

PROCESS SAFETY MANAGEMENT



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I. PUPROSE

- A. The purpose of Process Safety Management (PSM) is to prevent or minimize consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals in various industries such as refineries. The requirements of a Process Safety Management Program are outlined in 29 CFR 1910.119.
- B. The purpose of the Management of Change process (MOC) is to ensure that H2 Enterprises develop and implement procedures to address the safety and health impacts to changes, as they relate to chemicals, technology, equipment, procedures and facilities per 29 CFR 1910.119.
- C. These standards will act as a central point when organizational or technical changes are managed and implemented in a manner that assures continued safe operations.
- D. The PSM and MOC policy will be applicable to all employees. All employees will perform work at job sites that are covered by this standard. Therefore, the purpose of this written program is to ensure our employees are trained in the practices necessary to conduct their work at PSM covered work sites and to ensure they abide by the safe work practices of the employers that hire us to perform various jobs.

II. PROCESS SAFETY MANAGEMENT

- A. Contractors under the Process Safety Management program are those who are involved in the installation or maintenance of equipment and systems at a facility that has one of the following:

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- i. A process which involves a chemical at or above the specified thresholds or quantities listed in 29 CFR 1910.119.
- ii. A process which involves a flammable liquid or gas (as defined in 1910.1200) onsite in one location, in a quantity of 10,000 pounds (4535.9 kg) or more except for:

- 1. Hydrocarbon fuels used solely for workplace consumption as a fuel (e.g., propane used for comfort heating, gasoline for vehicle refueling), if such fuels are not a part of a process containing another highly hazardous chemical covered by this standard.
- 2. Flammable liquids stored in atmospheric tanks or transferred which are kept below their normal boiling point without benefit of chilling or refrigeration.

B. As contractors covered under a clients PSM Program, we will be provided necessary formation concerning the hazardous process, equipment, and procedures of the job site our employees are working at.

C. Pre- Work Review

- i. Prior to allowing H2 Enterprises employees to begin work in a process covered under PSM, the following requirements must be completed by the PSM Company we will be doing work for:

- 1. Obtain and evaluate information regarding safety performance and programs (written documentation required).

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2. Inform Foremen or other designated employee of the known potential fire, explosion, or toxic release hazards related to the work area and processes of the Company.
3. Explain the applicable provisions of the emergency action plan to all employees.
4. Provide the Site Foremen with copies of local safety programs, safety and emergency procedures and a copy of the PSM program.
5. Complete all the requirements of the Company's Contractors Liability Agreement. Inform H2 Enterprises that a periodic performance evaluation will be conducted to ensure our employees are fulfilling our obligations.
6. Inform H2 Enterprises that a contract employee injury and illness log related to our work in process areas must be maintained on site for the duration of the contract work.
7. H2 Enterprises will provide information to the Contractor relating to any unique hazards presented by our employee's work or any hazards found by our employees.

III. MANAGEMENT OF CHANGE (MOC)

- A. The purpose of this management of change process (MOC) is to ensure an appropriate review occurs before any change in process, technical or structural or

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modifications are made to equipment or facility that may have an impact on the safety, health and environment.

- B. This management of change will include specific, measurable, time determined and authorizations necessary to ensure health, safety and environmental protections.
- C. A thorough review of the proposed change will improve the operability and reliability of the change, control the introduction of hazards into the workplace, improve decision-making through collaboration, promote effective communications and teamwork, and ensure conformance with policy, standards, codes and regulations as they apply to H2 Enterprises operations.
- D. Prior to any change within the scope of this policy, a safety review is to be completed using the form Management of Change Procedure Form. See below.
- E. It is the responsibility of the individual or team proposing the change to follow this procedure and complete the safety review prior to making any changes.
- F. Once the review has been completed by the individual or team, it must be approved by the Project Manager, as well as Superintendent, Foreman and HSE Manager.
- G. At the completion of the change, the Project Manager and HSE Manager will conduct an audit/inspection of the changes against the approved plan.
- H. All proposed changes to the following areas on the Management of Change Procedure Form. Examples include:
 - 1. Utility and Energy Requirements: electrical, hydraulic, compressed

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air, steam, etc., piping pressures and sizes for liquid and gas supplies, all means for de-energizing utilities provided and identified.

2. Hazardous Materials: names and descriptions, SDSs, concentrations, size and type of packaging, flash point, flammable limits, storage requirements, temperatures, etc.
3. Waste Disposal: waste generated, containers to be used and locations, amounts, flammability, toxicity, reactivity, ingredients, associated wastes such as gloves and rags, disposal locations, etc.
4. Personal Protective Equipment: H2 required for hazards present or anticipated.
5. Personnel: H2 of training required for hazard communication, waste disposal, PPE, work permits, confined space, moving vehicles, cranes, fire protection, lockout/tagout, new equipment, shifts to be involved, use of temporary employees, qualifications of operators, testing of operators.
6. Material Handling: lifting devices required, cranes required, weights to be handled mechanically and manually, forklift requirements, rack storage requirements, access to racks by forklifts, power requirements for lifting aids.
7. Fire Protection: access to existing fire extinguishers and fire hoses, sprinklers protected and not obstructed, emergency response procedures.
8. Walking Surfaces: Access to aisles, aisles not used for working, aisles designated, clean and smooth surfaces, floor mats, trip hazards.

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9. Machinery and Equipment: guarding requirements, power transmission guarding, nip points, sharp edges, foot treadles, energy sources, new equipment and tools, maintenance requirements, equipment bolted to the floor, energy isolating requirements (lockout/tagout), special tools required, automatic start or intermittent operations.
10. Ergonomics: illumination, noise, worker position and posture, vibration, floor space, machine controls, repetition, force, tool use, heat and cold, emergency stop location.
11. Ventilation: airborne contaminants (vapor, gas, dusts, fumes, mists, smoke, vehicle exhaust, etc.), control, methods, amounts of emissions, local and general (dilution) ventilation, CFM, permits required.
12. Radiation Sources: ultra-violet radiation from arc welding, laser, light energy from cutting, plasma, microwave, radio frequency, etc.

IV. TRAINING

- A. Prior to the start of any work at a facility covered under the PSM standard, H2 will assure that each employee is trained in the work practices necessary to safely perform his or her job. H2 will provide the following documentation to each PSM covered facility that we will be performing work at:
 - B. Our safety program information and other documentation required by the Company's Contractors Liability and Safety Agreement.

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- C. Certification that we have informed our employees of potential fire, explosion, or toxic release hazards that may exist at or near their work area at the facility, and that we have explained the Company's Emergency Action Plan to our employees.
- D. Safety Data Sheets will be used to discuss process safety information for the particular site we will be working at.
- E. Training documentation concerning training provided to our employees to ensure they understand the safe work practices necessary to safely perform tasks.

V. SAFE WORK PRACTICES

- A. H2 employees will be required to abide by all company and contractor PSM safety work practices during operations such as lockout/tagout, confined space entry, opening process equipment or piping, and controls over entrance to the facility. Safe work practices will be covered during site-specific training courses. Training will be documented.
- B. Before cutting or welding is permitted at a work site, the area must be inspected by the individual responsible for authorizing cutting and welding operations at the Company we are performing work for. H2 employees will not be allowed to perform hot work until a hot work permit is obtained from the employer's designated representative. The permit shall document that provisions of CFR 1910.252 (a) have been met. See the Hot Work written program for more information about safe work practices.
- C. Employees must immediately report all accidents, injuries and near misses to their Site Foreman, who will then notify the correct Company individuals. An incident investigation must be initiated within 48 hours. Resolutions and corrective actions must be documented and maintained for five years.

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- D. H2 employees must respect the confidentiality of trade secret information when any Process Safety Information is released to them.

VI. AUDIT/INSPECTION

- A. The following audit/inspection items will be conducted prior to new or changed process.
- i. Does the program address management of change procedures to manage changes to process chemicals, and procedures, and changes to facilities that affect a covered process?
 - ii. Does the program require that prior to any change being implemented that the technical basis, impact on safety and health, modifications to operating procedures, the necessary time period for the change, and authorization requirements for the proposed change must be considered?

VII. FORMS:

- A. Management of Change Procedure
- i. To verify the orderly and comprehensive review of any new operations, processes, construction, equipment, machinery, demolition, remodeling, etc. prior to the actual change taking place. We must make sure that changes to the way we perform work do not create safety nor environmental hazards and that we have considered how changes in one area of work will affect other areas.

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Attachment A - Management of Change Procedure Form

Project Location: _____ Requestor: _____

	YES	NO
Utility and Energy Requirements: routing and type of electrical, hydraulic, compressed air, steam, etc., piping pressures and sizes for liquid and gas supplies, all means for de-energizing utilities provided and identified, other.		
Hazardous Materials: names and descriptions, SDSs, concentrations, size and type of packaging, flash point, flammable limits, storage requirements, temperatures, other.		
Waste Disposal: wastes generated, containers to be used and locations, amounts, drains used, flammability, toxicity, reactivity, ingredients, associated wastes such as gloves and rags, disposal locations such as compactor or strategic dumpster or hazardous waste drums, other.		
Personal Protective Equipment: tyH2 required other.		
Personnel: tyH2 of training required for hazard communication, waste disposal, PPE, confined space, moving vehicles, cranes, fire protection, lockout/tagout, new equipment, work shifts to be involved, use of temporary employees, qualifications of operators, testing of operators, other.		
Material Handling: lifting devices required, cranes required, weights to be handled mechanically and manually, forklift requirements, rack storage requirements, access to racks by forklifts, power requirements for lifting aids, other.		
Fire Protection: access to existing fire extinguishers and fire hoses, sprinklers protected and not obstructed, emergency response, other.		
Walking and Working Surfaces: access to aisles, aisles not used for working, aisles designated, clean and smooth surfaces, floor mats, trip hazards, other.		
Machinery and Equipment: point of operation guarding, power transmission guarding, nip points, sharp edges, foot treads, energy sources, new equipment and tools, maintenance requirements, equipment bolted to the floor, energy isolating requirements (lockout/tagout), special tools required, automatic start or intermittent operations, other.		
Ergonomics: illumination, noise, worker position and posture, vibration, floor space, machine controls, repetition, force, tool use, heat and cold, emergency stop location, other.		
Ventilation: airborne contaminants (vapor, gas, dust, fume, mists, smoke, vehicle exhaust, etc.), control methods, amounts of emissions, local and general (dilution) ventilation, CFM, permits required, other.		
Radiation: ultra-violet radiation from arc welding, laser, light energy from cutting, plasma, microwave, radio frequency, other.		
If you answered "Yes" to any of the issues above, explain the proposed changes below:		
Submitted by: _____ Date: _____		
Review/Approval:		
Supervisor: _____	Date: _____	
Project Manager: _____	Date: _____	
HSE Representative: _____	Date: _____	
Client (If Needed): _____	Date: _____	
Audits:		
Project Manager: _____	Date: _____	
HSE Representative: _____	Date: _____	