Process Safety Management (PSM)

1.1 PURPOSE

1.1.1 The purpose of this policy is to properly train TERRY R PITT CONSTRUCTION personnel in the duties and responsibilities they will be performing. This is to prevent or minimize the consequences of catastrophic releases of toxic substances as well as fires, explosions, and other types of reactive and/or flammable chemicals in various industries. PSM prevents accidental fatalities, injuries, and illnesses and avoids physical property damage.

1.2 PROGRAM ELEMENTS

1.2.1 The PSM program consists of 14 elements - employee participation, process safety information, process hazard analysis, operating procedures, subcontractors, pre-startup review, mechanical integrity, hot work permits, management of change, incident investigation, emergency planning and response, compliance audit, trade secrets, and training.

1.2.2 All elements are equally important, but some require more time than others. TERRY R PITT CONSTRUCTION will adhere to all elements to meet the requirements of the PSM program.

1.3 PROGRAM ADMINISTRATOR

1.3.1 The operation manager is assigned the administrative responsibility for the PSM program. He/she will review and update the program as necessary. Copies of the written program may be obtained from the written safety and health program or from the corporate office.

1.4 EMPLOYEE PARTICIPATION

1.4.1 This element requires a written action plan for involving employees in all PSM activities. TERRY R PITT CONSTRUCTION employees are significant allies in helping the facility to implement and maintain an effective PSM program.

1.4.2 TERRY R PITT CONSTRUCTION strongly encourages employees to participate in the following:

1.4.2.1 Gathering process safety information

1.4.2.2 Conducting and developing the PSM program elements and hazard assessments as well as incident investigation findings

1.4.2.3 Obtaining access to process hazard analyses and the rest of the PSM program.

1.4.3 TERRY R PITT CONSTRUCTION employees must follow all safety rules.

1.4.4 Employees are expected to maintain all equipment including all personal protective equipment in a safe and sanitary condition.

1.4.5 Employees are expected to report accidents and near misses to the foreman immediately.

1.4.6 Supervisors will ensure that all the requirements of the PSM program are followed and will assign responsibilities to supervisors, foremen, and others as needed.

1.4.7 TERRY R PITT CONSTRUCTION will furnish only employees who are fit and physically and mentally qualified to perform the work. Employees who have not had sufficient sleep, are unusually fatigued, or are impaired by the use of alcohol, drugs, or medicine are not considered to be fit.

1.4.8 TERRY R PITT CONSTRUCTION will ensure that each of its employees has the ability to read and understand, hear and understand, speak and be understood in English, as well as to write one's name in English when assigned to safety sensitive work. Any non-English speaking person will not be assigned to a safety sensitive job.

1.4.9 Employees will be trained as required and employees must attend all training sessions. Special skills, such as welders, crane operators, and electricians are required to have the proper certification.

1.5 PROCESS SAFETY INFORMATION

1.5.1 Certain information about a process will be assembled and communicated to workers. Process safety information includes system diagrams, safe operating limits, and equipment information.

1.5.2 The information compiled about chemicals is comprehensive enough for accurate assessments of the fire and explosion characteristics, reactivity hazards, the safety and health hazards to workers, and the corrosion and erosion effects on the process equipment and monitoring tools.

1.5.3 Information acquired by the project manager when operations fall under the PSM program:

1.5.3.1 Hazards of each highly hazardous chemical used in each process - Data must cover toxicity, PELs, physical data, reactivity data, corrosivity data, thermal and chemical stability data, and hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

1.5.3.2 Technology of processes that must include flow diagrams, process chemistry, maximum intended inventory, safe UELs and LELs, and evaluation of the consequences of deviations including those affecting the safety and health of employees.

1.5.3.3 Equipment - Must include materials of construction, electrical classification, ventilation system design, piping and instrumental diagrams, codes, and systems employed.

1.5.4 TERRY R PITT CONSTRUCTION ensures equipment that is utilized will be designed in accordance with standards or practices that are expected (ex. explosion proof equipment, non-sparking tools, intrinsically safe instruments).

1.5.5 The host company will conduct safety meetings at appropriate intervals to assure all employees are fully informed of potential hazards. A tailgate safety meeting will be conducted any time there is a change in the work assignment or a new hazard is present.

1.6 PROCESS HAZARD ANALYSIS

1.6.1 This element is a systematic approach used to identify, evaluate, and control hazards. Process hazards analysis (PHA) can help determine where problems may occur in a process, so corrective action can be taken to make a safer operation. PHA must be conducted as soon as possible.

1.6.2 Process hazard evaluations focus on equipment, instrumentation, utilities, human actions (routine and non-routine), and external factors that might impact the processing or handling of highly hazardous chemicals.

1.6.3 Process hazard analysis, sometimes called a process hazard evaluation, is an organized and systematic effort used to identify and analyze the significance of potential hazards associated with the processing or handling of highly hazardous chemicals.

1.6.4 The operator is responsible for the safety and health of employees at the jobsite. The jobsite foreman will thoroughly familiarize himself with the operator's operations at the jobsite, including operations that may pose a personnel hazard. The jobsite foreman will also thoroughly familiarize himself with the operator's safety policies and with the operator's alarm system at the jobsite. The foreman will be responsible for conducting a thorough examination of the jobsite prior to performing any work. The foreman will complete a *Jobsite Safety Analysis* (JSA) before each shift. The jobsite must be safe before work commences.

1.6.5 The foreman will advise the client representative of any unique hazards presented by the contract employees' work or any hazards found by employees.

1.6.6 The operations manager/project manager, client representative, and employees who, by qualifications, are familiar with the appropriate operations, will perform the process hazard analysis and provide valuable input.

1.7 OPERATING PROCEDURES

1.7.1 Operating procedures must be written for all processes, including startup, normal operation, normal shutdown, and emergency shutdown. These procedures must be communicated to all employees.

1.7.2 Operating procedures describe tasks to be performed, data to be recorded, operating conditions to be maintained, samples to be collected, and safety and health precautions to be taken. TERRY R PITT CONSTRUCTION's procedures are technically accurate, understandable to employees, and periodically revised to reflect current operations.

1.7.3 TERRY R PITT CONSTRUCTION's procedures are tailored to the specific operations and conditions of clients. These operating procedures will cover operating phases, operating limits, consequences of deviation and steps required to correct or avoid deviation, and safety and health considerations.

1.7.4 Operating procedures will be reviewed for the facility at which work will be performed. These procedures will be reviewed and followed, where applicable, in addition to performing TERRY R PITT CONSTRUCTION's own process hazard analysis per TERRY R PITT CONSTRUCTION's hazard assessment process.

1.7.5 The project manager is responsible for reviewing the operating procedures to make sure they are current and accurate and also reviews operating procedure changes that result from changes in process chemicals, technology, equipment, and the facility.

1.7.6 TERRY R PITT CONSTRUCTION's procedures describe safe work practices that limit employee and subcontractor exposure to covered process areas and control hazards in situations such as lockout/tagout, confined space entry, opening process equipment or piping, or control over entrance into a facility by maintenance, subcontractor, laboratory, or other support personnel. The project manager is responsible for performing a pre-startup safety review for new facilities and modified facilities when the modification changes the process safety information.

1.7.7 TERRY R PITT CONSTRUCTION will provide employees with energy lockout devices, (ex. lock to isolate energy sources) to protect from injury while working in, on, or around equipment during repair or maintenance due to unexpected startup or energization. TERRY R PITT CONSTRUCTION will follow the host company's lockout/tagout procedure.

1.7.8 The foreman is responsible for obtaining a confined space entry permit prior to entering a confined space and for obtaining any and all work permits that may be required for each job.

1.8 SUBCONTRACTORS

1.8.1 Subcontractors and their employees must be informed about the hazards associated with any process that they are working on or near. They must also be properly trained to do their job safely and according to the facility safety regulations.

1.8.2 Occasionally, subcontractors will perform work in and around processes that involve highly hazardous chemicals. TERRY R PITT CONSTRUCTION's goal is to hire subcontractors who accomplish the desired job tasks without compromising the safety and health employees at the facility.

1.8.3 TERRY R PITT CONSTRUCTION periodically evaluates subcontractor safety performance in accordance with the subcontractor safety plan located in the written health, safety, and environmental policies and procedures. TERRY R PITT CONSTRUCTION keeps contract employee injury and illness logs related to subcontractor work.

1.8.4 TERRY R PITT CONSTRUCTION informs contract employers of the known potential fire, explosion, or toxic release hazards related to the subcontractor's work and processes through safety meetings. This includes a review of the SDSs for chemicals, review of all applicable safety requirements, and review of the PHA. Hot work is not allowed without the use of a hot work permit.

1.8.5 TERRY R PITT CONSTRUCTION provides an explanation of the emergency action plan to contract employers during safety meetings and provides a copy of procedures to follow in an emergency.

1.8.6 TERRY R PITT CONSTRUCTION ensures that the contract employer advises TERRY R PITT CONSTRUCTION of any unique hazards presented by the subcontract employer's work or of any hazards found by the subcontractor by establishing a clear line of communication. Safety concerns are addressed as part of pre-work meetings held at the beginning of every shift.

1.8.7 Subcontractor employees will abide by safe work practices during operations such as lockout/tagout, confined space entry, opening process equipment, or controls over entrance to a facility.

1.8.8 Subcontractors will instruct the employer of any unique hazards presented by their work or of any hazards found by the subcontractor.

1.9 PRE-STARTUP REVIEW

1.9.1 A pre-startup review is a review of key safety considerations and operator training that is done before a new process is started. A pre-startup review is also required for modified processes that require a change in plant design or process safety information.

1.9.2 The pre-startup safety review is performed to ensure all safety and environmental issues have been identified during previous health, safety, and environmental reviews, PHAs, or MOCs and have been satisfactorily resolved, and that the process is safe to start. It ensures the design concepts identified in the health, safety, and environmental reviews have been implemented.

1.9.3 Pre-startup review ensures all applicable operating, safety, emergency and maintenance procedures, training, and documentation have been completed prior to startup. These procedures may need to be updated/refined after startup.

1.9.4 Pre-startup review ensures construction and equipment is in accordance with design specifications and a safety checklist is completed before startup is prepared.

1.9.5 For changes involving the introduction of a highly hazardous chemical, ensure that the above items have been completed prior to the introduction of highly hazardous chemicals.

1.10 MECHANICAL INTEGRITY

1.10.1 This ensures the ongoing integrity of process equipment. It requires testing and inspections to eliminate leaks or releases of dangerous material and identifies potential sources of ignition that could lead to fires or explosions.

1.10.2 Process equipment integrity maintenance procedures are designed to ensure that process equipment receives appropriate, regularly scheduled maintenance. It ensures that equipment is designed, installed, maintained, and operated properly. The goal is ongoing mechanical integrity rather than breakdown maintenance.

1.10.3 The maintenance procedures that preserve the integrity of each piece of equipment and instrumentation are accomplished utilizing a preventative maintenance program.

1.10.4 TERRY R PITT CONSTRUCTION ensures that employees involved in maintaining the ongoing integrity of process equipment are trained in the proper procedures required by the PSM standard.

1.10.5 TERRY R PITT CONSTRUCTION performs inspections and tests on process equipment. These tests are documented and include the following information:

1.10.5.1 Date of inspection or test

1.10.5.2 Description of the inspection or test performed

1.10.5.3 Name of person who performed the inspection or test

1.10.5.4 Results of the inspection or test

1.10.5.5 Serial number or other identifier of the equipment that was inspected or tested

1.10.6 Tests and inspections are performed in accordance with the preventative maintenance program in place at facilities in which TERRY R PITT CONSTRUCTION employees may work.

1.10.7 TERRY R PITT CONSTRUCTION facilities ensure that new equipment, maintenance materials, spare equipment, and parts meet design and material specifications in order to protect against the use of improper materials.

1.10.8 The project manager is responsible for quality assurance including ensuring that proper materials of construction are used, that fabrication and inspection procedures are proper, and that installation procedures recognize field installation concerns.

1.10.9 TERRY R PITT CONSTRUCTION will supply and be responsible for the condition and suitability of all equipment and tools necessary to perform the work. The foreman is responsible for conducting an audit of all tools and equipment prior to starting a job.

1.11 HOT WORK PERMITS

1.11.1 This element requires the use of a hot work permit to certify that hot work can be done safely.

1.11.2 The foreman will obtain a hot work permit from the client when using portable electric driven tools, welding, sand blasting, opening electrical enclosures, etc., in an operating area or using any other equipment that might be a source of ignition for combustible mixtures. This equipment will be immediately shutdown in an emergency or when requested by a client's representative.

1.11.2.1 Contract employees will not perform hot work until a hot work permit is obtained from the employer. The permit will document that the fire prevention and protection requirements have been implemented prior to beginning the hot work operations.

1.11.3 TERRY R PITT CONSTRUCTION will furnish a trained employee, with a fire extinguisher, in the work area for certain work as required on a hot work permit. The employee will remain on duty 30 minutes after the hot work is completed. This employee must know how to sound the alarm in the event there is an emergency.

1.11.4 The foreman is responsible for fire prevention in the work area.

1.11.5 Smoking is permitted only in designated areas.

1.12 MANAGEMENT OF CHANGE

1.12.1 This element ensures that changes to process chemicals, technology, equipment, and facilities are analyzed for their impact on health and safety. The analysis of such changes can then be used to determine necessary modifications to safety information, procedures, and training.

1.12.2 PSM changes include all modifications to equipment, procedures, raw materials, processing conditions other than replacement in kind, and temporary changes.

1.12.3 The general procedures to manage any changes (except for replacement in kind) to process, chemicals, technology, equipment, procedures, and facilities are to conduct a PHA with the following perspectives as a basis for the process hazard analysis. These requirements will be considered prior to implementing any changes:

1.12.3.1 Technical basis for a proposed change

1.12.3.2 Impact of a change on safety and health

1.12.3.3 Modifications to operating procedures

1.12.3.4 Necessary time period for a change

1.12.3.5 Authorization requirements for a proposed change

1.12.4 TERRY R PITT CONSTRUCTION ensures employees involved in operating a process, maintenance, and subcontractors whose job tasks are affected by a change in the process, are informed of and trained on the change prior to process start-up.

1.13 INCIDENT INVESTIGATION

1.13.1 This element requires the investigation of every incident that results in or could have resulted in a catastrophic release. An investigation is necessary to identify the cause of the incident and provide the basis for corrective action.

1.13.2 Incident investigation is identifying the underlying causes of incidents and implementing steps to prevent similar events from occurring. TERRY R PITT CONSTRUCTION intends to learn from past experiences and avoid repeating past mistakes.

1.13.3 Incidents that need to be investigated are the types of events that result in or could reasonably have resulted in a catastrophic release. Some of the events could be *near misses*, meaning that a serious consequence did not occur, but could have.

1.13.4 TERRY R PITT CONSTRUCTION employees will immediately report all accidents, incidents, and near misses to their supervisor. TERRY R PITT CONSTRUCTION will perform an incident investigation within 48 hours of the incident.

1.13.5 The project manager is responsible for incident investigations. Employees and subcontractors are notified to immediately report all injuries, illnesses, and incidents to the project manager. Incident investigations must be initiated within 24 hours to obtain accurate information to assist in the identification of root causes and contributing factors that cause an incident.

1.13.6 All incident investigation reports (if any) within the last five years are attached to this PSM program and/or described here. The reports indicate at least the following:

1.13.6.1 Date of the incident

1.13.6.2 Description of the incident

1.13.6.3 Recommendations resulting from the investigation

1.13.6.4 Date the investigation began

1.13.6.5 Factors that contributed to the incident

1.13.7 TERRY R PITT CONSTRUCTION promptly addresses the incident report findings and recommendations. A report will be prepared at the conclusion of the investigation. The report will be reviewed with all affected personnel. The report will be retained for 5 years.

1.13.8 TERRY R PITT CONSTRUCTION ensures that all affected personnel, whose job tasks are relevant to an incident finding (including subcontract employees where applicable), review the report to prevent or reduce the likelihood of reoccurrence.

1.13.9 TERRY R PITT CONSTRUCTION will provide full reports of incidents involving persons or property on the client's jobsite. All *near miss* incidents will be investigated and reported. The client will be given a copy of all *near miss* reports. A *near miss* is any incident that could have caused serious injury or significant property damage as an accident.

1.13.10 OSHA requires an investigation of each incident that resulted in or could reasonably have resulted in a catastrophic release of highly hazardous chemical in the workplace.

1.13.11 An incident investigation will be initiated promptly, no later than 48 hours following the incident.

1.13.12 An incident investigation team will be established and will consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the subcontractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

1.14 EMERGENCY PLANNING AND RESPONSE

1.14.1 This element requires a facility to establish and implement an emergency action plan to deal with a release of highly hazardous chemicals. Operators and other personnel should know exactly what to do to minimize the consequences of an emergency.

1.14.2 TERRY R PITT CONSTRUCTION employees must be familiar with the client's emergency plan, know who to contact, and know where to go if an emergency occurs. The employer provides this information and keeps a contract employee injury and illness log.

1.14.3 The foreman will promptly report any fires on the client's property to the host company.

1.14.4 TERRY R PITT CONSTRUCTION is responsible for providing emergency medical and first aid care for its employees and for the follow up care that may be necessary.

1.14.5 The host company will meet federal and state occupational safety and health first aid requirements. TERRY R PITT CONSTRUCTION will have a sufficient number of trained first aiders at each job and adequate first aid supplies. The jobsite foreman is responsible for ensuring these requirements are met.

1.14.6 TERRY R PITT CONSTRUCTION will train employees on emergency alarms and procedures. It is important to understand the necessity of shutting down all sources of ignition and leaving the area immediately when an emergency alarm is sounded.

1.14.7 If a fire is too large or if attempts at extinguishing fail, employees should warn others in the area and evacuate the danger area to an upwind position and take a headcount. If a muster area has not been identified by the client, then the foreman will designate a place and take a headcount. The office will also have a roster of all employees who are assigned to a jobsite. The office will be informed in the event of an emergency that requires employees to evacuate an area.

1.14.7.1 Immediately notify the client representative of the situation.

1.14.7.2 If a fire does not jeopardize personal safety, trained employees should attempt to extinguish a fire at the worksite during the incipient stage, after the alarm is given.

1.14.7.3 TERRY R PITT CONSTRUCTION employees are not expected to perform duties relating directly to controlling a fire (unless properly trained to do so), but may be called upon to provide support services (hauling equipment, assisting injured personnel).

1.14.8 For a major release of flammable vapors or gases, employees are to immediately notify the supervisor then shut down all sources of ignition under their control.

1.14.8.1 The foreman must immediately notify the client representative of the situation.

1.14.8.2 Immediately evacuate the danger area to an upwind position and assemble. The assemble point (place of safe refuge) should be far enough from the source release to remain safe should the vapors ignite.

1.14.8.3 Continue monitoring the wind direction and stay upwind at all times. All gas releases will be assumed to contain toxic gas.

1.14.9 Do not re-enter until the emergency is under control and given clearance to re-enter.

1.14.10 TERRY R PITT CONSTRUCTION's emergency action plan addresses what actions TERRY R PITT CONSTRUCTION employees are to take when there is an unwanted release of highly hazardous chemicals. The emergency action plan is located in the TERRY R PITT CONSTRUCTION office.

1.15 COMPLIANCE AUDIT

1.15.1 This ensures an effective PSM system is in place and is working. The compliance audit provides a systematic way of verifying compliance with a PSM program and identifying problems.

1.15.2 Employers are required to respond to the audit findings in a timely manner.

1.15.3 At least every three years, the project manager will complete a compliance audit that evaluates and certifies compliance with the PSM program to verify that procedures and practices developed in the PSM are adequate and are being followed. In this way, TERRY R PITT CONSTRUCTION's facility is able to focus on areas of continuing concern that surface through the audits.

1.16 TRADE SECRETS

1.16.1 This element requires access to all necessary information for completing the other elements of the standard without regard to trade secret status.

1.16.2 TERRY R PITT CONSTRUCTION ensures all employees and subcontractors who are responsible for compiling process safety information, those assisting in the development of the process hazard analysis, those responsible for developing operational procedures and involved in incident investigation, emergency planning, and compliance audits are provided with information needed to conduct such activities without regard to possible trade secret status. In cases where trade secrets may be disclosed, confidentiality agreements not to disclose such information may be required.

1.16.3 Employees and subcontractors must respect the confidentiality of any trade secret information from the release of process safety information to them.

1.17 TRAINING

1.17.1 The training program must develop the knowledge, skills, and attitude for working safely and must include an overview of the process, its potential hazards, relevant operating procedures, and safe work practices. This element also requires initial training and periodic refresher training. Employees will be trained in the necessary work practices to perform job duties.

1.17.2 All employees, including maintenance crews and subcontractors, who are involved with highly hazardous chemicals, need to fully understand the hazards of chemicals and processes they work with for protection of themselves, fellow employees, and citizens of nearby communities.

1.17.3 Training in hazard communication helps employees to be more knowledgeable about the chemicals they work with as well as to familiarize them with SDSs. Additional training is covered, such as operating procedures and safe work practices, emergency response, safety procedures, routine and non-routine work authorization activities, incident reporting, and other areas pertinent to process safety and health.

1.17.4 The safety director trains employees. They train new employees at the time of hire and when new hazards are introduced. Records of training are maintained by the safety director and forwarded to corporate office for retention.

1.17.5 Contract employees must be trained in the work practices necessary to perform their jobs. TERRY R PITT CONSTRUCTION will ensure that employees receive safety training regarding potential hazards of the job prior to commencement of work.

1.17.6 All employees will be trained on the known and potential fire, explosion, and toxic release hazards associated with their individual positions and the provisions of the emergency action plan, as applicable. All training will be documented and contain the identity of the trained company employee, the date of training, and the means the company used to verify that the employee understood the training.