PROCESS SAFETY MANAGEMENT

Project No:	

REVISION HISTORY	ISSUE DATE	DESCRIPTION	REVIEW / STATUS
00			

PREPARED BY:	**REVIEWED & APPROVED BY:**
QA QC ENGINEER	PROJECT ENGINEER

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1.0. PURPOSE

This practice provides minimum requirements for managing hazards associated with processes using highly hazardous chemicals. It defines [COMPANY NAME] and client/owner responsibilities regarding actions that must be taken to prevent or minimize the consequences of accidents involving highly hazardous chemicals.

2.0. SCOPE

This practice includes the following major sections:

- Client Program
- Application of the OSHA Standard
- Responsibilities
- Action Plan
- Training
- Confidentiality

3.0. APPLICATION

This practice "PROCESS SAFETY MANAGEMENT" applies to work activities and employees under the control of [COMPANY NAME] and its contractors.

4.0. DEFINITIONS

Facility: The physical structure (such as building, equipment, piping, valves, instruments, and control logic) within which a given process is operated.

Hazards: A chemical or physical condition that has the potential to cause injury to people, damage to property, or harm to the environment.

Hazardous Substance: Any chemical or material that, when released or whose energy is released, can result in serious injury to personnel, property damage, or significant environmental harm.

Hot Work: Work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.

Process: Any activity conducted by employees that involves a highly hazardous chemical including use, storage, manufacturing, handling, processing, or movement of the chemical, or any combination of these

activities. Highly hazardous chemicals are those that are at or above threshold quantities (in pounds) as specified by the U.S. Occupational Safety and Health Administration (OSHA) or in-country regulatory agencies.

Process Safety Management (PSM): Application of systems and controls to a manufacturing or chemical process in a manner that process hazards are identified, understood, and controlled so that process-related exposures, injuries, and incidents are prevented.

5.0. CLIENT PROGRAM

Each client/owner should develop a detailed PSM program suited to its specific organizational structure and needs. The client/owner's PSM program must address:

- Employee participation
- Process safety information
- Process hazard analysis
- Operating procedures
- Training contractors
- Pre-startup safety review
- Mechanical integrity
- Hot work permit
- Management of change
- Incident investigation
- Emergency planning and response
- Compliance safety audit
- Trade secrets

It should be reemphasized that the responsibility for developing the onsite PSM program lies solely with the client/owner.

6.0. APPLICATION OF THE OSHA STANDARD

The PSM standard, as defined by OSHA, applies to a process that involves a chemical that is at or above the specified threshold quantities listed in the Toxic and Reactive Highly Hazardous Chemicals List (Attachment 02) of this practice. Processes that contain or involve a flammable liquid or gas in quantity of 10,000 pounds (4,536 kilograms) or greater are covered. Other processes are covered due to their involvement of toxic materials and have lower threshold quantities. Covered chemicals, whether toxic, reactive, flammable, or explosive are listed in Attachment 00 (unit of measure is pounds).

Note: The OSHA PSM standard does not apply to hydrocarbon fuels that are used solely for workplace consumption as a fuel (such as propane used for comfort heating and gasoline for refuelling). It

also does not apply to flammable liquids stored below their normal boiling point without chilling or refrigeration.

7.0. RESPONSIBILITIES

7.1. Client/Owner

The implementation and development of the project/site PSM program is the responsibility of the client/owner. The specific portion of the client/owner PSM program that directly impacts [COMPANY NAME] and [COMPANY NAME] -managed contractor employees are the project's/site's safe work practices. Safe work practices such as lockout/tagout, confined space entry, line breaking, and control of personnel in areas of covered processes must be developed and implemented. These safe work practices must be passed to [COMPANY NAME] by the client/owner. [COMPANY NAME] and [COMPANY NAME] -managed contractor employees must be trained in these safe work practices. Other client/owner responsibilities include:

- Obtain and evaluate a contractor's safety performance and safety program before selecting them to work on a covered process.
- Inform [COMPANY NAME] and [COMPANY NAME]-managed contractor employees performing work on or near a process of the known or potential fire, explosion, or toxic release hazards related to their work and the process.
- Explain to [COMPANY NAME] and [COMPANY NAME]-managed contractor employees the applicable provisions of the emergency action plan.
- Establish clear lines of communication between the client/owner and [COMPANY NAME] and [COMPANY NAME] -managed contractor employees who work in process areas.
- Periodically evaluate [COMPANY NAME]'s safety performance.
- Maintain an injury and illness log related to [COMPANY NAME] and [COMPANY NAME]-managed work in process areas.

[COMPANY NAME]

OSHA 1910.119 section (h) explains the provisions for [COMPANY NAME] employees. Only those [COMPANY NAME] and [COMPANY NAME]-managed contractor employees whose activities bring them into direct contact with a processing unit covered by the rule are subject to the standard. The standard applies to employees who perform maintenance or repair, turnaround, major renovation, or Speciality work on or adjacent to a covered process. In these instances, [COMPANY NAME]'s responsibility is to:

- Verify that each [COMPANY NAME] and/or contractor employee has the necessary job skill training and is qualified to safely perform his/her assigned task.
- Ensure each [COMPANY NAME] and contractor employee is trained in the known fire, explosion, or toxic release hazards associated with his/her job and the applicable provisions of the emergency action plan.

- Document and verify by testing that each employee received and understood the training. Employees who do not understand the training may not be used to work in or adjacent to a covered process area.
- Audit the performance of [COMPANY NAME] and contractor employees to confirm that they are working safely and following all applicable work procedures and safe work practices of the facility.
- Advise the client/owner of any unique hazards presented by [COMPANY NAME] or [COMPANY NAME]-managed contractor work or any hazards found by a [COMPANY NAME] employee.
- Engineering/design operations where [COMPANY NAME] employees may be directly affected by contractor's work that is not [COMPANY NAME]-managed will be included.

8.0. ACTION PLAN

The first step in the implementation of the PSM program is to obtain the client's/owner's safe work practices, contractor procedures, and control procedures that are necessary to protect [COMPANY NAME] and [COMPANY NAME]-managed contractor employees who are subject to PSM. A sample form letter asking for that information is shown in Attachment 01. Once those procedures are acquired, other steps that should be taken are listed below.

- Identify each [COMPANY NAME] and [COMPANY NAME]-managed contractor employee who is or has the potential to be exposed to chemicals or processes containing chemicals that are regulated by the standard.
- Review all [COMPANY NAME] and [COMPANY NAME] -managed contractor work tasks or assignments to establish client vs. [COMPANY NAME] responsibilities regarding actions to be taken to prepare the employee, equipment, or area for work to be done.
- Verify employee competency in a particular discipline such as pipefitting, millwrighting, and instrumentation.
- Confirm that each [COMPANY NAME] and [COMPANY NAME] -managed contractor employee is trained in the client-/owner-supplied safe work practices or procedures necessary to safely perform his/her job.
- Complete (or receive) a record of training/verification of understanding, using Form [00000000], Training/Education Attendance Log, or equal.
- Review all work permits to verify that they incorporate the proper information that identifies the name of all chemicals that employees will have potential exposure to so that MSDS can be reviewed and the necessary precautions taken before beginning work.
- Review and establish the need and training requirements for all personal protective equipment that must be used during work on process equipment.
- Prepare a record that contains the identity of each employee, the date of training, and the means used to verify that the employee understood the training.

The PSM standard is performance-oriented. The development of each project/site PSM program will be dependent on the resources available. Assistance may be obtained from the Business Unit HSE Lead or Corporate HSE. To receive assistance concerning a PSM program, each project/site should contact the appropriate Business Unit or Regional HSE Lead.

9.0. TRAINING

Each [COMPANY NAME] and [COMPANY NAME]-managed contractor employee presently working on or around a covered process, and each new employee before working on or around a newly assigned process, must be trained. While the responsibility to ensure employees are trained lies with [COMPANY NAME], training need not be provided by [COMPANY NAME].

Training must provide an overview of the process and must emphasize the specific safety and health hazards, procedures, and safe work practices applicable to the employee's tasks.

[COMPANY NAME] and [COMPANY NAME] -managed contractor employees will receive refresher training at least every 3 years, and more frequently if deemed necessary by the client or [COMPANY NAME] Site Management, or HSE, in consultation with the employees involved in operating the process.

[COMPANY NAME] must document that each employee received and understood the training. A record of training that contains the identity of the employee date of training, and the means (test) used to verify that the employee understood the training, must be maintained using Form [00000000].

Examples of typical training to be required to be provided would include safe work practices and programs such as:

- Hazard communication
- Opening of process equipment and piping
- Lockout/tagout of hazardous energy source
- Entry into confined spaces
- Control of ignition sources (hot work permit)

10.0. CONFIDENTIALITY

Project/Site Management must inform employees that they must respect the confidentiality of trade secret information released to them and where exposure or access to trade secrets exist. Violation of this confidentiality is grounds for disciplinary action up to and including termination of employment.

11.0. RESOURCES

Global Standards

Australian Government Safety and Compensation Council; List of National Codes of Practice

Safety and Compensation Council; List of National Standards

European Union European Agency for Safety and Health at Work

United Kingdom Construction Regulations 2007

12.0. REFERENCES

Training/Education Attendance Log

Hazardous Materials

13.0. ATTACHMENTS

Attachment 01 Sample Form Letter

Attachment 02 List of Toxic and Reactive Highly Hazardous Chemicals