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| Process Safety Management Definitions  **Document #:** PSM-SG-UN-004 **Issued:** 07/21/2016  **Version:** 1 |

**The following Definitions have been defined by the Process Safety Management (PSM) Focus Group in support of the PSM Program. Question associated with the following definitions should be directed to the EHS Department.**

*Action Item* - a documented event, task, activity, or action that needs to take place. Action items are discrete units that can be handled by a single person, team or department. Also can be referred to as Recommendation, Corrective Action, Preventive Action, Opportunity for Improvement or Finding

*Approved Entrant* – any employee or contractor that is familiar with the University PSM requirements, understands the safe work practices required within a covered process area, has been informed of and understands the hazards associated with the covered process area and has received the appropriate hazard communications and specific emergency action plan training.

*Audit* – systematic, independent and documented process for objectively assessing and evaluating performance in relation to established criteria

*Authorized Contractor –* a company or individual that will provide services, labor, materials, and tools to perform specific work under contract or purchase order and has provided the necessary information/data to be successfully approved to work on covered process areas by Penn State. Note: the requirements outlined within this program are in addition to the OPP Contractor Prequalification Requirements.

*Authorized Employee –* any employee who has received the appropriate information to be designated as an Approved Entrant and has the technical knowledge to work on the equipment associated with the covered process area.

*Block Flow Diagram –* diagram used to show the major process equipment and interconnecting process flow lines and show flow rates, stream composition, temperatures, and pressures when necessary for clarity.

*Catastrophic Release* – a major release of a highly hazardous chemical / biological agent resulting from uncontrolled developments which lead to, or could have led to, serious danger to persons both within and/or outside the covered process area.

*Change* – any planned temporary or permanent change to an existing procedure, process or facility (whether hardware or software) which is not considered an “In-Kind Replacement”

*Competency* - is the ability of an individual to do a job properly, usually through an established set of defined behaviors that provide a structured guide enabling the identification, evaluation and

development of the skill set of individual employees.

*Continual Improvement* – recurring process of enhancing a program/area in order to achieve improvements in overall performance consistent with the organization’s objectives

*Corrective Action* - a deficiency identified in the management system that has led to a non-compliance or incident (non-compliance issues has occurred).

*Covered Process* - any process where a highly hazardous chemical / biological agent or extremely hazardous substance deemed by Penn State is used, handled or stored. This also includes critical process operations identified by the University that would benefit from PSM program implementation.

*Critical Process Equipment –* any process equipment that prevents, protects, or mitigates a release from the covered process

*Deviation* – the act of departing from an established course or accepted standard.

*Document Control* - coordination and control of the flow (storage, retrieval, processing, printing, routing, and distribution) of electronic and paper documents in a secure and efficient manner, to ensure that they are accessible to authorized personnel as and when required.

*Emergency Actions –* actions taken to address equipment or process issues immediately to mitigate an imminent failure that could lead to a health, safety or environmental event. Emergency actions may be taken by various individuals including but not limited to employees, building/operations personnel, and first responders*.*

*Emergency Action Plan –* thewritten document required by OSHA regulations, 29CFR1910.38.

*Emergency Response -* means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance.

*Employee Consultation –* establishing a dialogue for the exchange of views or soliciting input between employees and the University.

*Employee Participation -* the process whereby employees are collaboratively engaged in decision making processes, are able to raise issues/concerns and are actively participating in a two-way dialogue regarding process safety management matters in an effort toward continuous improvement.

*Equipment Master File* – the location where information on the critical process equipment associated with a covered process is located or describes where the specific information is located.

*Facility Siting -* the location of process equipment containing a highly hazardous chemical/biological agent and their proximity to other process equipment, storage areas, equipment control rooms, classrooms, research facilities, maintenance shops, public gathering locations, buildings, location of fresh air intakes, etc.

*Hazardous Line Open –* physically disconnecting or intentionally compromising (e.g. drilling, cutting, etc.) a process line that is used to transfer a hazardous chemical or biological agent.

*Immediate Cause* - the unsafe acts and conditions that directly resulted in or could have resulted in an incident (typically explains why the incident occurred).

*Incident Investigation –* a defined process for reporting, tracking and investigating incidents that occur within a covered process area.

*Incident Investigation Team* – A group of qualified people that examine an incident in a manner that is timely, objective, systematic, and technically sound to determine the factual information pertaining to the event, ensure probable cause(s) are ascertained, and complete technical understanding of such an event is achieved and documented.

*Incidental Release* - a release of a hazardous substance which does not pose a significant safety or health hazard to employees in the immediate vicinity or to the employees cleaning it up, nor does it have the potential to become an emergency within a short time frame

*In-Kind Replacement* - any process or equipment change performed in accordance with established design specification; if it requires an update to the Process Safety Information, it cannot be defined as an In-Kind Replacement:

1. Hardware/Software: a replacement component which, in the professional judgment of the relevant engineer, is identical or equivalent specification to that which has been removed
2. Procedure Change: any change, which in the professional judgment of the respective Operational Department Manager and the Operator, is equivalent to what is being modified

*Management System* – framework of processes and procedures used to ensure that an organization can fulfill all tasks required to achieve its objectives.

*Near Miss* – an extraordinary event that could have reasonably, but actually did not, result in a negative consequence (incident) under slightly different circumstances.

*Non-Routine Maintenance* – any activity or task that has not previously been risk assessed or does not have a written standard operating procedure.

*Offsite –* means areas beyond the property boundary of the stationary source, and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours.

*Off-Site Consequence Analysis* – assessment of potential off-site consequences of an accidental chemical / biological release consisting of two components, worst-case release scenario and alternate release scenarios.

*On-the-Job Training* - sometimes called direct instruction or observational learning that is typically a one-on-one training located at the job site, where someone who knows how to do a task showing another how to perform it.

*Operations/Facility Manager* – a person who has control / oversight of building use, stewardship, operation, repair, and general administration of campus facilities. Also includes the operational responsibility of a specific unit operation within a facility.

*Permanent Change* – any change which is to remain in effect for an extended and undefined period of time.

*Physical Plant Supervisors* – group of individuals in first-line management who monitors and regulates employees in their performance of assigned or delegated tasks (e.g. trains, evaluates, hires, and discipline employees; approves time & attendance; administers the University / Teamster contract, manages absences; plans & rotates overtime work, etc.).

*Piping & Instrumentation Diagram (P&ID) -* is to be generated for each stage of a covered process. It should reflect the as-built equipment setup, instrumentation & controls, safety systems and interlocks included in a covered process. A P&ID is the one document that when properly completed shows the most information pertaining to the technology of the covered process. It is generally considered to be the single most vital document that must be used when performing a Process Hazard Analysis (PHA).

*Pre-Startup Safety Review (PSSR)* – a technical review and inspection of equipment modification prior to startup to ensure that the modification has been installed in accordance with the approved design standards, that procedures are in place and adequate, and that training of affected personnel has been completed.

*Preventive Action* – an opportunity identified in the management systems that if not modified could lead to a non-compliance or incident (non-compliance issue may occur if not addressed).

*Procedure* – specified way to carry out an activity or a process

*Process Hazards* - these are fire, explosion, or the health or environmental effects resulting from the loss of containment of substances which present hazards by virtue of:

1. The inherent properties of the materials used,
2. Their potential reactions,
3. The process variables, or
4. The specific facility equipment employed

*Process Hazard Analysis (PHA) -* is an analytical tool that is used to identify the inherent causes and subsequent consequences of potential accidents or hazard scenarios that involve fires; explosions; releases of toxic, reactive or flammable chemicals/biological agents; and major spills of hazardous chemicals/biological agents and to recommend corrective measures to prevent such occurrences.

*Process Hazard Analysis Team Leader* – an individual formally trained in leading PHA’s and responsible for preparing the necessary documentation for the review and written report. In addition, in conjunction with the responsible senior leadership will select the PHA Team members.

*Process Hazard Analysis Review Team Leader* – an individual formally trained in leading PHA’s and responsible for preparing the necessary documentation for the review and written report. In addition, in conjunction with the responsible senior leadership will select the PHA Review Team members.

*Process Safety Incident* – an unplanned event or series of events and circumstances which did result or could reasonably have resulted in a catastrophic release of a highly hazardous chemical / biological agent from its primary containment structure, failure of a piece of equipment as originally designed, or deviation from an established procedure.

*Process Safety Information –* data associated withthe chemical/biological agent, the process technology and the equipment within the covered process area that is necessary for affected individuals to operate the process safely, reliably and efficiently.

*Process Safety Leading Metrics* - a forward looking set of metrics which indicate the performance of the key work processes, operating discipline, or layers of protection that prevent incidents. [*AIChE Center for Chemical Process Safety*]

*Process Safety Master File* – The location where information on a covered process regarding chemical/biological, technology and equipment is located or describes where the specific information is located.

*Project Hazard Assessment* – systematic method to identify the hazards associated with a defined project and determining the appropriate protection measures which must be employed to reduce the risk from occupational and process safety hazards.

*Project Leader* – the Penn State site employee responsible for contractor employee’s activities while they are performing working on-site.

*RAGAGEP* – Recognized and Generally Accepted Good Engineering Practices (RAGEGEP), typically the specific design codes, standards or guidelines established for the covered process.

*Record* – stating results achieved or providing evidence of activities performed

*Responsible Person* – the individual accountable to ensure an action item is appropriately addressed within the defined time period.

*Risk* - combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or ill-health (or harm to the environment) that can be caused by the event or exposures.

*Risk Management* – the systematic application of management policies, procedures and practices to the tasks of analyzing, assessing and controlling risk in order to protect employees, the general public, the environment and organizational assets while avoiding business interruptions. [*AIChE Center for Chemical Process Safety*]

*Root Cause* – an initiating event or failing from which all other causes or failings originate; typically a management system failure such as facility design, inadequate training, etc., that contributed to the unsafe acts or conditions that resulted in an incident.

*Root Cause Analysis* – a formal investigative process that evaluates the initiating event or failing from which all other causes or failings originate; typically a management system failure such as facility design, inadequate training, etc., that contributed to the unsafe acts or conditions that resulted in an incident.

*Safe Work Permit* - a hazard assessment method to document the work to be completed, the hazard(s) involved, and the precautions to be implemented to reduce the risk of the project. It ensures that all hazards and precautions have been considered before work begins.

*Safeguards* – an engineering or administrative control either in the design or operation of the process that may prevent a scenario from occurring, or that mitigates the consequences should it occur. It is an existing measure that detects or warns of a hazard or consequence, prevents a hazard or consequence, or mitigates the effects of a hazard or consequence.

*Standard Operating Procedure (SOP)* - established or prescribed methods to be followed routinely for the performance of designated operations or in designated situations.

*Temporary Change* – a change that is not permanent, which lasts for a period of time not to exceed twelve (12) months.

*Trade Secret -* means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

*Training -* a process by which someone is taught the skills that are needed for a task, function or specific job.

*Training Needs Assessment* - is a systematic process for determining the specific training requirements by Job Description. For the PSM program this addresses the job functions related to routine operation of the covered process equipment and routine work around the covered process that may impact the operation.

*What-If Hazard Analysis* - a risk assessment methodology that utilizes a structured brainstorming approach of determining what things can go wrong by asking What If questions and judging the likelihood and consequences of those situations occurring.