NATIONAL HIGH MAGNETIC FIELD LABORATORY

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National High Magnetic Field Laboratory Safety Program

TITLE: Confined Space Entry Program	**SUBJECT:** Hazards and associated safety practices regarding confined spaces
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Overall Mission and Overview

The National High Magnetic Field Laboratory (NHMFL) Environmental, Health, and Safety (EHS) program's mission is to:

Provide support and guidance to all NHMFL departments with the implementation, maintenance, and review of a comprehensive environmental, health, and safety program. The primary goal of the MagLab Safety Dept. program is to control, reduce or eliminate work-related injuries, illnesses, and loss of NHMFL resources.

The NHMFL is charged by the National Science Foundation (NSF) to safely:

- Promote magnet-related research to serve an interdisciplinary scientific user community.
- Provide unique high-magnetic-field facilities through a competitive and transparent proposal review process.
- Advance magnet and magnet-related technology.
- Partner with universities, other national laboratories, and industry to enhance national competitiveness in magnet and related technologies.
- Serve the NSF as a prominent example of its successful stewardship of large research facilities.
- Support science and technology education in the United States.
- Increase diversity in the science, technology, engineering, and mathematics workforce.
- Promote collaboration among our three partner institutions: Florida State University (FSU), the University of Florida (UF) and Los Alamos National Laboratory (LANL).

CONFINED SPACE ENTRY PROGRAM INDEX

1.0 PURPOSE

This Permit-Required Confined Space (PRCS) Program is provided to protect authorized employees who must enter confined spaces and may be exposed to hazardous atmospheres; engulfment in materials; conditions which may trap or asphyxiate due to converging or sloping walls; or contain any other safety or health hazard. It is also provided to prevent unauthorized employees from entering PRCS's.

Many workplaces contain confined spaces, not designed for human occupancy, which due to their configuration hinder employee activities including entry, work, and exit. Asphyxiation is the leading cause of death in confined spaces. The nature of confined spaces can cause toxic vapors to become highly toxic and harmful, and in some cases immediately dangerous to life and health (IDLH) unless adequate precautions are taken.

This PRCS Program, describes the measures necessary to prevent unauthorized entry into permit-required confined spaces, to identify and evaluate permit space hazards, and to implement the means, procedures, and practices necessary for safe entry operations.

The NHMFL Safety Department is charged with administering the Program for the NHMFL.

2.0 DEFINITIONS

Acceptable entry conditions - The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space can safely enter into and work within the space.

Attendant - An 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.

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

Blanking or blinding - The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

Confined space - A space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- Has limited or restricted means for entry or exit (for example, tanks, silos, storage bins, hoppers, vaults, pits, steam tunnels, and manholes are spaces that may have limited means of entry) and;
- Is not designed for continuous employee occupancy.

Double block and bleed - The closure of a line, duct or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain vent valve in the line between the two valves.

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 - The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in the 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 - The written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the following information:

- The permit space to be entered.
- The purpose of the entry.
- The date and the authorized duration of the permit.
- The authorized entrants within the permit space by name or by some other means that will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space.
- The personnel, by name, currently serving as attendants.
- The individual, by name, currently serving as the entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry.
- The hazards of the permit space to be entered.
- The measures used to isolate the permit space and to eliminate or control permit space hazards before entry.

  NOTE: These measures can include the lockout or tagging of equipment and procedures for purging, inserting, ventilating, and flushing permit spaces.

- The acceptable entry conditions.
- The results of initial and periodic tests performed, accompanied by the names or initials of the testers and by an indication of when the tests were performed.
- The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services.
- The communication procedures used by authorized entrants and attendants to maintain contact during the entry.
- Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with OSHA's Permit Required Confined Spaces standard.

- Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure employee safety; and
- Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

Entry Supervisor - The person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry.

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 by OSHA for each role he or she fills. Also, the duties of the 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 or ability to self-rescue (that is, escape unaided from a permit space) injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that exceeds its LFL.

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- 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 29 CFR, and which could result in employee's 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 or ability to self-rescue, injury or acute illness due to its health effects is not covered by this provision.

- Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

  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 Communications Standard, 29 CFR, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot work permit - The employer's 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.

Inerting - The 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.

Isolation - The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking - The intentional opening of a pipe, line or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Non-permit confined space - A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

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:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material that has the potential for engulfing an entrant.
- Has an external 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
- Contains any other recognized serious safety or health hazard.

Permit-required confined space program (permit space program) - 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.

Prohibited condition - Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue service - The personnel designated to rescue employees from permit spaces.

Retrieval system - The equipment (including 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 spaces.

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.

3.0 OBTAINING A CONFINED SPACE PERMIT

1. Step 1. The authorized entrant, entry supervisor and attendant should plan the job and identify the purpose of entry.
2. Step 2. Contact the Safety Department to discuss the entry schedule and hazards associated with entry.
3. Step 3. Obtain all appropriate tools and equipment for safe entry and exit.
4. Step 4. The Safety Department will monitor the space for hazardous atmosphere and complete the confined space permit. Entrant must wear a portable oxygen monitor while in the confined space.
5. Step 5. The permit will remain on site until the work is complete. If the space is exited and closed or if there is any potential for the conditions in the space to change, the safety department must monitor the space prior to reentry.
6. Step 6. The permit and portable oxygen monitor must be returned to the safety department upon completion of work.

4.0 GENERAL REQUIREMENTS

This PRCS Program covers the safety requirements including a permit system, for employees to enter confined spaces, designated as permit-required confined spaces (permit spaces) which:

- pose special dangers for entrants.
- have configurations hampering efforts.
- require protection for entrants from serious hazards including atmospheres which are or may be:

  - toxic,
  - explosive, or
  - asphyxiating; and
- have other hazards.

5.0 PERMIT-REQUIRED CONFINED SPACES (PRCS)

The workplace has been evaluated to identify the permit required confined spaces. Following is the Labs list of inventoried Confined Spaces. This list is not comprehensive as spaces change and confined spaces can be created – Always have safety inspect the space if you are not sure.

Inventoried Confined Spaces at the Lab:

1. A110 User Magnet Pit
2. B350 GeoChem Clean Rm Attic
3. C101C Hill Magnet Pit/Trench
4. C128B Graf Magnet Pit
5. C128C Engle Magnet Pit
6. Irrigation Holding Tank (A wing north pumps)
7. Irrigation Holding Tank (cooling tower pumps)
8. Irrigation Holding Tank (NMR dock pumps)
9. Millikelvin JR Magnet Pit MK0-4
10. Millikelvin JR Magnet Pit MK0-5
11. Millikelvin Magnet Pit MK0-1
12. Millikelvin Magnet Pit MK0-2
13. Millikelvin Magnet Pit MK0-3
14. MS&T Magnet Vessel
15. Plant -- Cooling Tower Cells 1, 2, 3 and 4
16. Plant -- Cooling Tower Basin and Sump
17. Plant -- CWST-1 (chilled water storage Tank)
18. Plant -- CWST-2 (chilled water storage Tank)
19. Plant -- DST-1 (DI water tank)
20. Plant -- DST-2 (DI water tank)
21. Plant -- Main Chilled Water Pit
22. Plant -- NWT-1 (neutralization tank)
23. Plant -- TK-3 (expansion tank)

This Permit-Required Confined Space Program is designed to prevent unauthorized entry into permit confined spaces; identify and evaluate hazards; and establish procedures and practices for safe entry including testing and monitoring conditions. The Program requires an attendant to be stationed outside permit spaces during entry; procedures to summon rescuers and prevent unauthorized personnel from attempting rescue; and a system for preparing, issuing, using and canceling entry permits. It also includes procedures for entry operations and canceling entry permits and review of the permit program at least annually and additionally as necessary.

The following measures have been implemented as necessary to prevent unauthorized employee entry into permit spaces:

- All affected employees have been informed through initial safety training about the characteristics and presence of permit spaces.
- Some permit spaces are also posted with danger signs to supplement the safety training. However, the posting of danger signs is not all inclusive and each employee must know what a permit space is, the usual hazards involved, and what precautions are required to ensure safe entry so they can help ensure their own protection.

The following means, procedures, and practices necessary for safe permit space entry operations have been implemented:

- Acceptable Entry Conditions

  All permit space entrants are protected from atmospheric hazards including oxygen deficiency (less than 19.5%) or increased oxygen concentration (greater than 23.5%), toxic materials (above the exposure limit), flammable gases and vapors, asphyxiation, engulfment, space configuration, or any other recognized hazards.

- Isolating the Permit Space

  All hazardous energy sources associated with permit spaces which may expose entrants to potential injury are isolated, locked out and/or tagged out, if feasible, prior to entry.

- Purging, Inerting, Flushing, or Ventilating Permit Spaces

  All permit entry spaces are thoroughly purged, inerted, flushed, and/or ventilated as necessary to ensure the elimination and/or control of all hazards which may cause entrants injury and/or illness.

- External Hazards

  Pedestrian, vehicle, or other barriers are provided as necessary to protect entrants from external hazards.

- Verifying Acceptable Conditions

  Conditions in permit spaces are tested and monitored throughout entry as necessary to ensure that they are acceptable for the duration of the authorized entry.

6.0 EVALUATING PERMIT SPACE CONDITIONS

Permit space conditions are evaluated (tested/monitored) when entry operations are conducted as follows:

Testing and Monitoring

- The entry conditions in the permit space are tested to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer or underground tunnel), in such case, pre-entry testing is performed to the extent feasible before entry and entry conditions continuously monitored in work areas. The tests and monitoring are conducted in permit spaces as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations. When conducting tests for atmospheric hazards, oxygen tests are conducted first, then combustible gases and vapors, and then for toxic gases and vapors. The tests are conducted in order to ensure that test instruments function properly since an oxygen deficient atmosphere may adversely affect the test results.

Testers and Monitors

The accuracy of testing and monitoring equipment may be significantly affected under certain conditions of humidity, pressure, temperature, or by the presence of interfering chemicals. However, if the equipment is properly selected, calibrated, maintained, and operated by well-trained employees, the confined space testing and monitoring needs can be effectively met.

All persons performing tests and monitoring for permit space entry have been properly trained in the use and limitations of the equipment.

- **Procedures for Atmospheric Testing**

  Atmospheric testing is required for two distinct purposes: evaluation of the hazards of the permit space and verification that acceptable entry conditions for entry into that space exist.

  - **Evaluation Testing**: The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so appropriate permit entry procedures can be developed, and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data, and development of the entry procedure, is performed by, or reviewed by, a competent person, based on evaluation of all serious hazards.

- **Verification Testing**: The atmosphere of a permit space which may contain a hazardous atmosphere is tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.) are recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.
- **Duration of Testing**: Measurement of values for each atmospheric parameter are made for at least the minimum response time of the test instrument specified by the manufacturer.
- **Testing Stratified Atmospheres**: When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope is to be tested a distance of approximately 4 feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress is slowed to accommodate the sampling speed and detector response.

7.0 PERSONNEL

7.1 ATTENDANTS

At least one attendant is required outside the permit space into which entry is authorized for the duration of the entry operation.

All attendants are required:

- To know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- To be aware of possible behavioral effects of hazard exposure in entrants.
- To continuously maintain an accurate count of entrants in the permit space and ensures a means to accurately identify authorized entrants.
- To remain outside the permit space during entry operations until relieved by another attendant (once properly relieved, they may participate in other permit space activities);
- To communicate with entrants as necessary to monitor entrant status and alert entrants of the need to evacuate.
- To monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the entrants to immediately evacuate if: the attendant detects a prohibited condition, detects entrant behavioral effects of hazard exposure, detects a situation outside the space that could endanger the entrants; or if the attendant cannot effectively and safely perform all the attendant duties.
- To summon rescue and other emergency services as soon as the attendant determines that entrants need assistance to escape the permit space hazards.
- To take the following action when unauthorized persons approach or enter a permit space while entry is underway:
    - 0Warn the unauthorized persons that they must stay away from the permit space.

  - Advise the unauthorized persons that they must exit immediately if they have entered the space; and
  - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- To perform non-entry rescues as specified by that rescue procedure and entry supervisor; and
- Not to perform duties that might interfere with the attendant's primary duty to monitor and protect the entrants.

7.2 ENTRANTS

All entrants must be authorized by the entry supervisor to enter permit spaces, have received the required training, use the proper equipment, and observe the entry procedures and permit. The following entrant duties are required:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Properly use the equipment required for safe entry.
- Communicate with the attendant as necessary to enable the attendant to monitor the status of the entrants and to enable the attendant to alert the entrants of the need to evacuate the space if necessary.
- Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or any prohibited condition is detected; and
- Exit the permit space as quickly as possible whenever: the attendant or entry supervisor gives an order to evacuate the permit space, the entrant recognizes any warning sign or symptom of exposure to a dangerous situation, the entrant detects a prohibited condition, or an evacuation alarm activated.

7.3 ENTRY SUPERVISORS

Entry supervisors are responsible for the overall permit space entry and must coordinate all entry procedures, tests, permits, equipment and other relevant activities. The following entry supervisor duties are required:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Verifies, by checking that the appropriate entries have been made on the permit, all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- Terminate the entry and cancel the permit when the entry is complete or there is a need for terminating the permit.
- Verify that rescue services are available and that the means for summoning them are operable.

- Remove unauthorized persons who enter or attempt to enter the space during entry operations; and
- Determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with the permit terms and that acceptable entry conditions are maintained.

7.4 CONTRACTORS

In some cases, contractors and other non-employees may enter permit spaces to perform work. When contractors and others enter permit spaces the following procedures are followed:

- They (contractors) are informed that the workplace contains permit spaces and that they must follow a permit space entry program per OSHA standards and use an authorized permit for entry.
- Apprise the contractor of the elements, including the hazards identified and the experience with the space making it a permit space.
- Apprise the contractor of the precautions or procedures implemented for protection of employees in or near permit spaces; and
- Debrief the contractor at the conclusion of the entry regarding the permit space program followed and regarding any hazards confronted or created in the space(s) during entry operations.
- All contractors performing permit space entry are required to:
    - Obtain and use the available information provided.
    - Coordinate entry operations with others working in or near permit spaces; and
    - Inform the host employer 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.

7.5 DEPARTMENTS AND SUPERVISORS

Departments and supervisors are responsible for the following:

- Selecting a designated Entry Supervisor.
- Selecting authorized entrants and attendants.
- Creating specific entry procedures for specific permit spaces.

7.6 EH&S DEPARTMENT

The EH&S Department is responsible for the following:

- Administering the PRCS Program.
- Monitoring Program Compliance.
- Assisting with identifying confined spaces.
- Assisting with training employees.

- Assisting with specific entry procedures.
- Providing atmospheric monitoring equipment, personal protective equipment, retrieval systems, ventilation equipment, and other necessary equipment.

8.0 PERMIT SYSTEM

The entry permit is a vital part of the permit space entry program which documents that the required measures have been taken to ensure entrant safety. All pertinent safety requirements must be recorded on the permit including the isolation, ventilation, tests and monitoring, personal protective equipment and other equipment necessary for entrant safety.

The following requirements must be recorded (documented) on the entry permit.

- The permit space to be entered, purpose of the entry, the date, and the authorized duration of the entry permit.
- Names of authorized entrants (or other suitable tracking system).
- Current attendant's name.
- Entry supervisor's name and signature.
- Hazards of the space.
- Measures used to isolate the space and to eliminate or control the space hazards, before entry.
- Acceptable entry conditions.
- Results of initial and periodic tests accompanied by the names and signatures or initials of the testers and time of the tests.
- Available rescue and emergency services and how to summon them.
- Communication procedures used by entrants and attendants to maintain contact during entry.
- Equipment, such as personal protective equipment, alarm systems and rescue equipment, to be provided.
- Any other pertinent information necessary to ensure entrant safety; and
- Additional permits, such as hot work, that have been issued to authorize work in the space.

All contractor entry into permit spaces must comply with all sections of this procedure.

9.0 TRAINING

All entry supervisors, attendants, and entrants are properly trained initially and refresher training provided when duties and/or space hazards change or whenever an evaluation determines inadequacies in the employees' knowledge. The training provides employees with the necessary understanding, skills and knowledge to safely enter, work in and exit permit spaces. All training is minimally documented with the employees' names, signature of the trainer, and training date.

Specific training requirements include, but are not limited to:

- Each affected employee is trained.
- Training is provided:
    - Before employee is first assigned permit space entry duties.
    - Whenever there is a change in permit space operations that present a new hazard unknown by the employee.
    - Whenever there is reason to believe either there are deviations from the entry procedures or inadequacies in the employee's knowledge or use of the procedures.

The training establishes employee proficiency in the required duties and introduces new or revised procedures, as necessary.

10.0 ADDITIONAL REQUIREMENTS

Additional requirements apply for entry into permit spaces with hazardous conditions. If the only hazard posed is an actual or potential hazardous atmosphere and it has been demonstrated that continuous forced air ventilation alone is sufficient to maintain safety for entry.

Entry into the permit space must comply with the following.

- Any conditions making it unsafe to remove any entrance cover must be eliminated before the cover is removed.
- When entrance covers are removed, the openings are promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that protects each employee working in the space from foreign objects entering the space.
- Before an employee enters the space, the internal atmosphere is tested, with a calibrated direct-reading instrument, for the following conditions in the order listed:
    - Oxygen content,
    - Flammable gases and vapors, and
    - Potential toxic air contaminants.
- There is no hazardous atmosphere within the space whenever any employee is inside the space.
- Continuous forced air ventilation is used as follows:
    - No employee enters the space until the forced air ventilation has eliminated any hazardous atmosphere.
    - The forced air ventilation is directed to ventilate the immediate areas where an employee is or will be present within the space and continues until all employees leave the space.
    - A clean source of forced air supply is used for ventilation which does not increase the hazards in the space.
- The atmosphere within the space is periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.
- If a hazardous atmosphere is detected during entry:

- Each employee leaves the space immediately.
- The space is evaluated to determine how the hazardous atmosphere developed; and
- Measures are implemented to protect employees from the hazardous atmospheres before any subsequent entry.

  - The space is verified for safe entry and that the necessary protective measures described above have been taken.

11.0 CONFINED SPACE RECLASSIFICATION

When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the space is reevaluated and, if necessary, reclassified as a permit-required confined space.

A permit-required confined space may be reclassified as a non-permit confined space under the following procedures:

- If the space poses no actual or potential atmospheric hazards and the hazards are eliminated without entry, and as long as the non-atmospheric hazards remain eliminated.
- Entry into the space to eliminate the hazards is under an authorized permit and testing and inspection during the entry demonstrate the hazards were eliminated without requiring continuous forced air ventilation.
- A certification is documented showing the hazards were eliminated (See form in Appendix 3).
- If hazards arise within a space that has been classified as a non-permit space, each employee must exit the space and the space is re-evaluated to determine if it must be reclassified as a permit space.

12.0 RESCUE AND EMERGENCY SERVICES

Rescue and emergency services are provided by the Tallahassee Fire Department. Dial 911 for emergencies. The Tallahassee Fire Department has been provided with the following:

- Information concerning the hazard they may confront when called to perform rescues; and
- Access to all permit spaces from which rescue may be necessary so they can develop appropriate rescue plans and practice rescue operations.

Non-Entry Rescue

Retrieval systems and methods have been developed for entrants to use when entering permit spaces, when the equipment does not increase the overall risk of entry. The systems are:

- Each authorized entrant uses a chest or full body harness, with a retrieval line attached at the center of the entrant's back, near shoulder level, or above the entrant's head.

- Wristlets are only used in lieu of the chest or full body harness when it has been demonstrated that use of the chest or full body harness is infeasible or creates a greater hazard and wristlet use is the safest and most effective alternative.
- Retrieval lines are attached to a mechanical device or a fixed point outside the space so rescue can begin immediately after the rescuer (attendant, entrant, etc.) becomes aware that rescue is necessary.
- Mechanical devices are available to retrieve entrants from vertical type permit spaces more than 5 feet deep.
- Material Safety Data Sheets (MSDS) or similar written information is kept at the worksite when entrants are exposed to substances requiring such information so it can be made available to the medical facility treating exposed entrants.

13.0 APPENDIX 1

Location and Description of Confined Space _____

Date of Entry _____ Time of Entry _____ Expiration _____

Description of Work to be Done _____

Atmospheric Monitoring

Tests to be Taken	Acceptable Entry Conditions	Test#	1	2	3	4	5	6	7	8
	PEL	Time:								
Percent of Oxygen	>19.5% and <23.5%									
Percent of LEL	<10%									
Carbon Monoxide	<35ppm									
Hydrogen Sulfide	<10ppm									
Toxics	No Alarm									
Other										

Testing/Monitoring Instrument(s) Used:	I.D. Number(s):
Individual(s) performing test(s)	

Special Requirements

	Yes	No	Initials	Time
Lock Out/De-energize				
Lines Broken-Capped or Blanked				
Purge-Flush and Vent				
Ventilation				
Secure Area				
Other Requirements (specify)				

Personal Protective Equipment (check if required for entry)

	Hard Hat		Hearing Protection		Fire Extinguisher		Lifeline
	Gloves		Protective Clothing		Safety Harness		Emergency Retrieval System
	Goggles		Respirator		Lighting		Other_____

Authorized Entrant(s):	Attendant(s):

All Above Conditions Satisfied

Date: _____ Time: _____

Department: _____

_____ Telephone: _____

Signature of Entry Supervisor

14.0 APPENDIX 2

NON-PERMIT CONFINED SPACE RECLASSIFICATION FORM

Instructions: This document is used when a Permit Required Confined Space is to be reclassified to a "non-permit" status. The certification shall be made available to each employee entering the space or to that employee's authorized representative. This documentation must be completed each time a permit-required confined space is reclassified and remains in effect for the duration of the ENTRY as long as the hazards remain eliminated.

This document certifies that the_____has been approved for a change in status from a Permit-Required Confined Space to a Non-Permit Confined Space. The following conditions have been met:

☐ This certification will be available to each employee entering the space.

☐ The permit-space poses no actual or potential atmospheric hazards.

☐ All identified hazards within the space are eliminated without entry into the space.

Types of Hazards Eliminated

☐ Cryogens (gas)

☐ Gases under pressure

☐ Chemical

☐ Energized electrical equipment

☐ Fluids under pressure

☐ Other (specify): _____

☐ Engulfment

☐ Mechanical

Describe the procedure used to remove the hazard(s):

LTV Reference: _____

Oxygen Reading: _____

Other:

I certify that all known or potential hazards have been appropriately eliminated prior to entry into the above confined space, thereby allowing for the reclassification of the space as a Non-Permit Confined Space:

Date:_____

Certification request completed by Entry Supervisor: _____

To be completed by Safety Office

☐ Approved

☐ Not Approved

NHMFL Safety _____

Signature of Safety Professional

15.0 REVISIONS AND APPROVALS

Revisions

Date	Revision #	Section	Description
8/22/2018	001	Front page	Program review and updated (titles and names)
7/23/2024	002	Throughout	Updated formatting and update authorized signatures
1/14/2025	003	5.0	Added detailed list of confined spaces

Approvals

Title	Reviewer	Signature
NHMFL Director of Safety	Alfie Brown	DocuSigned by: Alfie Brown 244772F051A0421...
Subject Matter Expert	Chris Rodman	Signed by: Chris Rodman 103B58E063724AD...