**P.11. Pre-Operational Process Review**

1. Purpose: The purpose of this program element is to establish a procedure for the review of plans, drawings, diagrams and specifications for the processes, equipment and machinery, prior to their use and introductions into the workplace. This review is for the purpose of identifying and controlling hazardous conditions.
2. Introduction: This directive provides guidelines and the minimum requirements necessary to establish an effective pre-operational review process. When changes are being considered for a workplace because of new or modified facilities, operations, equipment, technology, or procedures, potential hazards must be identified and addressed prior to their introduction into the workplace.
3. Procedure Elements:
4. Hazard Assessment: Conduct an assessment to determine if a pre-operational process review program and procedure is necessary to address the existing hazards or proposed changes in the workplace. Any areas that experience frequent process/procedural changes, purchases of new equipment, frequent worksite physical plant changes, or the addition of new worksites / locations should be considered.
5. Areas and operations that may need to be addressed include, but are not limited to, the following:
6. Facilities / physical plant.
7. Maintenance and construction.
8. Equipment and machinery.
9. Manufacturing or production processes.
   1. Hazards that may need to be addressed include, but are not limited to, the following:
10. Chemicals and toxic substances.
11. Fire and explosion.
12. Physical contact.
13. Electrical.
14. Environmental factors (light, sound, and ventilation).
15. Heat / cold.
16. Ionizing and non-ionizing radiation.
17. Blood, body fluids, and infectious diseases.
18. Slips, trips, and falls.
19. Ergonomics.
20. Applicable Standards: Several standards and guidelines pertain to process safety management and hazard identification. The following list includes some of the related standards that may apply, but it is not inclusive.
21. AIPP element E., Methods for identifying and evaluating hazards and developing corrective actions for their mitigation.
22. OSHA 29 CFR 1910.119 Process Safety Management.
    1. OSHA 29 CFR 1910.119(i), Pre-startup safety review.
    2. OSHA 29 CFR 1910.119(l), Management of change.
23. Written Procedure: If applicable, develop a written program to manage proposed changes to ensure that additions/modifications do not expose employees to safety or health hazards, or increase the potential for environmental releases.
24. Establish program responsibilities for the review and approval of plans, specifications, and process changes to identify and correct hazards. The responsibilities for safety and health requirements are generally shared by many individuals or program areas. Examples include, but are not limited to, the following:
25. **Personnel responsible for the design** of a new operation or process changes shall ensure safety issues such as electrical safety, fire safety, indoor air quality issues, and ergonomics are considered in the design.
26. **Purchasing** shall ensure that equipment venders verify that new equipment meets the current design standards; that Material Safety Data Sheets are obtained for all chemicals introduced into the workplace; and that the least toxic chemical is selected for the operation.
27. **Safety Coordinator, Safety Committees, or designee** shall review the new process or operation to assess the hazards, assign personnel protective equipment, determine whether other controls must implemented, and ensure the appropriate training is conducted.
28. **Facilities** shall ensure that construction activities are performed and equipment is provided in accordance with contract and design specifications.
29. **Supervisors** shall be responsible to ensure that a pre-operational process review is initiated whenever a new operation or piece of equipment is introduced into the workplace. Supervisors must also ensure employees are trained in the operation of new equipment or operations, required safeguards are in place, and that assigned PPE is utilized.
30. **Employees** shall verify that they understand how to use the equipment or perform the operation, that they use the required personal protective equipment, and that all safeguards are in place before using the equipment or performing the operation
    1. Establish review procedures for proposed changes of the work environment to ensure that potential hazards are identified and proactively addressed. At a minimum, the review should include the following:
31. The technical basis for the proposed change.
32. A hazard analysis has been performed to identify the impact of change on safety and health.
    1. Any modifications to processes or procedures.
    2. Construction and equipment is in accordance with safety requirements and design specifications.
    3. Safety, operating, maintenance, and emergency procedures are in place and are adequate to address the hazards.
33. Identify the necessary implementation timeframes.
34. Identified hazards and recommendations have been resolved or implemented before startup.
35. Notification and authorization requirements are satisfied.
36. Establish communication, tracking, and approval procedures to ensure that all necessary staff/departments are given an opportunity to evaluate process changes.
37. Define procedures to document all records pertaining to the requests, assessments, approvals, and controls implemented to address the identified hazards.
38. Training: Develop, provide, and document training for all affected employees on the agency’s pre-operational process review procedure.
    * 1. Ensure training and information is provided to all employees that have responsibilities defined in the procedure.
      2. Ensure employees involved in operating or the maintenance of a process are informed of, and trained in, the change prior to start-up of the process.
      3. Define how other affected employees and outside contractors / utilities are informed of any changes to processes or the installation of new equipment.
      4. Provide training to safety staff, safety committee members, and/or supervisors in the recognition and identification of the hazards associated with new processes or equipment.
39. Checklists and Forms: Develop the necessary forms to ensure compliance with the requirements of this standard operating procedure. The forms may include, but are not limited to, the following:
40. Preliminary hazard assessment.
41. Hazard review checklist.
42. Communication and notification forms.
43. Authorization forms.
44. Process change worksheet
45. Process hazard control plan worksheet.
46. Program Effectiveness Review and Response: The effectiveness of this program in preventing workplace hazards, injuries, and illnesses should be evaluated at least annually with appropriate actions taken.
    * 1. Document annual reviews.