

HOT WORK	Procedure Number SAF-1.09
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ISSUED BY:		APPROVED BY:		
Safety Manager Coosa Pines Mill	1-11-22 DATE	General Manager Coosa Pines Mill		1-17-2 <u>)</u> DATE
INTERPRETATION AND PERIODIC REVIEW OF THIS PROCEDURE IS THE RESPONSIBILITY OF:	SAFETY M	ANAGER)	3	¥
DISTRIBUTION ALL MANAGERS ALL TEAM LEADERS				



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1.0 PURPOSE

The purpose of this policy is to protect Coosa Pines employees and property from loss due to fire during welding, burning, and other hot work activities.

2.0 SCOPE

- 2.1 This policy applies to all Coosa Pines employees and contractors.
- 2.2 This policy applies to all heat or spark producing activities associated with maintenance, installation, construction, demolition, and non-typical operational activities.

3.0 DEFINITIONS

- 3.1 **Hot Work** Any temporary operation involving heat, open flames, or the production of sparks. This includes, but is not limited to: brazing, cutting with a torch, grinding, soldering, welding, and torch-applied roofing.
- 3.2 **Hot Work Permit** A written authorization to perform a hot work activity.
- 3.3 Hot Work Authorizer Coosa Pines employee trained and responsible for; (1) inspecting and preparing the area where a hot work activity is to take place, (2) designating the precautions necessary to do the Hot Work safely, (3) authorizing hot work activities by preparing the Hot Work Permit, and (4) overseeing hot work activities to ensure compliance with all policy guidelines.
- 3.4 **Fire Watch** The trained person responsible for observing the hot work activity and the surrounding area to ensure no fires begin as a result of the work activity.

4.0 GENERAL

4.1 No hot work shall be permitted anywhere on site unless accompanied by a Hot Work Permit (except for designated exempted shop areas). All shops indicated in Attachment C are exempted from this requirement.

NOTE: Exemptions for areas determined to be safely located and designed with adequate fire prevention, construction, equipment, and ventilation may be obtained by contacting the Safety Department.

- 4.2 No hot work shall be permitted in buildings protected by sprinklers while sprinklers are out of service, unless authorized by the Shift Team Leader, Area Coordinator/Manager, or Safety Tech.
- 4.3 No hot work shall be permitted in the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids, or potentially explosive concentrations of dust in air).
- 4.4 No hot work is permitted on used drums, barrels, small tanks, or other containers until they have been cleaned so thoroughly as to make absolutely certain that there are no flammable materials present or any substances which, when subjected to heat, might produce flammable or toxic vapors.
- 4.5 Hot work is restricted within 35 feet of flammable liquid storage tanks and their containment areas (See Attachment E).
- 4.6 No hot work is permitted within 35 feet of where large quantities of exposed, readily ignitable materials such as baled, rolled, or loose paper and pulp are stored.
- 4.7 No hot work is permitted on any closed equipment such as; chests, large tanks, vessels, hollow spaces, cavities, containers, piping, etc., that has the potential to contain an explosive atmosphere until after the space has been ventilated, monitored, and determined to be safe.



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- 4.8 If monitoring shows the presence of flammable gases, no hot work may be performed until actions are taken that result in a lower explosive limit (LEL) of 10% or less; purging with an inert gas may be necessary.
- 4.9 No hot work activity shall be permitted in the "Restricted Hot Work Areas" listed in Attachment E until the work procedure and location is reviewed and approved by the Shift Team Leader, Area Coordinator/Manager, or Safety Tech.
- 4.10 Employees will wear all personal protective equipment required when performing hot work activities. If there is any question about PPE requirements, employees may consult the Safety Department before performing work.
- 4.11 Workers must ensure there is a clear path of travel to fire-fighting equipment and travel distance will not exceed 25 feet.
- 4.12 Prior to performing hot work on coated materials, workers will consult Safety Data Sheets to prevent exposure to harmful fumes or vapors. A table showing respiratory protection and ventilation requirements corresponding to contaminants associated with some metals and coatings is located at Attachment A.
- 4.13 All coatings will be ground back at least 4 inches from the area to be worked on unless it is determined that there are no hazardous products of decomposition. The Safety Department can provide guidance on respiratory protection requirements for the grinding activity.

5.0 PROCEDURE

- 5.1 Site Preparation
 - 5.1.1 The hot work area will be clear of flammable and combustible materials for a radius of 35 feet in all directions. In cases where flammable and combustible materials cannot practically be moved, they will be shielded from sparks and heat, covered with fire blankets or, when applicable and feasible, wet down before hot work begins.
 - 5.1.2 If possible, relocate the object to be worked on to a safe place, or relocate all combustibles 35 feet from the hot work activity.
 - 5.1.3 Ducts and conveyor systems that might carry sparks to distant combustibles must be covered and/or shutdown.
- 5.2 Hot Work Permit Authorization
 - 5.2.1 A Hot Work Authorizer must inspect the proposed work area prior to authorizing the permit to assure compliance with the Coosa Pines fire prevention procedures.
 - 5.2.2 The Hot Work Authorizer will designate the precautions necessary to perform the work safely.
 - 5.2.3 The Hot Work Authorizer must:
 - Follow all instructions on the permit and complete all fields in a clear and legible print (**front and back**).
 - Verify appropriate precautions listed on the "Required Precautions Checklist" are completed and in place.
 - Mark with a check the appropriate boxes in the "Required Precautions Checklist".
 - Check only the precautions which apply to the specific hot work task.



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- 5.2.4 Immediately upon completion of the job, the permit must be collected and turned in for recordkeeping purposes. This duty is the responsibility of the Authorizer or his designee.
- 5.2.5 The Hot Work Permit must be posted at the hot work location for the duration of the job. It must be in a position that makes it clearly visible.
- 5.2.6 The Hot Work Permit becomes void and must be removed from the job site before the authorizer leaves the Coosa Pines property. A new permit is required before hot work can be continued.

NOTE: Rule exception – When hot work activities are completed, but the fire watch duties remain on-going into the next shift, fire watch responsibilities can be delegated to an incoming Coosa Pines employee, <u>without issuing a new permit</u>. However, it remains the responsibility of the original Authorizer to ensure the permit is collected and turned in.

- 5.2.7 The Hot Work Permit Authorizer shall consult with the Shift Team Leader, Area Coordinator/Manager, or Safety Tech about hot work activities taking place in areas listed in Attachment E.
- 5.2.8 The Shift Team Leader, Area Coordinator/Manager, or Safety Tech will review and approve preparations (by printing his name on the Hot Work Permit) made for hot work activities taking place in areas listed in Attachment E.
- 5.3 Fire Watch
 - 5.3.1 A fire watch is required anytime hot work is performed.
 - 5.3.2 When an individual is appointed to be a fire watcher, he/she will:
 - Have fire-extinguishing equipment (e.g. fire extinguisher, water hose) readily available and be trained in its use.
 - Be familiar with procedures for sounding an alarm in the event of a fire.
 - Call the Emergency #2222 or use the Emergency Channel 1 on mill radios.
 - The fire watch should have a method of communication with Security or be aware of a reliable method nearby.
 - Watch for fires in all exposed areas; try to extinguish them only when obviously within the capacity of the equipment available or otherwise sound the alarm.
 - Maintain the watch for at least 1 hour after completion of hot work to detect and extinguish possible smoldering fires.
 - Remain alert throughout entire job and watch for any signs of fire.
 - Watch for anything that might convey sparks to distant combustibles (conveyor belts, duct work, etc.). If sparks are traveling to an adjoining area or lower floor the fire watch will stop the work and notify the permit authorizer that additional fire watchers are needed.
 - Shut hot work activities down to correct hazards created by the hot work.
 - Complete the date and time fields in the Hot Work Completed section on the front of the permit.

NOTE: Contractors will provide their own extinguishers for hot work activities.



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- 5.4 Final Check:
 - 5.4.1 A Coosa mill employee must perform final checkup 3 hours following completion of Hot Work.
- 5.5 Floor and Wall openings:
 - Wherever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no readily combustible materials on the levels below will be exposed to sparks that might drop through the floor.
 - 5.5.2 When hot work occurs in areas where there are openings that would allow sparks to fall to levels below, the openings must be shielded to prevent the sparks from dropping to lower levels. If it is not possible to prevent sparks from dropping to lower levels, a fire watch is required at each level below the work.

6.0 PORTABLE HEATING AND COOKING EQUIPMENT REQUIREMENTS

- 6.1 Liquid Fueled, Portable Heating and Cooking Equipment (e.g., salamanders, grills, kerosene heaters)
 - 6.1.1 The use of heating or cooking equipment that requires a flammable or combustible liquid as fuel is considered to be a hot work activity, and all policy requirements must be observed.

Exception: No fire watch is required.

- 6.1.2 Refueling must be done only after equipment has been turned off and allowed to cool to a safe temperature.
- 6.1.3 Use of propane heaters assigned to specific process or shop areas for seasonal heating purposes, which are fueled from containers that hold a minimum of one hundred gallons, must be permitted by the Safety Department.
- 6.1.4 Liquid fueled portable heating equipment is not permitted for heating office areas or poorly ventilated enclosed areas which may become occupied.
- Solid Fuel Heating and Cooking Equipment (e.g., charcoal, wood)
 When equipment is used that requires solid fuel as an energy source it is considered to be a hot work activity, and all policy requirements must be observed.
- 6.3 Portable Electric Heaters
 - 6.3.1 Only models with automatic safety switches that turn off the unit if it is accidentally tipped over are permitted in offices or office storage rooms.
 - 6.3.2 Only heaters with undamaged or unmodified cords are permitted.
 - 6.3.3 Electric heaters are not permitted in or near areas where flammable or combustible liquids are stored or where flammable gases can accumulate.
 - 6.3.4 Electric heaters must be kept at least 3 feet away from any combustible material.
 - 6.3.5 Portable electric heaters are not permitted in wet or moist areas or in rooms where steam leaks or heavy condensation is present.
 - 6.3.6 Electric heaters are not permitted in high-traffic areas.



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- 6.3.7 Portable electric heaters are not to be used with an extension cord inside offices or office storage rooms.
- 6.3.8 Portable electric heaters used in office areas must be turned off during times the areas are unoccupied.

7.0 TRAINING AND DOCUMENTATION

- 7.1 Each hot work authorizer shall receive training and demonstrate knowledge of this procedure prior to performing the duties. Documentation will be kept as part of the individual's training record.
- 7.2 Each employee and contractor who performs fire watch duties shall have received basic training on selection and use of fire extinguishers, fire extinguishment practices, and how to report a fire emergency. In the case of Coosa Pines employees, completion of the Fire Prevention CBT on the Coosa LMS will fulfill this requirement.
- 7.3 Canceled Hot Work Permits will be retained by the Safety Department for audit and record keeping purposes.
- 7.4 The Safety Department will audit the procedure as needed and update the policy as needed.

8.0 REFERENCES

- 8.1 OSHA Regulations 29 CFR 1910 Subpart Q
- 8.2 OSHA Regulation 29 CFR 1910.119(k)
- 8.3 OSHA Regulation 29 CFR 1910.106(b)(6)

9.0 ATTACHMENTS

- 9.1 A Ventilation and Respiratory Protection Table
- 9.2 B Hot Work Permit (front and back)
- 9.3 C Designated Permit Exempted Shops
- 9.4 D Special Hot Work Hazards
- 9.5 E Restricted Hot Work Areas
- 9.6 F Record of Revisions



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ATTACHMENT A

Ventilation and Respiratory Protection Table

Contaminant	Enclosed Area	Open Air
Fluorine compounds (e.g. welding on stainless steel)	Local exhaust or general mechanical ventilation	Air-purifying respirator
Zinc (e.g. welding on galvanized steel)	Local exhaust or general mechanical ventilation	Air-purifying respirator
Lead (e.g. including paints that may contain lead) Beryllium bearing/coated material	Local exhaust ventilation and airline respirator Local exhaust ventilation and	Local exhaust ventilation and airline respirator Airline respirator
	airline respirator	
Cadmium bearing/coated material	Local exhaust ventilation or airline respirator	Air-purifying respirator
Chromium bearing/coated materials (e.g. stainless)	Local exhaust ventilation or airline respirator	Air-purifying respirator
Mercury bearing/coated material	Local exhaust ventilation or airline respirator	Air-purifying respirator
Unknown metals and/or coatings	Local exhaust ventilation and airline respirator	Local exhaust ventilation and airline respirator
Toxic preservative coatings	Local exhaust ventilation and airline respirators or coating will be stripped at least 4" from area of heat application	Airline respirator
Inert gas metal-arc welding: Chlorinated solvents	Chlorinated solvents will be kept at least 200 ft. from arc, surfaces will be dry before welding	Chlorinated solvents will be kept at least 200 ft. from arc; surfaces will be dry before welding.

(Applies to all hot work including welding, cutting, brazing, soldering, etc.)
Note: Any waste associated with these jobs is considered hazardous until it is proven otherwise.



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ATTACHMENT B-1 Front

HOT WORK PERMIT			
PERMIT VALID WHEN HOT WORK AUTHORIZER IS ON SITE.			
Describe Hot Work Task What is the task?	Types of Hot Work Approved		
	BURNING Yes No		
	WELDING (stick) Yes No		
	WELDING (TIG) Yes No		
Specific Location of Job	GRINDING Yes No		
Building & Floor:	OTHER Yes No		
Area:	Describe Other:		
Equipment:			
Hot Work Authorizer: (Front & Back of form must be completed.)	/ (Print Name) (Signature)		
Hot Work Authorizer Contact Information:	(Phone Number)		
STL, Area Coord/Managers, Safety Tech: (for restricted areas)	(Print Name) (Signature)		
Company Performing Hot Work: Person Performing Hot Work: Inspect Hot Work Equipment before use.	/ (Print Name) (Signature)		
Person(s) Performing Fire Watch: Monitor during hot work, any break periods, and for 1 hour after hot work is complete.	/ (Print Name) (Signature)		
Area Approved for Hot Work	Hot Work Completed		
AM / PM Date Time	☐ YesAM / PM ☐ Date Time ☐ No, Hot Work continued on another Permit.		
Mill Employee Performing Final Checkup:	□ 3-hour final checkup performed.		
Required 3 hours after Hot Work is complete.	(Print Name) (Signature)		
IN CASE OF EMERGENCY, CALL	SECURITY AT (256) 378-2222. HOT WORK IN PROGRESS. WATCH FOR FIRE!		

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ATTACHMENT B-2 Back

HOT WORK PERMIT

STOP! Avoid Hot Work, or seek an alternative / safer method if possible.

Instructions

Hot Work Authorizer:

- a. Verify precautions listed below or do not proceed with the Hot Work.
- b. Indicate date and time area approved for hot work.
- c. Issue to Person Performing Hot Work.

Person Performing Hot Work: Print Name and post permit at hot work location. Inspect hot work equipment before use. After hot work is completed, indicate time and leave permit posted for fire watch.

Person(s) Performing Fire Watch: Print name, watch area during hot work period and for 1 hour after completion. Prior to leaving area, perform final inspection, leave permit posted, and notify Hot Work Authorizer.

Mill Employee Performing Final Checkup: Print name, perform final inspection, check the box that final checkup was performed, sign form, and return to Hot Work Authorizer. (Required 3 hours after Hot Work is complete.)

Required Precautions Checklist Check for those that apply to the Hot Work Tasl

_	Restricted Hot Work Area	10 . 01.11.			01. 7	
_	Restricted Hot Work Area.	(Requires Shift	leam leader	Area Coordinator/Manage	ars or Safety I	ech approval

- ☐ Area does not have a sprinkler system installed.
- Area has a sprinkler system installed and it is on and operable.
- Area has a sprinkler system installed and it is not operating; therefore, this area will be treated as a Restricted Hot Work Area.

Requirements within 35 Feet of Hot Work

- \square No combustibles in area. (Walls, floors, equipment being worked on, items being stored, etc...)
- $\hfill \square$ Ignitable liquid, dust, lint and oily deposits removed.
- \equiv Combustible floors wet down, covered with damp sand or fire-resistive blankets.
- Area cleared of combustibles where possible, and protected with fire resistant blankets or curtains where not possible.
- Area/equipment sniffed for explosive atmosphere and hazard was either not detected or eliminated, a Lower Explosive Level (LEL) reading of 10% or less was obtained.
- Area ducts or conveyors protected or shut down to prevent sparks from spreading.
- Combustible materials on other side of walls, ceilings or roofs moved away to prevent ignition.
- Openings, cracks, holes, etc., are protected to prevent ignition to level below.

Hot Work on Enclosed Equipment

- ☐ Enclosed equipment (piping, tanks, chests, vats, etc.) cleaned of all combustible material.
- Containers purged of ignitable liquid/vapors (LEL reading of 10% or less obtained).
- $\hfill \Box$ Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire Watch / Hot Work Area Monitoring

- ☐ Fire watch is supplied with suitable extinguishers or a charged water hose (where practical and safe to use).

 Fire extinguisher type: ☐ Water; ☐ A, B, C; ☐ Carbon Dioxide; ☐ Other
- More than one fire watch required to perform hot work task safely.

Other Precautions Taker

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ATTACHMENT C

Designated Permit Exempted Shops

- 1. Machine Shop
- 2. Pump Rebuild Shop
- 3. Front-end E & I Shop
- 4. Old Front-end Pipe Shop and Training Area
- 5. Sheet Metal Shop
- 6. Chemical Pulp Maintenance Shop
- 7. Ross Maintenance Shop
- 8. Recovery Maintenance Shop
- 9. Powerhouse Maintenance Shop
- 10. Tractor Shop
- 11. Heavy Equipment Shop
- 12. Mill Services Shop
- 13. Roll Rebuild Shop



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ATTACHMENT D

Special Hot Work Hazards

Due to a higher potential of fire or explosion, certain equipment and areas may require additional knowledge, preparation, and special safety precautions which will require consultation with others (Safety Tech, Project Engineer, Shift Team Leader, Department Coordinator, Department Manager, etc.) prior to authorization of Hot Work Activities.

Examples are:

- Turpentine storage and Piping*
- Methanol storage and Piping*
- NCG Piping
- 4. Black Liquor Storage and Piping
- 5. Natural and Propane Gas Storage areas and Piping*
- 6. Any Flammable Liquid Storage areas and Piping*
- 7. Above or near Process Sewer openings
- 8. Areas with coal or coal dust accumulations (Coal yard and associated areas)
- 9. Areas with chips or wood dust accumulations (Woodyard and associated areas)
- 10. Areas above energized cable trays
- 11. Ross Dryer inside Dryer*
- 12. Ross Dryer at roller bearings (grease and dust buildup)*
- 13. Ross Winder hydraulic oil and dust*
- 14. MCC Rooms and PCB Transformer Vaults*.
- 15. Roll Wrappers
- 16. Roll Storage areas
- 17. Conveyor belting
- 18. Roofs*
- 19. Any equipment or area containing above normal Oxygen level or flammable atmosphere
- 20. Confined Spaces
- 21. CIO₂ Process Building and Storage Areas and Piping*

This list is not all-inclusive. It is intended only to present examples of the types of situations where additional measures may be needed.

* Restricted Hot Work Areas which require consultation. See Attachment E.



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ATTACHMENT E

Restricted Hot Work Areas

Due to a high potential for fire or explosion, the Hot Work Permit for the listed areas require; (1) the <u>approval of the Authorizer</u>, and (2) notification, review, and approval, of the Shift Team Leader, Safety Tech, Area <u>Coordinator</u>, Area <u>Manager</u>.

- 1. Turpentine storage
- 2. Methanol storage
- 3. Natural and propane gas storage areas
- 4. Any flammable liquid storage areas
- 5. MCC Rooms and PCB Transformer Vaults.
- 6. Ross Dryer Area
 - a. Inside the dryer
 - b. Bearings on dryer corners with grease and dust accumulations
 - c. Areas with extensive oil and dust accumulations (Winder columns, Utilities trench, etc.)
- 7. Roofs
- 8. CIO₂ Area
 - a. CIO₂ Process Building
 - b. CIO₂ Storage
- 9. Pulp Roll Storage Warehouse.
- 10. Any area with a non-operable sprinkler system.

<u>Preparation Procedures for Hot Work Activities in Restricted Areas:</u>

- 1. Prepare job site (remove combustibles, hang felts, etc.).
- 2. Consult with authorizer (i.e., Shift Team Leader, Area Coordinator/Manager, or Safety Tech).
- 3. Implement recommendations resulting from consultation.
- 4. Assure Hot Work Permit is approved by the Shift Team Leader, Safety Tech, Area Coordinators or Area Managers.
- 5. Begin Hot work activity.



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ATTACHMENT F

RECORD OF REVISIONS

Section	Revision Number	Effective Date	Description Of Changes
ALL	1	03-26-08	Name change due to merger. Addition of Record of Revisions.
Attachment D	2	08-26-08	Added 1 Special Hot Work Hazard
Attachment E	2	08-26-08	Added 1 Restricted Hot Work Area
Attachment E	3	09-18-09	Added Recycle Warehouse & A/B Incline Conveyors to restricted areas
Attachment C, D, H & I	4	09-12-12	C. Removed Main Paper Mill Maintenance Shop, Paper Mill Roll Rebuild Shop, North Paper Mill Maintenance Shop Near Old Main Lab, and Recycle Maintenance Shop from the list of shops exempted from Hot Work Permit requirement. D. Added Black Liquor Storage and Piping to Special Hot Work Hazards list. Added Piping to the other hazards listed. H. Inserted new Attachment H, Re-Authorization of an Ongoing Hot Work Task. I. Moved Record of Revisions to I.
ALL	5	12-14-12	Changed permit. Policy modifications made to match new permit. General policy update.
ALL	6	03-14-14	Updated Safety Manager and General Manager; changed procedure number; moved several attachments into body of procedure. General policy update.
Attachment C	7	7-15-14	Added Roll Rebuild Shop to list of designated Permit Exempted Shops.
Title Page	8	3-13-17	Updated for new management signatures.
Attachment B	9	4/10/18	Updated permit to include type of fire extinguisher used as well as protecting openings, cracks, etc., to prevent ignition to level below.
All	10	11/12/19	Addition of 5.4 Final Checkup; HWP update; Clarification of authorizers for Restricted Hot Work areas.
4.2, 4.9, 5.2.7, 5.2.8, HW Permit, Attachment E	11	02/25/2020	Restricted HW area authorization clarification.
5.3.2	12	01/11/2022	Updated based on Marsh Audit to return to 1-hour fire watch following completion of hot work.