

SAFETY

Subject: Process Safety Management		Doc ID: #34520	Page 1 of 12
Effective:4/3/19	Document Owner: Safety Manager	Approved By:	

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I. POLICY/SCOPE

It is the policy of the Quinnesec Mill to prevent, and to minimize the consequences of releases of highly hazardous chemicals. This will be accomplished through implementation of process safety management practices for all covered processes. These practices will be followed by all affected members, departments, contractors and vendors.

From a contract work standpoint, it applies to personnel performing maintenance, repair, turnaround, major renovation or specialty work. It does not apply to contractors providing incidental services (i.e. janitorial work, delivery/supply services, etc.)

This policy applies to the following chemical processes regulated by MIOSHA Part 91, Process Safety Management, and/or EPA 40CFR68, Risk Management Plan:

Chlorine Dioxide Generator (R10): Chem Prep
Chlorine Dioxide Distribution: Chem Prep and Bleach Plant

To gain the benefits of the Process Safety Management principles, many elements of the Process Safety program have been applied to processes not required by MIOSHA Part 91 or EPA 40CFR68. These processes include:

Foul Condensate Stripper: R&U
Foul Methanol: R&U and Pulp Mill
Concentrated Vent Gas (CVG): R&U and Pulp Mill
Methanol: Chem Prep
Sulfuric Acid - R10 Generator Supply: Chem Prep
Sodium Chlorate - R10 Generator Supply: Chem Prep
Hydrogen Peroxide (50%): Chem Prep

II. INTENT/PURPOSE

Implementation of process safety management practices will result in minimizing the potential for release of highly hazardous chemicals, thereby protecting personnel, the community and the environment. While this policy outlines general expectations and requirements for process safety management, it is not all-inclusive of requirements or practices at the Quinnesec Mill. Further detail can be found in the Quinnesec Mill Process Safety Management Manual.

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III. DEFINITIONS

Covered Process: Chemical process to which process safety management practices are applied, as identified in the scope of this document. These processes are defined by “boundaries”, which limit the extent of application of the practices.

HAZOP: An acronym standing for Hazard and Operability, a risk analysis method for evaluating the hazards associated with operation of a process.

Contract Coordinator: - Any Quinnesec Mill employee(s) who is responsible for coordinating activities of the contractor (also known as job owner)

Management of Change: A permit system used to manage changes to a covered process, including changes in process chemicals, technology, equipment, procedures and facilities.

Change In Kind: Any change which meets one of the following:

- Replacement in Kind - An **item which is identical in all respects** to that which it is replacing, **or is an approved equal** per engineering specifications, **or**
- Repair without modification, **or**
- Routine operational changes made within safe operating limits

Changes in Kind do not require a Management of Change permit.

Incident: For covered processes, an event which resulted in, or could have reasonably resulted in: 1) release of a highly hazardous chemical, 2) injury to personnel or 3) damage to equipment.

IV. PROCEDURES/PRACTICES

A. Process Identification

1. Covered process equipment and areas will be identified by orange tags.
2. Manual valves on covered processes will be assigned a nine digit mill equipment number (i.e. 38-90024-19), displayed on orange field tags.
3. Covered process equipment will be identified in the SAP system, with the Equipment Description containing the designation “**PS-**”.

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4. Engineering Flow Diagrams (EFD) or Loop Sheets showing equipment covered by process safety will be designated by banners in the lower right hand corner (i.e. **Process Safety Related**) and in the left margin.
5. Covered process “boundaries” are defined on EFD’s using marker flags, in operating manuals and by the identification means listed above.

B. Accessing Information

1. Descriptions of the covered processes and their hazards are found in operating manuals, located in process safety coordinators office. This information is available for review by all mill members, contractors or vendors.
2. Additional information on covered processes is available from a variety of sources, including, but not limited to:
 - a. Equipment files, process drawings (EFD’s, Loop Sheets), specifications, vendor/supplier manuals - available in Engineering
 - b. Equipment detail - available on the SAP system
 - c. Process Safety database, Process Safety files, and General Process Safety diagrams - available from the Process Safety Coordinator
 - d. Contractor Safety Video - available from Plant Protection

C. Restricted Access Areas

1. Personnel other than operating personnel, entering the Foul Condensate Stripper Building, R10 Generator Module or Chem Prep. are to check in with the operating control room prior to entry.

D. Changes to Covered Processes - Management of Change

1. Changes to covered processes, either temporary or permanent, not considered a change in kind require a Management of Change (MOC) permit. This includes, but is not limited to, changes in the following:
 - a. Process equipment (field equipment and controls)
 - b. Operations and Maintenance Procedures
 - c. Process technology (operating limits/control strategies)

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- d. Process chemicals
 - e. Facility changes (ventilation, safety equipment, etc.)
2. **MOC permits must be completed before a change is made**, unless emergency conditions dictate that a change be made immediately.
 3. MOC permits are found in operating areas (The back of PSM manuals or other locations in the department). The person (sponsor) requesting the change will complete the first portion of the permit and request authorization from an operating department representative.
 4. The proposed change is then reviewed with the Process Safety Coordinator for approval and further direction. MOC permits may be rejected if the change would result in an increased risk to safety and health.
 5. Management of Change manuals, further explaining the procedure and use of permits, are found in operating control rooms.
 6. Updating of documentation resulting from changes must be completed as soon as possible to ensure information is accurate for all users.
- E. Process Hazard Analysis
1. The Quinnesec Mill will use the HAZOP hazard analysis methodology. Checklists will be used for evaluating human factors and facility siting.
 2. Hazard analysis teams will include representation from engineering, operations and maintenance, with at least one team member knowledgeable in the covered process. Team members will participate in resolving recommendations developed as a result of hazard analysis.
 3. Results from hazard analysis studies are retained by the Process Safety Coordinator and are accessible to all members.
- F. Contractor Work
1. **A Contractor Pre-Job Audit and Work Permit** (see Attachment A) must be completed prior to work being performed by a contractor on a covered process or within the R-10 Module or Stripper Building.
 - a. The Quinnesec Mill contract coordinator is responsible

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for managing the contractor work on a covered process, including process hazard communication and specific job hazard analysis.

- b. Operating personnel are responsible for performing periodic rounds (Every 2 hours) of the work area when contractors are present.
- c. The contract coordinator is responsible for ensuring the work permit is forwarded to EHS after the completion of work.
- d. Where multiple jobs are scheduled on the same process, or in the same area, a separate work permit must be issued for each job.

2. A Contractor Pre-Job Audit and Work Permit is not required for contractor work within the R-10 Module or Stripper Building in the following circumstances:

- a. Contractors performing routine/repetitive work (i.e. emergency lighting checks, light change-outs, janitorial work, etc.)
- b. Contractors working with Quinnesec Mill personnel to determine job scope.

G. Incident Reporting

- 1. For incidents involving covered processes, notify the Process Safety Coordinator at the earliest opportunity to determine appropriate steps for Incident Investigation.
- 2. Investigations of incidents must begin within 48 hours of the event and involve a minimum of 2 people. Results are to be communicated to affected personnel, including contractors as appropriate.

H. Hot work

- 1. The Hot Work policy applies to all PSM covered process and any hot work being performed in PSM covered process areas need to comply with the Hot Work Policy.

I. Required Reviews and Training

- 1. Annually

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Affected mill departments will review this policy with their crews and department personnel.

2. Every Three Years
 - a. Operating departments will review and certify Operating Manuals, including Standard Operating Procedures (SOP's), to ensure they are updated and current.
 - b. Refresher training for operators on understanding and adhering to SOP's for regulated processes. More frequent training may be required as determined by operators and operating departments.
 - c. A compliance audit of the Process Safety Management program.
3. Every Five Years
 - a. A revalidation of the Process Hazard Analysis for each regulated process.

J. Recommendation Tracking and Resolution

1. Recommendations generated from Hazop Studies, Incident Investigations and Compliance Audits will be resolved, with actions documented. Periodic reports on outstanding recommendations will be provided to mill management and affected departments.
2. Members are expected to prioritize Process Safety recommendations to ensure timely resolution.

K. Documentation

1. Documentation identified for covered processes must be kept updated and current. This will be accomplished through reviews and Management of Change.
2. Members are expected to prioritize updating of documentation related to covered processes.

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V. RESPONSIBILITIES

- A. Members are responsible for providing input, or participating in the following, as applicable:
 - 1. Compiling information on process hazards, technology and equipment
 - 2. Developing and review of operating procedures and troubleshooting guides
 - 3. Determining the content and frequency of, and active participation in, initial and refresher training
 - 4. Helping to ensure contractor safety requirements are being met
 - 5. Safety preparation prior to starting a new process
 - 6. Documenting the results of preventive maintenance inspections
 - 7. Development of safe work practices (i.e. lock out, hot work, etc.)
 - 8. Sponsoring and supporting Management of Change
 - 9. Participating in Incident Investigations (near misses and releases)
 - 10. Audits of the effectiveness of the process safety program
 - 11. Updating and development of required documentation
 - 12. Identifying ways to reduce the likelihood or severity of chemical releases
 - 13. Following established operating procedures

- B. Operating departments, including those in support roles, are responsible for:
 - 1. Ensuring that process changes use the Management of Change permit and that changes are communicated in a timely manner.
 - 2. Prompt reporting of incidents, both near misses and chemical releases, to the Process Safety Coordinator.
 - 3. Restricting process access during process upset conditions.

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4. Following other established safe work practices (i.e. confined space, lockout, hot work, line breaking, etc.)
 5. Performing periodic safety observations of contractor work areas.
- C. Contract coordinators are responsible for:
1. Managing contractor work on a covered process, including completion of the Contractor Pre-Job Audit and Work Permit before work begins.
 2. Ensuring Contractor Pre-Job Audit and Work Permits are forwarded to EHS when work is complete.
- D. The Process Safety Coordinator is responsible for:
1. Coordinating the Management of Change program
 2. Coordinating and leading Process Hazard Analysis
 3. Coordinating and leading Incident Investigations
 4. Tracking of all recommendations related to Process Safety
 5. Developing and updating guidelines on the mill Process Safety program
 6. Communication of findings from Hazard Analysis, Incident Investigations and Compliance Audits
 7. Assisting mill departments in fulfilling Process Safety requirements
- E. The following departments are responsible for reviewing this policy on an annual basis with their personnel (on-line refresher training):
1. Environmental, Health and Safety
 2. Recovery and Utilities
 3. Pulp Mill
 4. Maintenance and Engineering
 5. Process Control

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6. Materials

- F. Mill management is responsible for ensuring necessary resources and coordination is provided to support inter-departmental efforts (i.e. hazard analysis, compliance audits, etc.).

ATTACHMENT A

Process Safety Management
Contractor Pre-Job Audit and Work Permit

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**Process Safety Management
Contractor Pre-Job Audit and Work Permit**

Date of Review: ___/___/___ Date Work Scheduled: ___/___/___ Start Time: _____
 Contractor (Name & Phone #): _____
 Facility Contract Coordinator (Name & Phone #) (See back for definition): _____
 Job Location (Be Specific): _____
 Covered PSM Process: _____
 Contractor Hazard Communication review completed? Yes No Document # _____

	Yes	No	Document #
	<u>Yes</u>	<u>Not Required</u>	
1) Hot work permit obtained?	<input type="checkbox"/>	<input type="checkbox"/>	
2) Confined space permit obtained?	<input type="checkbox"/>	<input type="checkbox"/>	
3) Lockout needed?	<input type="checkbox"/>	<input type="checkbox"/>	
4) Elevated work equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
5) Initial line breakage equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
6) Portable/personal monitors needed?	<input type="checkbox"/>	<input type="checkbox"/>	
7) Control room check-in needed?	<input type="checkbox"/>	<input type="checkbox"/>	
8) Evacuation/mustering/reporting procedures understood?	<input type="checkbox"/>	<input type="checkbox"/>	
9) Other area specific hazards and/or hazards that are created by the contractors work: _____			
10) Explain specific work to be done: _____			

A review of the Hazard Communication Document and any Specific Job Hazards or Procedures (listed above), led by the Facility Contract Coordinator and including attendance by Contractor Supervisor, Contractor Crew Members, and Mill Operations must be performed prior to signing this document. Signing this permit gives approval for the described work to be performed.

11) Permit Approval
 Facility Contractor Coordinator: _____
 Operations Day Coord: _____ Operations Rep.: _____
 Contractor Supervisor: _____
 Contractor crew: _____

12) Periodic Review of the Work Area (Defined on back of sheet)

Initials/Time	Initials/Time	Initials/Time	Initials/Time
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

13) Add Comment If audit was not completed: _____

This permit must be posted at job site. The completed permit must be put in a permit drop box, in the Control Room, for collection by Loss Prevention. A new permit is required for each shift working on the job.

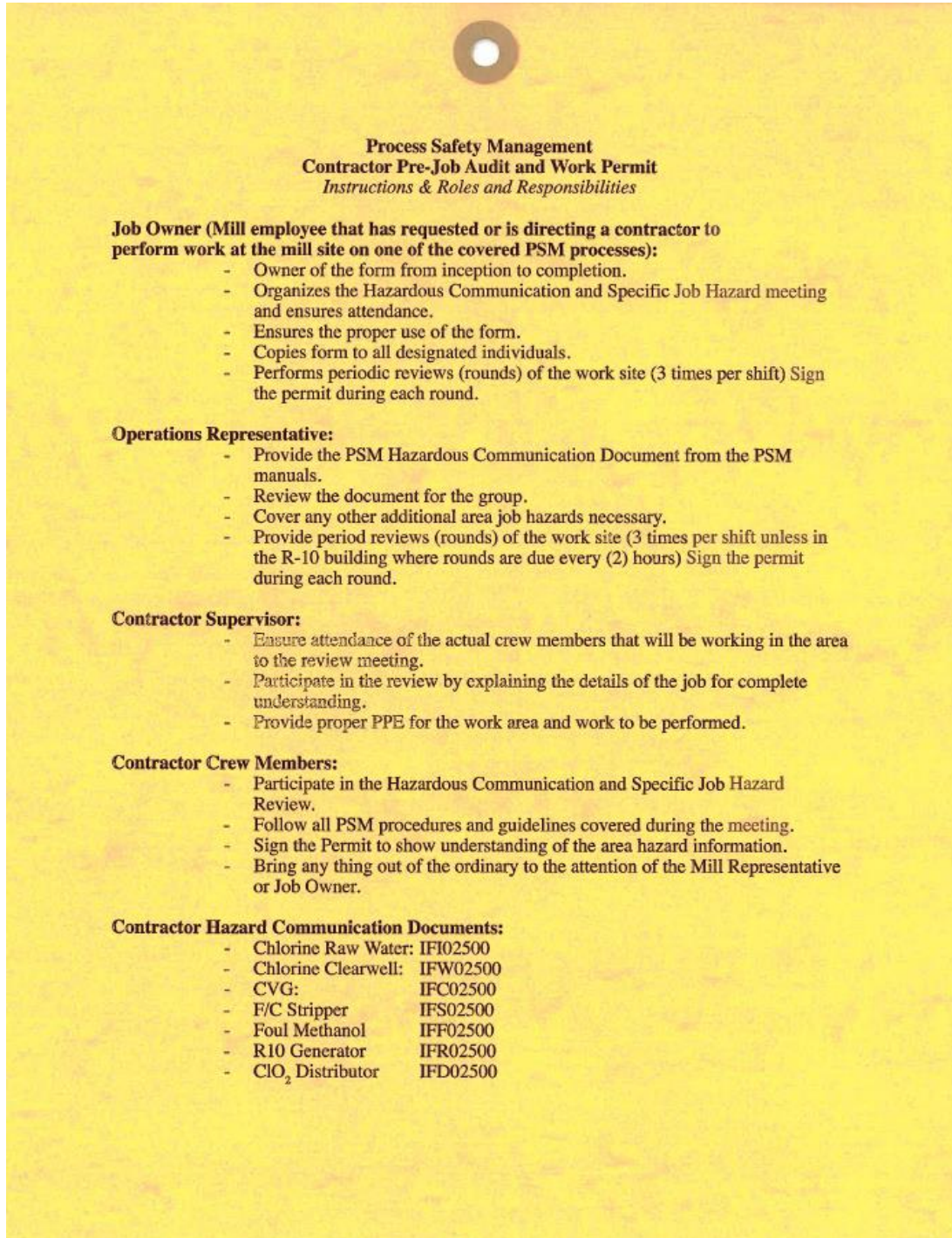
Permit Complete Time _____ Operations Rep. Signature _____

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Process Safety Management

Contractor Pre-Job Audit and Work Permit

Instructions, Roles and Responsibilities

Facility contract coordinator (I.P. employee that has requested or is directing a contractor to perform work at the mill site on one of the covered PSM processes):

- Owner of the form from inception to completion.
- Organizes the Hazardous Communication and Specific Job Hazard meeting and ensures attendance.
- Ensures the proper use of the form.
- Performs periodic reviews (rounds) of the work site (3 times per shift) Sign the permit during each round.

Operations Representatives (Operation Day Coordinator and Area Representative):

- Provide the PSM Hazardous Communication Document from the PSM manuals.
- Review the document for the group.
- Cover any other additional area job hazards necessary.
- Provide periodic reviews (rounds) of the work site (every (2) hours).
- Conduct a safety observation and sign the permit during each round.

Contractor Supervisor:

- Ensure attendance of the actual crew members that will be working in the area to the review meeting.
- Participate in the review by explaining the details of the job for complete understanding.
- Provide proper PPE for the work area and work to be performed.

Contractor Crew Members:

- Participate in the Hazardous Communication and Specific Job Hazard Review.
- Follow all PSM procedures and guidelines covered during the meeting.
- Sign the Permit to show understanding of the area hazard information.
- Bring any thing out of the ordinary to the attention of the Mill Representative or Facility contract coordinator.