

# **Jay Industries, Inc.**

Confined Space  
and  
Permit-Required Confined Space  
Program

# **Permit-Required Confined Space Entry Program**

## **General Company Policy**

Jay Industries, Inc. is committed to creating a safe workplace for all our employees. Part of their safety requires an effective Confined Space Program. We strive for clear understanding of Confined Spaces, safe work practices and involvement from every level of the company.

The purpose of this program is to inform interested persons, including employees that Jay Industries, Inc. is complying with the OSHA Confined Space Standard, Title 29 Code of Federal Regulations 1910.146. We have determined that this workplace needs written procedures for the evaluation of confined spaces. When permit-required spaces are identified, we have developed and implemented a permit-required confined space entry program. This program applies to all work operations at Jay Industries, Inc. where employees must enter a permit-required confined space as part of their job duties.

## **Roles and Duties**

The EHS Director is responsible for the administration of the Permit-Required Confined Space Program, including establishing, reviewing and updating the program, as required. A copy of the written plan may be obtained by contacting the EHS Department, or by printing this plan from the Jay Intranet Training Website. We encourage suggestions or ideas for improvement and these may be forwarded to the EHS Department.

The Maintenance Manager or Supervisor in each plant is responsible for coordinating and administering the Permit Required Confined Space program in their plant.

Under this program, permit-required spaces at all Jay Industries, Inc. divisions are identified and training is provided for our employees according to their responsibilities in the permit space. These employees receive instructions for safe entry into our specific type of confined spaces, including testing and monitoring, appropriate personal protective equipment (PPE), rescue procedures, and attendant responsibilities.

This program is designed to ensure that safe work practices are utilized during all activities regarding the permit space to prevent personal injuries and illnesses that could occur.

## **Hazard Evaluation for Permit Spaces**

To determine the locations of permit-required confined spaces within the Jay Industries, Inc. facilities, either the EHS Director, Maintenance or both will conduct a hazard evaluation of each workplace. This evaluation provides the information necessary to identify the existence and location of permit-required confined spaces which must be covered by the Permit-Required Confined Space Entry Program. This written hazard evaluation is kept in the EHS office.

## **Preventing Unauthorized Entry**

To prevent exposed employees from accidentally entering a permit space, supervisors or their designees will conduct on the job training to inform both authorized and unauthorized employees about confined spaces. Confined spaces will be labeled with signs.

## **Safe Permit Space Entry Procedures**

The Maintenance or Shift supervisor is the Entry Supervisor responsible for authorizing entry and issuing entry permits for work in permit spaces. The files of permits and related documents are maintained by the Maintenance Department in each plant.

To prepare, issue or cancel entry permits, the following elements must be addressed:

- The reason for entry.
- The work to be performed.
- The persons entering the space.

The names of employees who have current authorization to work in or near Permit Required Confined Spaces are kept in this file. This file also includes a list of work activities expected to be performed such as cleaning, maintenance, and repair.

## **Pre-Entry Evaluation**

Before authorized workers are allowed to enter a permit required confined space, the conditions must be evaluated and determined safe for entry. Any employee who enters the space has the right to observe the pre-entry testing and any additional testing. The authorized may also request a re-evaluation of the space if they feel that the evaluation was not adequate.

### *Alternate Entry Evaluation*

Our company follows the procedures to evaluate each permit space before entry according to 1910.146(c) (5) (ii) (C). This includes testing the internal atmosphere with a calibrated direct-reading instrument for oxygen content, flammable gases and vapors, and potential toxic air contaminants. We also periodically test the atmosphere of the space to ensure that the continuous ventilation is preventing the accumulation of a hazardous atmosphere. Periodic test results are filed in the Maintenance Department.

## **Certification**

### *Alternate Entry Procedure Certification*

According to 1910.146(c) (5) (ii) (H), our company verifies that the space is safe for entry and that the pre-entry measures required by 1910.146(c) (5) (ii) have been taken, through a written certification that contains the date, location of the space, and signature of the person providing the certification. The Maintenance Department or Shift supervisor is responsible for verifying these procedures. The certification is made before entry and is available to each employee entering the space.

### *Reclassification as Non-permit Space Certification*

According to 1910.146(c)(7)(iii), our company documents the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, location of the space, and signature of the person making the determination. The Maintenance Department or Shift supervisor in the department where the confined space is located is responsible for documenting this information. The certification is available to each employee entering the space. These records are filed in the Maintenance Department.

### **Equipment**

Appropriate personal protective equipment is available to any employee who works in a permit required confined space. According to 1910.146(k)(3)(i), each authorized entrant will use a chest or full body harness with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which presents a profile small enough for the successful removal of the entrant. Wristlets may be used instead of the chest or full body harness if it is demonstrated that the use of a chest or full body harness is not feasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

All equipment must be maintained in excellent working condition. Entrants will be trained in the proper usage and maintenance of their equipment, including that used for personal protection.

A pre-entry inspection of equipment being used by entrants will be performed by the supervisor issuing the permit.

### **Duties: Authorized Entrants**

Those persons who have completed the training and are authorized to enter Permit Required Confined Spaces are assigned specific duties and responsibilities that they must perform, such as required maintenance, cleaning, equipment repairs, and removing parts that have fallen off the conveyor. The elements covered in the training program for authorized entrants include:

- Why a permit is necessary and how to obtain a permit.
- A review of the Jay Industries, Inc. Permit-Required Confined Space Entry Program.
- Identifying hazards within the confined space and protecting themselves from those hazards.
- Proper PPE use and the PPE limitations.
- Proper use of the atmosphere testing equipment and its limitations.
- Knowledge of the conditions within the confined space.

### **Duties: Attendants**

All Shift Supervisors, Department Supervisors, Maintenance Employees, Authorized Entrants and Authorized Attendants will be trained on their duties for permit required confined spaces.

Those persons who have completed the Confined Space Training Program and have been designated as Attendants are assigned specific duties and responsibilities that they must

perform, which may include being an attendant for one or more employees who enter the confined space. The elements covered in the attendant training portion of the program include:

- Constant observation of those in the confined space.
- Observe the performance and behavior of Entrants
- Monitor confined space atmosphere using the correct instrument
- Keep retrieval lines from tangling (if in use)

### **Duties: Entry Supervisors**

Those persons who have completed the training and have been designated as Entry Supervisors are assigned specific duties and responsibilities that they must perform, including:

- Possessing a current first aid and CPR/AED certification
- Knowledge of the space to be entered
- Training on the equipment and PPE to be used during entry
- Assigning entry and tasks to those most qualified
- Able to react in an emergency situation

The elements covered in the training program for Confined Space Permit Required Entry Supervisors include:

- Identifying the hazards in the confined space.
- Knowledge of the instrumentation and monitoring equipment
- Assigning tasks and training to those most qualified
- Completion and filing the CS permits.
- Monitoring the entry from beginning to end
- Handling emergency situations
- Use and limitations of Personal protective equipment (PPE)

### **Training Program**

Every employee who faces the risk of confined space entry is provided with training so that they understand the Confined Space Program and the skills necessary for the safe performance of the duties assigned to them. The EHS Department, Maintenance Department, or qualified designee will conduct the Confined Space Training. All training related materials, documents, and signed certifications will be forwarded to the respective HR department, for PLEX computerization and filing.

Training will use a combination of classroom lecture, power point, video, quiz, and certification.

New employees will be trained before their initial assignment of duties. When changes occur in permit-required confined space areas, the affected trained confined space personnel will be notified in writing of those changes. If there is reason to believe that an employee has deviated from a previously trained procedure or that their knowledge is not adequate, additional training will be conducted and their performance will be re-evaluated.

Upon successful completion of Confined Space Training, each participant must verify that they understand the material presented and will follow all company policies and procedures regarding permit space entry. These certifications will be maintained in the respective HR Department.

### **Rescue and Emergency Services**

Jay Industries, Inc. uses its own employees to perform rescue services in the event of a permit space emergency. This group of employees has been trained, at a minimum, to:

- Perform the assigned rescue duties.
- Correctly use personal protective equipment (PPE) required for the job.
- Establish proficiency as an authorized entrant, as provided by 1910.146(g) and (h).
- Perform basic first-aid and cardiopulmonary resuscitation (CPR).
- Ability to assess an emergency situation.
- Call 911 for further assistance for medical or transport when necessary.

Jay Industries Inc also ensures that at least one member of the rescue team holds a current certification in first-aid and CPR, and that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the permit spaces or from representative permit spaces. Representative permit spaces will, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue are to be performed.

Rescue and emergency training will be conducted by the Maintenance or EHS Department or by an outside contractor proficient in rescue training. The employees assigned to emergency rescue teams will be listed in the permit-required confined space entry folders located in the Maintenance Department of each plant. A copy will be maintained by the EHS Department, and will be updated annually.

### **Outside Contractor Entry Procedures**

When outside employers/contractors enter our facility to perform work in permit spaces, they are required to review and follow our Confined Space Procedures. Before work begins, the Maintenance Department will determine the following:

- What type of work is to be done.
- Who will be doing the work.
- Who will be Authorized Attendants and Entrants
- The equipment to be used.
- A time frame when work will be completed.
- Permit procedures and filing of all paperwork from beginning to end.

### **Post-operations Procedures**

Upon completion of work in a permit space, the Maintenance Department or Shift Supervisor who issued the permit will:

- Interview those who entered the space.
- Verify the work was completed.

- Verify that all tools and equipment are removed from the confined space.
- Assure all equipment is ready for start-up.

**Review-Procedures**

To ensure that all employees participating in entry operations are protected from permit space hazards, the EHS Department and Maintenance Manager will review the Permit-Required Confined Space Entry Program annually. Canceled permits will be filed by the Maintenance Department for one year and will then forward to the EHS Department, to be maintained for two years. The permits will be reviewed to revise and improve the program as necessary.

**Enforcement**

Constant awareness of and respect for Confined Space and Permit-Required Confined Space entry and work hazards and compliance with all safety rules are considered conditions of employment. Employees may be issued disciplinary warnings, up to and including termination, for failure to follow the guidelines of the Confined Space Program.

**Appendices**

**Appendix 1 Confined Space Entry Permit**

**Appendix 2 Confined Space Assessment Form**

**Appendix 3** As confined spaces are identified and labeled in each plant, they will be listed for reference purposes as Appendices in this plan.

04/28/08	Plan Written	Ken Bower
06/03/08	Revision Log	Ken Bower
06/12/08	Added Appendices	Ken Bower
07/02/11	Plan revised	Allen Wheeler
03/11/16	Plan revised; hazard analysis and permit required forms added	Marijan Grogoza

# Jay Industries, Inc

## CONFINED SPACE HAZARD ANALYSIS .

\_\_\_\_\_ (Name of Plant)

Name of Confined Space:

\_\_\_\_\_

Space Location/Description:

\_\_\_\_\_

Persons completing analysis:

\_\_\_\_\_

Date and time of analysis:

\_\_\_\_\_

### A. IS IT A CONFINED SPACE?

1. The area was NOT designed for continuous human occupancy.

- Yes, it was NOT designed for continuous human occupancy
- No, it was designed for continuous human occupancy

Description:

2. The area can be bodily entered and assigned work can be performed inside

- Yes
- No

Description:

3. The area has a limited or restricted means of entry and exit (tanks, pits, vessels, silos, storage bins, hoppers, vaults, and pits).

- Yes
- No

Description:

**If you answered YES to ALL of the three questions above, then the space is considered to be a confined space. Please answer the questions below to determine if a permit is required.**



A. IS IT A PERMIT-REQUIRED CONFINED SPACE?

1. Is the space shaped so that a person could be entrapped or asphyxiated by converging walls or floors that slope downward and taper to a smaller cross-section?

- Yes
- No

Description:

2. Does it contain materials that have the potential to engulf the entrant?

- Yes
  - Water/waste/chemicals/paint \_\_\_\_\_
  - Sand/gravel/loose rock/soil \_\_\_\_\_
  - Oil
  - Plastic pellets or other loose materials \_\_\_\_\_
  - Powder
  - Other \_\_\_\_\_
- No

3. Does the space have the potential for a hazardous atmosphere?

- Yes
  - Oxygen deficiency
  - Oxygen enriched
  - Explosive Gas/Vapor \_\_\_\_\_
  - Explosive Dust
  - Carbon Monoxide
  - Hydrogen Sulfide
  - Chlorine
  - Other \_\_\_\_\_
- No

4. Is there a potential for any other safety or health hazard?

- Yes
  - Electrical \_\_\_\_\_
  - Moving Parts \_\_\_\_\_
  - Slips and trips \_\_\_\_\_
  - Falling more than five feet \_\_\_\_\_
  - Heat
  - Cold
  - Skin or Eye Irritants \_\_\_\_\_

- Noise \_\_\_\_\_
- Chemicals (list) \_\_\_\_\_
- Other \_\_\_\_\_

5. Is ventilation needed in the space?

- Yes
  - Natural
  - Forced Positive
  - Forced Negative
- No

**If you answered “No” to all five of the above questions, then the confined space is considered a non-permit required confined space.**

**If you answered “Yes” to any of the above questions, then the confined space is considered a permit-required confined space.**

**For both space classifications, (permit-required or non-permit required confined space), complete the following hazard assessment checklist to determine if other hazards are present in the space:**

#### 6. SAFETY HAZARDS

- Animals or insects (stinging, biting, snakes, skunks)
- Low ceilings (ergonomics, sharp objects, visual obstructions)
- Sharp objects
- Electrical hazards (live circuits, metal rope around electrical devices)
- Adverse temperatures (steam lines, coolant lines)
- Slippery ladder rungs
- Rusty surfaces (cuts, hides chemicals, poor footing)
- Chemical coated walls/surfaces
- Biological residue/slime (exposure, slippery surfaces, sewage)
- Loud ambient noise - traffic, etc. (annoyance, communications interference)
- Vibration (discomfort, noise)
- Poor lighting (can't read meters, can't perform critical tasks)
- Radiation
- Other extreme ergonomic conditions including those that may occur because of PPE limitations: respirators, fall protection harnesses, connection to retrieval equipment
- Liquids on floor/walking surface (standing water)
- Hazards external to the hole that could affect operations--combustion exhaust, possible precipitation, vehicle traffic, overhead electrical wires, chemical/hazardous materials lines nearby
- Others:

D. HEALTH HAZARDS

Chemical Hazards (list) \_\_\_\_\_

Asphyxiation Potential: \_\_\_\_\_

E. GETTING TO THE CONFINED SPACE

7. How is the space entered?

- Fixed ladder
- Stairs
- Portable Ladder
- Scaffold
- Lowering winch/tripod (regular work; not a rescue)
- Other \_\_\_\_\_

8. Is the entrance easily accessible?

- Yes
- No

Describe entrance \_\_\_\_\_

9. Is there plenty of workspace available to set up all equipment at entrance?

- Yes
- No

Limitations:

Type of entry:

- Vertical
- Horizontal

10. Horizontal Entries

How far above the ground? \_\_\_\_\_

Is there a work provided to upper elevation? \_\_\_\_\_

Is there a place to secure lifeline? \_\_\_\_\_

Is there a location to place a mechanical device? \_\_\_\_\_

Are there cut hazards that can damage rescue rope? \_\_\_\_\_

F. INTERNAL CONFIGURATION

1. Can a person:

- Walk in erect
- Walk in stooped
- Crawl in on hands and knees
- Crawl in on stomach or back

How high are the ceilings? \_\_\_\_\_

2. What are the footing conditions inside space:

- Flat Surface
- Cramped or Limited
- Round (horizontal pipe)
- Uneven Surface
- Slippery Footing Surfaces
- Obstructions that have to be Stepped Over
- Sharp Objects
- Spilled Chemicals
- Other:

3. Are there

- Structural Cross Members
- Head Hazards
- Climb over required

H. FALL POTENTIAL

- None
- Yes, how far? \_\_\_\_\_
- Fall directly onto concrete/level surface? \_\_\_\_\_
- Fall onto something sharp? \_\_\_\_\_
- Any place to tie off/secure lanyard or winch?  
\_\_\_\_\_
- Extraction device available? \_\_\_\_\_

K. INTERNAL FEATURES

- Pipes/lines going through space? \_\_\_\_\_
- With mechanical joints, flanges or valves inside space? \_\_\_\_\_
- With possible openings inside space? \_\_\_\_\_
- Materials in pipes/lines? \_\_\_\_\_
- Electrical equipment that needs servicing? \_\_\_\_\_
- Possibility of engulfment? \_\_\_\_\_
- Entrapping features (converging walls, wedging situations)?  
\_\_\_\_\_

L. CONTAMINANTS TO SAMPLE FOR

- Oxygen
- Combustible gas? Type: \_\_\_\_\_
- Toxics

M. KNOWN USE OF SPACE

- Original
- Present Use
- Contained Chemicals

- Oxygen consumers? (Rust, decay, wet carbon, chemical reactions, combustion, etc.)
  - Other
- 

#### N. HAZARDS/FEATURES OF THE SURROUNDING AREA

- Piping or chemical containers?
- What chemicals?
- How far away?
- Possibility of spill into Confined Space?
- High noise levels? (Communications interference)
- Soil methane?
- Parking lot, loading area or parking spaces close by?
- Can anything fall into the hole?
- Poor lighting in the area?
- No electrical services?
- No ground point?
- Traffic hazards (in surrounding area)?

#### O. SEASONAL WEATHER EFFECTS

- Must the entry be made in bad weather?
- Could precipitation create a hazard - subject to rapid flooding?

#### P. OTHER

- High ambient noise (or anything that can hamper communications)?
  - Ambient temperature extremes (heat stress, direct employee exposure, cold stress, ice formation on working surfaces)?
- 

#### Q. HAZARDOUS ENERGY HAZARDS

- Moving machinery hazards?
- Written lockout procedures in place?
- Electrical energy hazards?
- Lockout procedures in place?
- Lockout points identified?
- Lockout points tagged or labeled?
- Are there chemical hazards?
- Is line breaking required?
- Is the shutoff valve identified or tagged?
- Is line blanking required?

#### R. SITE SUPPORT FEATURES

- Is there a certified grounding point available or in proximity?
- Are there electrical services present?
- How many outlets? (two separate circuits recommended)
- Is a generator required?
- Are there rope anchorage points available for rescue use?
- Other:

#### T. VISUAL

- Is there poor lighting?
- Can the entrants be visually observed by attendant?

#### U. VENTILATION

- Does the space have a configuration that will hamper effective ventilation/purging?
- Is the space a Convolutated Space?
- Is there a second or additional opening?
  - Are the exits close together
  - Will flow through ventilation be adequate?
  - What is the distance between the openings?

Estimate of Internal Volume of Space: \_\_\_\_\_

#### V. COMMUNICATIONS

- Is a radio required?
- Is Voice-Only adequate?
- Is there a telephone nearby?
- Is there radio or telephone interference?
  - Inside the space
  - Outside the space

#### W. DISTANCE INTO SPACE

11. Is the distance inside the space greater than 50 feet? (length of extraction cable)
12. Is the space large enough to require an extra internal attendant?

#### X. SEWER/MANHOLE WORK

- Telecommunications/Electrical?
- Sewer?
- Sanitary?
- Storm?

**Once the hazard assessment checklist is complete, file the completed form with the plant Maintenance Department with a copy sent to EHS. If necessary, consult EH&S for assistance.**

**JAY INDUSTRIES, INC. CONFINED SPACE ENTRY PERMIT**

<b>Date:</b>					
<b>Site location or description:</b>					
<b>Purpose of entry:</b>					
_____					
_____					
<b>Supervisor in charge of crews:</b>		<b>Type of crew (e.g. clean-up):</b>		<b>Phone#:</b>	
<b>Permit Duration:</b>					
<b>Communication procedures (including equipment):</b>					
_____					
_____					
<b>Rescue procedures (emergency phone numbers at end of this form):</b>					
_____					
_____					
<b>Requirements Completed (Put N/A if item doesn't apply):</b>	<b>Date:</b>	<b>Time:</b>	<b>Requirements Completed (Put N/A if item doesn't apply):</b>	<b>Date:</b>	<b>Time:</b>
Lockout/De-energize/Try-out			Supplied Air Respirator (N/A if alternate entry)		
Line(s) Broken-Capped-Blank			Respirator(s) (Air Purifying)		
Purge-Flush and Vent			Protective Clothing		
Ventilation			Full Body Harness w/ "D" ring		
Secure Area (Post and Flag)			Emergency Escape Retrieval Equipment		
Lighting (Explosive Proof)			Lifelines		
Hotwork Permit			Standby safety personnel (N/A if alternate entry)		
Fire Extinguishers			Resuscitator-Inhaler (N/A if alternate entry)		
Line(s) to be bled/blanked			Ventilation equipment		
PPE Clothing			Respirator(s)		
Fire extinguisher(s)			Emergency retrieval equipment		

**AIR MONITORING**

Substance Monitored		Permissible Levels		Monitoring Results					
Time monitored (put time)		Record the time 19.5% to 23.5%							
Percent Oxygen									
LEL/LFL		Under 10%							
Toxic 1:		_____ PEL	_____ STEL						
Toxic 2:		_____ PEL	_____ STEL						
Toxic 3:		_____ PEL	_____ STEL						
Toxic 4:		_____ PEL	_____ STEL						

Remarks:

---



---

Air Tester Name	ID#	Instrument Used (e.g. oxygen meter, combustible gas indicator)	Model # or Type	Serial # or Unit

**ATTENDANTS AND ENTRANTS**

Attendant(s)	ID#	Confined Space Entrant(s)	ID#

Remarks:

---



---

Supervisor Authorization - All Confined Conditions Satisfied

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sign Name: \_\_\_\_\_

Department or phone number: \_\_\_\_\_

Emergency Contact Phone Numbers:

Ambulance:

Fire:

Safety:

Rescue Team:

Other:



## Appendix 3

### Identified Confined Spaces

- Paint line ovens.
- E-Coat ovens.
- Press pits.
- Process tanks.
- Storage tanks.
- Storage Bins
- Silos
- Spaces that may have limited means of entry and are not designed for continuous employee occupancy.
- Spaces that contains or have the potential to contain a hazardous atmosphere.
- Spaces that contains material that has the potential for engulfing an entrant.