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# ***PROGRESSIVE*** **PIPELINE MANAGEMENT**

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## **CORPORATE HEALTH & SAFETY PROGRAM**



**PROGRESSIVE PIPELINE MANAGEMENT**

**517 CLUBHOUSE DRIVE**

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## ENVIRONMENTAL, HEALTH & SAFETY (EHS) POLICY

PPM has as its highest priority the welfare of its employees, customers and the public as well as the stewardship for the environment. Accordingly, PPM will conduct its business in a manner to protect the well being of human health and the environment.

All operations will be conducted in compliance with applicable environmental, health and safety regulations as well as company policy, procedures and appropriate industry standards.

All PPM employees are responsible and accountable for performing their job in a manner that protects their safety, the safety of others and their responsibilities to the environment.

PPM is committed to preventing all safety, health and environmental incidents. As a result, its employees are committed to attaining the following goals:

- No work related injuries or incidents
- Conduct initial and annual refresher training for ALL employees
- Participate in and conduct safety meetings as a routine procedure
- Review and follow safety and standard operating procedures
- Identify, communicate and correct potential unsafe work conditions and practices

PPM and its employees recognize the importance of striving for excellence in the area of Environment, Health and Safety and acknowledge achievement in this area as essential personal and strategic business goals.

## SUBSTANCE ABUSE POLICY

**OVERVIEW:** At PPM, we have an obligation to our customers, our employers and the general public to ensure a safe, drug-free environment. The following information should answer basic questions about our company's policy on substance abuse testing. The policy provides for pre-employment, "reasonable cause" and random NIDA testing of all full-time employees to meet the work requirements of PPM and our clients. While this testing does not include a test for alcohol, when a reasonable cause situation occurs, alcohol testing will also take place. It should be noted that positive tests can bar one seeking employment, and subject current employees to discipline up to and including discharge. A refusal to submit to testing will subject an employee to discharge.

**PURPOSE:** To provide a statement for employees regarding substance abuse, to explain management's beliefs and approach to achieving a substance abuse free workplace, and to provide for the health and safety of employees of the company. The policy will provide guidance to management for those situations requiring substance abuse testing.

### DEFINITIONS:

*Alcohol* – beverages such as beer, wine, liquor

*Drug / Substance Abuse* – use of an illegal drug, or misuse of a prescription drug or alcohol.

*Employee* – anyone on PPM's payroll

*Reasonable Cause* – belief that employee is using or has used illegal drugs and/or alcohol based on erratic physical behavior, inappropriate action or other observable symptoms.

*Under the Influence of Alcohol* – employee exhibits signs of overuse of alcohol, e.g. slurred speech, smell of alcohol on breath, unsteadiness, slowed reflexes, and/or .05 blood-alcohol level.

*Under the Influence of Drugs* – employee exhibits signs of drug use, e.g. reduced concentration and coordination, hyperactivity or lethargy, mood swings, positive urinalysis test.

**PROCEDURE:** All pre-employment assessments for full-time employees will include drug testing for illegal substance abuse. This test will be administered by Riverview Medical Center, using the NIDA procedure. All employees may be asked for random or for cause tests. A refusal to submit to the test will bring the assumption that the test would be positive. Employees with confirmed positive tests will be given the opportunity to discuss the test results with Riverview Medical Center's medical review officer before the urine test result is submitted to PPM. The report, which lists the drug(s) tested, test results and other related information will be maintained in the employee's confidential medical file.

## PROGRAM ADMINISTRATION

### ROLES AND RESPONSIBILITIES

The General Manager of PPM has primary responsibility for administration, review and formal communication of the safety, health and environmental program. In addition, the General Manger is responsible for the annual review of the program and any subsequent updates to the program, for communication of those changes to all personnel and the training of PPM personnel.

The PPM Project Manager has the primary responsibility for on-site administration, review, updating, communication and enforcement of the safety, health and environmental program.

In addition the Project Manager will ensure:

- A site safety analysis has been conducted.
- A pre-job survey regarding type of work, location hazards anticipated and job duration has been completed.
- Safe work practices of the Host Company have been reviewed to help ensure safe work conditions exit prior to beginning work.
- Host company safe work practices are reviewed with PPM personnel.
- Liaison with Host company or contractor personnel
- Conduct site safety/tool box meetings
- Site safety inspections are conducted
- Ensure housekeeping is orderly and proper
- All work is carried out in a safe and efficient manner.

PPM employees have the responsibility to carry out their work in a safe and efficient manner. Each employee has primary responsibility for their safety, the safety of others around them and for working in a manner that does not harm the environment.

The success of any safety program depends on the cooperation and attention of personnel and the observance of established safety practices, procedures and policy. Safety is a routine concern for PPM and its personnel. PPM anticipates and expects all work to be conducted in a safe and efficient manner. Any PPM personnel who do not operate in a safe and efficient manner will be notified, counseled and as necessary, dismissed from employment. This applies to all PPM personnel.

## **ENFORCEMENT PROCEDURE**

Written Warning: Usually the first instance of unsafe actions, the employee is informed that his/her actions could have jeopardized his/her safety or the safety of others. The nature of violation will be explained to the employee and a written warning documenting the incident will be issued. The Project Manager will issue the warning and a copy will be placed in the employee file.

Termination Notice: If an employee has a written warning for violation of company or Host company safety policy, procedures or practices within the last six months a second instance of unsafe actions will result in a termination notice. The employee will be notified that his/her actions could have jeopardized the safety of himself/herself or of others and as result their employment is being terminated. The Project Manager will issue the notice and a copy will be placed in the employee file.

Immediate Termination: Immediate termination will be considered in any instance where unsafe actions result or could have resulted in "Imminent Danger". Imminent Danger is defined as any action or violation of policy, procedures and practices that could jeopardize the life of the person involved, or the lives of others. Immediate termination in these cases does not require any previous warning. The Project Manger will provide written documentation for company records.

Written warnings will remain in an employee's personnel file for one year. The presence of a written warning does not preclude rehiring an individual whereas a termination notice prohibits rehiring an individual for 3 months from the termination date.

## **GENERAL SAFETY REGULATIONS**

- Approved Personal Protective Equipment such as hard hat, safety glasses, and goggles must be worn during working hours.
- Additional Personal Protective Equipment such as goggles, face shield, hearing protection or respiratory equipment must be worn when engaged in specialty work.
- All injuries, regardless of severity, must be reported immediately.

- All incidents of property damage must be reported immediately.
- When working 6' or more above ground or from a fixed platform where no form of fall protection is available, a body harness and lanyard hooked off at the waist or above must be used.
- No intoxicating beverages or illegal drugs of any kind are permitted on the job site.
- No one under the influence of intoxicating beverages or illegal drugs will be permitted to work or on the job site.
- Fighting or horseplay will not be tolerated.
- Poor housekeeping is not acceptable. Poor housekeeping provides tripping and other unsafe conditions.
- Never begin work without the proper approval of the Project Manager or the appropriate Host Company authorizations such as safe, hot work or confined space permits.
- Obey all PPM and Host Company safe rules, regulations, procedures and practices.
- Ensure all chemicals are utilized in a safe manner.
- Ensure all ladders and associated equipment is in good condition prior to use and properly secured when in use.
- Work only off approved scaffolding.
- Do not enter a confined space without the proper authorization and permit.

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**SAFETY VIOLATION**

Employee Name: \_\_\_\_\_ Social Security No. \_\_\_\_\_

Job No: \_\_\_\_\_ Location: \_\_\_\_\_

**FIRST OFFENSE (WRITTEN)**

Description of Violation

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_ AM / PM

Supervisor Signature \_\_\_\_\_

**SECOND OFFENSE AND TERMINATION (WRITTEN)**

**IMMEDIATE TERMINATION**

Description of Violation

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_ AM / PM

Supervisor Signature \_\_\_\_\_

## **SAFETY MEETINGS**

Safety meetings are conducted weekly or more frequently as necessary on the job site. The Project Manager or his/her designee will conduct the meetings generally prior to the work shift. Each safety meeting -Tool Box Talks will be documented on the Tool Box - Safety Meeting form. Safety meetings are intended to review specific topics and allow a forum for employee questions and concerns.

Safety meetings generally cover topics involving job site safety and health such as

- Safe Work permits
- Facility incidents
- Updates to safety regulations
- Personal Protective Equipment
- Respiratory protection
- Fall protection
- Noise
- Slips, Trips and Falls
- Working at heights
- Confined spaces
- Electrical safety
- Potential hazards
- Chemicals
- Powered equipment

Safety topics will also cover topics particular to each job site such as:

- Evacuation plans
- Safe work permits
- Hot work permits
- Confined space entry
- Facility rules/regulations
- Potential work site hazards
- Calls for emergency help
- Use of facility utilities and services

**TAIL GATE / TOOL BOX SAFETY MEETING**

Location: \_\_\_\_\_

Date: \_\_\_\_\_

Subject:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Meeting Conducted By \_\_\_\_\_

Attendance

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Supervisor: \_\_\_\_\_

Notes: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ACCIDENT / INCIDENT REPORTING & INVESTIGATION

**Purpose:** To provide an internal reporting, investigation and follow-up system for work-related accidents-incidents in an effort to provide corrective action and avoid recurrence.

**Responsibility:** The Project Manager with assistance, as necessary, from other PPM personnel or outside specialists

### Reporting - Investigation Requirements - What and When?

All accidents/incidents must be reported on the PPM Incident Investigation Form.

Incident Level	Type of Incident	Investigation Timing
Level 1	First aid case	Report immediately-investigate facts within 24 hours
Level 2	OSHA recordable injury	Report immediately-Investigate within 24 hours File report within 2 days
Level 3	Lost time, potential lost	Report and investigate time cases, extensive property damage, immediately File report within 5 days
Level 4	Cases reported late	Report immediately- investigate immediately

### Responsibilities

PPM Project Manager is responsible for determining the incident level, type of investigation necessary, reporting the incident, conducting the investigation, ensuring a report is completed, the incident is reported on and follow-up is initiated.

Other PPM personnel and outside specialists will provide the necessary support for field investigations including technical support, assistance with interviews, photography, cause analysis, regulatory compliance, and fact finding.

### **Investigation Process**

The following steps should be taken when conducting an incident investigation:

- Secure PPM Incident Investigation Form
- Classify the Incident (Level 1-2-3-4)
- Begin the investigation
- Collect evidence
- Identify and interview witnesses
- Examine material, equipment, records
- Analyze acts and conditions
- Analyze What happened and Why it happened,
- Analyze Basic - Immediate - Root Causes
- Analyze the PPM program and causes
- Complete report including action plan and distribute report, as appropriate

### **Record Retention**

PPM Headquarters will maintain a central file of all incident investigations.

### **Definitions**

**Accident:** An undesired event that results in harm to people, damage to property or loss to process.

**Incident:** An undesired event which, under slightly different circumstances, could have resulted in harm to people, damage to property or loss to process. In other terms a "near accident" or a "near miss."

**First aid case:** An injury that does not require prescription medication for treatment and does not involve loss of work time. An example would be a cut requiring an antiseptic solution and band-aid.

**OSHA Recordable Injury:** An injury requiring treatment beyond first aid. Examples would include cases of stitches/suture, and/or prescription medication that do not involve loss of work time.

**OSHA Lost Workday:** An injury where a worker is unable to perform any work duties the day the injury occurs.

**Immediate Cause(s):** The circumstance(s), action(s), or condition(s) that immediately precede the event. They are also known as unsafe acts, unsafe conditions, contributory or secondary causes.

**Root Cause(s):** The job or personal factors that explain why immediate causes existed at the time of the event. The basic cause(s) that can be reasonably identified and that management have control to fix.

**INCIDENT INVESTIGATION REPORT**

This report must be completed and sent to PPM Headquarters the day of the incident. Answer all questions fully. Use Additional Sheets where necessary

Location \_\_\_\_\_ Work Activity \_\_\_\_\_

Date of Report \_\_\_\_\_ Date /Time of Incident \_\_\_\_\_

=====

Person(s) Injured	Position/Job	Years of Service	Social Security #
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Treatment  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Property Damage  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Describe Task being performed / what employee was doing  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Describe the Incident  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Witnesses

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Immediate Cause(s)

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Root Cause(s)

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Corrective Action / Completion date / Person Responsible

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=====Signatures=====

Person Completing Report

Date

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PPM Headquarters

Date

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Entered in OSHA 300 File #

Other Form

Actual Time Lost

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## SITE AUDIT & INVESTIGATION

**Purpose:** To provide a visual inspection of the work area to help recognize unsafe conditions or actions.

**Job Hazard(s):** Slip, Trip and Falls, General potential hazards.

**Protective Equipment:** Normal or as prescribed by work permits.

**Procedure:** The Project Manager will make periodic inspections of the work site for unsafe conditions or actions or for potential for safety concerns.

The Project Manager will record his/her findings on the inspection form. All inspection forms will be maintained on the job site until the job is complete. At the completion of the project inspection forms will be submitted to PPM Headquarters.

In order to effectively audit a job site the Project Manager will have to look for at a variety of workplace issues. The inspection form will provide a checklist for various workplace concerns. The checklist is only a guide for someone doing the inspection. Issues specific to a particular job may require the Project Manager to inspect completely different issues than outlined on the checklist.

### AUDIT/INSPECTION GUIDELINES

PPM believes job site audits/inspections provide the opportunity to identify potential hazards. They provide the opportunity to look for pre-loss indicators of potential hazards.

The Project Manager will conduct job site audit/inspections to:

- Identify potential problems
- Identify substandard equipment
- Identify inadequate/unsafe work activities
- Identify the need for change in methods-procedures
- Identify if specific problems are being addressed
- Identify if change is being implemented
- Provide a self-evaluation of company performance
- Demonstrate company commitment to safety

## INSPECTION FORM

### Safety Inspection

Project/Job Site \_\_\_\_\_ Date \_\_\_\_\_

Project Manager/Supervisor \_\_\_\_\_

Area Inspected \_\_\_\_\_

	Inspection items	Yes	No	N/A	Remarks
<b>General</b>	Head Protection (Hard Hats)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Eye/Face Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hearing Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hand Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Respiratory Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Foot Protection (Work shoes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fall Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Proper Work clothes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Fire Safety</b>	Evacuation Routes identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Emergency Phone # posted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Smoking in designated areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Extinguishers on-site-inspected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Storage tanks grounded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Approved safety cans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Containers properly labeled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Gas cylinders properly secured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fire-Safety equipment accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Inspection items	Yes	No	N/A	Remarks
<b>Working Surfaces</b>	Ladders secured -tied off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Ladders in good condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Ladder set for access/egress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Scaffolds properly secured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Planks properly secured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Openings covered-guard rails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Toe boards required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fall protection in use above	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Tools, etc. tied off -in containers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Platforms free of clutter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Scaffolds tagged appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Overhead work area barricaded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Electrical</b>	Explosion-proof in use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	GFI protection required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Lockout-Tagout procedure in use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Tools properly grounded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Extension cords inspected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Adequate temporary lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Housekeeping</b>	Loose debris-material cleaned up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hoses, welding leads, cords coiled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Water, oil, grease cleaned up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Work area orderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Material properly stored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sanitary facilities available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Drinking water available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Wash-up facilities available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	First aid equipment available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Inspection items	Yes	No	N/A	Remarks
<b>Lifting Equipment</b>	Lift equipment inspected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Safety inspections on file	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Lift areas properly barricaded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Backup alarms operable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Outriggers used as required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	High voltage lines identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Special Programs</b>	Power tool guards in-place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hazardous Material identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Hazard Communication info	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Permit system in-place-used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Confined space program in-place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Lockout-Tagout program in-place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Emergency evacuation procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	IH monitoring provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Comments /Actions

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Inspection Conducted By: \_\_\_\_\_

## HAZARD COMMUNICATION PROGRAM

### PURPOSE

The purpose of the Hazard Communication Standard and this Program is to help ensure information about workplace chemical hazards are made available to employees. The Occupational Safety and Health Administration (OSHA), through the Hazard Communication Standard, believe employees have both the need and right to know the chemicals and the potential hazards they may come in contact with in the workplace. Employees also need to understand the protective measures available to prevent injury and illness. At PPM, the hazard communication program includes the following elements:

- *WRITTEN HAZARD COMMUNICATION PROGRAM*
- *HAZARDOUS CHEMICALS LIST*
- *CONTAINER LABELING AND OTHER FORMS OF WARNING*
- *MATERIAL SAFETY DATA SHEETS*
- *EMPLOYEE INFORMATION AND TRAINING*
- *METHODS TO INFORM EMPLOYEES OF THE HAZARDS ASSOCIATED WITH NON-ROUTINE TASKS AND CHEMICALS CONTAINED IN UNLABELED PIPES*

PPM has developed this written program to describe in detail how the company complies with the requirements of the Hazard Communication Standard.

### WRITTEN HAZARD COMMUNICATION PROGRAM

The General Manager or his/her designee is responsible for overseeing the elements of this program. He/she will review the written program annually or as necessary to help ensure the program is up to date and the elements of the program are being implemented at the facility.

The written program is accessible to PPM employees at all times. The written program is maintained at PPM Headquarters and is available at the job site. The program applies to all PPM operations.

## HAZARDOUS CHEMICAL LIST

Under 29 CFR 1910.1200(e)(1)(i), PPM is required to prepare a list of hazardous chemicals present in the workplace. These are chemicals utilized under routine operations.

A representative of PPM has conducted a survey of the workplace to identify the hazardous chemicals present. To determine whether or not a material is considered “hazardous”, PPM used several sources of information such as container labels, material safety data sheets, manufacturer’s guidelines, etc. The survey included hazardous chemicals in all physical forms.

PPM developed a chemical list that is stored at the location where the chemicals are stored. The General Manager is responsible for maintaining the list.

## LABELING PROGRAM

All chemicals used at PPM must be labeled, tagged, or marked with the identity of the material and appropriate hazard warnings. Chemical manufacturers, importers, and distributors are required to label containers of hazardous chemicals with the following:

- Identity of the material
- Appropriate hazard warnings
- Name and address of the manufacturer

PPM verifies through the Receiving Department that the manufacturer’s labels are in good condition, prominently displayed, and legible while the product is in use at PPM. In cases where the manufacturer’s label has been damaged or removed, or in cases where hazardous chemicals are transferred into other containers, the container of hazardous chemicals will be labeled, tagged or marked with the following information:

- Identity of the hazardous chemicals
- Appropriate hazard warnings or words, pictures, symbols, or combination of these that provides general information regarding the hazards of the chemicals.

There are several systems available for labeling. These systems include the Department of Transportation (DOT), the National Fire Protection Association (NFPA) and the Hazardous Material Identification System (HMIS).

PPM generally uses the HMIS labeling system for labeling unmarked containers. Appendix B provides a sample of the labels used. The Project Manager is responsible for labeling and for verifying that containers of hazardous materials are properly labeled at the job site.

It should be noted that labels are not required when a hazardous chemical is transferred from its original container to a portable container, which meets the following:

- The material in the container is intended only for the immediate use of the employee who performed the material transfer; and
- The hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it was transferred.

## **MATERIAL SAFETY DATA SHEETS**

Chemical manufacturers and importers are required to obtain or develop Material Safety Data Sheets (MSDS) for each hazardous chemical they produce or import. Chemical manufacturers and importers must provide their customers with MSDSs.

PPM must have a Material Safety Data sheet (MSDS) for each hazardous chemical that is utilized. MSDS's must be readily accessible to employees in the work areas during their working hours.

At PPM, the Project Manager is responsible for obtaining and maintaining a MSDS for each hazardous chemical used in the workplace.

Material Safety Data Sheets (MSDS) are readily accessible to PPM employees during the workday and are maintained on site.

## EMPLOYEE TRAINING AND INFORMATION

All PPM employees who have the potential to be exposed to hazardous chemicals in the workplace are provided with information and trained prior to initial assignment to working with or around hazardous chemicals and when a new hazard chemical is introduced or a hazard changes. The training is accomplished through formal training programs and safety meetings. The training is accomplished either by reviewing information on individual chemicals, or by categories of hazards, i.e. flammability or toxicity.

At PPM, employee training is designed to ensure that employees are informed of the following:

- The requirements of the Hazard Communication Standard
- Operations in their work area where hazardous chemicals are present
- Location and availability of the written Hazard Communication program, hazardous chemical list, and Material safety Data Sheets.
- Methods and observations used to detect the presence or release of a hazardous chemical in the work area.
- Physical and health hazards of the chemicals in the work areas.
- Measures they can take to protect themselves from these hazards.
- Details of the Hazard Communication program including the labeling system and MSDSs.

At PPM, the General Manager is responsible for overseeing the Hazard Communication training program. New employees are trained upon initial assignment, prior to working with hazardous chemicals. In addition, employees are provided with updated training as necessary.

At this time PPM has no non-English speaking personnel. If non-English speaking personnel are employed a program will be instituted to address the methods of communicating hazards.

## NON-ROUTINE TASKS

During the course of operations at PPM, employees may be requested to perform non-routine tasks. While performing these tasks, it is possible that employees may be exposed to different hazards than

those typically faced in their work areas. When employees are asked to perform non-routine tasks, the Project Manager will inform employees of any hazards associated with non-routine tasks. This can be accomplished through direct conversation or through safety meetings.

## **UNLABELED PIPING**

At PPM, employees may work near unlabeled pipes that contain hazardous chemicals. As necessary the Project Manager will discuss with the host facility the potential hazards and inform the employees.

## **PROCEDURE WITH HOST FACILITY**

As a contractor in a host facility or job-site, PPM has two obligations under the OSHA Hazard Communication Standard. First, to have their own hazard communication and safety program for their employees. This program must address the safety concerns of their employees and the chemicals they use. Secondly, PPM must have available for the Host facility a list of chemicals or MSDSs for each chemical they intend using or storing on site. This information will assist in controlling hazardous materials used at the facility and informing employees of potential hazards posed by PPM activities.

The following procedures are used when PPM is at a host facility:

1. PPM will be informed by the host facility of hazardous materials that they may encounter while at the facility.
2. PPM will not bring on or into the facility any substance that may be considered hazardous without the prior consent of the facility.
3. PPM will provide, if requested, the host facility with copies of each MSDS for the chemicals for use or storing during their work at facility.

## **DEFINITIONS**

The following are definitions associated with the Hazard Communication Standard.

**Article:** A manufactured item other than a fluid or particle:

- (i) which is formed to a specific shape or design during manufacture;
- (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and
- (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of hazardous chemical, and does not pose a physical hazard or health risk to employees.

**Chemical:** Any element, chemical compound or mixture of elements and/or compounds.

**Chemical manufacturer:** An employer with a workplace where chemical(s) are produced for use or distribution.

**Chemical name:** The scientific designation of a chemical in accordance with the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS), or a name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

**Combustible liquid:** Any liquid having a flashpoint at or above 100° F (37.8° C), but below 200° F (93.3° C), except any mixture having components with flashpoints of 200° F (93.3° C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

**Common name:** Any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

**Compressed gas:**

- (i) A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70° F (21.1° C); or
- (ii) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130° F (54.4° C) regardless of the pressure at 70° F (21.1° C); or
- (iii) A liquid having a vapor pressure exceeding 40 psi at 100° F (37.8° C) as determined by ASTM D-323-72.

**Container:** Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of the Hazard Communication Standard, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

**Distributor:** A business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

**Employee:** A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

**Employer:** A person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

**Explosive:** A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

**Exposure or exposed:** Subjecting, in terms of health hazards (e.g., inhalation, ingestion, skin contact or absorption) personnel in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g., accidental or possible) exposure.

**Flammable:** A chemical that falls into one of the following categories:

- (i) **Aerosol, flammable** means an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame projection
  - (ii) exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening.
- (iii) **Gas, flammable** means:
  - A. A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or less; or

B. A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit.

- (iii) **Liquid, flammable** means any liquid having a flashpoint below 100° F (37.8° C), except any mixture having components with flashpoints of
- (iv) 100° F (37.8° C) or higher, the total of which make up 99 percent or more of the total volume of the mixture.
- (v) **Solid, flammable** means a solid, other than a blasting agent or explosive as defined in § 190.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

**Flashpoint:** The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.

**Hazardous chemical:** Any chemical that is a physical or health hazard.

**Hazard warning:** Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the hazard(s) of the chemical(s) in the container(s), including target organ effects, of the chemical(s) in the container(s).

**Health hazard:** A chemical that has statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term health hazard includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

**Identity:** Any chemical or common name, which is indicated on the material safety data sheet (MSDS) for the chemical. The identity used shall permit cross-references to be made among the required list of

hazardous chemicals, the label and the MSDS.

**Immediate use:** The hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

**Label:** Any written, printed, or graphic material, displayed on or affixed to containers of hazardous chemicals.

**Material safety data sheet (MSDS):** Written or printed material concerning a hazardous chemical, which is prepared in accordance with 29 CFR 1910.1200, paragraph (g).

**Mixture:** Any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

**Oxidizer:** A chemical other than a blasting agent or explosive as defined in 29 CFR 1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

**Physical hazard:** A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

**Pyrophoric:** A chemical that will ignite spontaneously in air at a temperature of 130° F (54.4° C) or below.

**Unstable (reactive):** A chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

**Use:** To package, handle, react, or transfer.

**Water-reactive:** A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

**Work area:** A room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

**Work place:** An establishment, job site, or project, at one geographical location containing one or more work areas.

## HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

The Hazardous Material Information System (HMIS) is a labeling system developed by the National Paint and Coatings Association (NPCA). It uses a label with four color bars and a space at the top where the name of the chemical should be written (see figure this page). The blue, red, and yellow colored bars indicate, respectively, the health, flammability, and reactivity hazard associated with the material. These three bars use a numbering scale ranging from 0 to 4. A value of zero means that the material poses essentially no hazard; a rating of four indicates extreme danger. In the HMIS systems, the fourth, white bar is used to indicate what Personal Protective Equipment (PPE) must be used in order to handle the material safely. A letter, often supplemented by icons or pictograms, is used to indicate what set of PPE should be used.



## ACCESS TO MEDICAL RECORDS

To all PPM personnel:

This note is to provide information regarding 29 CFR Part 1910 Subpart Z - General Safety and Health Provisions - Paragraph 1910.1020, Access to employee exposure and medical records.

The existence, location, and availability of any records are the responsibility of Dave Wickersham, President. Each employee has the right to access these records and a copy of the standard is available for all personnel in the corporate office.

If you have any questions please contact Dave Wickersham.

## BLOODBORNE PATHOGENS

**PURPOSE:** To minimize or eliminate personnel exposure to bloodborne pathogens, to comply with OSHA requirement to maintain a written exposure control plan.

**JOB HAZARDS:** Blood, other potentially infectious materials, and certain other body fluids that contain bloodborne pathogens. Progressive Pipeline Management provides for self-administration of first aid and only the Project Manager or his/her designee are trained in first aid. However, the Project Manager or his/her designee could be exposed and there still exists the potential, though remote, for exposure by other PPM personnel to bloodborne pathogens in an emergency medical situation.

**PROTECTIVE EQUIPMENT:** Universal Precautions are in effect and personal protective equipment must be used where there is the chance of exposure.

**REFERENCE:** OSHA 1910. 1030 Occupational Exposure to Bloodborne Pathogens; 1910 1020, Access to Medical Records; OSHA 3127 Revised 1996.

**PROCEDURE:** The use of personnel protective equipment helps prevent occupational exposure to infectious materials. Such equipment, which is provided at no cost to the employee, includes, but is not limited to, gloves, gowns, tyvek type coveralls, and safety glasses/goggles. Personal protective equipment is considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach employees' work clothes, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time used. PPE shall be replaced as needed to maintain its effectiveness.

Potential occupational exposure can occur for PPM personnel through involvement in an emergency medical response. PPM personnel are not trained as medical responders and therefore do not respond to medical emergencies. However, inadvertent involvement in a medical emergency could cause potential exposure. Though exposure potential is remote PPM personnel will adopt and use Universal Precautions procedures. However, personal protective equipment will not be a factor when considering exposure.

This procedure for has been developed to provide safe and practical guidelines for protecting personnel from the potential hazards of bloodborne pathogens.

## DEFINITIONS

**Bloodborne Pathogens** - Pathogenic microorganisms that are present in human blood and can cause diseases in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), and human immunodeficiency virus (HIV).

**Contaminated** -The reasonable anticipated presence of blood or other potentially infectious materials on an item or surface.

**Decontamination** - The use of physical or chemical means to remove, inactivate or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use or disposal.

**Exposure Incident** - A specific eye, mouth, other mucous membrane, non-intact skin or injection contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

**Universal Precautions** - A method of infection control for ensuring personal safety when dealing with bloodborne pathogens. It assumes all human blood and specified human body fluids are infectious for HIV, HBV, and other bloodborne pathogens.

## INFORMATION, TRAINING AND RECORDS

All personnel with the potential for exposure will participate in an annual procedure review and training session. The training and information shall include all requirements of CFR 1910.1030.

All training and medical records shall be maintained in an accurate manner for each employee with occupational exposure and available upon request to employees. Any requests for medical records will require written consent by the employee before release. Training records will be maintained for (3) years and a copy of the Bloodborne Pathogens plan/procedure will be accessible to all PPM personnel.

The PPM President is responsible for maintaining the Bloodborne pathogens program/procedure and all associated records. Records must be kept for the duration of employment plus thirty years.

## **PROTECTIVE EQUIPMENT**

Protective equipment such as, personal protection for eyes, face, head,( safety glasses, safety goggles, face shields) and extremities (rubber gloves), protective clothing (tyvek type coveralls), and respiratory protective devices will be readily accessible and utilized in the event of exposure potential.

Appropriate personal protective equipment should be used if rendering first aid. Each instance of exposure whether familiar with the person or not, shall be treated as having the potential to potentially infectious.

When personal protective equipment is removed, after being involved in a medical emergency, it shall be placed in an appropriately labeled leak proof biohazard bag.

## **HOUSEKEEPING**

All equipment as well as Environmental and working surfaces should be cleaned and decontaminated immediately (or as soon as possible) after contact with blood or other potentially infectious materials. Materials, which cannot be cleaned and decontaminated, shall be disposed of in an appropriately labeled leak proof biohazard bag. Special containers for broken glass and other sharp objects must be available and properly labeled.

## **PERSONAL HYGIENE - HAND WASHING**

Employees should wash hands and any other skin surfaces with soap and water or flush mucous membranes with water immediately after contact with potentially infectious material or body fluids. If hand-washing facilities are not readily available personnel should use the antiseptic hand cleaner/towelettes in the first aid kit in conjunction with cloth/paper towels

## **ENGINEERING CONTROLS**

Engineering control devices such as inhalators and resuscitators, when on the job site, will be reviewed and maintained to ensure effectiveness.

## **HEPATITIS B VACCINATION**

Hepatitis B vaccination will be made available to all persons and follow-up for all employees who have had an exposure incident .

Though PPM personnel are not medical responders, there is a possibility they could be inadvertently involved in a medical response. Therefore, if an employee indicates he/she is interested in the hepatitis B vaccination, the company will make the vaccine available.

### **EXPOSURE INCIDENTS**

All first aid incidents involving the presence of blood or other potentially infectious materials must be reported by the end of the shift during which the incident occurred.

The report must include:

- Name(s) of the first aid provider(s) involved
- Description of incident, including date and time
- Determination of whether or not an exposure incident occurred

In the event of a potential exposure incident involving blood or other potentially infectious body fluids, the full hepatitis B vaccination series will be made available to any unvaccinated PPM personnel involved as soon as possible, but no later than twenty-four (24) hours after the incident.

### **POST-EXPOSURE EVALUATION AND FOLLOW UP PROCEDURES AFTER POSSIBLE EXPOSURES TO HIV - HBV**

Following an exposure incident, a confidential medical evaluation and follow-up shall be made immediately available to the exposed employee. The evaluation and follow-up shall document the route(s) of exposure and the circumstances under which the exposure incident occurred.

The information should include the identification and documentation of the source individual, unless the company can establish identification as not feasible or as prohibited by state or local law.

Within fifteen (15) days of the completion of the post-exposure evaluation, the employee shall be notified in writing of the evaluating health care professional's opinion.

The health care professional's written opinion of hepatitis vaccination should include whether hepatitis B vaccination is indicated for an employee and whether it has been received.

The health care professional's written opinion for post-exposure evaluation and follow-up shall include verification that the employee has been informed of the results of the evaluation and that the employee

has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials that require further evaluation or treatment.

All other findings or diagnoses will remain medically confidential and be reported only to the employee and shall not be reported to management without the employee's consent. All other diagnoses must remain confidential and not be included in the written report.

All the above information shall be documented in the employee's medical record.

## HEPATITIS B VACCINE DECLINATION

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself.

However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signature \_\_\_\_\_

Print Name \_\_\_\_\_

Date: \_\_\_\_\_

## EMERGENCY MEDICAL RESPONSE

**PURPOSE:** Provide self-administered First Aid and to obtain emergency medical assistance for other ill or injured personnel.

**JOB HAZARDS:** Possible exposure to bloodborne pathogens and associated illnesses and possible infection.

**SCOPE:** Any PPM personnel that may require emergency medical assistance.

**PROCEDURE:** PPM will provide employees with minimal first aid supplies for the purpose of self-treatment of minor injuries only. This will minimize personnel exposure to others body fluids or bloodborne pathogens.

First Aid Kits will be available at every job site and shall be sealed in a weatherproof container, with individual contents that are kept in sealed packages in order to preserve sanitary conditions will be available. The PPM Project Manager will ensure the contents of these first aid kits are checked prior to being placed on the job, and weekly thereafter to make certain that any items used are replaced. The PPM Project Manager or his/her designee will have basic first aid training to help ensure personnel are administered to properly.

It is important for those who self-treat injuries to recognize the importance of personal hygiene such as washing their hands before and after treatment such as applying a band-aid. Bandages or other supplies utilized must be disposed appropriately in bags that are identified as containing potential biohazards.

Prior to beginning work at the host facility, the Project Manager will review the emergency response and exposure control plans with facility management and check the following:

- the host facility's procedures on how to summon help in an emergency situation
- determine how ill or injured personnel will be transported and to what medical facility they will be taken

- determine if the host facility has a specific emergency telephone number for medical or other emergencies.

If the host facility does not provide emergency medical services, it will be necessary to identify the means to call for outside medical assistance. The Project Manager will ensure telephone numbers and addresses for host facility or outside medical assistance are made known to all PPM personnel, by posting conspicuously on the job safety plan. This information can usually be provided by the host facility. Records must be kept for all injuries and any occupational illnesses.

In the event PPM must contract for a medical responder, the Project Manager will ensure contracted personnel have completed training in First Aid and CPR. Contract medical responders will provide an exposure control plan to the Project Manager for review, and will provide all necessary medical response equipment and supplies.

In the case of chemical exposure to skin or eyes, it is important that all personnel know the location of safety shower and eyewash stations. These stations should be available whenever there is potential exposure from corrosive materials.

#### **GENERAL CONTENTS OF THE FIRST AID KIT**

- Ammonia Inhalants
- Bio-hazard bag – tie
- Cold Pack
- Eye Wash
- Plastic Forceps
- Latex gloves – pair
- Scissors
- Certi-Lance
- Gauze/tape
- Antiseptic assortment
- Certi-Strip assortment
- Eye/Gauze Pads Assorted
- Antiseptic Cleaner/Towelettes

## EMERGENCY RESPONSE

**PURPOSE:** To provide PPM personnel with an understanding of expected actions and their role in the event of an emergency.

**JOB HAZARDS:** The potential for injury or exposure to harmful agents for personnel involved in response activities for which they have not been trained.

**SCOPE:** To have all PPM personnel understand their role in an emergency and to help ensure they understand the emergency system for the host facility where they are working in the event of an emergency.

**PROCEDURE:** All PPM personnel are trained to HAZWOPER 40 HOUR level for emergency response and refresher trained as outlined in OSHA 1910.120. PPM personnel may have the potential to witness or discover a hazardous substance release or other types of emergency event. PPM personnel are trained to initiate an emergency response by notifying the proper personnel within the facility of the emergency.

PPM personnel do not respond as operational responders, hazardous material technicians or specialists trained to contain and mitigate significant events. They are trained as defensive responders - to call for help utilizing the system established by the host facility.

PPM personnel are trained and capable to handle minor spill of their chemicals, which are listed as non-hazardous and to handle incipient stage fires with a fire extinguisher.

While working in a host facility PPM personnel will familiarize themselves with the facility emergency action plan including:

- Alarms and alerting systems
- Evacuation plan and procedures
- Pre-emergency plans
- Means to alert host facility representative or call for help
- Emergency medical treatment

The Project Manager will be trained under OSHA 1910.120 criteria to act as the PPM Emergency Coordinator (Incident Commander). He/she will:

- Consult host facility representative regarding emergency procedures
- Complete the Site Analysis-Safety Plan
- Review the Site Analysis-Safety Plan with PPM personnel
- Post the Site Analysis-Safety Plan in the PPM trailer.

## CONFINED SPACE ENTRY

**PURPOSE:** This procedure covers the initiation, preparation, authorization, issuance, utilization and termination of confined space entry. In addition, this procedure addresses general rules regarding work in confined spaces for PPM personnel.

**HAZARDS:** Hazardous atmospheres, sudden flow surges or sudden release of energy, inability to isolate spaces, fall hazards.

**SCOPE:** The intent of this procedure is to ensure communication among all parties involved in work in a designated confined space. This will include the entry supervisor, attendant and authorized entrant(s).

**REFERENCE:** OSHA 1910.146 – Confined Space Entry

### CONFINED SPACE PERMIT

The Project Manager will determine if a space to be entered is a permit-required confined space.

When it has been determined that a space does not require a permit (a non-permit confined space) the Project Manager will complete the Pre-entry Checklist, review it with personnel involved in the confined space and post the checklist at the job site and in the Project Managers office.

When it has been determined that a confined space is a permit required space and it must be entered, a written entry permit will be completed. The Entry Supervisor will complete the permit. The purpose of the permit is to provide a checklist of necessary actions to alleviate potential hazards and to provide a vehicle to help ensure work and safety requirements have been effectively communicated. The permit will list the Entry Supervisor and the Attendant(s). The Entry Supervisor will list the work to be performed, the equipment to be used during entry and the precautions to be taken. A copy of the completed entry permit will be posted at the job site and at the PPM Project Manager office. The Entry Supervisor and Attendant(s) will sign permits. An accurate account of entrants will be kept.

### PRE-ENTRY PROCEDURES

Work should be evaluated to determine if entry is necessary, or if the work can be performed without

actually entering the confined space. If the space must be entered, atmospheric testing must be performed to determine the presence or absence of a hazardous atmosphere. Atmospheric testing equipment such as gas detectors should be calibrated and set-up away from the work area. Testing probes should be inserted into the space with checks being made at various levels to determine if any heavier-than-air or lighter-than-air contaminants are present. Continuous monitoring of the space may be necessary.

For all confined spaces, whether in a facility, a construction site or in sewer entries, steps will be taken to ensure the following atmospheric conditions:

- **Oxygen level – 20.8%.** This is the desirable level of oxygen, and can usually be achieved through proper ventilation. Atmospheres of less than 19.5% oxygen will require the use of air-supplied respirators.
- **Flammability – 0%.** OSHA allows for up to 10% LEL. Any level above 0% should be investigated and eliminated where possible by ventilating the atmosphere and/or removing ignition sources.
- **Carbon Monoxide – 0 ppm.** The permissible exposure limit (PEL) is 35 ppm. Higher levels can present respiratory difficulty, or death.
- **Hydrogen Sulfide – 0 ppm.** H<sub>2</sub>S has an odor similar to rotten eggs. However, it can deaden the sense of smell and give a false sense of security. Ventilation or respiratory protection may be required. Under NIOSH guidelines, levels in excess of 10 ppm will require the use of air-supplied respirator (SCBA or SAR).
- Other specific gases as necessary.

In an entry of more than four feet deep, the Project Manager will assess the need for fall protection. If fall protection is deemed necessary a full-body harness and a fall-arresting device must be used. If there is a potential chemical hazard, such as chlorine or caustic, the specific chemical hazards will be reviewed with the entrants. Testing for specific chemicals must be performed when necessary in order to establish exposure potential and PPE requirements.

Confined spaces will, as necessary, be ventilated prior to entry. The preferred method is positive ventilation, or blowing fresh air into a space. Exhausting air can allow toxic materials to be sucked into the space from other entry areas. Once the space has been ventilated, the atmosphere must be re-tested. If the entry involves a sewer on a municipal roadway, the area should be barricaded and identified to alert vehicle traffic and protect workers from traffic hazards. Barriers can also help prevent accidental falls and the inadvertent dropping of foreign objects into the space. If lifting manhole covers use proper tools and proper lifting procedures to prevent injury to personnel.

Proper isolation or lockout/tag out must be completed to prevent the flow of material and/or the sudden release of energy in a confined space. This includes locking and tagging out electrical sources, blanking and bleeding pneumatic and hydraulic lines, disconnecting belt or chain drives and mechanical linkages on shaft driven equipment, and securing mechanical moving parts within a confined space using chains, blocks chocks or other devices. Tags should be used to alert others that specific lines or equipment have been isolated.

The space must be evaluated for the use of personal protective equipment (PPE), specialized entry equipment, emergency or rescue equipment and decontamination requirements. PPE includes the potential need for head, eye, body and foot protection. The need for hearing or respiratory protection must also be considered. Entry equipment may include harnesses, lifelines, and retrieval systems with fall protection, artificial lighting, air monitoring equipment, ventilators and the possibility of non-sparking tools or a fire extinguisher.

A means of calling for emergency help must be established. The Project Manager will institute the procedure for calling for help. While emergency help is responding, retrieval systems may be used for non-entry rescue or for assistance in self-rescue. In no case will the attendant enter the confined space unless relieved by another qualified person.

Decontamination procedures will be discussed prior to entry. If the confined space is known to contain certain toxic or biologically active materials, decon facilities should be located at or near the job site whenever possible. Skin barrier creams can be used prior to entry and portable-washing facilities can be available to expedite decontamination where necessary. Personnel will not eat, drink or smoke prior to decontamination.

Prior to entry, the Entry Supervisor will perform the following duties and document them on the Entry Checklist/Permit:

- Evaluate job site for known or potential hazards to entrants. Verify that all monitoring has been completed and that all procedures and equipment specified are in place prior to endorsing the permit and allowing entry to begin.
- Establish a list of authorized entrants and attendants, and communicate appropriate hazard information.
- Ensure all safety precautions are taken and permit requirements are met and safe entry conditions are in place.
- Verify that rescue or emergency services are available and that a means of summoning them is operable.
- Terminate or cancels the permit when entry operations are complete or a condition not allowed by the permit arises.

## **ENTRY PROCEDURES**

In general, a minimum crew of two persons will be used for entries. All safety equipment mandated by the Entry Supervisor will be used, and the confined space will be entered by one of four means:

1. Fixed steps or ladders – check for step and ladder integrity before using. Sewer environments in particular can contribute to corrosion problems, causing rungs or steps to deteriorate.
2. Portable ladders – these may be necessary if fixed ladders are inadequate or not available. Portable ladders should be secured wherever possible.
3. Man-rated mechanical entry/retrieval equipment – tripod/winch assemblies with built-in fall arrest protection.
4. Direct walk-in to an excavated area such as a drainage ditch.

Authorized entrants must meet the following criteria:

- Know the hazards that may be encountered during entry, including the mode, signs or symptoms and consequences of exposure.
- Properly use equipment specified in the permit, including proper personal protective equipment (PPE).
- Communicate with attendant as necessary and knows emergency evacuation signal and procedures.
- Alert the attendant whenever a warning sign or symptom of exposure to a dangerous situation occurs, or if he/she detects a condition not allowed by the permit.
- Exit the space whenever the evacuation order is given or if a hazardous condition arises.

An attendant will be posted outside the space at all times that entry work is in progress. The attendant will monitor activities inside and outside the space, and will keep an accurate account of personnel entering or leaving the space. In most cases, this will result in a direct line-of-sight contact between the attendant and entrant(s). When direct line-of-sight is not possible; a means of communication must be established that will effectively monitor the safety of all entrants. This can be radio, tugs on a rope or safety line, knocking on the wall of the space, or any system that has been pre-designated by the Entry Supervisor to establish communications.

The Attendant's responsibilities will include:

- Know the hazards that may be encountered during entry, including the mode, signs or symptoms and consequences of exposure.
- Is aware of behavioral effects of exposure to hazards.
- Maintain an accurate account of entrants and maintains a log of names, time in and time out of the space.

- Remain outside the space until relieved by another qualified attendant, or until entry operations are terminated.
- Communicate with entrants as necessary
- Monitor conditions inside and outside the space to determine if safe conditions exist and orders evacuation of the space if:
  - 1.) a prohibited condition is detected
  - 2.) a condition outside the space endangers entrants
  - 3.) a behavioral effect of exposure is detected
  - 4.) if attendant cannot safely perform all assigned duties.
- Verify that emergency services are available and summons rescue/emergency services as soon as the need is determined.
- Ensure unauthorized personnel do not enter the space or informs the entry supervisor if unauthorized personnel do not leave the space.
- Assist entrant by performing non-entry rescue if entrant cannot self-rescue.
- Perform no duties that may interfere with primary responsibility to monitor and protect entrants.

A confined space will be evacuated immediately whenever:

- 1.) An attendant or entrant observes a condition that is prohibited on the entry permit
- 2.) The gas detector registers unacceptable conditions or goes into the alarm mode
- 3.) The attendant observes a situation outside the space that can endanger entrants
- 4.) The attendant or entrant detects an uncontrolled hazard within the space
- 5.) An entrant or the attendant detects symptoms of exposure to a hazardous atmosphere, such as dizziness, blurred vision, shortness of breath, ringing in the ears, drowsiness, etc.
- 6.) The attendant cannot effectively monitor the safety of entrants.

When the space is vacant, the entry supervisor will ensure barriers and signs are in place to prevent unauthorized or accidental entry into the space.

## TERMINATION OF ENTRY

An Entry Checklist/Permit will expire at the end of the current shift, and will not be valid for no longer than eight (8) hours. A permit will be suspended any time an evacuation order is given, or a prohibited condition is detected. Before entry operations can resume, all pre-entry procedures must be re-checked and the atmosphere re-tested.

Once all work in a confined space has been completed, the entry permit will be terminated. The time and date of completion will be entered on the permit, and the completed permit will be returned to the Entry Supervisor, who will forward it to the Safety Manager for review and file. Completed permits will be kept on file for a period of at least one-year.

## APPENDIX

### HAZARD RECOGNITION

**Atmospheric Hazards:** These are usually the most dangerous, yet they will frequently go unnoticed. Personnel often rely on the sense of smell due to the presence of septic conditions or spoiled food often found in sewer systems. However, other gases and vapors that may be hazardous to the respiratory system are odorless and may be toxic or flammable. Some gases can deaden the sense of smell, giving the worker a false sense of security. An atmosphere may be hazardous for no other reason than a deficiency of oxygen, which could lead to a worker exercising poor judgment or disorientation and, ultimately, injury or death.

**Physical Hazards:** Workers must be constantly alert to the potential for physical dangers such as corroded or damaged steps or ladder rungs normally used for entry into, or exit from a confined space. Such damage can lead to falls by personnel or falling objects that can strike personnel and cause injury. Other conditions or equipment such as valves valve stems, valve handles, conveyors or movable objects can result in injury to personnel if not properly isolated. This equipment may be configured in a manner that requires unusual body positioning in order to perform work on it, potentially increasing the possibility of injury if proper caution is not taken. Under the best circumstances, footing can be treacherous and care must be taken.

**Biological Hazards:** There is no limit to the variety of viruses and bacteria that can exist in a sewer. Exposure can be aggravated by the existence of open cuts that would facilitate infection. Proper PPE is a must.

**Extreme Temperatures:** Confined spaces without sufficient airflow and the use of protective clothing and equipment can cause the retention of body heat and potentially cause dehydration. Therefore, it is important for personnel to drink plenty of fluids prior to entering a confined space with the potential for elevated temperatures. It should be noted that personnel should not eat food or drink water until after exiting and decontaminating.

**Electrical Hazards:** Workers in confined space can be in close proximity to high-voltage electricity and water. This can be a dangerous situation if not handled carefully. Short circuits and electrical fires can

occur with little or no warning, presenting danger to workers and rescuers. Proper isolation of energy sources via lockout/tag out procedures is a must.

**Mechanical Hazards:** This type of hazard are usually found in pumping stations, where machinery, door latches and other mechanical equipment can cause serious injury if not properly isolated. In addition, noise from machinery can cause hearing damage, or interfere with communication between workers. Some mechanical devices must be moved in order to make entry into a confined space. Many of these are heavy, and can lead to strains, sprains or other injuries if not properly handled.

**Traffic Hazards:** These can present hazardous conditions to workers and rescuers. Steps must be taken to alert motorists that work in the area presents a potential hazard. Signs, barriers and warning devices must be used appropriately to preserve work zone safety.

## DEFINITIONS

**Confined Space** – Any space that is large enough and configured to allow a person to enter and perform work, has limited means of entry and exit, and is not designed for continuous personnel occupancy.

**Permit-Required Confined Space** – An enclosed or partially enclosed space such as a tank or other enclosure where there is reason to anticipate a potential or known hazard to personnel. This will include any open top space more than four feet in depth such as a sewer, valve pit or excavation.

**Confined Space Entry Permit** – A specific work permit form to ensure that entry into a confined space is authorized and executed subject to specified safety regulations.

**Entry Supervisor** - a person with basic training in the hazards of confined spaces. The entry supervisor is responsible for determining if acceptable conditions are present at a confined space where entry is planned, as well as authorizing entry, overseeing operations and terminating the entry, as required.

**Authorized Entrant** – Employees and/or contractors who are authorized by the Entry Supervisor to enter the confined space.

**Attendant** – A person stationed outside the permit-required space that monitors the safety of the operation and has duties specified on the Entry Permit form.

**Entry** - The action by which a person passes through an opening into a confined space. Entry includes ensuing work activity inside the space and is considered to have taken place as soon as any part of the entrant's body breaks the plane of the opening into the space.

**Hazardous Atmosphere** – Oxygen level <19.5% or >23.5%, >10% LEL, biological or toxic contaminant above OSHA PEL levels.

**LEL** – Lower Explosive Limit, or lowest concentration of a gas in air capable of being ignited when a source of energy such as a spark or flame is applied.

**PEL/TLV** – Permissible Exposure Limit/Threshold Limit Value. Both are time weighted average concentrations for an eight-hour workday, to which an average worker may be exposed without adverse health effects.

**IDLH** – Immediately Dangerous to Life and Health. A 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 confined space.

**Isolation** – The process by which a confined space is removed from service and completely protected against the release of energy and/or material into the space by such means as: Blanking or blinding; miss-aligning or removing sections of piping, tubing or ducts; a double block and bleed system; lockout/tag out of all sources of energy; blocking or disconnecting all mechanical linkages

**Ventilation** – The use of mechanical or natural air movement to ensure that a hazardous atmosphere does not develop during entry operations.

**Retrieval System** – Equipment designed to assist in the escape of personnel from a confined space when they are unable to do so unaided. This normally consists of a tripod and a winch or device that provides a mechanical lifting advantage for personnel outside the space who may be involved in non-entry rescue. This is also used in routine entries where there is no other means of entry/exit.

**Fall Protection** – a device designed to limit the travel distance of a person who falls from a ladder or working surface. This may be a self-arresting device built into a tripod/winch assembly, a separate self-

arresting device, or a harness equipped with a shock-absorbing lanyard. These devices reduce the shock-load to the body and the associated injuries. Those personnel who must descend more than four feet into a confined space will be required to utilize fall protection.

**Blanking and Bleeding** - Blanking is the process of placing a physical barrier to stop the flow of materials and ensure that this cannot unintentionally be removed. This is usually accomplished by affixing a solid plate into a flanged connection or at the end of an open pipeline, then securing it in place by re-bolting the connection. Bleeding is the removal of any residual material or energy from the source. In these cases, a tag and/or lock will be attached to alert others that these devices are in place to ensure safe work conditions. This procedure is often referred to as a part of Lockout/Tag out.

All of PPM's field employees are trained and certified in Confined Space Entry and follow all necessary safety precautions and procedures as defined by this policy.

## ELECTRICAL SAFETY

### GROUND FAULT CIRCUIT PROTECTION PROCEDURE

**PURPOSE:** To assist personnel by providing guidance in the use of electrical powered equipment and adhere to current standards in the use of the equipment and tools.

**HAZARDS:** Potential electrical shock and injury.

**PROTECTIVE EQUIPMENT:** Safety glasses, gloves, GFCI's (Ground Fault Circuit Interrupters)

**SCOPE:** This procedure applies to all personnel working for PPM and will be available at the jobsite for inspection by personnel, host facility or regulatory representatives. This procedure applies to all electrical equipment and tools. GFCI's will be utilized at the jobsite rather than an Assured Equipment Inspection System. PPM personnel or their subcontractors conduct no electrical installation or repair work. Therefore, all PPM employees are considered to be **unqualified** personnel under the Electrical Safe Work Practices section of the OSHA standards. This procedure does not cover electrical installation or repair.

**PROCEDURE:** The Project Manager will be designated as the person regarding coordination with the host facility, and is responsible to assure that equipment is being used in the manner that it is intended and labeled for, that equipment grounds or double insulated equipment are used, and that GFCI's are being used properly on electrical cords.

Upon entering a host facility, the Project Manager will coordinate with the host facility representative to determine the electrical classification of the area where PPM will be working. Equipment meeting the electrical requirements of the area must be used.

All PPM personnel are considered to be *unqualified personnel* in electrical. Personnel will be trained on the requirements of this procedure, but are *not qualified to perform electrical repair work*.

### EQUIPMENT INSPECTION

All electrical equipment will be visually inspected prior to each day's use. This inspection will include

cords and plugs, testing continuity, correct attachment of receptacles, attachment caps/plugs and grounding equipment connection to proper terminals. A log will be kept by the Project Manager that the employee conducting the daily inspection will sign and date after they have performed the inspection. Cords may not be frayed nor have any exposed electrical wires.

All insulation over splices shall be intact and cover all wires. Only extension cords that are size 12 or larger are permitted to be spliced. Any equipment that is found defective may not be used until it is repaired or replaced. A "Do Not Use" tag shall be attached to the equipment. Equipment that cannot be repaired must be taken out of service and discarded.

### **ELECTRICAL SAFE WORK PRACTICES**

The following safe work practice will be followed at all times by all PPM employees:

- **Safe Distances:** 50 kV or less Power Lines - A safe distance of at least 10 feet shall be maintained with ladders, trucks, man lifts, pipes, or other conductive materials. If the lines carry more than 50 kV a 4-inch clearance distance must be add for each 10 kV of voltage.
- Fiberglass ladders shall be used when working around electrical lines, even if the distance for contact is greater than 10 feet. If fiberglass is not available, a wood ladder may be used. In no case may a metal ladder be used.
- Three (3) prong plugs will be used on power tools that are not double insulated and on all extension cords. No adapters that allow three prong plugs to be plugged into two prong outlets will be allowed.
- All electrical cords will be protected by a GFCI. The GFCI may be a permanent installation contained in the wiring of the host facility equipment or one that is portable like those typically used on construction sites.
- Breaker panels or equipment disconnects must be covered and the internals not accessible when PPM personnel are in the area.
- Lockout/tagout is to be in place and utilized properly when working around electrical equipment that can cause injury if it were activated while PPM personnel is working in the area. The equipment on/off switch should be tried before beginning work.

- Extension cords should not be fastened with staples, hung by wire, or hung from nails.
- Flexible cords attached to equipment should not be used to raise or lower equipment. When removing equipment plugs from outlets the rubber coating over the plug should be grasped and the plug removed. The plug should not be removed by jerking the flexible cord of the equipment.
- When plugging in portable equipment, hands should be dry, which includes perspiration on hands.
- Additionally, PPM personnel may not wear any conductive items of jewelry or clothing on their persons when engaged in work activities involving electrical.

#### **SAFE WORK PRACTICES – CONFINED SPACES**

*No entry into confined spaces may be made if exposed electrical wiring or other electrical hazards are present, or if lockout/tagout is not in effect for the area.* If for some reason, exposed electrical wiring were present, the wiring must be repaired prior to entry by PPM personnel.

#### **TRAINING**

All PPM personnel have been trained as unqualified personnel for electricity and in the contents of this procedure. This training will include safe work practices around electrical equipment and that they are not to conduct any repair on electrical equipment.

## EXCAVATION SAFETY

**PURPOSE:** To assist personnel by providing guidance in the process of excavating and the work related to it, and adhere to current standards for proper excavation procedures.

**HAZARDS:** Potential injury and/or equipment damage from collapse of excavation walls; potential personnel exposure to air contaminants and/or oxygen-deficiency that could be present in excavations.

**PROTECTIVE EQUIPMENT:** Safety glasses, gloves, respiratory protection (depending on air quality), shoring system or trench box for protection against collapse of excavation walls.

**SCOPE:** This procedure applies to all personnel working for PPM and will be available at the jobsite for inspection by personnel, host facility or regulatory representatives. This procedure applies to all excavations and the work in and around them.

**PROCEDURE:** The Project Manager will coordinate with the host facility competent person regarding assurance that work in and around excavations is being done in a safe and responsible manner, and in compliance with all applicable standards.

### IMPORTANT DEFINITIONS

**Competent Person** - One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate the hazards. He/she must have had specific training in, and be knowledgeable about soil classification, use of protective systems, and requirements of the OSHA Excavation Standard (1926.650-652).

**Excavation** - Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal activities such as digging and excavating.

**Excavation Work** - The use of hand tools, powered equipment or explosives in the movement of earth, rock, or other material. It includes, but is not limited to anchoring, auguring, backfilling, digging, ditching, drilling, driving-in, grading, plowing-in, and trenching.

**Protective System / Shoring** - A method of protecting employees from cave-ins, material that could fall or roll from an excavation, or from the collapse of adjacent structures. It includes support systems, sloping and benching systems, shield systems, and other necessary protection. It is required whenever personnel will be working in an excavation that is five feet or deeper, or if a competent person determines there is potential of cave-in, regardless of the depth.

## **INSPECTIONS**

The Project Manager will coordinate with the host facility competent person to inspect the excavation, surrounding area, and protective systems daily. The person will look for signs of cave-ins, hazardous atmospheres, and failure of protective systems.

## **TRAINING**

All PPM personnel have been trained as unqualified personnel for excavations and in the contents of this procedure. This training will include safe work practices around excavations and the hazards associated with excavation work.

## FIRE PROTECTION & PREVENTION

**Purpose:** Prevent personal injury and property damage due to fire/explosion.

**Job Hazards:** Fire and Explosion, Burn Injury

**Protective Equipment:** Normal and basic requirements of host facility

**Scope of Procedure:** It is recognized that, in the majority of cases, PPM is working as a contractor for a host company or facility. The host facility will normally have programs and procedures for safety and health, including work permit procedures, already in place. Any PPM programs or procedures must be able to integrate with those of the host facility.

**Statement of Procedure:** In the case of fire protection and prevention, the following considerations should be taken:

- Many fires can be prevented by good housekeeping practices
- Personnel should know the host facility alarm system and how to turn in an alarm
- Be constantly aware of your surroundings and know where the nearest exit and escape route is
- Employees should know the evacuation routes and staging areas.
- Flammable or combustible liquids should be stored properly, in safety cans or containers and in specified cabinets or storage areas. Only remove the required amount from storage to avoid excess material on hand
- Evaluate fire hazards and ensure the proper fire extinguisher is readily available
- Many buildings and all production areas are smoke free. Smoke only in approved areas

A host facility permit procedure may include a fire watch, whose duties include:

- Check the job for fire hazards prior to starting the powered equipment, engines or beginning any other hot work.
- Remove hazards where possible. If combustible materials cannot be moved from the area, contact host facility supervision for instructions.
- Have a working fire extinguisher or hose line on hand, ready for use.
- Be alert at all times for hazards adjacent or outside the area that may affect the job.
- Remain far enough from the job not to be caught in the hazard and be able to see the surrounding area.
- Prior to leaving for any reason, notify worker(s) and the job supervisor.

Once work has been completed, clean up all materials and/or debris and report to host facility supervision that the job has been completed.

- There are requirements for maintenance on portable fire extinguishers. If PPM uses equipment provided by the host facility, the host then assumes responsibility for maintenance of the extinguishers. However, if PPM provides their own equipment, maintenance requirements are:
- Monthly visual inspection of all portable fire extinguishers to ensure that the equipment is in its proper place, easily accessible and in good operating condition.
- Annual maintenance check per requirements outlined in OSHA 1910.157 and NFPA 10, the standard for portable fire extinguishers.
- Periodic hydrostatic testing that meets OSHA and NFPA guidelines.
- Record of annual maintenance must be kept for 1 year after the last entry, or until the extinguisher is discarded, whichever is less.

## HEARING PROTECTION

**PURPOSE:** Protect personnel from excessive noise or unwanted sounds.

**JOB HAZARDS:** Temporary or permanent hearing loss.

**PROTECTIVE EQUIPMENT:** Earplugs or muffs.

**SCOPE:** It is expected based on prior site reviews that no PPM personnel will be exposed to noise in excess of the established action level (85 dbA based on the TWA). This procedure covers areas outlined in OSHA's 1910.95. Employees are provided with and encouraged to wear hearing protection at all times and required to wear hearing protection devices in areas where high noise levels may present. Each employee has a responsibility to protect his/her own hearing by wearing hearing protection properly.

**PROCEDURE:** The PPM cleaning process does not generally generate noise in excess of 85 dbA. However, other work in and around PPM personnel may generate sufficient noise to warrant hearing protection. Hearing protection is also required when the host facility has Hearing Conservation or Hearing Protection required signs posted.

### METHODS OF PROTECTION

The preferred method of hearing protection is elimination of noise by engineering controls such as sound-absorbing devices and proper maintenance on equipment.

Another method of hearing protection is administrative controls such as a procedure that limits the time a person is exposed to noise. This may mean regularly rotating personnel to limit exposure or reviewing the feasibility of personnel working further from the source of noise to lower the exposure.

When engineering or administrative controls are not feasible, personnel must wear hearing protection devices such as earplugs or earmuffs. These devices have noise reduction ratings noted on the package to help personnel determine the level of protection.

PPM personnel are encouraged to utilize hearing protection, and are required to wear earplugs or muffs when noise levels are excessive. Excessive noise can be described as sounds that are irritating or painful, or when at an arm's length you have to raise your voice to be heard.

### **HEARING CONSERVATION PROGRAM**

In general, PPM personnel do not work in routinely noisy areas. However, employees are encouraged to report excessive noise sources. In the event of excessive noise reports the Project Manager will investigate and take appropriate steps to abate the noise source, establish monitoring activities or provide for evaluation of specific hearing protection.

When information that any PPM personnel exposure may equal or exceed an 8-hour time-weighted average of 85 decibels PPM will establish and maintain an audiometric testing program. The program will be applied to all personnel whose exposures equal or exceed the 8-hour time weighted average of 85 decibels. The program will be established at no cost to PPM personnel within six months of first exposure and designed to establish a baseline audiogram for each exposed person.

Annual testing will be made available to all personnel in the hearing conservation program to validate the testing and to compare to baseline testing to determine if a standard threshold shift has occurred. If a shift is detected personnel will be notified in writing within 21 days of the determination.

Audiometric testing will be done when there has been at least 14 hours without exposure to workplace noise. Personnel to be tested will be notified to avoid high noise levels prior to testing and to wearing hearing protection to prevent noise exposure.

Records regarding personnel audiometric testing, noise exposure levels and training will be kept in an accurate manner. Audiometric testing and training records will be kept for the duration of the employee's employment and noise exposure records for two years.

### **TRAINING**

PPM personnel receive annual training in hearing conservation which includes the selection, use and proper care of hearing protection, the purpose of hearing protectors; the advantages, disadvantages, and attenuation of various types of protection; what to do if they suspect a shift in their hearing threshold in conjunction with their work. In addition, personnel are educated to the hazards of noise and unwanted sound and the harmful effect it can have on their hearing.

## HEARING PROTECTIVE DEVICES

Earplugs can cut noise up to 30dbA. They can be moldable, pre-molded or custom fit. They are small, inexpensive, portable and comfortable in hot weather. They allow free movement of head making them good for working in tight spaces and provide good protection against high frequency sounds. However, they can be hard to fit, can introduce dirt into the ear canal, and must be replaced periodically.

Ear Muffs can cut noise between 15–25 dbA. Ear Muffs consist of three parts including ear cups, headband and ear cushions. They are easy to put on and take off. The headbands are adjustable and seldom come loose throughout the day. However, they can be uncomfortable in hot weather and difficult to wear with other equipment such as eye protection and respiratory equipment.

Note: Stereo headphones or wads of cotton are not a substitute as hearing protection.

## CARE OF HEARING PROTECTION

- Discard disposable plugs at least daily, more frequently if they are dirty
- Never share earplugs or muffs
- Wash non-disposable plugs with soap and warm water
- Wash hands before inserting plugs
- Store the plugs in a sanitary container
- Inspect plugs regularly for deformation, cracking, or hardening
- Clean foam inserts and rubber cushions on earmuffs regularly
- Inspect cushions, rubber inserts, and check for deformation of the headband of the earmuffs

## HOT WORK

**PURPOSE:** To observe proper precautions around welding, cutting or hot work that creates a spark, arc or open flame.

**HAZARDS:** Eye injuries, possible respiratory hazard, burns to skin or eyes, fire.

**PROTECTIVE EQUIPMENT:** Safety glasses required at all times. Respiratory protection where needed, flame retardant clothing, fully charged fire extinguisher available.

**SCOPE:** PPM personnel will not be performing welding or cutting at a host facility. A gasoline or kerosene engine powers the equipment that is used for wrapping and coating. Depending on the host facility's requirements, this may be considered to be hot work requiring a permit if the engine is within a production or operating area. Additionally, it is possible that personnel will be working around jobs conducted by other contractors that could create sparks, arcs, or open flames. Additional protective measures may be required. The PPM Project Manager will check with the host facility and contractors working in the approximate area for coordination guidance.

**PROCEDURE:** Prior to starting a job using heat or spark-producing equipment, check with the host facility's representative to determine if a hot work permit is required to operate the equipment. If necessary, obtain the required permits. Post copies of the permits at the job site. Follow all of the required precautions outlined on the permit.

Determine the protective equipment needs and have all employees in compliance. A fire extinguisher should be located at the job site.

Use care when working around a hot work area. Welding leads and hoses can create tripping hazards. Personnel should never look directly at the arc of welding or cutting. This can create flash burns to the eyes. If an arc is visible in the vicinity of PPM employees, a request should be made for curtaining or partitioning to be placed around the cutting/welding area so personnel are not exposed to potential flash burns.

When working around arc-gouging, also called air-arcing, it should be recognized that there might be elevated levels of carbon monoxide present. Carbon monoxide gas is always formed during arc-gouging.

In addition, if Hydrogen Sulfide (H<sub>2</sub>S) was involved in the metal's service, sulfur dioxide can be created. Ventilation should be provided with exhaust away from the occupied area. It is important that PPM personnel verify that proper ventilation is in place when they

are in an enclosed space and welding is being conducted. Air quality should be evaluated for the need of respiratory protection.

Arc-gouging has the potential to produce noise levels above the OSHA limit of 85 dBA. This may require that PPM personnel use hearing protection, particularly if work is inside a confined space.

Caution should be taken when working directly above or below spark producing activities. Measures should be taken to assure that sparks will not land or fall on personnel to prevent the potential of burns.

## LOCK OUT / TAG OUT

**PURPOSE:** Prevent injury to personnel working on or around equipment by ensuring the equipment is properly isolated from all operational equipment process streams and energy sources, and is free of toxic and/or flammable materials. This can be accomplished by good communications, teamwork and application of PPM and the host facility's Lockout/Tagout program.

**HAZARDS:** Potential injury from sudden release of hazardous energy.

**PROTECTIVE EQUIPMENT:** Basic equipment for host facility, or as specified on work permits.

**SCOPE:** All PPM personnel who work on equipment that must be isolated in accordance with host facility procedures and OSHA 1910.147.

### ENERGY CONTROL PROCEDURE

The Lockout/Tag out program is controlled and enforced by the PPM Project Manager in conjunction with the host facility's program. The Project Manager will periodically review the work area to ensure procedures and requirements are being followed, and keep suitable documentation of all inspections and audits. No less than one audit/inspection will be performed annually. If the PPM Project Manager is involved in the Lockout/Tagout work, he/she will secure the assistance of another PPM person knowledgeable in the Lockout/Tagout procedures.

### PPM Equipment

PPM does not bring any equipment or process to the job site that requires energy source isolation such as lockout/tagout. All PPM work is associated with the host facility equipment and their implementation of Lockout/Tagout. Facility energy isolation could include electrical (pump and compressor electrical systems), Steam (blinding of steam lines), hydraulic (physical stops on equipment), stored or other types of energy sources (isolating operating lines or chaining/locking of valves which facility employees are trained to isolate. The PPM Project Manager will coordinate the needs for equipment isolation with the host facility and will use the PPM LOTO procedures in conjunction with the host facility procedure for any equipment they may enter or conduct work on that must be locked and tagged out.

### **Lockout Devices**

PPM personnel are issued individually keyed locks with the employee's name and "PPM" engraved on each. These locks are stored in the on-scene PPM truck and may not be used for any purpose other than equipment isolation. It is recognized that, in some cases, there may be multiple personnel, crafts or contractors working on the same project. Multi-lock devices will be used so that all personnel will be able to affix their appropriate lock or tag.

### **Authorization and Control Techniques**

Prior to beginning work, the Project Manger will meet with host facility representative to determine the need for equipment isolation. They will physically verify that equipment has been shut down, all isolation points have been physically identified and that isolation has been properly completed with lockout/tagout devices at all isolation points.

Once the host facility has shut down and isolated equipment, PPM personnel working on equipment will place their personal lock at all isolation points or obtain lockout devices and locks from the host facility in accordance with the host facility procedures. In some cases, multiple lock devices must be used to allow for multiple locks to address different crafts or contractors.

Prior to removal of any lockout/tag out devices, the PPM Project Manager will check the area to see that all work has been completed and personnel are located safely away from the equipment. All PPM lockout/tag out devices will be removed in the presence of host facility supervision.

If lockout devices are to be removed temporarily for any reason such as an emergency, the Project Manager will coordinate with the host facility to ensure the removal of all tools and debris and employees are in a safe location. The lockout devices are then removed, the equipment energized and tested. The equipment will be de-energized and lockout devices and control measures re-applied. The procedure must be documented, including who performed the work and who verified procedures.

### **WORK CONTINUATION**

If work is not complete at the end of a shift, the PPM employee completing the shift will remove his/her personal lock and notify the Project Manager and host facility. The next PPM employee to work on the equipment will affix his/her own personal lock at the appropriate location(s).

## TRAINING

PPM personnel will be trained in lockout/tag out procedures, to recognize all types of energy sources, to recognize and address the method and means of energy source isolation and control prior to job assignment. If equipment or job hazards change retraining will take place for personnel as needed.

## DEFINITIONS

**Affected Employee** – an employee who operates or uses a machine or equipment on which work is to be performed, or whose job requires him/her to work in an area in which such work is being performed.

**Authorized Employee** – a person who locks or tags out machines and equipment for the purpose of performing maintenance.

**Lockout Device** – a device that uses a positive means such as a lock to hold an energy isolating device in the safe position and prevent energizing of a machine or equipment. Included are color-coded and individually keyed locks, blank flanges and bolted slip blinds.

**Stored Energy** – energy that can be suddenly released after lockout/tag out devices are affixed, such as a hydraulic piston, a spring-loaded mechanism or an electrical device that stores current such as a battery.

**Tag Out Device** – a prominent warning device, such as a warning tag with a message such as “Do Not Start” or “Do Not Operate” and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and equipment being controlled may not be operated until the tag out device is removed.

## MANUAL LIFTING

**PURPOSE:** Prevent injuries caused by improper lifting of materials or equipment.

**HAZARDS:** Potential injuries to back, arms, neck or other part of body.

**PROTECTIVE EQUIPMENT:** Normal or basic requirements of host facility.

**SCOPE:** All PPM personnel.

**PROCEDURE:** The following precautions should be taken when an object must be lifted:

- Use mechanical material handling equipment such as a hand truck or a forklift whenever practical, and when trained to utilize the equipment. Individuals should limit themselves to lifts that can be comfortably made alone, otherwise get help or use a mechanical device.
- When lifting objects, have secure footing, feet apart and keep load close to the body.
- When carrying an object, be aware of the surroundings and be sure that vision is not obstructed.
- Avoid throwing or dropping objects or, if necessary, establish a safety zone. Safety zones can be secured with barricades, or a safety watch may be needed.
- Injuries, particularly those to the back and neck, can be very painful and possibly disabling. Prevention of these injuries is the key safety concern.

## MOBILE EQUIPMENT

**PURPOSE:** The purpose of this procedure is to highlight and inform employees of the hazards common to operation of this equipment. It is designed to reduce the potential of employee injury or property damage.

**SCOPE:** This procedure applies to all employees of PPM utilizing mobile lifting equipment in the course of their job duties. It is incumbent on supervision to be aware of the requirements of this procedure and each employee to adhere to the procedure.

### AERIAL ARTICULATING BOOM EQUIPMENT PROCEDURE

Always properly prepare any piece of equipment for safe operation and use. The following procedures should be followed when operating in or near lifting equipment:

Only trained and qualified personnel are permitted to operate mobile lift equipment.

Before operation, the operator must make an inspection and pre-operational check for safety defects.

All prescribed safety precautions and practices outlined in the operations and maintenance manual must be adhered to.

Never exceed the maximum weight limit as found on the vehicle/basket placard.

The equipment is designed to operate on reasonably level ground and should not be operated on a severe incline.

When the lift is stationary and in use on roadways, or aisleways, warning cones and/or barricade tape must be placed around the equipment to warn other traffic.

A harness and lanyard must be worn while operating an aerial articulating boom lift with the lanyard tied off to the boom or basket. NOTE: A safety belt may be worn if the lanyard length does not exceed 2 feet.

## **TRAVELING**

Avoid rocks, holes, extremely soft surfaces and soils, and other obstacles, which might subject the platform to undue stress or possible overturn.

Retract boom and lower it to approximately 15 degree. - 20 degree. above the horizontal before traveling.

The platform does not provide protection from contact with or proximity to an electrically charged conductor. Do not operate within 15' of high voltage power lines.

## **PLATFORM OPERATION**

When the platform is occupied, ground controls are used only in the event of an emergency.

The ground controls include a selector switch, which must be activated in order to override the work platform controls. The instructions on the instruction placard should be followed.

If the lift is equipped with an auxiliary power unit, it will provide the power necessary to operate the platform in case of primary power source failure. This should only be used in case of emergency.

## **SWINGING THE BOOM**

Before initiating any basket swing operations, ensure the area in the swing path of the platform, as well as, the tail swing areas are clear of all obstructions and personnel.

Never push or pull the swing control lever through neutral to the opposite direction to stop swing motion.

All controls should be operated with a gentle motion. When the boom is extended, moving the control lever slowly will help avoid abrupt boom swing.

## **MANLIFT (SCISSORLIFT) PROCEDURE**

Prior to operating and working in a manlift, the employee must be trained in safe operation and use of the equipment.

The operation manual must be available for the employees to refer to when working with the lift.

The operator prior to use must inspect the manlift. All controls must be operated, brakes and tires checked. All structural members should be checked for sturdiness and strength. The lift should be moved and the operator should look for oil on the floor indicating leakage.

The steps to the platform and the platform should be cleaned prior to use of the lift. Any greases, oils, or items that could cause slipping must be cleaned.

The fall protection for the manlift is the toprail, midrail, and toeboard. If the chains are attached at the entry end of the lift while employees are working on the platform, then no additional fall protection is required. However, if the employees stand on any other level other than the platform of the lift, such as on a railing, then they must use fall protection like a harness and lanyard.

When using a harness and lanyard from the platform of the manlift, the tieoff point must be on the lift itself and not to a fixed point outside of the lift.

No additional items may be placed on the lift platform to make the work surface higher, such as boxes, ladders, etc.

## **GENERAL OPERATING REQUIREMENTS**

When elevated in the lift, the area around the base of the lift shall be barricaded off with cones, and or barricade tape.

If more than one person is working from the lift, one person should be designated as the operator and operate the lift at all times.

Personnel working from the platform of the manlift shall wear protective eyewear, and hardhats, while on the platform.

Safe distances shall be maintained from overhead electrical lines. In areas where bridge cranes are operated, the cranes shall be locked out and tagged out while the personnel are operating in the travel area of the cranes. The operator should also determine the electrical power busses and avoid contact by personnel or the manlift.

Enter or exit the lift from the ground level only, using a three-point stance to get on and off the lift. Avoid touching the operational controls when entering or exiting the lift.

Do not exceed the rated load capacity of the lift. This capacity should be stamped on the nameplate of the lift. Make sure that the load on the lift does not extend over the sides of the lift, unless a spotter is used and is in communication with the operator.

Travel only when the lift is in the lowered position. When traveling be alert to other employees or objects in the area. Look above when raising the lift, and below when lowering the lift.

Use the lift only on hard, stable, and fairly level ground. If the lift is equipped with outriggers, use them, exercising caution when lowering them to assure that nothing is in the way of the outrigger.

If the lift is equipped with a lower control station, when using it to lower the lift make sure the operator is out from under the platform.

## RESPIRATORY PROTECTION

**PURPOSE:** The purpose of this program is to establish respiratory protective measures for personnel and to inform personnel about the process required to wear respiratory equipment and to document that process for future reference.

**JOB HAZARDS:** Inhalation of toxic materials that have the potential to damage lung tissue.

**SCOPE:** Based on the type of services provided by PPM and their limited requirements for respiratory protective equipment this procedure only applies to air purifying respirators, or powered air-purifying respirators. This program applies to all PPM personnel who may wear respiratory equipment to conduct their work. This program also applies to those employees that may require respiratory protection for non-routine tasks. PPM work does not require and personnel are not permitted to work in areas that present or could present an Immediately Dangerous to Life and Health (IDLH) situations and accordingly will not be wearing SCBA's or airline respirators. NOTE: All training, time, medical exams and equipment associated with this procedure will be provided to the employees at no cost or loss of pay to them.

### DEFINITIONS:

**Air Purifying Respirator (APR)** - Either a half face or full face respirator that fits tightly on the face. It has cartridges or canisters that filter out impurities from the breathing air that is pulled through the filter media by the force of inhaled breath.

**Breakthrough** - is experienced when a contaminate penetrates the respirator cartridge signaling the filter is no longer useful for respiratory protection.

**Competent Person** - An individual that is knowledgeable in the referenced subject area by way of education and experience and is authorized by the employer to provide this knowledge.

**Immediately Dangerous to Life or Health (IDLH)** - means any condition that would pose an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would prevent a person from escaping from an area unaided. This would include but is not limited to oxygen deficient or enriched atmospheres, toxic environments, or environments with flammable vapors approaching or in the LEL range.

**NIOSH** - National Institute of Occupational Safety and Health

**Powered Air Purifying Respirator (PAPR)** - A respirator which has an enclosed hood where air is pulled in via a pump and passes through a filter media which removes the impurities and sends air to the breathing zone in the hood.

## RESPONSIBILITIES

**Program Administrator** - The Program Administrator for the PPM Respiratory Protection program will be the General Manager. His/her responsibilities will include:

- Oversee the written program to assure it meets the provisions of the OSHA standard.
- Conduct a periodic review of the written program and its workplace implementation to assure the program is effective.
- Oversee the respiratory protection training to assure personnel receive the required training.
- Conduct audits of fit testing and medical evaluations to assure program guidelines are being met.
- Provide respirators that are specifically designed and recommended for the particular task and potential hazard.
- Review spot survey of respirators.
- Assure that employees leave the work area, should they experience breakthrough of their cartridges, or resistance in breathing. Assure they have facilities for washing their hands and face prior to changing their cartridges or prior to eating, applying cosmetics (lotions, sunscreen, etc.), or smoking.
- Consult with employees periodically to identify any issues with the respiratory program effectiveness.
- To be responsible for retention of all training and fit test records.
- To be responsible to assure that the medical records are retained by the medical clinic and in a confidential manner.

**Project Manager** - responsibilities shall include:

- Obtain a physician's determination that an employee is physically able to perform the work and use the respiratory protection equipment before assigning tasks that require the use of respirators.
- Ensure fit testing is conducted annually. NOTE: Fit testing may not be conducted prior to medical clearance, or if facial deformities, facial hair, or eyewear interfere with face piece seal.
- Maintain an adequate supply of respiratory protective equipment such as cartridges, new straps, seals, etc.

- Answer employee’s questions regarding the use of respiratory equipment.
- Ensure employees receive the proper training prior to using respiratory equipment.
- Conduct and document spot surveys of respirators to assure they are being maintained and inspected properly. The documentation form is attached in Appendix A.

**Employee** - The Employee’s responsibilities shall include:

- Use of the provided respiratory protection in accordance with instructions and training received.
- Use only the size and brand of respirator that is fit tested. If for some reason this respirator is not available, a fit test must be conducted on the respirator provided prior to use.
- Report any imperfections or deficiencies found in the respirator being used.
- Wear respirators only when a good face seal is present. This includes conducting a negative and positive pressure fit test each time the respirator is donned, and not wearing the respirator when beard growth or stubble prevents a good seal.
- Store respirators so they will be protected against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators shall be stored in a clean and sanitary condition in a plastic bag in the designated mixing and filling storage area.
- Clean respirators including disinfecting and inspecting respirators after each use for worn or deteriorated parts.
- Replace cartridges when they become clogged or breakthrough is experienced.

**EXPOSURE ASSESSMENT**

To ensure employee protection, NIOSH certified respirators with a HEPA cartridge filter, will be worn. Because PPM performs work in a variety of facilities it is necessary during job setup, to discuss with the host facility what hazards, toxics, if any, may be found. Respiratory equipment will be addressed accordingly.

For routine tasks the following Hazard Assessment includes respiratory protection needs. If a non-routine task is to be performed, a hazard assessment will be conducted, which will review required respiratory equipment.

TASK	PPE REQUIREMENTS
Pipeline Cleaning	Level D with Respirator In High Dust Areas

### **EMPLOYEE MEDICAL MONITORING:**

Any employee that will perform work, which requires wearing of respiratory equipment on a routine basis, will complete a medical questionnaire during working hours. A Physician designated by the program administrator will review this questionnaire. The physician will either approve the employee to wear respiratory equipment or will request the employee come into the clinic for further evaluation. Once the physician approves the employee, the clinic or the employee will provide the Program Administrator with approval documentation. The employee has the right at anytime to discuss the medical criteria with the company physician. The medical questionnaire that is used may be one that is provided by the clinic but it must contain all the information and questions that are outlined by OSHA Appendix C 1910.134.

### **RESPIRATOR SELECTION**

Appropriate respirators based on the hazards associated with the work will be selected, approved, and supplied by the Program Administrator. Only NIOSH certified respirators are utilized. The Project Manager will make appropriate respirators available and assist employees as needed prior to performing a job that requires respiratory protection. All respirators will be assigned to individual employees for their use.

### **EMPLOYEE TRAINING**

Each employee upon assignment to a job that requires respiratory equipment must be instructed on his or her respiratory protection program responsibilities. They will also be instructed by a competent person in respiratory protection in the need, use, limitations, and care of respiratory equipment. This training will be updated yearly. The following subjects will be covered in this training:

- An overview of the requirements contained in OSHA standard 1910.134
- Hazards associated with their specific task
- Location and availability of the written respirator program
- Physical and health effects associated with not using required respirators
- Methods used to inspect respirators for worn or deteriorated parts
- The proper uses of their specific respirators - proper fit, face piece seal, positive and negative fit tests,
- Cleaning and storage procedures for respirators.
- Sanitation procedures when respirators are used by more than one person.
- Ways to determine when the cartridge or respirator should be replaced.
- How to read labels to determine which respirator is recommended for the particular chemical or task.
- Emergency procedures to follow should a respirator fail.

## **EMPLOYEE FIT TESTING**

Employees required to wear a respirator must be properly fitted and tested for a facepiece seal prior to the use of a respirator in a contaminated area and annually thereafter. The fit testing will be conducted only after the company physician medically clears the employee. Additionally, employees must conduct a positive and negative fit test each time they don a respirator. If for some reason it is determined that an individual cannot obtain an adequate facepiece seal with any negative pressure respirator, a powered air-purifying respirator may be required.

Attached in Appendix B is the protocol used for fit testing. Documentation of fit testing will be entered on the fit test record and kept on file by the program administrator. This fit test record will have the make and model of respirator, which is used for fit testing and will be assigned to the employee. A copy of the fit test record is in Appendix C.

## **RESPIRATOR INSPECTION AND MAINTENANCE**

The following are requirements for respirator inspection and maintenance:

- The wearer of the respirator will inspect it prior to each days use
- The supervisor will periodically spot check the condition of the employee's respiratory equipment. Any deficiencies found will be brought to the employee's attention. The supervisor will re-instruct the employee on how to properly inspect and maintain their respirator. This is in addition to the spot checks conducted by the Program Administrator.
- Respirators will be cleaned and inspected after each day's use, according to the manufacturer's instructions by the employee that the respirator is assigned to. Cartridges will be disposed of on a daily basis or more frequently if breakthrough occurs.
- The respirators will be cleaned with a disinfectant solution. The seal on the facepiece and the elasticity of the straps will be checked. The gaskets on the inhalation and exhalation valves will be checked for distortion or tears. The respirators will be air dried before being stored.
- Once respirators have been dried they will be stored in a plastic bag or other sealed container and stored in a place to prevent distortion or contamination.

## **PROGRAM SURVEILLANCE**

The General Manager is responsible for program oversight and surveillance of the respiratory program at the job site. The administrator will ensure personnel practice good personal hygiene by washing, ensure

personnel change cartridges as necessary and confer on any issues relative to respiratory protection such as changes in conditions and detection of breakthrough or resistance to breathing.

### ***SCBA – Airline Respirators***

Site hazard assessment has not required the use of self-contained or airline respiratory systems. If the host facility has proof of potential hazards PPM will secure appropriate equipment and PPM personnel will be trained in advance in the use of the equipment and will follow the PPM confined space entry procedure, which addresses outside standby personnel, line of communications, training, equipment, notification procedures and rescue plan.

For airline respirators equipment will be checked to ensure the proper grade of air is available, fittings are incompatible with non-respirable gases, and equipment is located in a clean area and carbon monoxide monitors are in place set to 10ppm and monitored frequently.

**APPENDIX A**

**PPM - RESPIRATOR INSPECTION CHECKLIST**

Supervisor \_\_\_\_\_ Date \_\_\_\_\_

Employee \_\_\_\_\_ Respirator Type \_\_\_\_\_

\_\_\_ 1. Is the respirator clean and stored properly according to procedure, if respirator is in storage?

\_\_\_ 2. Are the seals in good condition?

\_\_\_ 3. Is the exhalation valve supple, intact and laying properly on the valve?

\_\_\_ 4. Does the respirator still maintain its shape without distortion?

\_\_\_ 5. Have the cartridges been replaced at the end of the shift?

\_\_\_ 6. Are the straps on the respirator flexible and able to be tightened?

\_\_\_ 7. Upon questioning, has the employee been using the disinfectant provided for cleaning?

\_\_\_ 8. Does the employee understand what the positive and negative fit checks are? Did the employee conduct them when they donned the respirator?

We certify that this inspection has been conducted on this date.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Supervisor's Signature

## APPENDIX B

### SACCHARIN SOLUTION AEROSOL FIT TEST PROTOCOL

Prior to beginning the fit test procedure the employee must be medically cleared.

The entire screening and testing procedure must be explained to the test subject prior to beginning the screening. If the test subject eats or drinks something sweet they may not be able to detect the weakened saccharin solution, therefore the test subject is not permitted to eat, drink, smoke, or chew gum at least 15 minutes prior to the start of the fit test procedure.

The taste threshold-screening test shall be conducted without the subject wearing a respirator.

Put the 3M-test hood over the head and shoulders of the test subject. The subject shall breathe through their slightly open mouth with the tongue extended. The opening in the test hood should be in the area of the subjects' nose and mouth.

The check solution shall be made using 100ml of warm potable water to .83 grams of sodium saccharin unless literature accompanying the test kit or refills dictates some other combination.

The test conductor shall spray the check solution into the enclosure, with the nozzle directed away from the nose and mouth of the subject. The nebulizer used with the check solution shall be distinctly marked. The nebulizer bulb shall be rapidly squeezed 10 times until the bulb collapses completely, then released, and allowed to fully expand before the next squeeze. If the subject reports tasting the sweet taste then the test is completed.

If after ten squeezes, the test subject does not detect the taste, another ten squeezes may be administered as before. If the subject still can not detect a sweet taste, then the tester may administer additional ten squeezes for a total of 30 squeezes. After 3 tries if the subject still can not detect the taste then the test subject can not taste the saccharin solution and this fit test method may not be used.

The tester must make a note on the fit test record how many squeezes were required for the test subject to detect the saccharin.

When a number of personnel are being fit tested, the nebulizer shall be rinsed in water, shaken dry and refilled at least every 4 hours.

The fit test is conducted with the same type of setup as the screening test, with the hood, only this time a dust mask, or regular half face/full face respirator with particulate filters shall be used. The test subject shall adjust the respirator, conducting the positive and negative fit checks prior to entering the fit test hood. The respirator may not be adjusted during the testing or the testing must start over.

A second nebulizer shall be used that is clearly marked as the fit test solution. The fit test solution shall be prepared by using 83 grams of sodium saccharin to 100 ml of warm potable water or using the mixture quantities recommended in any literature accompanying the fit test kit or refills of solution.

As before the test subject will breathe through their mouths with their tongues extended somewhat forward. The tester shall squeeze the nebulizer through the hole in the front of the fit test hood. The tester will use the same number of squeezes on the nebulizer that was required for the test subject to detect the saccharin solution in the prior test to establish a test atmosphere. Every 30 seconds the tester will replenish the test atmosphere with half the number of squeezes on the nebulizer that was required to establish the initial test atmosphere. The fit tester should check the nebulizer periodically to assure that it is not clogged, because it will have a tendency to clog. If at the end of the test the nebulizer is found to be clogged it will make the fit test invalid.

The subject shall be required to perform the following exercises for one minute each while standing in the hood and test environment:

1. Stand in a normal position and breathe normally
2. Stand in a normal position and take deep slow breathes
3. Turn head from side to side with the head being held in the furthest side position momentarily
4. Standing in place move head up and down slowly while inhaling in the up position
5. The test subject shall talk out loud by counting backwards from 100 or reading a prepared text such as a song or out of a technical manual
6. The test subject shall grimace by smiling or frowning. This exercise must only be conducted for 15 seconds
7. The test subject shall bend over like they were going to touch their toes
8. Then resume normal breathing

The tester must question the subject as to the comfort of the respirator. If it is uncomfortable then another respirator shall be tried and the fit test protocol repeated. If the test subject has reported no sweet taste the test should be considered passed. If at anytime the test subject reports a sweet taste the test is a failure, and a new respirator must be selected and the fit test protocol starts over.

Record findings including proper respirator type and size on the PPM fit test record for the screening and fit test protocols.

**APPENDIX C**

**PPM - FIT TEST RECORD**

Name \_\_\_\_\_ S.S.# \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Location \_\_\_\_\_ Date \_\_\_\_\_

Subject Medically Cleared \_\_\_ Yes \_\_\_ No                      Date \_\_\_\_\_

**SENSITIVITY TEST**

Type of Test Medium \_\_\_\_\_ Pass \_\_\_ Fail \_\_\_

No. of Squeezes for the Test Medium \_\_\_\_\_

**FIT TEST**

Type of Respirator \_\_\_\_\_ Pass \_\_\_ Fail \_\_\_

Manufacturer \_\_\_\_\_ Model \_\_\_\_\_

Type of Respirator \_\_\_\_\_ Pass \_\_\_ Fail \_\_\_

Manufacturer \_\_\_\_\_ Model \_\_\_\_\_

Comments \_\_\_\_\_

Name of Fit-Tester \_\_\_\_\_

Signature of Fit-Tester \_\_\_\_\_

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

**PURPOSE:** To define the minimum equipment required for personnel, and subcontractors while performing various work tasks. Additionally, outlining requirements for the training and maintenance of personal protective equipment.

**HAZARDS:** Potential exposure to various workplace physical or chemical hazards.

**SCOPE:** This procedure covers all PPM personnel and subcontractor employees while working on the jobsite, performing various tasks as outlined in the Personal Protective Equipment Assessment. The procedure outlines steps necessary to ascertain requirements for performing nonroutine tasks.

### **PROCEDURE:**

Personal Protective Equipment will be provided to employees whenever it is necessary to protect them from potential hazards that could cause injury through absorption, injection, ingestion, inhalation, or physical contact. Employee owned personal protective equipment is not allowed on PPM work sites.

The personal protective equipment being used must properly fit the employees, and will be provided at no cost to the employees. Employees must use and wear the personal protective equipment properly, and in the manner intended.

Personal protective equipment must be maintained and used in a sanitary and reliable condition to properly protect the employee from potential workplace hazards. Equipment must be inspected prior to use. Any equipment that is found defective should be discarded and a replacement obtained.

Employees will be trained on the proper use and care of the personal protective equipment that they use. They will also be familiarized with the PPE Assessment, which may be found in Appendix A, which was conducted for general work duties. Any non-routine tasks will be evaluated by the Project Manager in conjunction with the host facility representative. Prior to work beginning on the jobsite a discussion will be held between the Project Manager and the host facility representative to determine any toxics present at the jobsite or non-routine tasks that may be necessary for the job in question.

## **HEAD PROTECTION**

Hardhats are provided for work on the jobsite. The Hardhats provided will meet ANSI specifications for impact resistance and protection against electric shock.

Hardhats must be inspected periodically by the wearer for cracks, chips, holes, and wear. Any of these could diminish the protection capacity of the cap, and if detected the cap should be replaced. Hats shall be worn with the brim facing the front of the hat. The only other apparel which maybe worn under the hat is a liner made for this purpose. Ball caps or engineer hats may not be worn underneath the hardhat.

## **EYE/ FACE PROTECTION**

Safety glasses must be worn by all employees while on the jobsite.

All safety eyewear (prescription and non-prescription) worn by PPM employees must meet or exceed the Z87.1, 1989 ANSI Specifications.

Contact lenses are permitted. Company issued industrial safety eyeglasses must also be worn in conjunction with the contact lens.

Face shield and chemical goggles are required to provide protection where there is the possibility of facial exposure to corrosive chemicals and flying particles.

Chemical goggles must be worn to protect against chemicals and irritants (dust, paint, rust, scale, etc.) for the eyes-only. Where chemical injury to the face is possible, a face shield must be worn.

## **LEG/FOOT PROTECTION**

All personnel in work areas must wear foot protection consisting of a shoe or boot with sturdy leather or leather-like upper and an oil resistant sole. Soft leather uppers or soft-toed uppers are not allowed. Shoes must be fully enclosed (no open toes or heels) and resistant to the hazards encountered (i.e., caustics, slippery surfaces, etc.) When climbing ladders, stairs, etc. the shoes should have a heel to prevent slippage. Sneakers or casual shoes are not allowed in work areas.

Steel/hard toed work shoes are not required but are strongly recommended. Rubber overboots may be required when performing some work tasks according to the PPE Assessment. These boots will have a slip resistant sole and will be impervious to water or other liquid chemicals used on the job, or contained on the jobsite.

**HAND PROTECTION**

In general gloves can help protect employees' hands from injury. Several types of gloves are available and employees are encouraged to wear them. Chemical gloves (nitrile, rubber, or plastic coated types) should be utilized where contact with hydrocarbons, corrosive or toxic chemicals is possible. Leather gloves will also be provided to protect employees' hands from abrasion.

**ADDITIONAL PROTECTIVE CLOTHING**

Slicker suits will be utilized when chemical application is being done. Any disposable garments will be removed before leaving the jobsite and disposed of in accordance with measures set forth by the host facility and the PPM Project Manager. The slicker suits will be decontaminated as appropriate for the chemical exposure.

Depending on the job and work situation(s) the Project Manager may determine and require additional personal protective equipment such as fire retardant coveralls, respiratory protection or chemical protective suits.

**APPENDIX A**

**PERSONAL PROTECTIVE EQUIPMENT ASSESSMENT**

TASK	PPE REQUIREMENTS
Starline Operations	Level D; Coveralls, Gloves, Hats, Glasses

The above mentioned PPE should be utilized when conducting the jobs mentioned. I certify that I have reviewed the requirements for each of the above jobs.

\_\_\_\_\_

Sign & Date

## PROCESS SAFETY MANAGEMENT

**PURPOSE:** To help ensure the safety and health of PPM, other contractors and host facility personnel while working in or around processes that involve highly hazardous chemicals.

**JOB HAZARDS:** The potential for involvement in or being around incidents that involve highly hazardous chemicals.

**PROTECTIVE EQUIPMENT:** As dictated by the host facility and their associated permit systems.

**SCOPE:** PPM personnel who are working in or around processes that may contain highly hazardous chemicals. This procedure will help ensure PPM personnel understand the need for Process Safety Management (PSM) Programs in the host facilities and their involvement in contributing to facility safety.

**PROCEDURE:** PPM personnel will be trained in the background and requirements of PSM. Each will understand the purpose of PSM as a program contributing to help minimize the consequences of a catastrophic event. They will attend training as necessary for any site-specific requirements pertaining to the host facility including:

- Specific work related procedures , such as
  - Lock out/ Tag out
  - Confined Space entry
  - Status of open process equipment
- Process maintenance activities
- Process overview, as necessary,

PPM will inform the host facility of any hazards presented by their work. PPM personnel will be instructed in the following areas that relate to PSM:

- Work practices related to the Starline CIP Technology
- Potential fire, explosion or toxic release hazards
- Applicable provisions of the host facility emergency action plan
- Process safety information (MSDS's)

- Specific work practices such as lockout/tag out, confined space entry
- Any unique hazards associated with the work
- Permit system requirements (no work will be done without proper permits. See Confined Space procedure)

Reporting of accidents, injuries, near misses (see Accident–Incident Reporting Investigation Procedure)

Confidentiality of trade secret information (PPM personnel will respect the confidentiality of a host facilities trade secret information released relative to process safety information).

Training records and any other documentation relative to PSM will be kept at PPM Headquarters.

## SCAFFOLDING SAFETY

**PURPOSE:** To assist personnel by providing guidance in performing work on and around scaffolds, and adhere to current standards for proper scaffolding requirements.

**HAZARDS:** Potential injury from falls that could result from either inadequate scaffolding fall protection or lack of personal fall protection; also potential for injuries that could result from tools/materials falling off scaffolding onto workers below.

**PROTECTIVE EQUIPMENT:** Safety glasses, gloves, personal fall protection if required by the tag on a particular scaffold.

**SCOPE:** This procedure applies to all personnel working for PPM and will be available at the jobsite for inspection by personnel, host facility or regulatory representatives. This procedure applies to all scaffolding and the work in and around them.

**PROCEDURE:** The Project Manager will be designated as the person regarding coordination with the host facility, and is responsible to assure that scaffolding is being utilized safely and properly, according to established standards.

Upon entering a host facility, the Project Manager will coordinate with the host facility representative to determine where scaffolding will be utilized, and that proper construction has been done, and safety precautions are in place.

All PPM personnel are considered to be unqualified personnel in scaffolding. Personnel will be trained on the requirements of this procedure, but are not qualified to erect or inspect scaffolding.

### SCAFFOLDING TYPES

Scaffolds are elevated platforms that can be built or moved to reach a desired work level or position. There are several kinds of scaffolds, but the three most common are:

- Supported
- Suspension
- Mobile

Supported scaffolds should be erected only by trained scaffold erectors overseen by a competent person in scaffold erection. The following applies when using supported scaffolds:

- A competent person must conduct an inspection daily prior to personnel using any scaffold.
- Debris should be removed from the scaffolding several times daily. Debris includes anything left over from work being done, or tools no longer needed. Just enough supplies to work for half of the workday should be taken on the scaffold.
- When the scaffold height reaches four times its width, it needs to be tied off to the building for additional support.
- Ladders should be provided for accessing the scaffold. At no time are the cross braces to be climbed for access.
- Base plates should always be provided on scaffolds, without concern as to the type of surface it is erected on.
- Mud seals should be used when the scaffold is erected on a soft surface, or a surface that has the potential to become soft.
- The boards on the scaffold should have no paint or other coatings with the exception of a clear coat. Workers should look at the scaffold boards to assure they are scaffold grade planks, and have no splitting or other defects.
- Guardrails should be provided on all sides of the scaffold. If the rails are compromised or removed, then another form of fall protection must be used.

Suspended scaffolds hang by ropes or wires from an overhead support; they can be either single-point suspension, such as a boatswain's chair, or double-point suspension. Inspect the scaffold before use, making sure to check the platform for holes, worn areas, or weak spots, and check lines for fraying, kinking, broken strands, and loose connections.

Do not try to repair defective lines, and do not use lines that have been repaired. If a scaffold has been dropped or exposed to anything that could weaken it, inspect it carefully for damage. Make sure the scaffold is built for the weight you'll be putting on it; the platform, suspension ropes or wires, and overhead support must all be able to carry the load. If winds are over 25 mph, do not use a scaffold unless it's made to take wind loads, and can protect you from the wind.

Before moving a scaffold, remove or secure all tools on the platform.

Make sure the scaffold is level before raising it, and raise each side a little at a time, keeping the scaffold level. Position the scaffold as close as possible to the surface you'll be working on; if it's more than 14 inches away, a guardrail is required.

When working on the scaffold, use a personal fall-arrest system such as a full-body harness attached to a safe support. When on the scaffold, stay at least 10 feet from power lines. Don't add or remove extensions or make other changes to the scaffold while it is in use. Keep the platform free of loose tools and spilled liquids.

If you must move from one scaffold to another, do not climb over or outside railings; you may cross over only if the scaffolds are designed for that, or the two platforms are at the same level and properly joined.

Mobile Scaffolds rest on the ground, and may be supported by wheels or casters. The following rules apply:

- The height of a scaffold should not be more than four times the width of its base measurement; approved outriggers should be added to increase the width of the base, allowing a higher scaffold.
- Do not move the scaffold while someone is on it, because the rollers may become dislodged from the legs, causing an accident.
- Inspect the scaffold prior to using it.
- Guardrails on the scaffold should be included on all sides, and remain in place during the work from the scaffold.
- The scaffold must be kept at least ten feet from energized lines.
- Make sure the scaffold is stable before you mount it, so the platform will stay level.
- Don't place the scaffold on boxes or other objects.
- Remember that the scaffold will be less stable with people on it, since its center of gravity is higher.
- Set the brakes or chock the wheels to keep the scaffold from moving while working.

## **TRAINING**

All PPM personnel have been trained as unqualified personnel for scaffolding and in the contents of this procedure. This training will include safe work practices on and around scaffolding, and that they are not to perform any alterations of scaffolding at any time.

## SPECIAL HAZARDS

**PURPOSE:** Make personnel aware of potential special chemical hazards that may be encountered on various job sites and appropriate protective measures to be taken to prevent employee exposure.

**HAZARDS:** Benzene, Hydrogen Sulfide, Asbestos, Lead, Mercury, Poly-Chlorinated Biphenyls (PCB's)

**PROTECTIVE EQUIPMENT:** Normal plus possibly respiratory protection and/or chemical protective clothing.

**SCOPE:** PPM personnel who may be exposed to special chemical hazards listed.

**PROCEDURE:** It is anticipated that PPM personnel working in a host facility could have the potential for exposure to some special hazards that are specific to that facility or even that particular industry. These special hazards may require the use of specific protective measures such as engineering controls, respirators or other personal protective equipment.

These hazards could include benzene, hydrogen sulfide, asbestos, lead, mercury, and PCB's, and may be flammable, corrosive, toxic, or even a combination of hazards.

It is expected that the host facility would communicate potential hazards to PPM personnel prior to beginning work. Site Analyses, Material Safety Data Sheets and other sources of information such as labels and placards should be provided in identifying the hazard or potential hazard. Atmospheric monitoring should be used to determine the level of hazard.

**Benzene** – Benzene is a known carcinogen with a Permissible Exposure Limit (PEL) of 1 ppm, and a Short-Term Exposure Limit (STEL) of 5 ppm. Routes of entry include inhalation and absorption. Site monitoring will be used to determine proper respirator and PPE requirements. PPE must meet requirements of OSHA 1910.133. Respirators must meet requirements of OSHA 1910.134. For personnel who are or may be exposed to benzene at or above the action level 30 or more days per year, a medical surveillance program must be implemented.

**Hydrogen Sulfide** – Commonly known as H<sub>2</sub>S, has an odor of rotten eggs. However, H<sub>2</sub>S deadens the sense of smell, which can lead to a false sense of security. H<sub>2</sub>S has a PEL of 10 ppm and is considered Immediately Dangerous to Life and Health (IDLH) at 100 ppm. It is toxic by inhalation and the vapors are flammable.

**Asbestos** – A fibrous mineral used extensively over the years for its heat resistance and tensile strength. The three most potentially harmful types are Amosite, Chrysotile, and Crocidolite; exposures to any of these have been associated with the diseases of asbestosis, lung cancer, and mesothelioma. Asbestos has a PEL of 0.1 fiber per cubic centimeter (f/cc), and a 30-minute excursion limit of 1 f/cc.

**Lead** – A heavy metal that has been used extensively over the years in paints and coatings. Inhalation exposure is of greatest concern, particularly when the lead is heated into a fume state. Lead has been associated with blood, kidney, nervous system, and reproductive system disorders. The PEL is 50 micrograms per cubic meter (ug/m<sup>3</sup>).

**Mercury** – A heavy metal that has been used typically in its liquid state. While it is a corrosive material, vapor inhalation and skin absorption exposure have been associated with liver, kidney, blood, brain, and central nervous system disorders. The PEL for mercury is 0.1 mg/ m<sup>3</sup>

**PCB's** – Polychlorinated Biphenyls (PCB's), popularly used in older transformer oils, represent an odorless oily liquid. PCB's have been associated with chronic lung disease and cancer in animals, and have a PEL of 1 ug/ m<sup>3</sup>.

The PPM Project Manager will consult with the host facility representative to ascertain the presence of any special hazards and review associated information or MSDS information with PPM personnel.