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iv. Maintain the SharePoint database of confined space assessments.

B. **Departments and Units**
   i. Department chief, supervisor, or designee must approve entry into permit-required confined spaces, including contractors (see **Appendix 2** for guidelines regarding contractors working in confined spaces).
   ii. Ensure employees are fully informed, authorized, and trained in confined space entry requirements and procedures as outlined in this program.
   iii. Prevent unauthorized entry into permit-required confined spaces through training, signage, and security measures.
   iv. Monitor employees' need for additional or refresher training, based upon assigned duties, changes in confined spaces, or changes to this program.
   v. Collaborate with EHS to ensure each contractor's Confined Space Program and permit process is compliant with regulatory and Northwestern requirements.

C. **Project Managers**
   i. Inform contractors of work that involves any confined space entry and provide assessments for those spaces.
   ii. Collaborate with Information Technology and/or Facilities when energy shutdowns or lifesaving impairments are necessary.
   iii. Collaborate with EHS to ensure each contractor's Confined Space Program and permit process is compliant with regulatory and Northwestern requirements.
   iv. Inform and provide contractors with the Northwestern Confined Spaces Program and specific procedures developed for confined space entries.
   v. For more guidelines regarding contractors working in confined spaces, see **Appendix 2**.

D. **Authorized Entrants**
   i. Successfully complete confined space entry training.
   ii. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
   iii. Conduct assigned tasks in a safe manner at all times.
   iv. Wear appropriate personal protective equipment correctly.
   v. Maintain communication with the attendant to alert regarding the need to evacuate the space.
   vi. Exit the space as quickly as possible whenever:
      a. An order to evacuate is given by the attendant or entry supervisor,
      b. An entrant recognizes any warning signs or symptoms of exposure to a dangerous situation,
      c. An entrant detects a prohibited condition, or
      d. An evacuation alarm is activated.
   vii. Report any injuries, illnesses, questions, or any unsafe working conditions to the department Supervisor.

E. **Authorized Attendants**
   i. Successfully complete confined space entry training.
   ii. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
   iii. Conduct assigned tasks in a safe manner at all times.
   iv. Be aware of possible behavioral effects of hazard exposure of entrants.
   v. Accurately record all data on the permit (e.g., names of individuals, date, time of entry, atmospheric data) and be the sole person responsible for the permit.

vi. Continuously maintain an accurate count of entrants in the space.
vii.

xi. If an emergency rescue becomes necessary or in the event of an injury, the Entry Supervisor or Attendant must call 911 immediately and provide information, guidance, and assistance as necessary*. Northwestern employees are not permitted to enter a confined space to perform a rescue under any circumstances.*

C. **Post-Entry**

i. When all work is complete and personnel have exited the confined space, the Entry Supervisor must:
   a. Ensure the worksite is returned to safe conditions,
   b. Close out the permit,
   c. Notify University Police and EHS the entry has been completed, and
   d. Document any problems encountered during the entry.

ii. Provide copies of all SOPs, permits, and any other relevant documentation (e.g., hot work permits) to EHS for post-entry review, who will:
   a. Evaluate the entry permit and any other relevant documents to ensure they were completed properly,
   b. Review the SOP to ensure all personnel involved signed it,
   c. Provide immediate feedback and guidance to supervisors for any deficiencies

vi. Visual (e.g., hand signals); and
vii. Tugs on a lifeline.

C. Cellular service and UHF radio coverage may be limited in certain confined spaces at Northwestern. Effective communica

iii. Only trained and authorized personnel may utilize retrieval equipment, and equipment must be inspected prior to use.
iv. Retrieval equipment owned by departments and units must be inspected annually by a competent person and in accordance with the Fall Protection program.
v. The retrieval system is not required if the equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.
vi. If non-entry retrieval equipment will be ineffective (e.g., horizontal exit points, piping or equipment obstructions), a means of entry rescue must be in place, such as a standby rescue team. Confined space assessments must be communicated to rescue teams, and the rescue team must review and sign the Safe Operating Procedure. The fire department cannot be designated as a standby rescue team but must always be notified immediately in the event of an emergen(t)-2.9s0tt inew enga3.2 (s)-4.3 (0.8 (tea)e7 (o)-9.7 (t)-13.3)-2.8 3 tiip.4 (a)7.6 (y (t)-5)-4.

F. Isolation of hazardous energy is not required in permit-required confined spaces where there is no foreseeable exposure to physical hazards (e.g., no visible or suspected steam leaks, no corroded piping, no other known conditions that could result in the potential release of hazardous energy) and when physical hazards are contained or enclosed, such as:
    i. Electrical hazards that are enclosed in conduit or enclosures.
    ii.

C. An alternate entry form (see **Appendix 5**) must be utilized to certify that the space is safe for entry and that all required pre-entry measures have been taken, to authorize entry into the space, and to monitor and document the atmosphere within the space.
D. An SOP is required for confined space entries utilizing the alternate entry form.
E. If an initial entry of the permit space is necessary to verify that the only hazard posed by the permit space is an actual or potential hazardous atmosphere and continuous forced-air ventilation alone is sufficient to maintain that permit space safe for entry, the entry must be performed using a confined space entry permit (see **Appendix 3**).
F. Any conditions making it unsafe to remove an entrance cover must be eliminated before the cover is removed.
G.

iii. If there are observed inadequacies in an employee's knowledge or execution of confined space procedures.

C. **Refresher Training**
Confined space refresher training is required every 3 years for all employees involved in confined space operations.

D. **Fire Department**
The fire department will be provided opportunities, when feasible, to utilize confined spaces and tunnels at Northwestern for training exercises. The fire department will also be provided with opportunities to attend University-led confined space T

Instructions: *All confined spaces must be assessed using this form. The purpose of this form is to identify the hazards and characteristics of a space to determine if it is a non-*

Northwestern Facilities Operations, Capital Projects, Northwestern Information Technology (NUIT), and Project Managers should use these guidelines to ensure all requirements of the Northwestern Confined Space Program and Control of Hazardous Energy Program are met prior to contractors entering and working in permit-required confined spaces, such as vaults, tanks, and elevator pits. Northwestern Facilities Operations, Capital Projects, NUIT, and Project Managers must retain copies of all contractor confined space entry permits and associated documentation for at least 3 years.

Northwestern Requirements	Group Responsible

PERMIT-REQUIRED CONFINED SPACE ALTERNATE ENTRY FORM

Use this form to temporarily enter a permit-required confined space using Alternate Entry Procedures (no permit issued) which is only valid for the duration of the task being performed and for no more than 8 hours. Alternate Entry may be used when the only hazard in the space is an actual or potential hazardous atmosphere that can be controlled with forced-air ventilation alone. If these conditions change, a Confined Space Entry Permit is required. Review the confined space assessment to evaluate the space, and review the work to be performed within the space.

General

Space to be Ente		Date & Time Issue	
Location of Spa		Date & Time of Expirati	
Purpose of En		Department or Contracto	
Entrant(s			
Attendant(s			

Requirements

1. If work being done inside or near the space can introduce a hazard (e.g., welding, chemicals, steam, unguarded or unprotected energized electrical equipment

Date	Make and Model	Serial Number	Type of Test		Passed	Failed	Tester's Name
			Bump	Calibration			

A. **Purpose**
This appendix establishes the minimum safe working procedures and guidelines for working in Northwestern's utility tunnels.

B. **Scope**
Some of the tunnels on Northwestern's Evanston and Chicago campuses are considered

b. **Confined Space Utility Tunnels** require a Safe Operating Procedure (see **Safe Operating Procedure Guide** and **Safe Operating Procedure Template**) and Confined Space Permit (see **Appendix 3**) prior to entry.