Environmental Health and Safety Policy Manual		
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Confined Space Policy		

1.0 PURPOSE

This policy is intended to protect LSUHSC personnel from the hazards of confined spaces.

2.0 SCOPE

This procedure applies to all employees and contractors performing work at LSUHSC. **Note that no LSUHSC employee will make entry into a confined space where the hazards cannot be adequately controlled or eliminated throughout the entry timeframe. In these instances, an adequately qualified and trained contractor will be hired to accomplish the work. Note that due to the specific hazards associated with sewer lines, no LSUHSC personnel are permitted to enter sewers.**

3.0 RESPONSIBILITIES

3.1 Environmental Health and Safety Department (EHS) shall:

- Perform hazard evaluation of confined spaces on LSUHSC property and provide evaluation to FS for record maintenance.
- Designate, based on the results of the hazard evaluation, each confined space as permit or non-permit required spaces.
- Develop and maintain policy and procedures for safe and effective confined space entry.
- Perform monitoring for potential atmospheric hazards and assist FS with development of control measures during confined space entries as described in this policy.
- Assist with efforts to reduce the hazard classification of permit required spaces.
- Assist entry supervisors in the selection of PPE.
- Assist entry supervisors with preparation of entry permits by using entry procedures established within completed hazard assessment evaluations
- Develop, maintain and provide confined space training.
- Perform program review and revisions as required by this policy.

3.2 Facility Services Department (FS) Supervisors shall:

- Identify and maintain an inventory of confined spaces on LSUHSC property, with associated hazard assessments and approved entry requirements.
- Request the performance of confined space hazard evaluations by EHS.

- Post danger signs at the entrance(s) to designated permit required confined spaces.
- Ensure all personnel who are assigned duties and responsibilities as entry supervisors, attendants, and entrants are properly trained and understand the requirements of this policy and their associated duties.
- Provide required equipment to support entry into confined spaces.
- Notify EHS prior confined space entry operations as required by this policy.
- Maintain copies of all issued Confined Space Entry Permits as required by this policy.
- When applicable, apprise contractors that the workplace contains permitted spaces and that permit space entry is allowed only through compliance with a confined space program meeting OSHA requirements.
- Review contractor's Confined Space program and plans with the assistance of EHS.

3.3 Authorized entrants shall:

- Must have received the required training and be authorized by the Entry Supervisor to enter the confined space
- Follow all direction provided by the Entry Supervisor and Attendant(s).
- Fully understand all procedures, safeguards, and emergency egress and (or) rescue procedures associated with entry.
- Be aware of all hazards which may be encountered and the associated signs/symptoms of exposure.
- Use assigned personal protective equipment and entry tools and supplies.
- Be prepared and able to notify the attendant, and exit from the space upon identification of suspect hazardous conditions.

3.4 Attendants shall:

- Have received the required training and be aware of hazards that may be encountered during a confined space entry including the mode, signs or symptoms and consequences of exposure.
- Remain at the attendant's post and perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.
- Maintain continuous communication with all authorized entrants within the permitted space by voice, radio, telephone, visual observation, or other effective means.
- Order entrants to exit the confined space at the first indication of a non-permitted condition.
- Coordinate rescue support as directed by this policy.

3.5 Entry supervisors shall:

- Be responsible for the overall entry operations and coordinate all monitoring, permits, equipment and other relevant activities.
- Verify that entrants and attendants are properly trained, qualified in the safe operation of their task, and aware of emergency and safe egress procedures.

- Determine, with assistance from EHS, that acceptable conditions are present at a permit space consistent with hazard assessment requirements.
- Brief workers on the hazards of entry (i.e., previous chemicals in space, the effects of inhalation of vapors, what safety and health hazards are inherent in space or operation being performed, etc.).
- Verify that all appropriate entries have been made on the permit, air monitoring results are recorded, hazards are eliminated, and necessary equipment has been made available before signing the permit and authorizing entry.
- Terminate the entry and cancel the permit when entry operations are complete.

3.6 Facility Services Department Supervisors and Construction Coordinators shall:

- When applicable, apprise contractors that the workplace contains permitted spaces and that permit space entry is allowed only through compliance with a confined space program meeting OSHA requirements.
- Review contractor's Confined Space program and plans with the assistance of EHS.
- Notify EHS prior confined space entry operations as required by this policy.
- Work with FS and EHS to review new construction projects in order to identify, record and classify newly created confined spaces.

4.0 IMPLEMENTATION REQUIREMENTS

This section describes the steps to be taken to ensure the safe entry into confined spaces at LSUHSC.

4.1 Identification and Classification of Confined Spaces

- FS, with assistance from EHS, shall identify, evaluate, classify, and maintain an inventory (Appendix A) of each confined space.
- Basic OSHA requirements for a confined space are when 1) the space is large enough to enter; 2) the space has restricted egress; and 3) the space is primarily designed for other than human occupancy.
- Confined spaces can be classified as either permit or non-permit required.
  - Permit-required confined spaces may contain significant safety and/or health hazards or has a potential for or contains a hazardous atmosphere (flammable, toxic vapors, oxygen deficient or enriched content, etc.).
  - Non-permit confined spaces do not contain, or with respect to atmospheric hazards, have the potential to contain, significant safety and/or health hazards. Permits and signs are not required with non-permit spaces; however, all entries are to be documented (logged) and maintained by FS.
- EHS shall perform a hazard evaluation of confined spaces for classification. Such evaluations shall include, but are not necessarily limited to, the following considerations:
  - The contents or previous contents of the space that may result in the presence of flammables, toxic materials, or oxygen-deficient or enriched atmospheres.

- The location and configuration of the space, including restricted access, obstructions, remoteness, etc., which may inhibit or interfere with movement, ventilation, rescue efforts, or firefighting efforts.
- Potential hazards from the external environment which could affect the atmosphere within the confined space.
- The types of operations that are conducted within the space, particularly those which by the very nature of the process produce toxic materials, flammables, oxygen depletion or enrichment, or ignition sources.
- Fixtures, devices, or equipment within the space that may create or contribute to hazardous conditions including piping systems, conduits, ducts, machinery, pressurized lines, etc.
- The presence of other hazards such as slippery surfaces, deteriorated or unstable portable ladders, irritant or caustic materials, etc.

- If permit-required confined spaces are identified and employees may enter, EHS shall provide a report of the hazard assessment evaluation. The report shall include permit entry requirements and procedures.
- If there are confined spaces designated as permit-required and workers and other employees could inadvertently enter, personnel shall be informed of the existence, location, and the danger of the permit space by the posting of danger signs. The signs shall be posted and maintained by FS and state "DANGER — PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or a commercially available equivalent. Confined spaces where personnel cannot inadvertently enter, such as those protected by heavy manhole covers which require tools to remove, need not be posted.

4.2 Atmospheric Testing and Monitoring

- Pre-entry atmospheric testing of confined spaces, also called verification testing, shall be accomplished prior to entry into permit-required confined spaces. EHS shall perform this testing from outside the space using a calibrated direct-reading instrument and record results on Appendix B, Air Monitoring Log. Testing shall be performed in the following sequence:
  - Oxygen Content: Many combustible gas indicators and (or) explosive meters require oxygen for proper operation (generally 10- to 30-percent oxygen by volume). Corrections for known flammable components, if different from the calibration gas, will be made according to the manufacturer's instructions
  - Flammable Hazard: Combustible gases are tested after tests for oxygen content because the threat of fire or explosion is more immediate and more life threatening, in most cases, than exposure to toxic gases and vapors.
  - Toxic Materials: For the determination of initial confined space classification, chemical substances known or expected to be present shall be measured and evaluated for their potential to produce a hazardous atmosphere.
- No entry will be authorized when the confined space has exceeded the following levels:
  - oxygen content below 19.5 percent or above 23.5 percent;

- flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- airborne combustible dust at a concentration that meets or exceeds it LFL or obscures vision at a distance of five feet or less;
- any other atmospheric condition immediately dangerous to life or health.

- Many operations may generate hazardous conditions and may require atmospheric monitoring as the work progresses to ensure safe conditions are maintained. The frequency and types of testing are dependent upon prevailing conditions and the nature of the operations. EHS shall establish the frequency and type of tests for atmospheric monitoring and shall issue these requirements as part of the initial hazard assessment and enter on the entry permit. The continuous monitoring of oxygen levels, flammable vapor levels, and toxicity levels should be considered for all permit-required confined space operations. The entry supervisor with appropriate assistance as stated above shall carefully evaluate the following types of operations for continuous atmospheric monitoring:
  - Work that has the potential of generating hazardous concentrations of toxic materials. (Examples: welding, cutting, brazing, soldering, etc.)
  - Application of preservatives, paints, epoxies, solvents, etc., which may involve hazardous concentrations of toxic or flammable vapors.
  - Any similar operations that possess the potential for producing or releasing toxic, flammable, or asphyxiating atmospheres or material into the space.
- Monitoring equipment shall be sent to the manufacturer for calibration. The user shall field check equipment according to the manufacturer's instructions, immediately before testing the confined space. Equipment shall not be used that cannot be calibrated or which fails the field check, until it is repaired and the calibration and (or) field check is successfully accomplished.

4.3 Entry into Permit Required Confined Spaces

- LSUHSC employees shall enter a permit-required confined space ONLY after a confined space entry permit has been completed. The permit is an authorization and approval in writing that specifies the location and type of work to be done. It certifies an evaluation of all existing hazards and that necessary protective measures have been taken to ensure the safety and health of each worker.
- Entry permit shall be submitted by FS to EHS for review at least 24-prior to any confined space entry. The permit will be posted and available for review prior to the confined space entry so that all entrants can verify that the pre-entry preparations have been completed.
- The Entry Permit shall include the name of the confined space being entered, purpose, date and duration of the entry permit, the names of the authorized entrants and attendants, entry supervisor, the hazards of the space, and available equipment.
- Pre-entry atmospheric testing results will be added to the permit on the day of entry, immediately prior to the entry. The permit shall be fully processed and signed by the Facility Services designated entry supervisor and EHS prior to entry into a permit

required confined space. The entry supervisor's signature to the permit authorizes entry.

- Entry permits allow entry into a specific confined space, for a specific purpose, by a specific work crew, for a period not to exceed a single shift or as determined jointly by EHS and FS entry supervisor. If the space is unattended at any time after the permit has been issued, a new permit shall be required.
- Entry by LSUHSC personnel shall not be permitted into immediately dangerous to life and health (IDLH) spaces.
- Where air contaminations are caused by materials or conditions within the space, the cause or source of the contamination shall be identified and removed to the maximum degree possible by cleaning, ventilating, or other such treatments.
- Where the operations to be conducted within the space introduce (or have the potential to introduce) additional hazards, the entry supervisor shall ensure these hazardous conditions and operations are covered by the permit and take action consistent with the requirements of the hazard assessment to control the hazards and maintain safe conditions within the space.
- Where air contaminants are or may be introduced into the space, below IDLH concentrations, personnel working within the space shall be provided with NIOSH-approved respiratory protective equipment and other PPE as determined necessary to protect against skin contact suitable for the exposure.
- Entry supervisors shall ensure personnel entering a permit-required confined space are suited with a harness and lifeline to a retrieval system suitable to permit extraction of the person (without becoming a hindrance to the extraction) from the space. They shall also ensure the lifeline is securely attached to the harness and adequate attachment points outside the confined space are available and used. **NOTE:** When the space is so configured that the use of a lifeline would present additional hazards, they shall not be used.
- Completed permits shall be made available at the time of entry to all authorized entrants or their authorized representatives, 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.
- An attendant shall be assigned by the entry supervisor to remain at the entry post and not leave for any reason (except self-preservation) during entry operations unless replaced by an equally qualified individual.
- The attendant shall order entrants to exit the confined space at the first indication of a non-permitted condition, an unexpected hazard, indication of a toxic reaction, if a situation occurs outside the space that could pose a hazard to the entrants, or if the attendant must leave, for any reason, and there is no replacement.
- Entry supervisors and attendants are responsible to remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.
- The entry supervisor shall revoke the entry permit, terminate the entry, and secure the site when becoming aware of prohibited or unexpected circumstances. A new entry permit must be processed prior to re-entry subsequent to revocation of the initial permit.

- Entry permits are cancelled by the entry supervisor upon completion of the task or end of shift by initialing and entering the time in the appropriate permit form locations.
- Any problems encountered during an entry operation shall be noted on the permit and immediately communicated to EHS upon completion of the entry so that necessary revisions can be made to the confined space program.
- Each completed entry permit, including those that are canceled or revoked, shall be maintained by FS for at least four years and readily available for review.

4.4 Entry into Non-Permit Required Spaces

- In order to facilitate program review requirements, entries into non-permit confined spaces shall require the completion of an entry permit prior to entry. As the space is not expected to contain or have the potential for atmospheric hazards, pre-entry atmospheric monitoring is not required for completion of the entry permit.
- An attendant shall be used for all non-permit required confined space entries.
- Non-permit confined spaces shall be evaluated at least annually to ensure conditions have not changed which could result in a potential for hazards and a change in confined space classification. A non-permit confined space will be reevaluated any time a known change in process occurs or new construction is planned which may affect the space or the area immediately adjacent to the space.

4.5 Rescue and Emergency Services

- The hazard assessment and/or entry permit shall include emergency and rescue procedures consistent with the nature of each known operation that requires entry into a permit-required confined space.
- Self-Rescue employees are trained to exit from the confined space according to requirements of this policy.
- Entry supervisors shall ensure the inspection, testing, maintenance, and documentation of any necessary safety and rescue equipment are accomplished according to Manufacturer's literature.
- LSUHSC employees shall not enter into a confined space to perform rescue operations**.** If in the course of duty outside a confined space, an attendant becomes aware that entrant(s) needs assistance in escaping from the space, the attendant shall summon rescue by contacting University Police at 568-8999 and the designated rescue service. The entry supervisor shall inform the rescue group of the hazards they may confront when called upon to perform a permit-required confined space rescue.
- The entry supervisor shall coordinate with and contact the designated rescue service (e.g., New Orleans Fire Department) prior to permit-required confined space entries.

4.6 Contractors

When a contractor performs work that involves a permit-required confined space entry, the Contract Manager shall:

- Notify the contractor that work will be performed in a permit-required confined space;

- Brief the contractor on the contents of the space and known hazards that make the space permit-required (subcontractors who want to perform their own hazard assessment are permitted to do so, provided it is performed by a technically qualified individual [per OSHA requirements] and equipment is properly calibrated and documented);
- Review contractor's Confined Space program and plans with the assistance of EHS.
- Coordinate entry operations and procedures with the contractor and EHS and use the LSUHSC permit confined space entry system.

5.0 EMPLOYEE TRAINING AND EDUCATION

5.1 Initial Training

EHS shall train all employees designated by FS to serve as entrants, attendants or entry supervisors. Employees may not participate in confined space operations until they have been trained and are authorized by the FS director. Appendix D, Confined Space Employee Training Form, will be used to identify trained employees for confined space entry.

5.2 Refresher Training

Refresher training will be provided to all personnel annually and when:

- There is a change with an employee's job assignment
- There is a change in a machine, equipment or process that presents a new hazard to the confined space
- There is a change in the confined space procedure
- There is reason to believe that there are deviations from or inadequacies in the employee's knowledge of the procedures

5.3 Training Elements

Training will include general confined space principles and consist of:

- Recognition of confined spaces
- Recognition of confined space hazards and toxic effects or symptoms of exposure to anticipated hazardous
- Procedures for entering into a confined space
- Roles and responsibilities of authorized entrants, attendants, and supervisor duties
- Requirements of the confined space non-permit and permit entries
- Personal protective and rescue equipment
- Air monitoring and testing

Training will additionally include specific information related to the confined spaces and associated hazards to be encountered at LSUHSC.

6.0 RECORDKEEPING

FS shall maintain copies of entry permits, documented on the Permit Entry Form (Appendix C), for the current fiscal year and three previous fiscal years and ensure that copies of inspections are provided to EHS at the end of each fiscal year.

An attendance roster (Appendix D) will be used to document initial and annual refresher training. A record of these rosters shall be permanently maintained by the FS department.

7.0 INSPECTIONS AND PROGRAM REVIEW:

FS Supervisors shall perform evaluation of employee knowledge and understanding of the program procedures and requirements as part of each confined space entry.

EHS shall complete an annual review of cancelled permits to ensure that employees participating in entry operations are protected from permit space hazards. If no entry is performed during the calendar year, no review is necessary.

Program review shall also be performed as a result of 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 the use or configuration of a permit space, and/or employee complaints about the effectiveness of the program. Program procedures shall be revised to correct deficiencies found to exist before subsequent entries are authorized.

8.0 REFERENCES:

Occupational Safety & Health Association (OSHA) Standards for General Industry, 29 CFR Part 1910.146, Permit-Required Confined Spaces.

9.0 DEFINITIONS:

Acceptable entry conditions - 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.

Attendant – a trained employee stationed outside the confined space that monitors the authorized entrants and who performs all attendants' duties as outlined in this policy.

Authorized entrant - an employee who is authorized by the employer to enter a permit space.

Confined space - a space 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 or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and

(3) Is not designed for continuous employee occupancy.

Eliminate - To abate all hazards in the confined space in such a manner that shall ensure the hazards cannot be introduced in the confined space during entry. This shall include but is not limited to lockout/tagout of energy, blanking/blinding of a pipe, duct or line; double block and bleed a line, duct or pipe.

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

Engulfment - the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry – an action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry permit (permit) - Written authorization for entry into a confined space for a stated purpose, during a specified time, and under defined conditions.

Entry supervisor - a 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.

NOTE: 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 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.

Hazardous atmosphere - an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL;

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.
(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure in excess of its dose or permissible exposure limit;
NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.
(5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot work permit – written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

Immediately dangerous to life or health (IDLH) - 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.
NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

Inerting – displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.
NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

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

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

Permit-required confined space (permit space) - a confined space that has one or more of the following characteristics:
(1) Contains or has a 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 an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
(4) Contains any other recognized serious safety or health hazard.

Permit-required confined space program (permit space program) - is means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

Permit system - the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Rescue service – personnel designated to rescue employees from permit spaces.

Retrieval System - Specialized equipment including a retrieval line, chest or full body harness, wristlets (if appropriate) and a lifting device or anchor used for non-entry rescue of persons from permit space.

Testing - the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space. NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

10.0 Appendices:

Appendix A, Confined Spaces Inventory
Appendix B, Confined Space Air Monitoring Log
Appendix C, Confined Space Entry Permit
Appendix D, Confined Space Employee Training Roster

Updated list of confined spaces at LSUHSC as of 10/14/2009

CSRB

First Floor

1. Tunnel for pipeline that runs under CSRB: engulfment/cave-in, elevated voc, lel, CO, decreased O2 – Infrequent entry only for repairs

Second Floor

2. Irradiator – not in service; Hazards: radiation, elevated voc, lel, CO, decreased O2 – Never enter

Penthouse

3. Incinerator – never placed in operation; Hazards biological, soot, silicates, elevated voc, lel, CO, decreased O2 – Never enter

Roof Top

4. Cooling Tower – Roof top; Hazards: primarily water, guarding issues, and LOTO. Secondary and very low probability - voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
5. Exhaust Fan System No. 1 Hazards: electrical/LOTO, asbestos, dust, mold, fiberglass particles, silicates, elevated CO, decreased O2. Infrequent entry – for repairs only.
6. Exhaust Fan System No. 2 Hazards: electrical/LOTO, asbestos, dust, mold, fiberglass particles, silicates, elevated CO, decreased O2. Infrequent entry – for repairs only.
7. Exhaust Fan System No. 3 Hazards: electrical/LOTO, asbestos, dust, mold, fiberglass particles, silicates, elevated CO, decreased O2. Infrequent entry – for repairs only.
8. Exhaust Fan System No. 4 Hazards: electrical/LOTO, asbestos, dust, mold, fiberglass particles, silicates, elevated CO, decreased O2. Infrequent entry – for repairs only.

LIONS EYE – no identified confined spaces

MEB

9. Boiler #1 – 300 hp; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only; entry by boiler maintenance contractor.
10. Boiler #2 – 300 hp; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only; entry by boiler maintenance contractor.
11. Crematory incinerator; Hazards: biological, soot, silicates, elevated voc, lel, CO, decreased O2 – Never enter.
12. Salt tank; Hazards: elevated voc, lel, CO, decreased O2
13. (2) Condensation Tank –

RESIDENCE HALL

14. Boiler #1 - small boiler; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only; entry by boiler maintenance contractor.
15. Boiler #2 - small boiler; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2 Infrequent entry – for repairs only; entry by boiler maintenance contractor.
16. Cooling tower; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.

CLINICAL EDUCATION BUILDING, 1542 TULANE

17. Tunnel #1 (short run); Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
18. Tunnel #2 (long run); Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
19. Salt Tank – not in service; Hazards: elevated voc, lel, CO, decreased O2. Never enter.
20. Cooling Tower – 5th floor roof, not in service; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
21. Elevator shaft – not in service Hazards: caught in/between moving parts, elevator or platform collapse, struck by elevator or counterweights, electrical/LOTO, fall protection
22. Auditorium Access Panel; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
23. (3) Sump Pit; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
24. Attic Crawl Spaces and pipe chases; Hazards: fall protection, asbestos. Infrequent entry – for repairs only.

CENTRAL PLANT

25. Domestic hot water tank #1; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
26. Domestic hot water tank #2; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.

DENTAL SCHOOL POWERHOUSE

27. Tunnel from the Powerhouse to the Basement of Clinic; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry – for repairs only.
28. Boiler #1, out of service; Hazards: soot, elevated voc, lel, CO, decreased O2 – never enter.
29. Boiler #2, out of service; Hazards: soot, elevated voc, lel, CO, decreased O2 – never enter.
30. Boiler #3, out of service; Hazards: soot, elevated voc, lel, CO, decreased O2 – never enter.
31. Temporary Boiler #1, in service, located behind Powerhouse, 350 hp; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2. Infrequent entry only for repairs; entry by boiler service contractor.
32. Temporary Boiler #2, in service, located behind Powerhouse, 350 h; Hazards: natural gas, nitrogen, soot, elevated voc, lel, CO, decreased O2. Infrequent entry only for repairs; entry by boiler service contractor.
33. Radiation Incinerator, in service; Hazards: radiation, soot, silicates, natural gas, elevated voc, lel, CO, decreased O2. Never enter.
34. Cooling Tower; Hazards: elevated voc, lel, CO, decreased O2. Infrequent entry only for repairs.
35. Salt Tank, out of service; Hazards: elevated voc, lel, CO, decreased O2. Never enter.
36. De-ionized water tank- 500 gallons; Hazards: Never enter.
37. Zeolite tanks; Hazards
38. Condensate tank, out of service; Hazards: Never enter.

DENTAL SCHOOL CLINIC

39. Sump Pit; Hazards: elevated voc, lel, CO, decreased O2 Infrequent entry only for repairs.

SISTER STANISLAUS

40. Sump Pit; Hazards: elevated voc, lel, CO, decreased O2 Infrequent entry only for repairs.

UPTOWN CAMPUS

41. Crawl Spaces (under entire floor area of all Uptown Campus buildings), multiple entry locations on exteriors and interiors of buildings; Hazards: wildlife (snakes, spiders, ect.), electrical, entrapment
42. Main Hospital Pipe Chases (four per floor (associated with each wing of central branch); no hazards identified
43. Main Hospital Elevator Pits and Shafts; Hazards: contact with hazardous energy, physical contact with elevator/elevator equipment
44. Main Hospital Kitchen Dumb Waiter; Hazards:
45. Main Hospital Central Branch Wing Ceiling Plenums (four total access points on second floor; two access points on third floor (east side)); Hazards: entrapment, electrical hazard, fall hazard.
46. Power Plant Boilers; Hazards: heat strain, contact with hot surfaces, explosive environment (natural gas supply); O2 deficiency potential
47. Campus Cooling Tower; Hazards: contact with moving parts, fall hazards, slip/trip
48. Utility Building Smoke Stack; Hazards: non-active space

CAMPUS WIDE

49. All underground utility areas; Hazards: elevated voc, lel, CO, decreased O2
50. All elevator shafts; Hazards: caught in/between moving parts, elevator or platform collapse, struck by elevator or counterweights, electrical/LOTO, fall protection
51. HVAC Units; Hazards: electrical/LOTO, dust, mold, fiberglass particles, silicates, elevated CO, decreased O2 Infrequent entry only for repairs.
52. Ceiling Crawl Spaces; Hazards: mold, dust, asbestos, fiberglass particles, silicates, electrical/LOTO

LSU Health NEW ORLEANS

LSUHSC AIR MONITORING LOG

Name of Air Monitoring Machine: MSA Sirius	**Serial Number No.**		
Calibration Date:	**Calibrated by:**		
Calibration Gas:	**Lot Number:**	**Expiration Date:**	**Acceptable Deviation (%)**

Atmospheric Testing Data

Date:	**Time:**	**Location of Reading**	**% O2 (19.5 to 23.5%)**	**% LEL (Below 10%)**	**CO (Below 25 ppm)**	**H2S (Below 5 ppm)**	**VOC (not above PEL of known chemical)**
	First		**Last Name**			**Date**	**Time**
EHS							

LSU HEALTH SCIENCE CENTER

ENVIRONMENTAL HEALTH AND SAFETY

CONFINED SPACE ENTRY PERMIT

Instructions: This form must be completed by the LSUHSC Facility Services Supervisor and EHS prior to performing any confined space work on LSUHSC campus. This permit must remain at the job site until work is completed. After work is completed a copy of the permit shall be maintained by FS for a minimum period of one year. The completed LSUHSC Air Monitoring Log shall be attached to this document prior to issuance of permit.

PERMIT MUST REMAIN POSTED AT JOB SITE AT ALL TIMES

PROJECT NAME:

CONFINED SPACE DESCRIPTION:

LOCATION OF CONFINED SPACE:

PURPOSE OF ENTRY:

DATE OF ENTRY:

PERMIT EXPIRATION DATE:

ENTRY TIME: **EXIT TIME:**

AUTHORIZED SUPERVISOR NAME/SIGNATURE:

NAMES OF AUTHORIZED ENTRANTS:

NAMES OF AUTHORIZED ATTENDANTS:

Known Hazards and Special Precautions:

TYPES OF HAZARDS

☐ **Oxygen-Deficient Atmosphere**	☐ **Chemical Spills**	☐ **Energized Electrical Equipment**
☐ **Oxygen-Enriched Atmosphere**	☐ **Engulfment**	☐ **Steam**
☐ **Elevated VOC above PEL**	☐ **Entrapment/Asphyxiation hazards**	☐ **Falling/Tripping hazards**
☐ **Elevated H2S**	☐ **Airborne Dust (asbestos, silicate hazards)**	☐ **Rodents, snakes, spiders**
☐ **Elevated CO**	☐ **Grinding/Welding/Cutting/Mulching**	☐ **Wind or weather**
☐ **Elevated LEL**	☐ **Agitators, other moving parts**	☐ **other**

Note: Grinding/Welding/Cutting/Mulching requires a Hot Work Permit.

Required Special Precautions	**Yes**	**No**	**Required Personal Protective Equipment**	**Yes**	**No**
LOTO			Protective Clothing/Coveralls		
Ventilation – Purging, inerting, flushing			Footwear – (Safety Shoes, Boots)		
Secure Area – Post and Barricade			Face/Eye Protection (Safety Glasses, Face Shield)		
Engineering Controls to Secure Confine Space			Hearing Protection		
Equipment			Gloves		
Lighting			Dust Masks		
Communication Equipment (2-way radio, cell phone)			Hard Hats		
Fall Protection (harness)					
Fire Extinguisher (ABC, CO, or Halon					

Permit Authorization

First, Last Name	**Signature**	**Date**	**Time**
Entry Supervisor			
EHS Representative			

LSUHSC Permit-Required Confined Space Training

Date_____

Print Name	**Signature**	**Employee Number**

Appendix D