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Document: Hot Work Permit Policy

Purpose

To establish and implement procedures to be followed for the prevention of fire in the Wisconsin Rapids Facility as a result of using open flames or producing sparks (Hot Work). Hot Work Permits must be used for all hot work. A permit system shall be employed that will “authorize” hot work under strict control criteria in compliance with OSHA 29 CFR 1910.252 and NFPA 51-B.

Extent


Work involving electric or gas welding, cutting, brazing, soldering (using flame), grinding, open burning, or similar flame or spark producing operation will be controlled to prevent fire through compliance with this procedure and the use of a Hot Work Permit to be issued prior to performing such work.

Responsibility

- A. Team members—All team members are required to follow the Hot Work permit policy when Hot Work tasks are conducted.

- B. Maintenance Supervisor—It is the responsibility of the supervisor to make sure their employees understand and follow the proper Hot Work procedures. The supervisor is responsible for assigning properly trained personnel to complete the job in a safe and compliant manner. Properly equipping their personnel to safely do the job is also a key role in this program. Properly equipping personnel can include such things as:
 - 1. The personnel performing Hot Work are suitably trained in the safe use of the equipment.
 - 2. Ensuring proper personal protective equipment is used.
 - 3. Making sure the appropriate fire extinguisher and/or hose is available to control sparks or to extinguish a fire.

The supervisor is also responsible for notifying outside contractors and service personnel that they may hire, of the expectation to follow all facility requirements for Hot Work practices. They also need to inform these individuals of hazardous conditions or flammable materials that may exist in the area where they will be working.



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C. Individuals Performing Hot Work—The individual performing the actual Hot Work is responsible for:

1. Noting service status of fire protection sprinklers in area
2. Ensuring that their equipment is in good repair
3. Using appropriate personal protective equipment (PPE) (welding jacket, gloves, face shield, goggles, etc.)
4. Remove/shield/cover combustible material within 35 ft of the job site
5. Obtaining the Permit Authorization signature
6. Working with the Fire Watch to control the spread of sparks or molten material
7. Distribute copies of permit to proper personnel (see bottom of permit for distribution)
8. Discontinuing work and contacting their supervisor if an unsafe condition exists or should occur

D. Fire Watch—The fire watch plays one of the most important roles in this program. The along with the person performing the Hot Work, the fire watch must:

1. Be aware of the inherent hazards involved with the Hot Work job
2. Ensure that safe conditions are maintained during the job
3. Use appropriate personal protective equipment (PPE) (welding jacket, gloves, face shield, goggles, etc.)
4. Have fire hose or extinguisher at the job site
5. Know how to report a fire or other emergency situation
6. Discontinuing work and contacting their supervisor if an unsafe condition exists or should occur
7. Maintain watch of the area
8. After the Hot Work job has been completed, the fire watch must:
9. Remain on scene for the required observation period.
10. Keep fire extinguishing equipment accessible
11. Return hoses or extinguishers to racks when observation period is completed

Once the observation period is completed, Fire Watch is to sign the bottom of the permit and enter the time they left the job site. This represents verification that the job site was safe and secure when the fire watch left the scene.

E. Permit Authorizer—These are the personnel who are in charge of the actual area where the work is taking place. These supervisors must either be notified of a Hot Work job being conducted in their area or they can act as the Authorizing Signature, giving permission for work to be done in that area.

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They may at that time point out to the person doing the Hot Work, special conditions or hazards associated with the work site.

- F. Permit Authorizing Signature—This is the person who will be responsible for the work environment and safe operation of Hot Work activities. The person who signs the permit must visit the job site, within 6 hours prior to the hot work starting, to ensure that proper precautions have been checked on the permit and proper safety measures have been taken at the job site. These may include: Ensuring sprinkler systems are in service, having the work moved to safer location, properly protecting combustibles (shielding, covering, blanketing, etc.), shutting down conveyors or equipment that may move or transport sparks/fire to another location, the fire watch is equipped with the proper type of fire extinguishing device, etc. The individual signing as the Hot Work Authorizing Signature must be a Billerud Supervisor or designee. This person can be a Maintenance manager or a Production manager.

- G. Contractors—Contractors are the responsibility of the personnel who hired them. Maintenance and production-oriented areas that hire contractors are responsible for making sure the contractor and their people are trained and follow the Hot Work policy. The personnel that hire a contractor to do work in their area are responsible for authorizing the Hot Work jobs they may conduct. They may work in conjunction with area supervision to authorize hot work.

- H. Mutual Responsibility—Management, contractors, Authorizing Individual, fire watch, and individuals performing hot work shall recognize their mutual responsibility for safety in hot work operations. All parties involved must work together to ensure safe operations are conducted surrounding a Hot Work job.

Execution

The following steps shall be followed prior to the authorization for hot work operations in the plant. The only areas exempted from this policy are designated Hot Work areas in Maintenance Shops.

- A. Before a team member or outside contractor can engage in any of the following activities, a Hot Work Permit shall be issued by an operations team member from the appropriate area, maintenance management, maintenance working leader, or area team leader:
 1. Welding or cutting

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2. Use of torch
3. Soldering (open flame)
4. Grinding (producing sparks > 10 feet)

B. To obtain a Hot Work Permit, contact an operations team member from the appropriate area, maintenance management, maintenance working leader, or area team leader. The specific area should be prepared for hot work in advance for inspection prior to the issuing of a permit. The person issuing the permit shall obtain authorization to issue the permit by calling the PPC (23777 or 715-422-3777). Hot work permits shall not be issued without inspection of the specific area. Inspection of the area will precede issuance of a Hot Work Permit to ensure that the below precautions have been met:

1. Affected area sprinkler systems are in service
2. Cutting and welding equipment is in safe condition
3. Fire Prevention Precautions (within 35 feet)
4. Floors clear of combustibles
5. Combustible floors wet down
6. Flammable or combustible materials removed or protected with fire-resistive tarpaulins, wall and floor openings covered
7. Walls or ceilings are non-combustible
8. Enclosed or confined spaces must be free of flammables and combustibles and ventilation is provided prior to issuing a hot work permit
9. For hot work or grinding on the outside of tanks or vessels containing combustible or flammable materials or other organic materials that could develop a head space of hydrogen or methane gas from bacterial action, the headspace MUST first be tested to assure that the levels of gas are at 0% of the Lower Explosive Level (LEL)
10. A Fire Watch Person assigned and supplied with a water hose and fire extinguisher or 3 fire extinguishers
11. Fire watch shall be provided for a minimum of sixty (60) minutes after the hot work.
12. Hot work areas will be audited before, during, and after hot work takes place.
13. Final Checkup of the hot work area requires that the area be monitored for three (3) hours following completion of the 60-minute fire watch to make sure the area is fire safe

C. Team Members are required to wear proper protection when cutting, welding, or grinding (depending on the activity the use of goggles, face shield, welding jacket, welding gloves, etc.). The Green welding jacket will be inspected prior to the commencement of hot work activities (by the wearer) to ensure a clean and ready jacket.

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- D. Field Audits - Field audits are required once per hour for three (3) hours after completion of hot work in high hazard areas and/or recommended every few hours during extended hot work. Audits may be completed by hot work participants, operations, maintenance personnel, or other mill personnel familiar with the hot work process.
- E. After inspection of the hot work area, and all of the proper precautions have been taken, a Hot Work Permit (Appendix A - Factory Mutual Form) will be issued. The hard copy of the permit (Part 2) will be posted at the hot work job site in a conspicuous location before any work begins. Part 1 of the hot work permit shall be placed in the hot work placard folder in the designated Team Leader Office or alternative location. The hot work placard folder shall be opened, and Part 1 of the permit will be inserted in the lower inside pocket to indicate hot work has been authorized and is in progress. The hot work permit will document the following information:
1. Hot work performed by (name or team member or contractor)
 2. Date and WO Number (if available)
 3. Location by building, floor, and department
 4. Nature of the job
 5. Signature of the person performing hot work
 6. Name and signature of person authorizing hot work
 7. Time and date permit expires (if applicable)
 8. Complete the required precautions checklist (all boxes checked or N/A)
 9. Time hot work started, and time finished
- F. After the completion of the Hot Work and the 60-minute fire watch, the hard copy (Part 2) shall be signed by the fire watch and remain posted in the hot work area until the three (3) hour monitoring period is over. (Monitoring is defined as periodically checking the hot work area to make sure it is fire safe) Part 1A should be handed to the Permit Authorizer so that they are aware of the completion of the 60-minute fire watch. After the monitoring period, the final checkup box on the permit (Part 2) shall be signed and returned to the Team Leader Office (Converting) and matched to Part 1 & 1A. Parts 1, 1A and 2 shall be stapled together and mailed to the Safety Department for file.
- G. There may be times or circumstances when Hot Work cannot be allowed in an area. Items that could bar Hot Work from an area can include (but are not limited to):
1. In the presence of explosive atmospheres (see Section VI. below)

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2. Impaired fire protection system
3. Areas with large accumulations of combustibles or heavy accumulation of dust
4. Work to be done on tanks or piping with unknown contents

In these instances the Hot Work will have to be delayed until the environment the Hot Work is to be conducted in is cleared of the dangerous atmosphere, area is cleaned up, multiple Fire Watches are in place for the entire area due to fire protection system impairments, or the tank or piping can be checked for explosive atmospheres or dangerous contents. Please contact the Safety Department with any questions concerning these restrictions.

The Safety Department and Safety Advocates shall review hot work permits for quality and report results of this review to those departments and contractors involved. See appendix B- Hot Work Evaluation Form.

The hot work permit file will be inspected by FM Global a minimum of 1 time/year.

Record retention to file is current month plus twelve.

Reporting and follow up

Instructions for Permit Authorizer

1. Specify the precautions to take.
2. Fill out and keep **Part 1** during the hot work process.
3. Issue **Part 1A** and **Part 2** to the person doing the job.
4. After the fire watch job is complete (after the 60 minutes), hand **Part 1A** into the Permit Authorizer.
5. After 3 hour monitoring is completed, staple **Part 1, Part 1A** and **Part 2** together and file for future reference.
6. Sign off final check on **Part 2**.

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Appendix A

WARNING

HOT WORK IN PROGRESS! Watch for fire!

Instructions

Person performing hot work: Record time started and display permit at hot work area. After hot work is completed, record time and leave permit displayed for fire watch.

Fire watch: Watch area during hot work and after work completion. Prior to leaving area, perform final inspection, sign, leave permit displayed and notify Fire Monitor or Permit Authorizer.

Fire Monitor: Monitor area after post-work fire watch completion. Perform final inspection, sign and return to Permit Authorizer.

HOT WORK BY
 Employee
 Contractor

DATE: _____ JOB NUMBER: _____

LOCATION OF WORK (BUILDING/FLOOR/OBJECT): _____

WORK TO BE PERFORMED: _____

NAME OF PERSON PERFORMING HOT WORK: _____

NAME OF PERSON PERFORMING FIRE WATCH: _____

I verify the above location has been examined, the Required Precautions have been taken, and permission is authorized for this work.

PERMIT AUTHORIZER (PRINT AND SIGN): _____

THIS PERMIT EXPIRES ON (LIMIT AUTHORIZATION TO ONE SHIFT):

DATE: _____ TIME: _____ AM/PM _____

Hot Work Date: Start Time: _____ am/pm _____
 Finish Time: _____ am/pm _____

Post-Work Fire Watch: Finish Time: _____ am/pm _____

Name: _____

Fire Monitor Person Other Finish Time: _____ am/pm _____

Name/Other: _____

Final Check: _____ Time: _____ am/pm _____

Name: _____

HOT WORK PERMIT

STOP!

Avoid hot work when possible! Consider using an alternative cold work method.

This Hot Work Permit is required for any temporary operation involving open flames or producing heat and/or sparks conducted outside a Hot Work Designated Area. This includes, but is not limited to:

Instructions for Permit Authorizer

- Specify the precautions to take.
- Fill out and keep Part 1 during the hot work process.
- Issue Part 1A and Part 2 to the person doing the job.
- After the fire watch job is complete (after the 90 minutes), hand Part 1A into the Permit Authorizer.
- After 3 hour monitoring is completed, staple Part 1, Part 1A and Part 2 together and file for future reference.
- Sign off final check on Part 2.

HOT WORK BY
 Employee
 Contractor

DATE: _____ JOB NUMBER: _____

LOCATION OF WORK (BUILDING/FLOOR/OBJECT): _____

WORK TO BE PERFORMED: _____

NAME OF PERSON PERFORMING HOT WORK: _____

NAME OF PERSON PERFORMING FIRE WATCH: _____

I verify the above location has been examined, the Required Precautions have been taken, and permission is authorized for this work.


PERMIT AUTHORIZER (PRINT AND SIGN): _____

THIS PERMIT EXPIRES ON (LIMIT AUTHORIZATION TO ONE SHIFT):

DATE: _____ TIME: _____ AM/PM _____

Note: Emergency notification on back of form. Use as appropriate for your facility.

Need more permits? Order additional Hot Work Permits at fmglobalcatalog.com, or, download the FM Global Hot Work Permit via fmglobal.com/apps.



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HOT WORK PERMIT

STOP!

Avoid hot work when possible! Consider using an alternative cold work method.

This Hot Work Permit is required for any temporary operation involving open flames or producing heat and/or sparks conducted outside a Hot Work Designated Area. This includes, but is not limited to: brazing, cutting, grinding, soldering, torch-applied roofing and welding.

Instructions for Permit Authorizer

- Specify the precautions to take.
- Fill out and keep Part 1 during the hot work process.
- Issue Part 1A and Part 2 to the person doing the job.
- After the fire watch job is complete (after the 90 minutes), hand Part 1A into the Permit Authorizer.
- After 3 hour monitoring is completed, staple Part 1, Part 1A and Part 2 together and file for future reference.
- Sign off final check on Part 2.

HOT WORK BY
 Employee
 Contractor

DATE: _____ JOB NUMBER: _____

LOCATION OF WORK (BUILDING/FLOOR/OBJECT): _____

WORK TO BE PERFORMED: _____

NAME OF PERSON PERFORMING HOT WORK: _____

NAME OF PERSON PERFORMING FIRE WATCH: _____

I verify the above location has been examined, the Required Precautions have been taken, and permission is authorized for this work.


PERMIT AUTHORIZER (PRINT AND SIGN): _____

THIS PERMIT EXPIRES ON (LIMIT AUTHORIZATION TO ONE SHIFT):

DATE: _____ TIME: _____ AM/PM _____

Note: Emergency notification on back of form. Use as appropriate for your facility.

Need more permits? Order additional Hot Work Permits at fmglobalcatalog.com, or, download the FM Global Hot Work Permit App via fmglobal.com/apps.



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Part 1

Required Precautions

Contact Plant Protection Center (call 715.422.3777) to verify that all Fire Pumps and sprinkler systems are ready where the work is going to be performed.

The fire pump is in operation and switched to automatic.

Control valves to water supply for sprinkler system are open.

Extinguishers are in service/operable.

Hot work equipment is in good working condition.

Requirements within 35 ft. (10 m) of hot work

Shield combustible construction using FM Approved welding pads, blankets and curtains.

Remove combustibles or shield nonremovable combustibles using FM Approved welding pads, blankets and curtains.

Isolate potential sources of flammable gas, ignitable liquid or combustible dust/film (e.g., shut down equipment).

Remove ignitable liquid, combustible dust/film and combustible residues.

Shut down ventilation and conveying systems.

Remove combustibles and consider a second fire watch on opposite side of floor, wall, ceiling or roof when openings exist or thermally conductive materials pass through.

Is work on a combustible roof? If yes, treat as a "Hot Work High-Risk Area" and provide **ADDITIONAL REQUIRED PRECAUTIONS** below.

Hot work on/in closed equipment, ductwork and piping

Isolate equipment from service.

Remove ignitable liquid and purge flammable gas/vapor.

Prior to work, and/or during work, monitor for flammable gas/vapor. LEL readings: _____

Remove combustible dust/film or other combustible materials.

Is work on/in equipment with nonremovable combustible linings or parts? If yes, treat as a "Hot Work High-Risk Area" and provide **ADDITIONAL REQUIRED PRECAUTIONS** below.

Fire watch/fire monitoring the hot work area
 Refer to FM Global Property Loss Prevention Data Sheet 10-3, Hot Work Management for guidance on categorizing hot work areas.)

Perform a continuous fire watch during hot work.

Perform a continuous fire watch following hot work completion for 60 minutes.

Perform fire monitoring following fire watch completion for 3 hours.

ADDITIONAL REQUIRED PRECAUTIONS:

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Appendix B

	<h2 style="margin: 0;">Key Safety Procedure Audit</h2> <h3 style="margin: 0;">Hot Work</h3>	
DOCUMENT OWNER (INTERPRETS, REVIEWS, AND UPDATES):	DATE REVISION:	NUMBER:
Corporate EHS&S	June 2017	

Date: _____ **Time:** _____ **Department:** _____

Equipment: _____ **Reason for Hot Work:** _____

Hot Work Team			
1.		(Permit Issuer)	
2.		(Fire Watch)	
3.		(Person Performing Work)	

AUDIT	Yes	No	N/A
Fire watch trained, present and focused on the hot work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper extinguisher available and at hot work location?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Welding helmet, respirators, gloves, etc. in place and being used? Was this equipment inspected before use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Affected area barricaded with tape and properly tagged where required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Welding curtains used near aiseways & areas of high traffic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire hoses (or 3 extinguishers for areas without fire hoses) available for High Hazard hot work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hot Work Permit properly completed and at job site prior to work starting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If vessel, were contents identified and proper disposal executed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combustibles moved 35 ft away, covered, wetted, floor holes covered, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-work audit complete and documented on Hot Work Permit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Findings / Recommendations for Improvement / Recognition of Team Members:

1. _____

2. _____

3. _____

Follow-up is required. Have you taken the appropriate action steps? Have you contacted the person responsible for improvement suggestions? Have you recognized appropriately the team members involved? Y / N

Audits are required to be turned in to the Safety Department after completion.

COMPLETED BY: (print name) _____

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