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**Confined Space Entry**

**1.0 Purpose & Scope**

The purpose of this policy is to establish requirements and procedures, in addition to existing safety policies, for the safety and health of Waupaca Foundry, Inc. personnel who work in confined spaces. Concurrently, requirements set forth in this policy shall meet or exceed requirements defined in OSHA 29 CFR 1910.146.

This Work Instruction sets forth requirements for safe entry into, continued work in, and exit from confined spaces, at normal atmospheric pressure.

**2.0 Forms**

- 4-0037.W Entry Permit – Waupaca Specific
- 4-0039.M Entry Permit – Marinette Specific
- 4-0040.T Entry Permit – Tell City Specific
- 4-0023.E Entry Permit - Etowah Specific

- 4-0038.WTE Ventilation/Special Entry Permit
- 4-0069.M Ventilation/Special Entry Permit

- 4-0076.W P1 Melt & Maintenance Log
- 4-0077.W P1 Production Log
- 4-0078.W P2 Production Log
- 4-0079.W P3 Production Log
- 4-0080.W P23 Melt & Maintenance Log
- 4-0081.M P4 Production Log
- 4-0082.M P4 Melt & Maintenance Log
- 4-0083.T P5 Production Log
- 4-0084.T P5 Melt & Maintenance Log
- 4-0085.E P6 Production Log
- 4-0086.E P6 Melt & Maintenance Log

**3.0 Definitions**

3.1 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.

3.2 Attendant

An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties as assigned in this confined space program.

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- 3.3 Authorized Entrant  
An employee who has been trained in confined space entry and who is assigned by an authorized representative to enter a confined space.
- 3.4 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.
- 3.5 Confined Space  
A space not designed for continuous occupancy and because of its size and shape allows a person to enter. A confined space because of its physical construction or use, may have an unacceptable air quality, pose a risk of an employee being engulfed (by loose particles, bulk liquids, or solid materials), or present mechanical hazards to employees.
- 3.5.1 A confined space: 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, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry) and; is not designed for continuous employee occupancy.
- 3.5.2 Confined spaces include but are not limited to: Tanks, Mullors, Sand silos, Ventilation or exhaust ducts, Pipelines, Open top spaces more than 4' deep, Sewers, Tunnels, Cupolas, Dust Collectors
- 3.6 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 or vent valve in the line between the two closed valves.
- 3.7 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.
- 3.8 Engulfment  
The surrounding and effective capture of a person by a liquid or finely divided (flammable) 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.

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#### 3.9 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.

#### 3.10 Entry Permit

The written or printed document that is provided by the employer to allow and control entry into a permit space.

#### 3.11 Entry Supervisor /Authorizer

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 as required by this section.

#### 3.12 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 the one or more of the following causes:

3.12.1 Flammable gas, vapor or mist in excess of 10 % of its LEL (lower explosive limit)

3.12.2 Airborne combustible dust at a concentration that meets or exceeds its LFL (lower flammable limit)- Note: This concentration may be approximated as a condition in which the dust obscures vision @ a distance of 5 feet or less.

3.12.3 Atmospheric oxygen concentration below 19.5 % or above 23.5 %;

3.12.4 Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, *Occupational Health & Environmental Control*, or in Subpart Z, *Toxic & Hazardous Substances*, of this part and which could result in employee exposure in excess of its dose or PEL.

\*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.

3.12.5 Any other atmospheric condition that is immediately dangerous to life or health.

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#### 3.13 Hot Work Permit

A written authorization to perform hot work operations such as cutting, welding, brazing, torching soldering of materials, or any other activity capable of providing a source of ignition.

Hot work Permits for work within a Confined Space, always require at a minimum continuous ventilation and continuous air monitoring. In the event that a hazardous atmosphere is detected all entrants are to leave the space immediately, and re evaluation of the space completed. Corrective actions and pre-entry measures must be carried out prior to re-entry.

#### 3.14 Immediately Dangerous to Life and Health (IDLH)

Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space. \*Note - Some material - hydrogen fluoride gas and cadmium vapor, for example - may produce immediate transient effects that even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be immediately dangerous to life or health.

#### 3.15 Inerting

The displacement of the atmosphere in a permit space by a non-combustible gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible.

\*Note - this procedure produces an IDLH oxygen-deficient atmosphere.

#### 3.16 Isolation

The process by which a permit space is removed from service 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, or ducts; a double block and bleed system; lockout of all sources of energy; or blocking or disconnecting all mechanical linkages.

#### 3.17 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.

#### 3.18 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.

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- 3.19 Oxygen Deficient atmosphere  
An atmosphere containing less than 19.5 % oxygen by volume.
- 3.20 Oxygen Enriched atmosphere  
An atmosphere containing more than 23.5 % oxygen by volume.
- 3.21 Permit Required Confined Space  
A 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; and 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 Contains any other recognized serious safety or health hazard.
- 3.22 Body Harness, Safety Rope, and Lifeline equipment  
A body harness must be worn by all entrants into a permit required confined space. If the entry is horizontal in nature, the harness will be attached to a safety rope/retrieval line, and the opposite end of the line attached to a fixed point outside of the space that will allow rescue to begin as soon as it is deemed to be necessary. If the entry is vertical into a space greater than 5 feet deep, this safety rope/retrieval line MUST be attached to a mechanical retrieval device.

#### **4.0 Prevention of Unauthorized Entry**

All employees are given awareness training regarding no entry into confined spaces during their safety orientation. In addition a Safety Talk is given annually to all employees regarding Confined Spaces. All recognized confined spaces are marked with a sign stating "Danger - Follow Confined Space Entry Procedures".

#### **5.0 Confined Space Survey**

A documented confined space survey has been conducted initially and will be repeated at each Waupaca Foundry, Inc. facility as changes or additions occur. The survey will include a physical observation by applicable maintenance, engineering, and safety personnel. The purpose of the survey is to identify, document, and evaluate every confined space. The following will be considered during the evaluation:

- 5.1 The physical characteristics, location and identity of each confined space.
- 5.2 The existing or potential hazardous atmospheric conditions of the confined space, including oxygen level, toxic substances, and/or combustible/flammable vapors
- 5.3 The risk of engulfment by bulk materials, liquids, or solids.
- 5.4 The current and past uses of the confined space that may adversely affect the atmosphere.

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- 5.5 Any other physical or special hazards associated with confined spaces such as, mechanical hazards, temperature extremes, electrical hazards and/or fall hazards greater than 4 feet.
- 5.6 All confined spaces shall be identified by a placard or sign at its access point stating: "Danger - Follow Confined Space Entry procedures ".
- 5.7 Each location identified during the survey must adopt the Waupaca Foundry, Inc. entry permit system which recognizes the potential hazards and identifies the appropriate controls.
- 5.8 Confined space surveys will be documented, signed by participating auditors, and kept on file for future reference. Survey results will then be entered into the Confined Space Logbook, a chart itemizing confined spaces within each department.
- 5.9 In between surveys, ongoing review of Waupaca Foundry, Inc. "AR" (Appropriation Request) submittal shall be performed to determine if additional confined spaces are being constructed, or if modification will occur on existing spaces.
- 5.10 If the space is determined to be a "permit required confined space" it will have one or more of the following characteristics;
  - 5.10.1 Contains or has the potential to contain a hazardous atmosphere;
  - 5.10.2 Contains a material that has the potential for engulfing an entrant;
  - 5.10.3 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
  - 5.10.4 Contains any other recognized serious safety or health hazard.
- 5.11 If a confined space is determined by the Safety Director to be a "non-permit required confined space" it does not contain any hazards capable of causing death or serious physical harm. The entry will not require a permit, rescue equipment at the space, an attendant, atmospheric testing, or a lifeline for the entrant.

If a confined space is determined by the Safety Director to be a "Non-permit - Ventilation Required Space": it is demonstrated that the only hazard posed by the space is an actual or potential hazardous atmosphere; that continuous forced air ventilation (either system air, or portable) alone is sufficient to maintain that space for entry, and monitoring, inspection, and entry data is documented to support this. These spaces will require a checklist prior to entry. If a hazardous

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environment is likely to be created (for example by cleaning, scale removal etc.) the entry must be performed using the permit-required confined space procedure.

#### **6.0 Entry Procedures Specific Requirements and Permit Procedure**

- 6.1 Only personnel trained in the accordance with all elements of the confined space program requirements shall be authorized to be involved in Confined Space Entry. Documented training sessions must be completed before initial assignment of any employee to confined space entry work. Annual refresher training will be completed for those involved including attendants, entrants, and authorizers.
- 6.2 An authorized representative must execute a written permit prior to employee admittance into a confined space. A copy of the completed permit must be displayed at the work site. Any unsafe or hazardous conditions which are encountered during the entry shall be recorded on the permit.
- 6.3 The Confined Space entry permit will only be valid for the duration of time required to complete the assigned task. Permits will only be valid for a maximum of one shift, on the date of issuance. A copy of all permits will be retained by the plant Safety Office for a minimum period of 5 years. Entry beyond one shift will require completion of a new permit.
- 6.4 Each location shall establish a Confined Space Entry Rescue Team including individuals who are trained, equipped, and ready to initiate rescue. The permit will identify how and when this team will be summoned.
- 6.5 The following actions must be taken and/or planned prior to entry of personnel into any confined space:
  - 6.5.1.1 A pre-job meeting will be conducted to determine responsibilities of those involved, to review the findings noted on the permit, and to review pre-entry air sampling results.
  - 6.5.1.2 Where possible, remove the contents of any confined space, if this is not possible, alternate safe work practices must be used to prevent engulfment in the contents. Entrants shall not stand or walk on the contents.
  - 6.5.1.3 Process and material feed lines leading into the space shall be disconnected, blank double blocked and bled and locked out.
  - 6.5.1.4 Machinery, mixers, conveyors, and other moving equipment in the space must be de-energized using the appropriate lockout procedure.

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6.5.1.5 Pre-entry and continuous atmospheric sampling must be performed by trained personnel using equipment appropriately selected for the job and routinely calibrated. Checks must be made for the percent of oxygen, percent flammable gases or vapors, and the concentration of suspected toxic materials. Remote atmospheric testing shall be performed. Where remote testing is impossible the qualified person entering the space shall wear respiratory protection approved for IDLH atmospheres. Pre entry test results as well as periodic results shall be recorded on the permit. Air monitoring shall be recorded at least every hour on the permit.

6.5.1.6 Where atmospheres contain less than 19.5% or more than 23.5% oxygen, greater than 10% of the lower explosive level (LEL) of a flammable gas/vapor, a level of a toxic substance in excess of the permissible exposure limit, entry will not be made unless additional precautions such as use of SCBA are taken. Efforts will be made to make the space safe by ventilation, flushing and/or draining to replace the hazardous atmosphere with clean air prior to entry. Atmospheres will be rechecked to verify such methods were successful.

6.5.1.7 Where emergency entry is required only NIOSH approved self-contained breathing apparatus or a NIOSH approved airline respirator equipped with a five minute emergency air supply are the only respirators approved for use in a confined space or spaces known to contain IDLH atmospheres.

6.5.1.8 A pre-entry briefing will be held by the authorized representative with all attendants and entrants, to review entry procedures, personal protective equipment, escape procedures, communication, rescue, and any potential hazards of entry.

6.5.1.9 Measures must be taken to ensure that only authorized entrants are permitted to enter the space. Such controls may include signs, barriers, and the attendant assigned to the space. These measures will also provide a barrier from other external hazards such as pedestrian or vehicular traffic.

6.5.1.10 Whether or not it is possible for the atmosphere in the confined space to change because of the type of work carried out (i.e. welding, cleaning, rust removal, etc.), continuous atmospheric monitoring will take place. In areas that hazardous atmospheres are possible the space shall be ventilated continually to control hazard concentration.

6.5.1.11 Ladders or other safe means shall be used for entry and exit of a confined space and appropriate lighting will be provided in the space.

6.5.1.12 A means of communication must be determined prior to entry, this may include the use of radio, visual contact, or anything else that will allow the attendant and entrant to remain in contact throughout the entry.

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6.5.1.13 Where flammable or combustible vapors may be present in the space, only spark-resistant tools and explosion-proof lighting will be used in the space. The area will also be designated as a "No-Smoking, No Open Flame" area.

6.5.1.14 Hot Work may only be performed in a Confined Space with a properly executed Hot Work Permit, which will require continuous air monitoring, and continuous ventilation. Hot Work will cease when the combustible gas level meets or exceeds 10% of the LEL. Compressed gas cylinders must remain outside of the confined space. When a welder leaves the space for a substantial period of time (i.e. lunch, break, overnight), the torch and associated equipment must be shut off and removed from the space.

#### 6.6

When confined space entry work is completed the authorized representative will confirm that all equipment and personnel are removed from the space, lockouts removed, etc. The authorized representative will then cancel the permit and forward it to the Safety Department. Permits will be retained by the Safety Department for a minimum of five years.

#### 6.7

All rescue equipment and re-usable personnel protective equipment will be cleaned, inspected, and made ready for the next permit entry.

#### 6.8

Entry operations will be reviewed annually or if any of the following conditions occur:

- 6.8.1 In the event of an unauthorized entry.
- 6.8.2 The development of a new permit space hazard.
- 6.8.3 Occurrence of a prohibited condition within the permit space.
- 6.8.4 An incident which causes an injury or a near miss.
- 6.8.5 A change in the use of the confined space.
- 6.8.6 Upon the complaint of an employee.

### **7.0 Education, Training and Responsibilities**

Employees who have been identified as authorized entrants, attendants, or representatives must receive the appropriate documented training prior to confined space entry work, whenever there is a new hazard, or the company has knowledge that the procedures are inadequate, and annually thereafter.

Annual rescue team training will consist of a confined space incident and rescue drill. The drill must be critiqued for effectiveness.

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#### 7.1 The following training and duties are applicable to authorized entrants and attendants:

##### 7.1.1 Hazard Recognition

Know the hazards that may be faced during entry

Recognize the signs and symptoms of exposure to a hazard

Understand the consequences of exposure to a hazard

Recognize potential confined space hazards both inside and outside the confined space

##### 7.1.2 Review of Lockout procedure

##### 7.1.3 Communication requirements

Methods of communication

Continuous contact with the attendant

When and how to initiate evacuation procedures within the confined space

##### 7.1.4 Protective equipment

Entrants and attendants must be aware of the location and use of appropriate protective equipment required including retrieval lines, respirators, and clothing needed for safe entry and exit

Entrants and attendants must be aware of external barriers needed for their protection from external hazards

Operation and use of appropriate atmospheric monitoring equipment.

##### 7.1.5 Emergency Rescue Procedure

Attendant summoning rescue and emergency services

Who and how to call for assistance

Attendants **MUST NOT** enter the confined space to attempt rescue of entrants

Attendant must be trained in the proper use of non-entry rescue equipment

provided for their use and how to perform any other assigned rescue and

emergency duties without entering the confined space

##### 7.1.6 Participate in the pre-job meeting with the supervisor.

#### 7.2 Training and Duties of the Authorized / Supervisor Representative

Individual authorizing entry must receive training in the following:

7.2.1 Ability to determine that the entry permit contains the requisite information before authorizing or allowing entry:

7.2.2 Procedures, practice, and equipment for safe entry into confined spaces and ensuring that these are in effect before allowing entry

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7.2.3 Ability to ensure that acceptable entry conditions are present at the time of entry.

7.2.4 Know when to cancel or terminate entry because of a lack of acceptable conditions.

7.2.5 Know the necessary measures for concluding an entry operation, such as closing off a confined space and canceling the permit, once the work authorized by the permit has been completed.

7.2.6 Assuming responsibility for removal of unauthorized personnel who are in or near the confined space.

7.2.7 Ensure the permit is completed and signed prior to allowing entry.

7.2.8 Conduct the pre-job meeting with the attendant and entrants.

### 7.3 Training of the Emergency Confined Space Rescue Team

In the event of an emergency within a confined space, rescue will be made by the Thyssen Krupp Emergency Response Team. The individuals on the team must receive training on the Confined Space Rescue Procedure which includes the following:

7.3.1 How to properly use personal protective, and rescue equipment necessary to make a rescue from a permit-required confined space.

7.3.2 All of the training required of an authorized entrant.

7.3.3 All of the training required to perform their individual rescue duties.

7.3.4 Basic First-Aid and CPR (with at least one team member holding a current certification in both).

7.3.5 Each member of the rescue team shall practice making simulated permit space rescues from actual permit spaces annually.

## 8.0 **Confined Space Rescue**

### **Scope**

This procedure applies to all Waupaca Foundry, Inc. Emergency Response Team members responsible for emergency response.

### **Purpose**

The purpose of this procedure is to establish guidelines for conducting confined space rescue operations.

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#### Tactical Considerations

Phase I - Arrive on scene, take command, size up.

#### I The Primary Assessment

- A. Command should attempt to talk to a witness to the accident to see what did happen.
- B. Hazard assessment should be done immediately and presented to rescuers.
- C. If no witnesses are present, command should look for clues at the scene.
- D. An assessment of victim(s) should be done and how many victim(s) might be affected.
- E. Command should determine how long the victim(s) have been down and survivability profile of victim(s).
- F. The decision must be made as to whether the operation will run in either rescue or recovery mode.  
If possible, communication should be established with victim(s) as soon as possible.

#### II The Secondary Assessment

- A. The Confined Space
  - 1. What type of confined space is it.
  - 2. Are products stored in this space.
  - 3. Are there any known hazards present.
  - 4. Numbers of victims and location.
  - 5. Diagram of space, including entry and egress locations.
  - 6. Structural stability of confined space.
- B. On-Scene Personnel and Equipment
  - 1. On scene commander should determine if there is enough trained personnel on scene to do rescue and recovery.
  - 2. On scene commander should take into consideration the temperature in the foundry and consider the rotation of people at the scene.
- C. On scene commander should make sure that all equipment is on scene before the rescue is attempted. Equipment should include the following:
  - 1. Monitoring equipment
  - 2. Radios/communication devices
  - 3. SCBA's or remote air
  - 4. Removal system/equipment

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#### Phase II - Pre-Entry Operations

- I Make the general area safe.
  - A. Perimeter must be established. Considerations should be made for wind direction, atmospheric conditions, structural stability.
  - B. Traffic should be stopped completely in the area.
  - C. Vehicles that are parked in area and running should be down wind.
  - D. Ventilation should be established to this area.
  
- II Rescue Area Will Be Made Safe
  - A. Hazard sector will be assigned by the on scene commander to determine what hazards and products are within the area.
  - B. Atmospheric testing should be conducted by the hazard sector to determine oxygen level, flammability, and toxicity. Also, proper level of personal protective equipment.
  - C. Utilities, gas, water, electrical should be locked out.
  - D. All manufacturing equipment must be shut down before entering. Every means should be taken to lock out all equipment involved.
  - E. Structural stability will be evaluated if any structural questions arise. Maintenance and Engineering staff for that plant will be contacted.
  
- III Ventilation
  - A. On scene commander should assign one of the ERT team members to monitor ventilation.
  - B. Ventilation monitor should keep in constant contact with incident commander.
  - C. Negative pressure ventilation must be considered if there is only one entry point.
  - D. Exhaust is also a factor that must be considered.

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#### Phase III - Entry Operations. Victim Removal.

##### I Selection of Personnel

- A. Proper personnel will be selected to make the entry into the confined space. Vital signs should be taken before time of assessment. There should be a minimum of at least two people performing entry.
- B. On scene commander shall make sure that for every person entering a confined space there will be another person prepared and ready to assist. Back up personnel must be properly trained and prepared for rescue and recovery.

##### II Selection of Personal Protective Equipment

- A. Protective equipment will be worn by all ERT team members if required when entering a space. Example: helmet, gloves, proper footwear, goggles and harnesses.
- B. Entry back-up personnel will wear SCBA when entering a confined space.
- C. Personnel using SCBA will enter no farther than one half the amount of supplied air minus 500 lbs.
- D. Personnel entering shall wear air monitoring devices.
- E. Entry personnel will have class II harness on prior to entry.

##### III Communication and Lighting

- A. If there is a flammable atmosphere intrinsically safe or explosion proof communication equipment should be used. If there isn't any available a tag line for communication or a message relay person should be used.
- B. For dark areas Cyalume type lights or lighting set up outside the hole shining in must be used.

##### IV Pre-Entry Orientation

- A. Before entry is permitted into a confined space a blueprint or design should be looked at by all entry personnel and back up personnel.
- B. There will be a back up plan gone over with all back up personnel in case of problems with entry team.

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- V Victim Removal Equipment
  - A. Entry team will take into consideration all equipment necessary for retrieval prior to entry.
  - B. Extra breathable air should be brought along for victim.
- VI Assessing Condition of Victim
  - A. Upon reaching a victim, one of our EMT's or First Responders will analyze the victim status and start treatment immediately.
  - B. Secondary assessment of victim should be done if time permits. Entry personnel should attempt to treat all serious victims prior to removal.
  - C. C-Spine precautions should be administered. Note: This may not be an option in an emergency situation.
  - D. If victim is conscious he should be encouraged to wear breathing apparatus.
- VII Victim Removal System/Patient Packaging
  - A. All life threatening injuries should be treated right away. Then removal should take place. This may include backboard, stake basket, keg board.
  - B. Also, prior to removal any loose webbing buckles, straps should be secured.
  - C. Methods for removal shall include vertical or horizontal hand system, which could be constructed of ropes, pulleys, Miller retrieval system.
- VIII Transfer for Treatment
  - A. Transfer of victim will take place by Waupaca, Marinette, Tell City, Etowah Ambulance Services.
  - B. If victim is contaminated he will be sent to a decontamination area prior to transportation of victim.
- IX Termination
  - A. All personnel shall be accounted for.

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- B. Tools and equipment used for rescue or recovery will be removed from area.
- C. Equipment that may have been contaminated during recovery and rescue shall be cleaned and evaluated for further use.
- D. The area shall be secured and one final air reading taken in the confined space.
- E. There will be a debriefing after any rescue with all personnel.

### **9.0 Contractors**

9.1 Each contractor or the contractor's representative, who will perform work in a confined space will be informed of any potential fire, explosion, health, or other safety hazards of the confined space they will be working in. The contractor will be expected to comply at a minimum with the following procedures:

- 9.1.1 Confined Space Entry Requirements.
- 9.1.2 Energy Control and Power Lockout.
- 9.1.3 All Safety Rules - General and Specific included within the Contractor Safety Manual package.
- 9.1.4 The Consolidated Emergency Action Plan as applicable to contractor employees.

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**Equipment Listings**

**PLANT 1 - CONFINED SPACE ENTRY EQUIPMENT**

\*Located in the Generator Building

**PACK "A"**

- Multi gas monitors
- 2 100 foot rope
- 2 Flashlights
- 2 Pair gloves
- 1 Roll duct tape
- Confined space blank permits
- Confined space entry procedure log
- 1 Edge protector
- 2 Body harnesses
- 2 6 foot lanyards
- 1 Grippped ascender
- 1 Gibs ascender
- 2 6 foot Cross arm straps
- Misc. Sizes of carabineers
- 5 Single pulley systems
- 1 Double pulley system
- 1 3 foot positioning lanyard

**BOX**

- 2 Winches
- 1 Tri-pod
- 1 Portable blower
- 1 100 foot 5/16th Cable
- 1 100 foot Practice rope

**PACK "B"**

- 1 100 foot ( ") Rope
- 1 300 foot ( ") Rope
- 2 Flashlights
- 2 Pair gloves
- 1 Roll duct tape
- Confined space blank permits
- Confined space entry procedure log
- 1 Edge protector
- 2 Body harnesses
- 2 6 foot lanyards
- 1 Grippped ascender

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- 1      Gibs ascender
- 2      6 foot Cross arm straps  
        Misc. Sizes of carabineers
- 3      Single pulley systems
- 2      Double pulley system

PLANTS 2 & 3

Equipment located in the ERT building next to the P2 Project Shop

PACK "A"

- Confined space blank permits
- Confined space entry procedure log
- Knot tying instruction sheet

- 2      Flashlights
- 3      Pair gloves
- 1      Roll duct tape
- 3      Body harnesses
- 2      6 foot lanyards

PACK "B"

- 3      100 foot Ropes
- 2      Petzl Ascender
- 2      Gibbs Ascender
- 1      Multi-Connect
- 6      Single pulleys
- 1      Large pulley
- 3      Double pulley
- Multiple carabineers
- 1      Retractable winch
- 2      Tripods
- 1      Portable blower
- 1      300 foot spool rope
- 1      100 foot (spare÷ rope
- 2      Multi gas air monitors
- 2      2 way radios

P4 MARINETTE EQUIPMENT LISTING:

- 2      Multi-gas detection monitors w/chargers (Marty Wellner office)
- 1      remote sampling pump/charger and 50 foot hose line
- 1      extension cord
- 2      50 ft ropes with end clamps
- 2      18 ft escape ladders

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- 1 retractable lifeline winch
- 1 Pelsoe air blower
- 1 3 piece davit mount system
- 2 cross-arm straps

TELL CITY EQUIPMENT LISTING:

- 1 winch
- 1 tripod
- 2 lifeline
- 1 air blower
- 1 beam strap/wrap
- 2 lanyard grab
- 3 6 foot manyard
- 2 full body harness (universal size)
- 2 bushings
- 4 Scott Air Pack

Rescue Equipment(P5)

- 2 rescue winch
- 2 gibbs clamps
- 12 caribiner
- 2 100' rope
- 2 scott air packs
- 5 multiple gas monitors
- 4 Beam straps
- 4 Universal harness
- 4 Manyard
- 2 Explosion proof lights
- 2 GFCI
- 2 100 ' extension cords
- 1 Beamer clamp
- 1 60' tie off kit (beam to beam)

UNCONTROLLED

**Confined Space Entry**

Plant 6 Rescue Equipment:

- 1 Tripod-SKED
- 1 Reeves Sleeve
- 6 Scott SCBA
- 4 Rescue helmets
- 4 Rescue harness
- 5 120 foot rescue ropes
- 6 Gloves
- 2 540 Belay devices
- 3 Gibbs ascenders
- 1 Anchor Plate
- 12 Locking carabiners
- 4 Single pulleys
- 2 Double pulleys
- 1 4 to 1 block and tackle: assembled
- 1 Figure 8
- 5 Triangular Screw links
- 1 Rack and Bar Descender
- 2 Rope/anchor pads
- 1 Allegro ventilation blower
- 6 Multiple gas air monitors: located at Air Cabinet X3 (Health Services), melt control X1, and millroom office X1