuring that contractors and vendor maintain compliance during entry operations.

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
PERMIT-REQUIRED CONFINED SPACE ENTRY PROGRAM

29 CFR 1910.146 (General Industry Standards)
29 CFR 1926.21 (Construction Standards)

Developed by the Division of Risk Management
Safety, Health, and Environmental Compliance Section

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PURPOSE

The purpose of this program is to establish procedures, methods, and requirements necessary to comply with Code of Federal Regulations, 1910.146, entitled Permit-Required Confined Spaces as adopted by the Kentucky Occupational Safety and Health Standards Board, 803 KAR 2:300-320. This plan shall be implemented and followed by all government divisions when work activities necessitate entry of a confined space. This program describes the methods and procedures that shall be followed during confined space entry procedures in order to control or eliminate the hazards that can potentially result in personal injury, harm to the employee, or death. This program also provides additional forms that need to be filled out by each division in order to implement the program. In as much, this document can serve as the preamble for a written program for each government department and division as long as the following criteria are met:

1. ALL confined space areas are identified and a Confined Space Hazard Assessment is conducted for each space.
2. ALL entry procedures for each space must be developed (in detail) and attached to this document. This would include all safety procedures, equipment, testing, or other provisions necessary for entry of a permit-required or non-permit required confined space.
3. A written log record is maintained that identifies all confined spaces and permit-required confined spaces.

REVIEW AND UPDATE

This Confined Space Entry Program shall be reviewed annually as required by law and will be updated when deficiencies with the program and operations are noted. Examples of such circumstances include:

- Any unauthorized entry of a permit space
 - The detection of a permit space hazard not covered by the permit
 - The detection of a condition prohibited by the permit
 - The occurrence of an injury or near-miss during entry
 - A change in use or configuration of a permit space
 - An employee complaint about the effectiveness of the program
 - A change in the regulation that affects the program requirements or procedures
 - Or other similar conditions or situations
- This program shall be reviewed annually by the Division of Risk Management. The review and evaluation of this program shall be documented in writing and any changes or revisions shall be noted and forwarded to all divisions of the LFUCG.
- Where applicable, each division shall review and evaluate the effectiveness of their plan, as adapted for their division. The review and evaluation of the divisional plan shall be conducted at least annually by a group of individuals who have participated with confined space entry operations. This review shall be documented in writing and forwarded to the Division of Risk Management.

KEY DEFINITIONS

A *confined space* is any area that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry and exit (examples include tanks, vessels, silos, storage bins, hoppers, vaults, pits, etc); and
3. Is not designed for continuous occupancy

A *permit required confined space* (permit space) means a confined space that has one or more of the following characteristics:

1. Contains or has the potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that the 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
4. Contains any other recognized serious safety or health hazard

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Notes: There are other definitions that apply to the scope and application of confined spaces and permit-required confined spaces. These definitions can be found in the “Definitions” section of the Permit-Required Confined Space Entry Standard, 1910.146 (b).

FUNCTIONAL DUTIES AND RESPONSIBILITIES

Director/Commissioner – Where applicable, each Director or Commissioner carries the overall responsibility to ensure that their division/department meets compliance with all state and federal regulations regarding confined spaces. This will be accomplished by the following actions:

1. Ensure that the affected division/department develop or adapt a written plan to be used for confined space entry.
2. Ensure that the written plan is unique to their operations and confined space areas.
3. Ensure that all employees follow the written plan, that safe work practices are implemented, and that the overall requirements of the confined space regulations are fulfilled.
4. Inform Purchasing whenever proposed work contracted out will involve confined space entry. The Director or Commissioner must ensure that contractors and vendors are qualified to carry out confined space operations prior to signing contracts for work.

Confined Space Coordinator - This individual carries the responsibility to ensure that the division is fulfilling the requirements of this program. Where applicable, each division of the Lexington-Fayette Urban County Government must designate a person as the “Confined Space Coordinator” for their division. The Confined Space Coordinator shall attend to the following responsibilities:

1. Identify and document all confined spaces. Assess the hazards of each confined space in order to determine whether or not the area is a permit-required space.
2. Investigate and address entry of spaces and areas that are suspected of being a confined space, but have yet to be identified as such. Serve in an advisory capacity in resolving related issues.

3. Maintain and update a log of all confined spaces (both permit and non-permit required). Update the log at least quarterly as necessary and submit all updates to the Division of Risk Management.
4. Develop unique written entry procedures for each confined space that is determined to be a permit-required space.
5. Ensure that all contractors are informed of the provisions of this plan and are properly equipped to enter a confined space (see section on Contractors and Vendors).
6. Collect and file all entry permits when work is complete. Review permits to ensure that they were completed properly and that only trained and authorized individuals have signed the permit.
7. Take action when deficiencies are found.
8. Ensure that Fire and Emergency Services receives a complete list of all confined space areas, the location, and unique hazards associated with each space (see the attached Confined Space Log).
9. Ensure that all qualifying members of the on-site Rescue Team participate in training at least once per year (see Rescue Team section).
10. Schedule an annual walk through/evaluation of all confined spaces with the Rescue Team to familiarize them with the confined spaces and to confirm that they are qualified to conduct rescue from these areas.
11. Make sure that Material Safety Data Sheets are available for all known hazardous substances located in any of the confined spaces.
12. Make sure that all entry equipment (such as gas detectors, fall protection, etc.) is maintained, calibrated annually, in good condition and that supplementary supplies (such as calibration gases, body harnesses, respirator cartridges, etc.) are on hand and ready for use.

Entry Supervisor – This individual is charged to ensure that the details of the confined space entry program and related entry activities are adhered to during entry operations and that there is no deviation from the program. The Entry Supervisor's responsibilities include the following:

1. Know the hazards that may be confronted during entry including the mode, signs or symptoms, and consequences of the exposure.
2. Always conduct a pre-entry safety meeting with all affected individuals to review the procedures and safety concerns.
3. Verify that the entry permit has been filled out completely and that all individuals who are participating in the entry are trained.
4. Ensure that the appropriate atmospheric tests have been made and that all equipment and tools are available before signing the permit.
5. Post the permit in a conspicuous place outside of the permit-required confined space entry portal.
6. Terminate the entry and cancel permits as required by law (see section on Entry Procedures)
7. Make sure that an on-site Rescue Team is available and that the Attendant can summon Fire and Emergency Services if needed. Ensure that the means for contacting Fire and Emergency Services is operable (phone, radio, etc.).
8. Prevent unauthorized access of individuals who attempt to enter the permit space during entry operations. When unauthorized individuals have entered the space, the Supervisor shall have them exit. If the unauthorized individual does not exit, the Entry Supervisor shall immediately initiate evacuation of the space.

9. Determine when rotation of the functional duties or responsibilities for permit space entry operations are to be transferred to another individual and ensure that the intervals of rotation are dictated by the hazards and operations performed within the space. Whenever work responsibilities are transferred, ensure that the operations and work activities remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.
10. If the on-site Rescue Team can no longer maintain commitment to provide rescue, the Entry Supervisor must abandon operations and cancel the permit.
11. If required, ensure that all Entrants have been fit tested, medically evaluated, and trained in the use of respirators (and all other personal protective equipment required).

Authorized Entrant – This is the individual(s) who is qualified to enter a confined space. Duties of the Authorized Entrants include:

1. Know all hazards that may be confronted during entry procedures including the mode, signs or symptoms, and consequences of the exposure.
2. Use all equipment properly as instructed and as trained.
3. Maintain two-way communication with the Attendant at all times so that the Attendant can monitor and assess the status of the Entrant.
4. The Authorized Entrant must alert the attendant under the following conditions:
 - When the entrant recognizes warning signs or symptoms of exposure to a dangerous situation
 - When the Entrant detects a prohibited condition
5. Exit from the permit space as quickly as possible whenever:
 - An order to Evacuate is given by the Attendant or Entry Supervisor
 - The Entrant recognizes warning signs or symptoms of exposure to a dangerous situation
 - The Entrant detects a prohibited condition
 - An evacuation alarm is activated.

Attendant – This individual carries the overall responsibility to manage the entry portal to the confined space and to ensure that the following duties are maintained:

1. Know all hazards that may be confronted during entry procedures including the mode, signs or symptoms, and consequences of the exposure.
2. Be aware of the behavioral effects from a hazardous exposure in Authorized Entrant(s).
3. Maintain a systematic head count of all Authorized Entrants in a confined space and ensure that there is a means to identify each Entrant (e.g., a sign-in/out entry log).
4. Remain outside of the confined space until relieved by another Attendant.
5. Know the location of the nearest phone and the exact location of the confined space.

6. Communicate with the Authorized Entrant(s) as necessary to monitor the status of each Entrant and as needed to initiate an evacuation.
7. Monitor the activities inside and outside of the confined space as needed to ensure the safety of the Entrants and as needed to initiate an evacuation. Evacuations are issued under the following conditions:
 - If a prohibited condition is detected
 - If the Attendant detects the behavioral effects of a hazardous exposure in an Authorized Entrant
 - If the Attendant detects an unsafe condition outside or inside of the confined space that could endanger the Entrants
 - If the Attendant cannot effectively and safely perform all of the duties above
8. Take the following actions when unauthorized persons approach or enter a space while entry is underway:
 - Warn unauthorized persons that they must stay away from the space
 - Advise the unauthorized persons that they must exit immediately if they have already entered the space
 - Inform the Authorized Entrants and Entry Supervisor if unauthorized individuals have entered the space
9. **Summons the on-site Rescue Team and the Division of Fire and Emergency Services as soon as it is recognized that the Entrant may need assistance escaping from the confined space. The Attendant shall not perform unauthorized rescue or enter the confined space during rescue operations, regardless of training.**
10. **Perform non-entry rescues as specified and qualified by instructions and training.**
11. Perform no duties that might interfere with the Attendant's primary duty to monitor and protect the Authorized Entrants

Rescue Team

Each division must provide a Rescue Team for permit-required, non-hazardous atmosphere entry operations as needed to retrieve Authorized Entrants from the space. The on-site Rescue Team shall ONLY carry out rescue operations for confined spaces where a non-hazardous atmosphere exists. NO division shall participate in, enter, or agree to provide a Rescue Team for any permit-required confined space that has a *hazardous atmosphere* unless approved by the Division of Risk Management prior to the start of operations.

The Lexington-Fayette Urban County Fire and Emergency Services will ONLY perform "emergency" rescue as would be normally rendered by activating 911. A division cannot name the LFUCG Fire and Emergency Services as their on-site rescue team.

1. Each member of the Rescue Team must be trained on the duties of the Authorized Entrant, the use of appropriate personal protective equipment, and all rescue equipment.
2. Each member must participate in annual training to include the removal of a manikin, dummy or actual person from a representative confined space area (both horizontal and vertical rescue).
3. Each member of the Rescue Team must be trained in first aid and CPR.
4. Each member of the on-site Rescue Team shall review all the information and hazards of the spaces from the Confined Space Logs that have been submitted by the Division's Confined Space Coordinator. If needed, the Rescue Team shall review the Confined Space Hazard Assessment Form.
5. The Rescue Team shall participate in a walk through inspection of all spaces identified on the Confined Space Log. The Rescue Team must verify the location and hazards of all the areas and confirm that they are capable of making a timely response

in the event of an emergency. If after reviewing the space, the Rescue Team does not feel confident or qualified to perform a rescue or if the hazard description is not clear, then the Rescue Team shall contact the individual who completed the Hazard Assessment Form or notify the Division of Risk Management in order to get more information on the space.

6. No rescue attempts or rescue entry shall take place until the confined space has been inspected and the hazards are clearly understood so that rescue procedures can be addressed in a safe manner.
7. If the on-site Rescue Team must leave the site or is unable to provide a timely rescue response for an on going confined space entry operation, a representative from the Rescue Team must inform the Entry Supervisor, the Attendant, and the workers that they must abort their operation(s). The Rescue Team representative shall document the names of the individuals contacted and the time of day.
8. In the event that rescue is required, the on-site Rescue Team shall call 911 to summons Fire and Emergency Services - regardless of whether the on-site Rescue Team is capable of performing the retrieval. This is to be done as a safety precaution in case advanced medical treatment or advanced rescue is required.

LUFCG Division of Fire And Emergency Services

The Division of Fire and Emergency Services shall be notified in all cases where rescue is required, regardless of whether the on-site Rescue Team is capable of completing the retrieval.

- After the on-site Rescue Team has been notified of the emergency, the Attendant shall immediately contact the Division of Fire and Emergency Services by activating 911.
- Once the Division of Fire and Emergency Services has arrived on the scene, assessed the situation, and secured the area, the Division of Fire and Emergency Services shall assume the role and duties as the Incident Commander in charge of ALL rescue operations or emergency care to be rendered.

Division of Purchasing

The Division of Purchasing is responsible to ensure that affected contractors or vendors provide all required safety programs, policies, and documentation required by law in order to engage in permit-required confined space entry operations. Purchasing shall accomplish this by the following actions:

1. Request that all vendors/contractors provide a copy of their company's overall safety plan.
2. Forward all submitted safety plans to the Safety, Health, and Environmental Compliance Section in the Division of Risk Management for review, prior to awarding the bid on the project.
3. Inform the vendor/contractor that a "site-specific" safety plan be maintained at the work site for the duration of the project.

Division of Risk Management

The Division of Risk Management is responsible for the overall compliance, management, support, and assistance of all LFUCG confined space operations. The

Division of Risk Management will support and manage compliance of confined space entry operations by providing the following.

1. To provide awareness level training on Permit-Required Confined Spaces
2. To assist affected divisions with the Confined Space Hazard Assessment process
3. To review entry procedures of permit spaces
4. To conduct a review of divisional entry permit systems
5. To review updates and changes made to divisional plan
6. To conduct an annual review and update of the LFUCG Confined Space Plan
7. To keep all divisions informed of changes to the LFUCG Confined Space Plan and of the regulations
8. To review contractor and vendor safety plans submitted to the Division of Purchasing
9. To provide other consultation services as requested

HAZARD ASSESSMENT

1. All areas that meet the definition of a confined space must be evaluated and all hazards must be documented. The Confined Space Coordinator must conduct the hazard assessment using the Confined Space Hazard Assessment Form. Other hazard assessment forms can be substituted, but it is recommended that the Division of Risk Management review all hazard assessment forms prior to implementation.
2. Only those individuals who have completed training on hazard assessment determination can conduct a hazard assessment of an area. The Division of Risk Management shall provide hazard assessment training.
3. A hazard assessment needs to be conducted for all confined spaces even when it might be obvious that there are no particular hazards associated with the space. If there are no apparent hazards, then this should be documented on the form. This will verify that all areas have been properly inspected and documented.
4. Once all hazards have been identified, it must be decided whether or not the hazard(s) warrant classifying the space as “permit-required.”
5. In the event that the hazards or conditions of a confined space change, a new hazard assessment should be conducted.
6. The Confined Space Hazard Assessment Forms should be kept on file and updated as necessary.

IDENTIFICATION OF PERMIT-REQUIRED CONFINED SPACES AND NON-PERMIT SPACES

All affected personnel shall be notified of the location of all confined spaces and respective hazards. This section specifies the requirements for posting and signage of confined space areas. In addition to posting signs on all confined spaces, all employees shall also be informed of the area’s associated hazards either verbally and/or in writing, during safety meetings, training, or by other means.

1. All confined spaces that meet the definition of a “permit-required confined space” must be *posted* with danger signs that read, “PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER” (or similar language). All portal openings to each space must be clearly marked.

2. All areas that meet the definition of a confined space, but not a permit-required confined space, should be posted with warning/danger signs that read, "DANGER CONFINED SPACE" (or similar language). All portal openings to each space must be clearly marked.
3. All areas that meet the definition of a confined space are to be listed in a Confined Space Log (see attached log form). The log should list the location, status (permit or non-permit), and other vital information of the confined space.
4. Each division must keep their Confined Space Log current and updated at all times. The updated copy of the log is to be forwarded to the Division of Risk Management at least annually or whenever it is updated.
5. When work is required in an area that meets the definition of a permit-required confined space, but has yet to be identified as such, the Division Confined Space Coordinator shall be consulted. If this individual is unable to make a determination regarding the status of the space, the Division of Risk Management shall be consulted before work is begun.

ADDRESSING THE HAZARDS

It is the responsibility of the Confined Space Coordinator to develop written entry procedures that will control or eliminate all hazards associated with permit-required confined spaces.

1. It is MANDATORY that formal entry procedures are written and implemented for each area.
2. Using the Confined Space Hazard Assessment Form, the Confined Space Coordinator should develop "step-by-step" instructions for addressing each hazard associated with the space. These instructions must provide specific details describing the methods and techniques to be implemented by the Entry Supervisor or any third party (such as a contractor) in preparing for entry of a permit space.
3. The hazards must be listed in the order of importance/priority based on severity or level of risk.

ENTRY PERMIT AND PROCEDURES

A key component of the confined space program is the level of formality given to the permitting process. Formal procedures for the procurement of the permit must be in place. The Confined Space Coordinator shall coordinate how the permit system should work within their division. This should include where to pick up the permit, individuals authorized to fill it out, posting of the permit, canceling the permit, who to return it to, and filing requirements.

1. The Entry Supervisors are the only individuals who are authorized to request an entry permit.
2. When requesting an Entry Permit, the Entry Supervisor must also request a copy of the entry procedures for the confined space to be entered.
3. The Entry Supervisor must tell the individual issuing the permit the purpose of the work to be performed and the expected duration of the work. The permit is only valid for the indicated purpose and duration and the entry permit must be issued by an individual who is knowledgeable of the Permit Entry Procedures.

4. The individual issuing the permit must verify that the individual requesting the permit is authorized (trained as an Entry Supervisor) and that the work to be performed has been properly reviewed and approved.
5. The person issuing the permit shall fill in the date, site location, purpose and duration of the work to be performed, shall provide a copy of the entry procedures to the Entry Supervisor.
6. The Entry Supervisor must take the entry procedures along with the Entry Permit to the site, and must follow the entry procedures as written and in the order that they are listed. This process shall not be trusted to memory or transposed to notes. The procedures are needed in order to determine what hazards to address (control or eliminate).
7. The Entry Supervisor shall follow the procedures and take any other action needed to control or eliminate the hazards as prescribed. This might require atmospheric testing, the use of mechanical ventilation, lock-out/tag-out of energized equipment, fall protection, personal protective equipment for workers, barricades, protective barriers, lighting, communication devices, ladders for ingress and egress, blanking and blocking valves, depressurizing, etc.
8. The Entry Supervisor must personally verify/confirm that *each* hazard has been properly addressed. This responsibility cannot be transferred to anyone else or confirmed by any other method – the Entry Supervisor must personally confirm that the hazards have been controlled or eliminated.
9. The on-site Rescue Team must be readily available.
10. Once all of the above criteria have been met and the permit has been *completely* filled out, the Entry Supervisor shall review all procedures and details with the Attendant and Authorized Entrants, all shall sign the Entry Permit as needed to authorize entry and to begin work. N/A should be listed beside any area on the permit that does not apply to the entry operations.
11. The Permit-Required Confined Space Decision Flow Chart should also be referenced when needed to test procedures for entry of a permit-required confined space.

Notes: It is important to note that not all hazards are apparent and many times are discovered at a later point in time. When this happens, entry procedures should be modified immediately and all personnel must be trained on the new entry procedures for that area.

It is important to note that the work to be conducted can often create a hazard. Such is the case when activities like welding (hot work), chemical cleaning, painting, sandblasting, etc., is done in confined areas which do not otherwise need mechanical ventilation. When this type of situation occurs, the nature of the work itself can

reclassify a non-permit space into a permit-required space. The Entry Supervisor must be alert to this fact! If this occurs, the Entry Supervisor must consult with the Confined Space Coordinator to authorize continuance of the work. When in doubt as to the status of a space, contact the Division of Risk Management.

TRAINING

The law requires that all employees demonstrate proficiency in permit-required confined space operations. Each department and or division must sign off on the employee's knowledge and abilities of confined space operations and must further "certify" that the employee qualifies to participate. No employee is allowed to participate in confined space entry operations in ANY division of the LFUCG without formal training. This training is to be set-up and provided by each division. The Division of Risk Management can assist with the review or the training programs and materials per request.

Educational Element

The training shall include information on the hazards and concepts that are associated with confined spaces as well as the specific details on the roles and responsibilities of each participant. The educational element should include a formal presentation, a video review, a proficiency test, and opportunity for questions and answers.

Equipment and Personal Protective Equipment (PPE)

Each employee shall receive training on all equipment and personal protective equipment (PPE) required by the individual's role and responsibilities in the confined space program. This training includes but is not limited to the use and knowledge of the following:

- Proper calibration and use of air monitoring devices used to assess the quality of the atmosphere in the confined space
 - Atmospheric testing shall include % oxygen, combustible and flammable gases and vapors, and toxic gases
 - a) oxygen should be between 19.5% - 23.5%
 - b) combustibles and flammables should be 0% of the lower explosive level (LEL).
 - c) The detection of toxic gases is a "red flag" that the confined space has not been properly ventilated.
 - d) Hydrogen sulfide and carbon monoxide should be maintained below 10 ppm and 35 ppm respectively for an 8-hour time weighted average.
- Ventilators or other air exchange devices used to eliminate or control a hazardous atmosphere
- Devices or code systems such as radios, phones, address systems, horns, ropes, or other methods used to communicate. All electronic devices shall be insulated and UL approved as intrinsically safe.
- Harnesses, wrist-lets, and other retrieval devices to be used during entry
- Tripods, winches, or other mechanical non-entry rescue devices to be used in conjunction with harnesses or wrist-lets
- The use of Personal Protective Equipment (PPE) shall be demonstrated. This includes such items as hard hats, safety glasses, ear plugs, respirator, or other gear that is to be worn by the Entrant during entry operations. Participants shall be properly fitted and tested for all PPE prior to entry and shall be given ample time to ask questions and to be reassured of its use and purpose.

- Proper set-up and installation of barricades, signs, and other assisting devices to be used.
- Any other applicable procedures or regulations such as lock-out/tag-out or “hot work” permits
- The Entrants shall be trained on the proper use of all other equipment that is to be used during the work inside the confined space. This would include any mechanical devices such as power tools, hand tools, hydraulic equipment, etc.

Simulation

The training shall include a “hands-on” demonstration of all pieces of equipment, instruments, and personal protective equipment. After the employee has been instructed how to use the equipment for confined space entry operations, the participants shall don all gear and participate in a simulated entry using a suitable area (does not need to be a confined space for the sake of training).

Notes: Any individual can be trained on any responsibility as long as the following “rule” is followed. An Attendant can be crossed trained as the Entry Supervisor and can serve as both positions during entry operations. But, an Authorized Entrant can NOT serve as the Attendant Entry Supervisor during an entry operation.

CONTRACTORS AND VENDORS

Each division shall request a copy of all safety plans and standard operating procedures (SOPs) that govern regulated work activities. All safety plan(s) and SOPs must be submitted during the bidding process and considered as part of the cost associated with the award of the contract. The Director or Commissioner or qualified designee must review the safety plan, the SOPs, and the scope of work prior to the starting of the project. The scope of work and confined space entry procedures must be discussed with the contractor or vendor at the pre-start or pre-construction meeting. The contractor's Confined Space Entry plan must meet or exceed the requirements of the LFUCG Confined Space Plan and the state/federal regulations. In the event that there are any questions pertaining to the qualifications of the contractor/vendor's safety plan and entry procedures, the Director or Commissioner shall contact the Division of Risk Management for further review.

Any contractor or vendor involved in permit-required confined space operations shall develop a "site-specific" safety plan that outlines the provisions to be implemented for safe entry of the confined space to be entered. The "site-specific" safety plan must be maintained at the work site at all times.

CONFINED SPACE HAZARD ASSESSMENT FORM

Inspector's Name: _____ Date: _____

Department or Division: _____

Identification # of space (assigned by Risk Management): _____

Location of confined space: Map Quadrant: _____

Street: _____

Bldg. (or landmark): _____

Level (or other identifier): _____

General description of space (or other information):

Types of hazards associated with the confined space (Y or N):

- ___ Atmospheric hazard
 - ___ Oxygen deficient (<19.5%)
 - ___ Oxygen enriched (>23.5%)
 - ___ Combustible and flammable gases and vapors present
 - ___ Toxic gases or vapors
- ___ Engulfment (grain, salt, sand, gravel, mud, water or other moldable materials)
 - ___ Electrical (areas such as mechanical rooms or where other electrical equip. exist)
 - ___ Configuration (walls, floors, or ceilings that slope or in a maze like arrangement)
 - ___ Thermal (hot or cold temperatures)
 - ___ Chemical (are there any chemicals in the confined space or piped through the space?)
 - ___ Biological (wildlife, urine, feces, bodily fluids, or the like)
 - ___ Mechanical (energized equipment or moving parts that require lockout/tagout)
 - ___ Discharge Lines (such as sewer connections, water junctions, or similar piping unions)
 - ___ Steam Lines
 - ___ Gas Lines
 - ___ Poor Lighting
 - ___ Other

Please provide a brief description of the hazards indicated above:

1. Is the **only** hazard an atmospheric hazard? Y or N
 - a) If yes, can a safe atmosphere be maintained by using ventilation alone? Y or N
 - b) If no, can the other hazards be eliminated without entering the space? Y or N

Please explain: _____

PERMIT-REQUIRED CONFINED SPACE? Y or N

OFFICIAL ENTRY PROCEDURES FORM

Location of the confined space:

List the pre-entry checks and hazard controls that must be established prior to entry. The pre-entry checks and controls should be listed in order of importance or priority as necessary to control or eliminate the associated hazards.

- 1.
- 2.
- 3.
- 4.
- 5.

List ALL Personal Protective Equipment that is required.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

List ALL safety equipment or other equipment that is required for entry.

- 1.
- 2.
- 3.
- 4.
- 5.

Notes and comments about the confined space not covered in the above sections

Date of revision: _____

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:

Rescue Team is available? Y or N

1. Pre-Entry Atmospheric Checks: Oxygen _____ % Tester's Initials: _____

Explosive _____ % L.E.L.
 Toxic _____ PPM
 Time _____

2. Ventilation: N/A Yes No
 Mechanical () () ()
 Natural Ventilation Only () () ()

3. Atmospheric check after ventilation: Oxygen _____ %
 Tester's Initials: _____

Explosive _____ % L.E.L.
 Toxic _____ PPM
 Time _____

4. Have Authorized Entrants, Attendants, Supervisors completed required training?
 Yes or No

5. Communication procedures:

Requirements Completed	Date	Time	N/A
Lock-out/De-energize/Tag-out	_____	_____	_____
Line(s) Broken-Capped-Blanked	_____	_____	_____
Purge-Flush and Vent	_____	_____	_____
Ventilation	_____	_____	_____
Secure Area (post and flag)	_____	_____	_____
Breathing Apparatus	_____	_____	_____
Standby Safety Personnel	_____	_____	_____
Full Body Harness w/ "D" Ring	_____	_____	_____
Emergency Escape Retrieval Equipment	_____	_____	_____
Lifelines	_____	_____	_____
Fire Extinguishers	_____	_____	_____
Lighting (explosion proof)	_____	_____	_____
Burning and Welding Permit	_____	_____	_____

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

6. Periodic Atmospheric Tests:

% Oxygen	_____	_____	_____	_____	_____	_____	_____	Percent %
%L.E.L	_____	_____	_____	_____	_____	_____	_____	Percent %
Toxic Gas	_____	_____	_____	_____	_____	_____	_____	(ppm or mgm ³)

Tester's Signature: _____

- Supervisor preparing and validating permit:

- Reviewed by Attendant

- Reviewed by Authorized Entrant(s)

- Reviewed by Confined Space Coordinator

This permit must be kept at the job site. Return to the Confined Space Coordinator following job completion.

PERMIT REQUIRED CONFINED SPACE DECISION FLOWCHART

