

Menasha Utilities
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CONFINED SPACE PROGRAM

**OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION
(OSHA) 1910.146**

**DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES
(DSPS) SPS 332.15 & SPS 332.29**

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Preface

This program contains procedures intended to comply with SPS 332.15 and 332.29 and OSHA 1910.146.

Purpose

Menasha Utilities is committed to providing a safe and healthy work environment for employees. Therefore, all employees who can be reasonably expected, as the result of performing their job duties, to be exposed to hazards associated with working in/around confined spaces, shall comply with all policies and procedures outlined in this plan. Furthermore, this program establishes, implements, and maintains effective procedures to safely deal with confined space issues while performing job duties and protect employees from potential hazards associated with non-entry rescue procedures during emergency situations.

Program Administration

The program administrator or his/her designee (hereafter referred to as "program administrator") is responsible for the implementation of this program, making this program available to all employees, and providing required training.

The program administrator and the regional safety coordinator will review the program annually for any changes and revise as necessary.

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 entry can safely enter into and work within the space

Air Monitor - a calibrated direct-reading instrument testing for oxygen content, flammable gases/vapors, and for potential toxic air contaminants

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 Employee - an employee who is responsible for determining if entry conditions are acceptable to issue a confined space permit and/or terminate the entry if necessary

Confined Space - an area that:

- (1) Has adequate size and configuration for employee entry, and
- (2) Has limited means for entry/exit, and
- (3) Is not designed for continuous employee occupancy

Department of Safety and Professional services (DSPS) – regulatory authority for municipal employers in the state of Wisconsin

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 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 - the written or printed document that is provided by the employer to allow and control entry into a permit space that contains the required information

Entry Manager - the person 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 Manager also may serve as an Attendant or as an Authorized Entrant, as long as that person is trained and equipped as required by this section for each role they fill. Duties of Entry Manager 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, 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 SDS that comply with the Hazard Communication Standard, section 1910.1200, 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; welding, cutting, brazing, 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 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. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health (IDLH)

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

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:

- (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 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 - the employer's overall program for controlling, and, where appropriate, 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

Personal Protective Equipment (PPE) - protective clothing, helmets, goggles, or other gear designed to protect the wearer's body or clothing from injury by electrical hazards, heat chemicals, and infection, for job-related occupational safety and health purposes

NOTE: General work clothes (i.e., uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are NOT considered to be personal protective equipment. Personal protective equipment may include, but is not limited to, gloves, gowns, laboratory coats, face shields, masks, eye protection equipment, mouthpieces, resuscitation bags, pocket masks, or other ventilation devices

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 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 spaces

Testing - the process by which the hazards that may confront entrants of a permit space are identified and evaluated

Program Administrator Responsibilities

- Ensure that this program is available to all employees for review,
- Comply with all program procedures and regulations and hold employees accountable for safe work practices when working in or around confined spaces,
- Ensure that all employees comprehend the hazards associated with confined spaces,
- Provide and maintain proper engineering administrative controls and PPE to comply with State and Federal regulations,
- Provide all required job and safety training as required by state and federal regulations,
- Conduct an annual review this program and revise as needed,
- Supply affected employees with approved confined space equipment as required by specific job hazards,
- Inspect confined space equipment on a regular basis ensuring proper care, function, and maintenance,
- Manage affected employees ensuring the use of properly cleaned, inspected, and stored confined space equipment,
- Provide a clean, convenient, and sanitary work location for storage of equipment.

Employee Responsibilities

- Be familiar with and follow all safety rules, guidelines, and procedures complying with all applicable state and federal regulations, and adhere to proper engineering controls in place,
- Use, maintain, inspect, and store all appropriate PPE while performing confined space responsibilities,
- Report to a Manager any hazards that they observe,
- Request from a Manager training or additional training if they do not comprehend the work practices, hazards, or any other related issues to be used during their job duties,
- Inspect, use, maintain, and store confined space equipment in accordance with applicable regulations, and established practices and training received,
- Clean and properly store all confined space equipment,
- Use only functioning and safe confined space equipment,
- Dispose of damaged or defective confined space equipment.

Methods of Compliance

Confined Space Determination

A confined space refers to:

- A space which is large enough for an employee to whole bodily enter and perform work; **and**
- A space that has limited or restricted means for entry or exit; **and**
- A space that is not designed for continuous employee occupancy.

A non-permit confined space refers to:

A space that does not contain or have the potential to contain any hazard capable of injury, death or serious physical harm as determined by the hazard assessment form and/or previous entry permits.

A permit required confined space refers to a space that contains one or more of the following conditions:

- Contains or has the potential to contain a hazardous atmosphere,
- Contains a material that has the potential for engulfing an entrant,
- Has an internal configuration that could trap an entrant,
- Contains any other recognizable serious safety or health hazard.

Internal Hazard Control

Safe entry practices and procedures are used by employees while conducting work in confined spaces.

Internal hazard control is accomplished by:

- Identifying hazards associated with permit required confined spaces. (*Confined Space Hazard Inventory Form*),
- Completing and authorizing a written permit prior to entry. (*Confined Space Entry Permit Form*),
- Ensuring completion of annual employee training,
- Evaluating the space by utilizing proper air testing equipment and keeping a record of the results, as well as the permit, for future reference,
- Following standard operating procedures to reduce or eliminate the potential hazards
- Establishing emergency rescue procedures,
- Completing the Downgrade Certification Form when permit required confined spaces are downgraded to non-permit status.

External Hazard Control

If a confined space is located in a roadway or traffic area, while work is conducted, physical barriers shall be erected to control pedestrian and vehicle traffic, as necessary. Traffic control requirements can be found in the U. S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD).

Operation Procedures

Primary responsibilities of the Program Administrator or his/her designee include, but are not limited to:

- Ensure proper completion/authorization of entry permits prior to entry into the space,
- Review permits to evaluate program at least annually and maintain prior year entry permits,
- Evaluate confined spaces and maintain confined space hazard assessment form,
- Coordinate employee training/information sessions,
- Oversee the purchase, repair, and maintenance of necessary equipment,
- Communicate the provisions of the program to contractors conducting work in permit required spaces,
- Authorize any changes in regard to downgrading confined spaces to "non-permit required" status and certify them accordingly.

Entry Managers will assist the Program Administrator with the task of implementing and maintaining the permit required confined spaces, and will ensure that basic procedures are followed. These procedures include:

- Planning the job (defining the scope of the work, indicating if hot work is necessary, ensuring that employees completed hazard communication training, etc.),
- Removing the space from service,
- Isolating the space (installing blind flanges, disconnecting lines, disconnecting drive shafts, etc.),
- Preparing the space (ventilating, draining, purging, locking, etc.),
- Testing the space for appropriate potential hazards (oxygen deficiency, flammable gases, toxic gases, noise, temperature, etc.),
- Providing for rescue and retrieval,
- Establishing entry requirements and emergency procedures,
- Allowing work to begin only after the authorized permit is obtained,
- Conducting work as specified on the permit,
- Ensuring the cancellation of an entry permit when work is completed,
- Returning the space to normal service once the authorized work has been completed,
- Informing entrants when a space has been downgraded to non-permit required status.

Entry Managers and employees are required to contact the program administrator when questions about the confined spaces program or problems arise.

The Permit System

A written Confined Space Entry Permit is completed and authorized prior to any employee entering a permit required confined space. The entry Manager in charge of the project will complete the entry permit.

The completed permit identifies necessary procedures and practices that must be satisfied **before** and **during** entry. In addition, the employees serving as attendants and entrants, as well as any other requirements of the permit required confined spaces regulation, are specified on the permit. The Program Administrator is responsible for authorizing the confined space permit.

The Entry Manager is responsible for ensuring the requirements of the permit are fulfilled **before** employees enter the permit required confined space. If a hazardous condition in the space arises, the confined space will be immediately evacuated. A new permit must then be issued and authorized prior to re-entry.

The authorized employee will cancel the permit after the work has been completed.

Approved and completed entry permits will be forwarded to the Program Administrator, who shall maintain them for one year.

Authorization of Permits

A permit entry system has been established for those employees who are required to enter permit required confined spaces. The permit entry system is initiated by the Entry Manager whenever employees must enter a confined space. Written permits are authorized by the Plan Administrator or his/her designated authorized employee

The authorizing employee will also cancel the permit after the work has been completed.

Prevention of Unauthorized Entry

Engineering controls are taken to limit entry into and to minimize hazards associated with permit required confined spaces.

Precautions to prevent unauthorized entry include posting signs, constructing barriers, and employee training.

Managers are to prohibit anyone from entering a permit required confined space without a properly authorized permit and proper training.

Attendants shall prohibit unauthorized entry into a confined space while work is being conducted in that space.

Contractors are informed of the permit entry system (and other relative information) by the Plan Administrator or his/her designee.

Permit-Required Entry and Cover Removal Safety

- 1) Before an employee enters the space, the internal atmosphere shall be tested with a calibrated and bump tested air monitor for oxygen content, flammable gases and vapors, and for potential toxic air contaminants,
- 2) Prior to opening a confined space entrance manhole cover, hatch, door or other entrance cover, any condition making it unsafe to remove an entrance cover shall be eliminated before its removal,
- 3) Any employee who enters the space shall be provided an opportunity to observe the pre-entry testing documentation prior to entrance. **No confined space shall be entered with a hazardous atmosphere,**

- 4) Employees are to wear a calibrated air monitor at all times during entry into the permit-required confined space. If hazardous atmosphere is detected during entry, each employee shall vacate the space immediately,
- 5) When entrance covers, hatches, doors, or other entrance cover is removed, a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and will protect the employee from foreign object entering the space shall promptly guard the opening.
- 6) Before any work is done in an electrical vault or manhole electrical cables, it shall be identified by an approved method. If the cables appear defective by presence of abnormalities that could lead to or be an indication of an impending fault, no employee may work in the space until defective cable is de-energized. MEUW/APPA Safety Manual 509.2
- 7) Please refer to MEUW/APPA Safety Manual 510.2 for additional information for electric lineman requirements for entering electric specific confined spaces.

Equipment

Special equipment is used before/during an entry into a confined space to eliminate/detect hazards and to protect employees from those hazards. These devices may include air testing instruments, communications equipment, ventilating equipment, PPE etc.

An equipment inventory shall be kept on file for reference (see *Equipment List Form*). The Program Administrator or his/her designee shall update the inventory as new equipment is purchased.

Managers and employees shall report any problems with existing equipment and make requests for new or additional equipment to the Program Administrator. Air testing results from various confined spaces shall be periodically recorded and be used as a baseline reference in hazard evaluation and control.

Communications

Prior to entry into any permit or non-permit confined space, the authorized entrant and attendant shall discuss communication procedures. Employees shall have a two-way portable radio for communication during entries that do not allow employees to verbally communicate.

If the situation arises that requires additional help, the authorized entrant and/or attendant shall call 911. The nature of the incident, the exact location and the number of persons involved shall be communicated to the County Dispatch Center. **No unauthorized personnel shall be permitted to attempt a rescue.**

Signage

Warning signs shall be posted notifying employees of potential hazards in the permit required confined space and that entry is limited to authorized personnel. In addition, signs will be posted identifying each permit required confined spaces.

Locations of all permit required confined spaces shall be reviewed during employee training sessions for attendants, entrants, entry Managers, and employees who authorize entry permits. Managers will inform employees of permit required confined spaces in their work areas in the case where warning signs are not feasible (e.g. access to tunnels in the middle of a street).

Traffic Safety

Entrances to confined spaces that are located in streets shall be guarded in accordance with the following requirements:

- Employees shall activate the vehicle beacon light(s) and four-way hazard flashers upon approach to an entrance to a confined space,
- Employees shall park the vehicle used to transport their confined space equipment in such a way that the vehicle does not obstruct the normal traffic flow and shall, when possible, use the vehicle to provide protection for the employees,
- Employees shall park the vehicle in such a manner that the vehicle's exhaust fumes cannot accumulate in the confined space,
- Employees shall properly place traffic cones around the manhole and any vehicle in accordance with state and federal traffic ordinances to adequately warn oncoming traffic,
- Traffic safety cones shall be visible to traffic in all directions and in such a manner as to protect the employees from the traffic flow. Traffic cones should also be placed far enough from the confined space to give drivers adequate notice,
- When working on the street or an easement surface, all standby and flag person employees shall at all times wear a traffic safety vest or the equivalent. The flag person(s) shall not be considered as the required Attendant for a permit required confined space.

Downgrading a Permit Required Confined Space

A permit required confined space may be downgraded to a non-permit or alternate entry confined space, where there are no atmospheric hazardous conditions, by the entry Manager or program administrator. Downgrading can occur only if documentation of monitoring results or previous permits and/or other appropriate information indicates the space contains no atmospheric hazards.

If a space shows documentation that it can be downgraded to non-permit classification, the Program Administrator or his/her designee shall complete and file the *Certification for Non-Permit Required Confined Space Form*.

Emergency/Rescue Procedures

Emergency Procedures

The entrants, attendants, and rescue team shall receive annual emergency procedure training regarding permit required confined spaces. Appropriate rescue equipment shall be available on-site in the event of an emergency while employees conduct work in a permit required confined space.

Internal Rescue Team

An internal rescue team shall be used for emergency rescue in the event of an immediate emergency, and only non-entry rescue will be conducted. No employee shall enter a confined space identified with a hazardous atmosphere condition.

External Rescue Team

In the event an external rescue team is required, the following emergency contacts should be made:

Organization Name	Location	Number
Menasha Fire Department	City of Menasha	(920) 886-6220
Emergency Dispatch	Outagamie County	911

The entry Manager or program administrator will notify the emergency response personnel of the hazards that the team has encountered when contacting them to perform rescue services. Additional information may be requested by the contact person.

Rescue and Emergency Services

Menasha Utilities has taken every precaution to assure safety in confined space entries by the use of self-rescue and non-entry rescue. Even with the most prudent pre-planning, employee training, and the best safety procedures in place, there may be times when an entry rescue is needed. The following procedures are established for implementing an emergency entry rescue.

Non-Entry Rescue

To facilitate non-entry rescue, retrieval systems or similar methods shall be used whenever an authorized entrant enters a confined space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the Entrant.

Retrieval systems shall meet the following requirements:

- Each authorized entrant shall use a full-body harness with a retrieval line attached,
- The other end of the line shall be attached to a mechanical device or fixed point outside the confined space. A mechanical device shall be available to retrieve personnel from vertical type confined spaces more than five (5) feet deep.

The rescue team shall be provided with equipment and training to properly perform rescue services. Rescue team members maintain certification in basic first aid and cardiopulmonary resuscitation (CPR). Training for the members of the rescue team occurs initially and at least annually thereafter. Members of the internal rescue team shall receive hands-on rescue training on an annual basis. No employee shall perform rescue procedures without proper training.

The rescue Team training shall include the following:

- Appropriate rescue functions, as well as the training required for entrants and Managers,
- Proper use of protective equipment, air monitors and rescue devices,
- Practice drills at site-specific spaces, or similar spaces, that include simulated removal of injured personnel.

Safety Data Sheets (SDS) *(previously Material Safety Data Sheets [MSDS])*

If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or similar written information is required to be kept at the worksite, the SDS or written information shall be made available to the Rescue or Emergency Medical Services personnel for treatment purposes.

Contractors

Duty to Notify Contractor(s) of the Confined Space Program

Contractors who conduct work at or for Menasha Utilities are expected to comply with the state/federal regulations pertaining to “permit required confined spaces procedures”. When Menasha Utilities arranges to have employees of another employer (contractor) perform work that involves permit space entry, the program administrator or entry Manager shall meet with the contractor before any work begins, to:

- Inform the contractor that the workplace contains “permit spaces” and that entry is allowed ONLY through compliance with the Confined Space Program meeting the regulation requirements,
- Review and document that requests for contractor entry forms are complete,
- Provide the Confined Space Hazard Assessment form regarding that space,
- Provide a copy of the Confined Space Entry Program and the Entry Permit,
- Advise the contractor of the elements, identified hazards and the department’s experience with the space that make the space in question a permit space,
- Advise the contractor of all precautions or procedures that the department has implemented for the protection of employees or contractors,
- Coordinate entry operations with the contractor when both department personnel and contractor personnel will be working in or near permit spaces,
- Debrief the contractor at the conclusion of the entry operations regarding the permit space program that was followed and any issues encountered,
- Document any hazards or incidents that occurred during each entry operation, Forward related documents to the regional safety coordinator for compliance record keeping

Each contractor who is retained to perform permit space entry operations must:

- Obtain all available information regarding permit space hazards and entry operations from the utility,
- Coordinate entry operations with the department, when both department personnel and contractor personnel will be working in or near permit spaces,
- Inform the department of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

If a contractor does not follow the Confined Space Program and permit procedures, the entry Manager or program administrator shall prohibit the contractor from conducting work in the space.

Training and Communication

The program administrator will ensure that all affected employees participate in training upon hire and as needed thereafter, or when procedural changes take place. New or transferred employees shall also receive required training prior to working in confined spaces.

Employees shall receive appropriate training before serving as attendants, entrants, or entry Manager. Appropriate training is also required for employees authorizing permits.

Training for the members of the rescue team occurs initially and at least annually thereafter. Refresher training shall be conducted whenever an employee's duties change, when hazards in the confined space change, annually, or whenever an evaluation of the confined space entry program identifies inadequacies in the employee's knowledge.

The employer shall provide training in basic first aid and adult cardiopulmonary resuscitation (CPR) for all authorized entrants and attendants. Once all affected employees have been trained, new employees will be trained at the time of initial employment and annually thereafter if their position responsibilities include entering confined spaces.

The training program will contain at least the following for each affected employee:

- 1) The location of a copy of the Confined Spaces Written Program,
- 2) The appropriate procedures for specific responsibilities when working in confined spaces,
- 3) An explanation of the engineering and work controls in place to protect affected employees,
- 4) An explanation of the basis for PPE selection types and the proper use, location, removal, handling, and disposal methods.

The regional safety coordinator is responsible for training and maintaining all training records to meet regulatory compliance.

The Entry Manager

Training is conducted for those personnel authorizing permits or in charge of work to be conducted. Managers and authorized employees can terminate entry permits at any time and may also serve as an attendant or entrant if the job requires.

Personnel who authorize entry permits will be trained to perform the following duties:

- 1) Evaluate a space and complete the permit to ensure hazards within the confined space are controlled,
- 2) Ensure that appropriate procedures, practices, and equipment are in place, before allowing entry. Authorizing the permit will signify this condition.
- 3) Ensure there is, at a minimum, one employee on the permit required confined space entry that is CPR and first aid trained,
- 4) Cancel the permit, order evacuation of the space, and have it secured whenever unacceptable conditions are encountered,
- 5) Cancel the permit and have the space returned to normal service once the authorized work has been completed,
- 6) Prohibit unauthorized personnel from entering the space.

NOTE: The entry Manager can also serve as the attendant employee, but the entrant employee **CANNOT** be assigned the entry Manager tasks.

The entry Manager evaluates the space during entry (by personal observation or reported information) to assure conditions are consistent with the terms of the permit.

The Entrant

Training is conducted to convey the knowledge and recognition of the hazards they may encounter in permit spaces including, recognition of the signs and symptoms of exposure and understanding the consequences of exposure to these hazards.

Training will include the following:

- The methods and importance of maintaining contact (communication) with the attendant,
- Entrants are instructed to immediately notify the attendant if they feel or see there is an unsafe condition in the space or they must evacuate the space for any reason,
- The proper use of protective equipment needed for safe entry and exit (e.g. retrieval lines, respirators, and clothing),
- The proper use and knowledge of external barriers necessary (e.g. barricades, cones, etc.),
- The need to immediately exit the permit space if the attendant orders evacuation, when an automatic alarm on a monitoring device is activated, or the entrants believe or see that they are in danger.

The Attendant (may also act as Entry Manager)

Training will include the following:

- The method used to keep an accurate count of entrant,
- Recognition of the hazards encountered in confined spaces,
- Communication techniques used in confined space work,
- Appropriate rescue procedures such as methods of summoning help and assisting the rescue team.
- The duties and authority of attendants.
- CPR/First Aid Certification (if a member of the rescue team)

Duties:

- Keep an accurate count of the number of workers in the confined space,
- Limit entrants in the confined space to those people identified on the permit,
- Monitor the situation both inside and outside the space for hazards and any conditions which may require evacuation of the space,
- Keep in continuous and effective contact with those employees inside the space,
- Order evacuation of the space as necessary,
- Know how to use emergency equipment and be familiar with practices to assist with rescue without entering the space,
- Never leave the workstation unless properly relieved or unless all entrants are out of the space,

- Contact the Manager in charge or the program administrator if problems arise,
- Initiate and summon emergency services if necessary.

Attendants are authorized to:

- Prohibit unauthorized personnel from entering the confined space. This includes warning them away from the space, as well as asking them to exit the space, if they have entered,
- Order entrants or unauthorized personnel out of the confined space, if necessary. Reasons to order an evacuation include:
 - Order an evacuation due to any of the following:
 - A condition arises that is not allowed by permit,
 - A behavioral change is noticed in a worker,
 - A potential hazard occurs outside the confined space that will affect workers in that space,
 - An uncontrolled hazard is detected in the confined space,
 - The Attendant is not able to carry out the duties assigned.

Training Records

Training records are completed for each employee upon completion of training. These documents will be kept for at least **(3) three years**.

The training records include:

- The dates of the training sessions,
- The contents or a summary of the training sessions,
- The names of the trainer,
- The names, job titles, and signatures of all persons attending the training sessions,
- The completed quizzes of all persons attending the training sessions,
- Any handout materials distributed during the training sessions.

The program administrator will maintain the inventory of permit required confined spaces. When a new space is identified in the workplace or an existing confined space changes, the *Confined Space Hazard Inventory Form* will be updated.

Program Evaluation and Review

The program administrator in conjunction with the regional safety coordinator shall review the Confined Space Program annually to determine its effectiveness and provide input for potential revisions.



CONFINED SPACE ENTRY PERMIT

Date ___/___/___ Location of Space _____
 Point of Access _____ Duration of Entry _____
 Reason for Entry _____

Team Identification *(only authorized employees shall serve as Entrants, Attendants, and/or Rescue team).*

Name	E	A	R	Log IN	Log OUT	Log IN	Log OUT	Log IN	Log OUT
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____

Hazards Identified

- Chemical Oxygen Deficiency Oxygen Enriched Combustible Gas Toxic Gas
- Steam Engulfment Entrapment Mechanical Electrical
- Noise Limited Space Bacterial Access/Egress Lighting
- IDLH Vertical Space Slips Trips Falls Temperature - Hot Cold
- Other _____

Environmental Control/Isolation Measures

- Pre-entry and Rescue Briefing Air Monitoring Barricades/Tape
- Hot Work Procedures Lighting Purge/Flush/Drain/Clean
- Electric Procedures (GFCI) Rescue Equipment Communication Devices
- Fall Protection LOTO procedures Block/Bleed
- Traffic Ventilation - Natural Mechanical - Type _____
- Other _____

Minimal Personal Protective Equipment (PPE) Required for Entry

- Air Monitor Type: _____
- Protective Clothing Type: _____
- Eye/Face/Hearing Protection Type: _____
- Head/Hand/Foot Protection Type: _____
- Other _____

Rescue Equipment

- Tripod/Hoist Davit Lifelines Fall Equipment Harness

Communication

- Entrant/Manager/Attendant;
 Radio Voice Hand Light Other _____
- Rescue;
 Radio Telephone Rescue Team Present
- Emergency; Call 911
 Other _____

(over)

Menasha Water Plant Confined Space Entry Permit

Date ____/____/____	Name of Space _____
Point of Access _____	Duration of Entry _____
Reason for Entry _____	Assessment # _____

Hazards Identified

<input type="checkbox"/> Chemical	<input type="checkbox"/> Oxygen Deficiency	<input type="checkbox"/> Oxygen Enriched	<input type="checkbox"/> Combustible Gas	<input type="checkbox"/> Toxic Gas
<input type="checkbox"/> Steam	<input type="checkbox"/> Engulfment	<input type="checkbox"/> Entrapment	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical
<input type="checkbox"/> Slip/Trip/ Fall	<input type="checkbox"/> IDHL	<input type="checkbox"/> Limited Space	<input type="checkbox"/> Temperature H C	<input type="checkbox"/> Bacterial
<input type="checkbox"/> Access/Egress	<input type="checkbox"/> Lighting	<input type="checkbox"/> Vertical Space	<input type="checkbox"/> Noise	<input type="checkbox"/> NONE
<input type="checkbox"/> Other:				

Environmental Control / Isolation Measures

<input type="checkbox"/> Pre-entry and Rescue Briefing	<input type="checkbox"/> Air Monitoring	<input type="checkbox"/> External Barricades/Tape
<input type="checkbox"/> Hot Work Procedures	<input type="checkbox"/> Lighting	<input type="checkbox"/> Purge/Flush/Drain/Clean
<input type="checkbox"/> Electric Procedures (GFCI)	<input type="checkbox"/> Rescue Equipment	<input type="checkbox"/> Communication
<input type="checkbox"/> Fall Protection	<input type="checkbox"/> LOTO procedures	<input type="checkbox"/> Traffic Control Procedures
<input type="checkbox"/> Ventilation	<input type="checkbox"/> Other:	

Minimal Personal Protective Equipment (PPE) Required for Entry

<input type="checkbox"/> Respirator	Type _____	<input type="checkbox"/> Fall Equipment
<input type="checkbox"/> Protective Clothing	Type _____	<input type="checkbox"/> Harness
<input type="checkbox"/> Eye/Face/Hearing	Type _____	
<input type="checkbox"/> Head/Hand/Foot	Type _____	
Rescue Equipment		
<input type="checkbox"/> Tripod/Hoist Davit	<input type="checkbox"/> Lifelines	

Communication

Entrant/Manager/Attendant				
<input type="checkbox"/> Radio	<input type="checkbox"/> Voice	<input type="checkbox"/> Hand	<input type="checkbox"/> Light	<input type="checkbox"/> Other

Rescue				
<input type="checkbox"/> Radio	<input type="checkbox"/> Telephone	<input type="checkbox"/> Rescue Team Present		

Ventilation

Employees shall **not enter** a confined space if a hazardous atmosphere exists. If at any time, the LEL exceeds the Permissible Levels, the employee shall **immediately** evacuate the confined space. Forced air ventilation is used to maintain oxygen at a safe level and prevent a hazardous concentration of flammable gasses and vapors. The air supply for forced air should be from a clean source and should not increase hazards. (i.e. vehicle exhaust)

Air Monitor equipment Tested and Calibrated before use

Meter Tester Signature: _____ **Meter Serial #** _____

Atmospheric Readings Before Entry Atmospheric Permissible Levels During Entry

Time _____ am pm
 Oxygen (O₂) _____ % > 19.5% <23.5%
 Explosive _____ %LEL < 10%
 Hydrogen Sulfide _____ ppm < 10 ppm
 Carbon Monoxide _____ ppm < 35 ppm
 Other _____

Record of Air Monitoring Results and Hazard Control

Date/Time Tested	Space	Oxygen %	Explosive %	Hydrogen Sulfide PPM	Carbon Monoxide	Hazard Elimination and Control	Manager or Entrant Initials

Comments:

I (authorized employee) verify the above Permit is accurately completed. Written instructions and safety procedures have been received and understood by team members.

Entry Permit Completed By: _____
(Signature)

Job Title (Circle) Entry Manager Attendant Entrant

Permit Expires at ____:____ (am pm) on ____/____/____

HAZARD ASSESSMENT FORM - CONFINED SPACE

EMPLOYER NAME: _____ DATE: _____

NAME OF SPACE _____

LOCATION OF SPACE: _____ ASSESSMENT #: _____

POINT OF ACCESS: _____

REASON FOR ENTRY: _____

DURATION OF ENTRY: _____

FREQUENCY OF ENTRY: _____

COMPLETED BY NAME: _____ JOB TITLE: _____

CONFINED SPACE DETERMINATION

ACCORDING TO THE OSHA/DCOMM A CONFINED SPACE MEANS AN AREA IS;

1) The space is large enough and so configured that an employee can enter with whole body and perform assigned work, **AND** Y N

2) The space has limited or restrictive means for entry or exit, **AND** Y N

3) The space is not designed for continuous employee occupancy. Y N

PERMIT REQUIRED CONFINED SPACE ---"ONE OR MORE" OF THE FOLLOWING YES NO

- 1) Contains or has the potential to contain a hazardous atmosphere;
- 2) Contains a material that has the potential for engulfment;
- 3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section; or
- 4) Contains any other recognized serious safety or health hazard.

DESCRIPTION OF CONFINED SPACE

Pit Shaft Tunnel Boiler Tank Pipe
 Manhole Mechanical Space Vault Crawl Space Other

MAJOR HAZARDS

Chemical Oxygen Deficiency Oxygen Enriched Combustible Gas Toxic Gas
 Steam Engulfment Entrapment Mechanical Electrical
 Slip/Trip/ Fall IDHL Limited Space TemperatureH C Bacterial
 Access/Egress Lighting Vertical Space Noise **NONE**
 Other:

MINIMAL PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIRED FOR ENTRY

Respirator Clothing Rescue Equipment Tripod/Hoist Davit Lifelines
 Hearing Protection Face Protection Foot Protection Head Protection Harness
 Fall Equipment Hand Protection Eye Protection Other:

ENTRY REQUIREMENTS

Pre-entry and Rescue Briefing Air Monitoring External Barricades/Tape
 Hot Work Procedures Lighting Purge/Flush/Drain/Clean
 Electric Procedures (GFCI) Rescue Equipment Communication
 Fall Protection LOTO procedures Traffic Control Procedures
 Ventilation Other:

COMMENTS:

Permit Required Confined Spaces Program

Hot Work Permit

This permit is required in addition to the Entry Permit prior to doing work, which may provide sources of ignition in a confined space.

Nature of work to be done

Equipment, which is a source of ignition and must be in the confined space
--

Type of ventilation used to remove fumes or vapors from Hot Work:

IS FIRE WATCH REQUIRED? YES to any of the questions indicates that a qualified fire watch is required.

YES	NO	NA	
			Are combustible materials in building construction closer than 35 feet to the point of operation?
			Are combustibles more than 35 feet away but would be easily ignited by sparks?
			Are wall or floor openings within a 35 foot radius exposing combustible material in adjacent areas, including concealed spaces in floors or walls?
			Are combustible materials adjacent to the other side of metal partitions, walls, ceilings, or roofs which could be ignited by conduction or radiation?
			Does the work necessitate disabling a fire protection, suppression, or alarm system?

YES	NO	
		Confined Space Isolated
		Confined Space Purged or Ventilated
		Gas Tests Completed
		Could Hot Work be Done Outside

I certify that I have verified the procedures and have briefed the crew on the proper practices and hazards of performing "Hot Work" in confined spaces.

Permit Completed By: _____ **Job Title** _____

(Entry Manager signature) _____

Permit Expires at ____:____ (am pm) on ____/____/____

Hot Works Fire Watch Procedures

DEFINITION: Hot Work is any temporary operation involving open flames or equipment producing heat or spark.

FIRE WATCH (at work site) if required:

- Fire watcher is to be present 30 minutes prior to combustible clean-up, during, and after for 30 minutes after operation to ensure that no smoldering fires exist. Fire watcher is to search for any smoldering or flaming ignition and extinguish any such sources.
- Fire watcher is to be supplied with hose and/or fire extinguishers of proper size and type and be properly trained in use of same.
- Fire watcher is to be trained in emergency procedures and activating the fire alarm.
- The permit applicant or their representative is to protect all combustibles from hot work ignition sources. This includes sealing of floor and wall penetrations.
- Fire watcher is to stop hot work if any of the safety precautions cannot be met.
- Fire watcher is to locate the nearest fire alarm pull station before hot work begins and pull the alarm immediately if an emergency occurs.
- Fire watcher is to have access to a telephone to dial 9-1-1 to report emergencies.

LOCATION _____

DATE _____

FIRE WATCHER INITIALS: _____

TRAINER _____

**Permit Required Confined Spaces
Certification for Non-Permit Required Confined Spaces**

Space Location

Evidence that no potential or actual confined space hazards exist in this space (now or in the future)

(Attach previous permits or other pertinent documentation to this form.)

I certify the above evidence is accurate and appropriate employees have been notified of the non-permit status of this space.

Program Administrator

Signature

Date

Entry Manager

Signature

Date

Sample Contractor Language

Sample Contract Language for Independent Contractors
Drafted by Ellen A. Longfellow, LMCIT Loss Control Attorney

1. To follow confined space and other laws

“The contractor agrees to comply with all laws, ordinances, rules and regulations of the State of Wisconsin, the United States of America, Menasha Utilities, and all other public agencies.”

2. Indemnification provisions

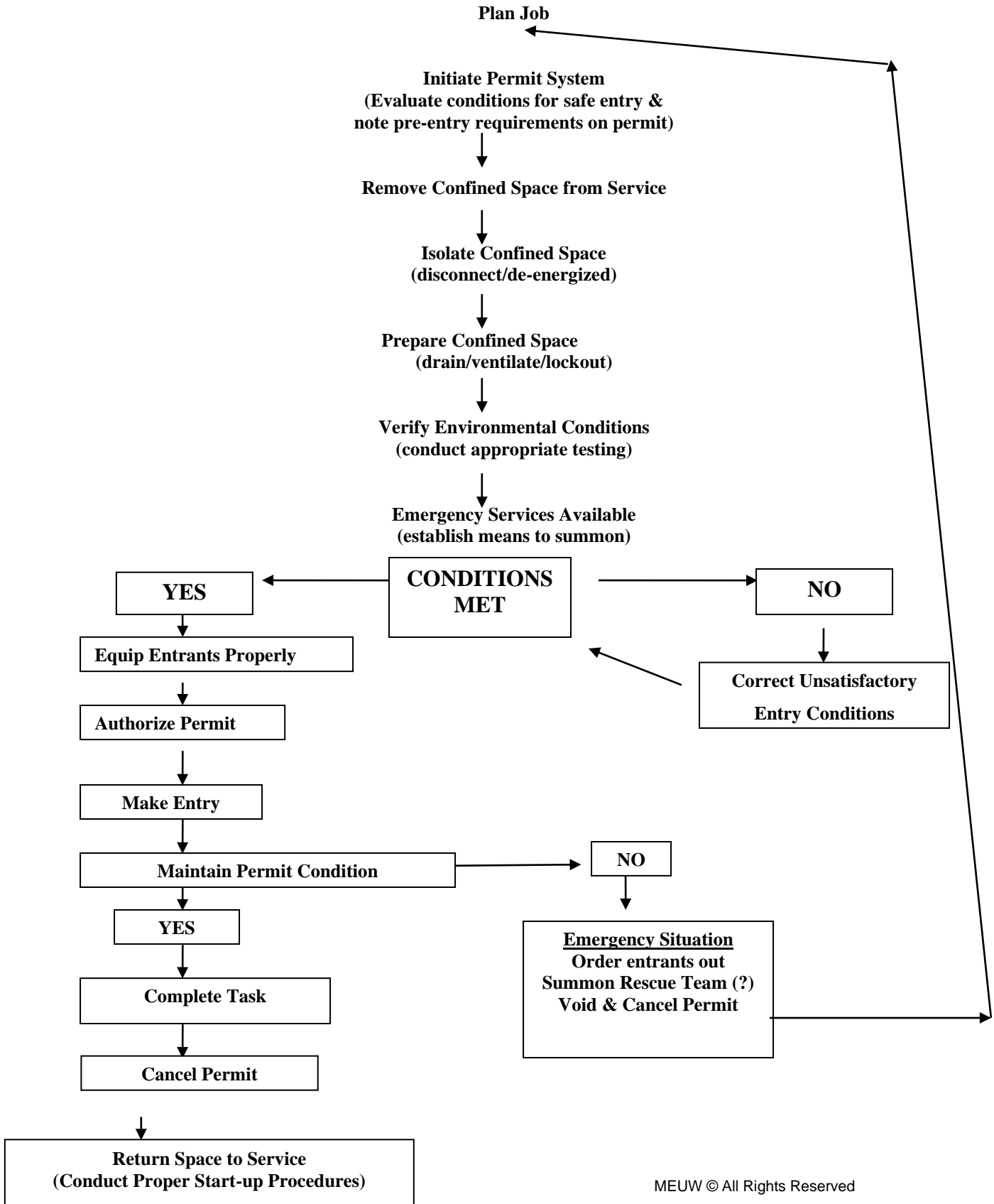
“The contractor shall hold Menasha Utilities harmless and agrees to defend and indemnify Menasha Utilities for any claims, damages, expenses or lawsuits related to its work under this contract.”

3. Insurance provisions

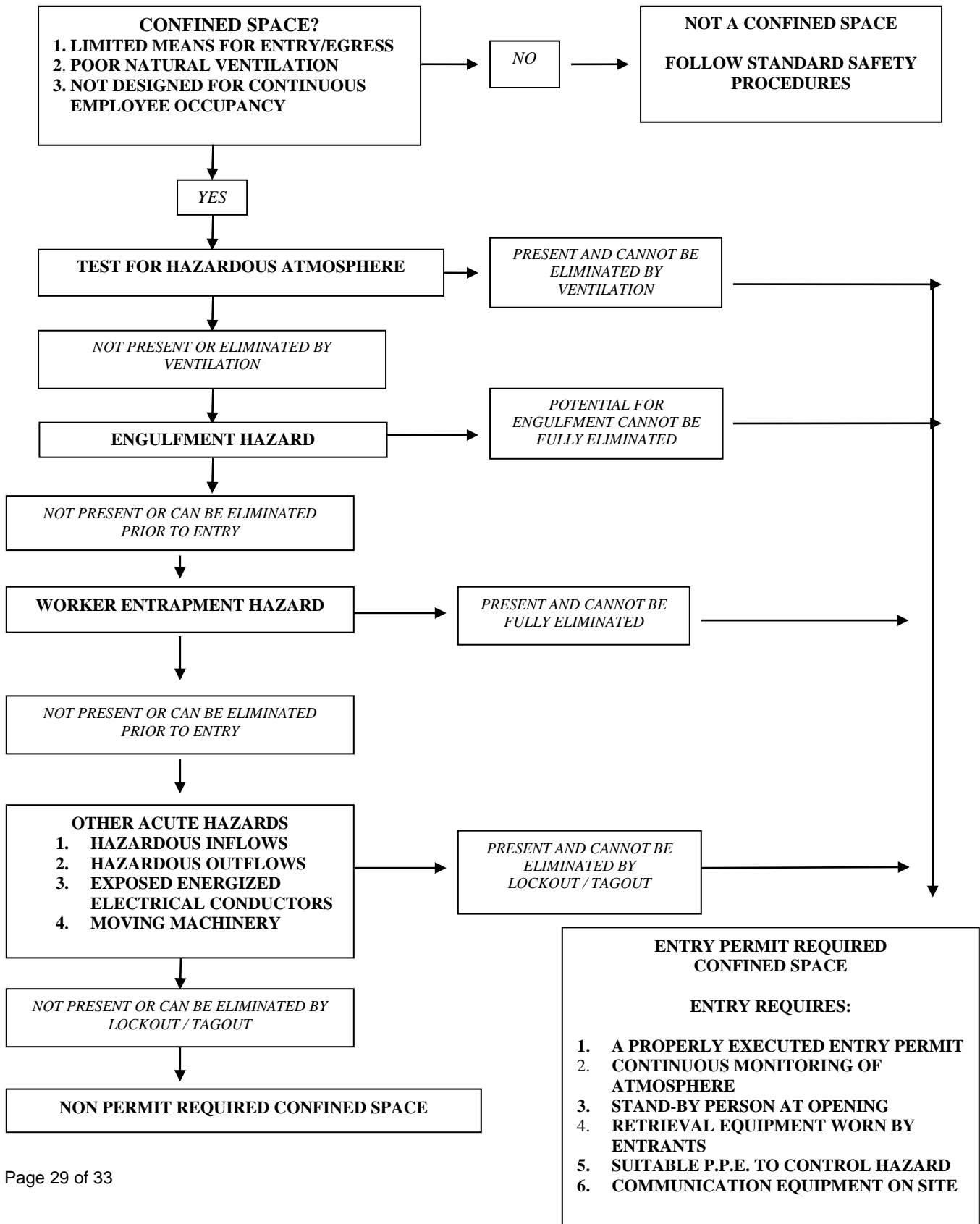
The contractor shall have worker’s compensation (or proof that this is not needed), general liability, property, automobile, and professional liability insurance (if applicable). Menasha Utilities shall be named as additional insured under the contractor’s general liability coverage for any services provided under this contract. The contractor shall provide a certificate of insurance showing the existence of the insurance required under this contract.

NOTE: The amount of insurance required depends upon the nature of the contract.

PERMIT REQUIRED CONFINED SPACE FLOWCHART



CONFINED SPACE HAZARD EVALUATION



PERMIT REQUIRED CONFINED SPACES PROGRAM

PERMIT REQUIRED WARNING SIGNS

Warning signs will be posted where possible with wording similar to that shown below to indicate permit required confined spaces.

EXAMPLE 1

DANGER!
PERMIT REQUIRED CONFINED SPACE
MAY BE
TOXIC, FLAMMABLE, OR LACKING OXYGEN
AUTHORIZED ENTRANTS ONLY

EXAMPLE 2

DANGER!
(identify contaminant or deficiency here)
PERMIT REQUIRED
AUTHORIZED ENTRANTS ONLY

EXAMPLE 3

DANGER!
PERMIT REQUIRED CONFINED SPACE
DO NOT ENTER

Attach acceptable alternatives as approved by the Program Administrator.

NIOSH RECOMMENDATIONS FOR SAFE ENTRY

DO NOT ENTER A CONFINED SPACE UNTIL YOU HAVE CONSIDERED EVERY QUESTION AND HAVE DETERMINED THE SPACE TO BE SAFE.

PURPOSE OF ENTRY

_____ Entry is necessary and cannot be avoided.

TESTING

_____ All instruments are properly calibrated.

_____ The atmosphere in the confined space (CS) has been tested.

_____ The oxygen level is between 19.5 and 23.5%.

_____ Toxic, flammable, or oxygen-displacing chemicals present have been removed or controlled (e.g. hydrogen sulfide, carbon monoxide, methane, carbon dioxide, etc.)

MONITORING

_____ The CS atmosphere is monitored while work is conducted.

_____ Continuously?

_____ Periodically? If so, state interval: _____

CLEANING

_____ The space has been cleaned or verified as clean before entry.

_____ The space was checked to see if it should be steamed.

_____ If steamed, the space temperature is acceptable.

VENTILATION

_____ The space was ventilated before entry.

_____ The unacceptable space was mechanically ventilated and re-tested before entry?

_____ Ventilation must be continued during entry.

_____ The air intake for the ventilator is away from potential contaminants (e.g. combustibles and toxics).

ISOLATION

_____ The space is isolated from other hazardous systems.

_____ Electrical equipment is locked out.

_____ Disconnects are used where possible.

_____ Mechanical equipment is blocked, chocked, or disengaged where necessary.

_____ Pressurized lines are blanked and bled.

CLOTHING/EQUIPMENT

_____ Necessary protective clothing is provided (e.g. boots, chemical suits, goggles, etc.)

Specify: _____

_____ Special equipment is available (e.g. rescue equipment, communications equipment, etc.) Specify: _____

_____ The required tools are available (e.g. spark proof).

NIOSH RECOMMENDATIONS FOR SAFE ENTRY

(BACKSIDE)

RESPIRATORY PROTECTION

- _____ Appropriate and approved respirators are available.
- _____ Respiratory protection is required for safe entry. If so, specify type: _____
- _____ The entrance is adequate in size for entry while wearing the respirator or for emergency rescue equipment.

TRAINING

- _____ Entrants are trained in the proper use of the respirator.
- _____ Attendants and entrants know confined space entry and emergency procedures.
- _____ Employees can recognize the hazards within the space.

ATTENDANT/RESCUE

- _____ The attendant is in place and responsibilities are known.
- _____ The attendant has constant visual or auditory communication with entrants.
- _____ The attendant is trained in rescue procedures.
- _____ Safety lines and harness are required for retrieval.
- _____ An emergency rescue plan is in place.
- _____ Emergency rescue procedures and equipment are available.
- _____ Emergency contacts and a rescue team are available in the event of an accident.

PERMIT

- _____ A written and authorized permit has been completed.
- _____ The permit contains emergency contacts and their telephone numbers.

Confined Space *Hazard* Inventory Form

Menasha Utilities

Assessment Number	Space Name	Location	Confined Space	Permit Required Confined Space	Alternative Entry Procedure
1	e.g. Water Valve	e.g. First Street	Yes/No	Yes/No	Yes/No
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					