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## Document: Line Breaking Policy

### Purpose

It is the purpose of this policy to prevent incidents or injuries to mill team members and others when disassembling lines, pumps, opening confined spaces, or any other equipment which contains, or may contain, hazardous materials and/or hazardous conditions. Policy is applicable to all team members, contractors, and vendors.

### Execution

#### A. Operating Department:

1. Operations shall properly isolate the equipment prior to releasing the piping or equipment to maintenance or contractors performing the line breaking work.
  - a. Equipment isolation of all energy sources associated with the piping/equipment must be completed in accordance with the facilities lockout/tagout policy.
  - b. Isolation of steam and/or hydraulically operated equipment shall be completed with members of the crafts team.
2. Have information available regarding potential hazards, including SDS's.
3. Complete the appropriate sections of the Line Breaking Permit when required. See Appendix A & B.
  - a. Jointly identify needed safety equipment with the person performing the initial line break.
  - b. Complete Line Breaking Permit with the person performing the line break. This review is to be completed in the field at the job location to ensure accuracy.
  - c. Sign the permit.

#### B. Participants:

1. Make contact with the operating department to review the work to be completed and identify the correct line or equipment. *See Appendix A*
2. Initiate a Line Breaking Permit when required. *See Appendix B*
3. Review the hazards that might be encountered during the opening of lines, vessels, or equipment including, but not limited to, chemical burns, chemical irritation, thermal burns, pressures, toxic substances, gases/vapors, flammable gases, hazardous materials.
4. Where hazardous gases may be released, air monitoring must take place during the line break and continue until there is no longer a potential for the release of gas. If a potential hazardous gas cannot be monitored with existing mill equipment, alternate procedures utilizing PPE,

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exhaust fans, etc. must be implemented. Consult with Safety on proper procedures and precautions.

5. Confirm with the operating department that the line, pump, vessel or equipment has been cleared, purged, drained and isolated as necessary and that any necessary lockouts are complete (including personal locks).
  - a. Check Valves:
    1. Check valves will not be used as a primary means of isolation for line breaks.
  - b. Motor Operated Valves/Air Actuated Valves:
    1. Motor operated valves and air actuated valves can be used as a primary means of isolation for line breaks only if the following conditions are met:
      2. The valve must not fail open
      3. The energy source for the valve is to be disconnected and locked out
      4. Install a restraining device with a lock and tag to prevent movement of the valve stem or shaft
      5. Verify the valve is not leaking by. The verification must be made with the maximum expected pressure during any time of the line break
      6. Ensure that the use of the automatic valve as a primary isolation device is safe (i.e. consider services such as steam)
      7. Restraining, blocking, and pinning devices for automatic valves must meet manufacturer's specifications or be designed by a Mechanical Engineer to ensure the strength is present to restrain the stored energy. (If manufacturing specifications are available they will be utilized in lieu of Mechanical Engineer recommendations).
      8. When considering the use of automated isolation valves (or certain control valves designed for isolation) as part of the lockout process, a member knowledgeable in the actuation characteristics of a specific valve application must be involved when evaluating the potential hazards and acceptable isolation steps taken.
6. Decide what protective gear to wear based on the nature of the original line contents and conditions. When breaking lines, vessels, pumps, etc., that either normally contain hazardous materials, or contain physical hazards that cannot be verified as being eliminated, appropriate personal protective equipment must always be worn until the breaking process is completed and hazards eliminated. Recommended PPE for hazardous materials and steam are shown in the PPE special instruction form/matrix.
7. Know the location of the nearest safety shower and eye wash station.
8. Ensure that the area is clear of unnecessary personnel prior to and during the initial opening (i.e. barricading, standby watch, etc.).

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9. Complete appropriate portions of the Line Breaking permit, when needed.

C. Equipment or Line Preparation:

1. Upon identification of the line/equipment contents, precautions shall be taken to prepare the line/equipment per departmental standard operating procedures.
2. Drain the system utilizing operating procedures.
3. All interconnecting lines leading to the point where a line is to be broken shall be closed off, locked and tagged.
4. Remove the bleed plug.
5. Operator will confirm all bleed valves will be probed or rodded to ensure valves are not plugged while wearing the appropriate PPE in accordance with the PPE table on the back of Line Breaking Permit and/or in the PPE Matrix.
6. Operator will ensure or confirm the system has been drained, rodded, purged, depressurized, cooled, etc. to relieve as much residual energy as possible and prevent its re-accumulation. A slight whisp, drip or trickle is considered relieved.
7. After the initial break, the person performing the break shall evaluate the need for atmospheric testing to verify air concentrations in the immediate working area and adjust the barricades accordingly.
8. All electric and steam tracing must be turned off.
9. A vent to the atmosphere between the block valves on any equipment or line shall be maintained, open and tagged (“Do Not Operate” tag hung with an electrical tie wrap) for the duration of the job. The open end of a line shall be considered as a vent where only one block valve exists.
10. Operators will ensure or confirm that red barricades are in place prior to issuing a line break permit. The red barricades are to be tagged with a barricade tag.
  - a. The line breaking worker’s supervisor and the permit issuer will determine barricade size based on hazard present, wind conditions, elevations, etc. In no case will a barricade be less than 10ft. from the actual work being performed.
  - b. All personnel within the barricade area shall wear the same appropriate PPE as the person(s) performing the break.
  - c. Barricades are to remain in place to warn team members of the line break in progress and can be removed once the five conditions for downgrading personal protective equipment have been verified.
11. Prior to breaking into lines or equipment, the nearest eyewash/safety shower is to be tested jointly by the operator and the person performing the break and documented on the permit. In remote areas where a safety shower is not available, the operator shall obtain a portable safety

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shower or eyewash as dictated by the equipment contents. Safety showers can also be utilized to decontaminate personal protective equipment.

### D. Issuing of Line Breaking Permits:

1. The participant performing the line break will initiate and complete the top portion of the permit form and prior to beginning work will inform operations of their work plans.
2. Prior to the beginning of work, the participant and the operations member knowledgeable of the area and job will complete the permit identifying specific requirements (PPE Special Instruction form and Hazard Checklist) that must be maintained throughout the duration of the job, prior to the beginning of work.
3. The operations member and the participant will verify that the equipment or area is safe to start work and will then sign and issue the permit at the job site. A job site visit is required. The permit remains at the job site until the line break is completed. The completed permit is returned to the owning department
4. Line break permits expire at the end of the maintenance scheduled period issued. A new permit is necessary at the beginning of each new maintenance work period.
5. Until the substance contained in the line/equipment being opened has been identified and the operator has prepared the line/equipment for opening the worker(s) will wear all personal protective equipment required for that substance until the “breaking” is completed and no hazard exists. Personal protective equipment will be worn by all persons in the immediate area of the line breaking/equipment opening and will be continued to be worn until there is no chance of blockage or pressure release, i.e. no hazard exists.

#### a. USE CAUTION

1. Open unions slowly to bleed any pressure that may exist.
2. Break flange bolts away from you first.
3. Always assume the worst when opening and take appropriate
4. precaution and position yourself in the safest manner.
5. Have a clear escape route planned and stay out of the line of fire.
6. Know where the closest safety shower/eye wash is located.

### E. Training:

1. All personnel who engage in activities covered by this policy must receive initial training. Refresher training shall be conducted annually.
2. Training records must be maintained for the current year plus two previous years.

### F. Downgrading PPE after Initial Line Breaking is Complete:

1. The line or equipment is drained and vented or blinded.
2. The line is physically disconnected (opened) at all low points.

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3. Inter connecting lines are blinded or locked out, tested and found not to leak through.
4. Lines or equipment containing material capable of respiratory or termal injury verified to be decontaminated.
5. Lines or equipment containing temperatures of less than 120 degrees.

## Responsibility

### A. Management:

1. Maintain records of member training (training can be completed and documented through virtual training sessions).
2. Responsible for initial new team member instructions
3. Responsible for training contractors on the Initial Line Breaking and Equipment Opening Policy.

### B. Team members:

1. All team members have the responsibility to fulfill the intent and purpose of the Initial Line Breaking and Equipment Opening Policy.
2. Each team member involved in initial opening or disassembly of lines, pumps, vessels, or any other equipment, shall be annually instructed on provisions and requirements of this Initial Line Breaking and Equipment Opening Policy. This is the responsibility of each team.
3. All Wisconsin Rapids team members are responsible for contractor's compliance with this policy.

## Definitions

Automated Isolation Valves - Any valve designed for the purpose of isolation and actuated by any means other than a hand wheel or handle.

Confined Space - Any space which meets the following criteria: 1) is large enough and so configured that a human can bodily enter and perform assigned work; 2) has limited or restricted means for entry or exit; and 3) is not designed for continuous human occupancy. In addition to the above three items, a confined space also contains recognized serious safety or health hazards.

Control Valve - Any valve used in the process for control that may be actuated automatically in response to process changes.

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**Hazardous Material** - Any substance or mixture of substances having properties capable of producing hazardous effects on health and/or safety. Typical materials considered hazardous: (list is not all inclusive) acids, caustics, gasoline, natural gas, concentrated vent gases, aqua ammonia and sodium hypochlorite.

**Lockout** - The term "lockout" shall mean the locking of equipment, electrical or mechanical, in such a manner that it cannot be energized without the lock being removed. See Lockout Policy.

**NIOSH** - National Institute of Occupational Safety and Health, a federal agency.

**Participant** - Any person performing, assisting, or observing the initial line breaking procedure.

**Personal Protective Equipment (PPE)** - Devices or clothing worn to protect an individual from direct exposure to hazardous materials and/or hazardous conditions.

**Physical Hazard** – A condition where temperatures > 120°F or pressures > 90PSI.

**Purging** - Cleaning, clearing, or emptying of material.

**Safety Data Sheet (SDS)** - Contains detailed information about a chemical beyond that which is on the label.

**Tank** - Container for holding, storing, or transporting a liquid, gas, or solid.

**Thermal Burn** - Burn caused by contact with hot/cold material or exposure to intense radiant heat/cold.

**Vessel** - A container or structural envelope in which materials are processed, treated, or stored.

**Isolate/isolation:** Preventing all energy sources from moving the equipment or entering the work area.

Electrical energy sources require the circuits to be in the open position. Non-electrical energy sources require the energy sources to be blocked to prevent the transfer of energy from the source to the equipment or work area. This includes one of the following:

1. Double block and bleed
2. Block and bleed
3. Double/multiple block
4. Single block arrangements
5. Misaligning or removing sections of piping
6. Blinding
7. Blocking or disconnecting mechanical linkages

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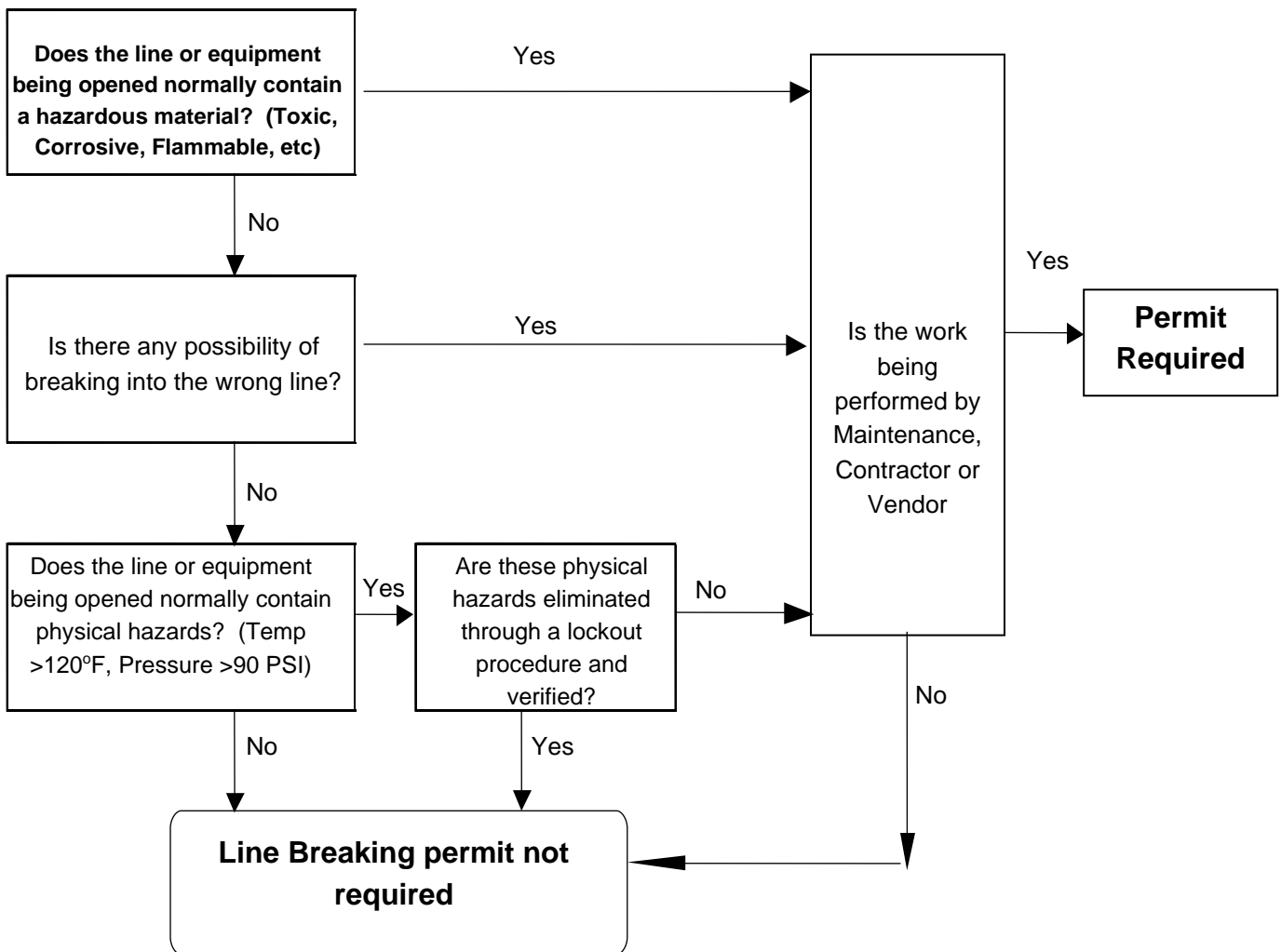
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**APPENDIX A**

**Is a Line Breaking Permit Required?**



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APPENDIX B

**Wisconsin Rapids Mill**

Section A. Permit Recipient's Supervisor

**LINE BREAKING PERMIT**

PERMIT VALID ONLY FOR SPECIFIED TIME AND DATE

**Nº 8032**

DATE REQUESTED \_\_\_\_\_

LOCATION \_\_\_\_\_ DEPARTMENT \_\_\_\_\_

WORK TO BE DONE \_\_\_\_\_

**ALL PERMITS ARE VOID:**

- At the time specified to expire.
- If work does not commence within 1 hour  
OR if work ceases for more than 1 hour.
- If any of the requirements of the line breaking procedure are not followed.

**EMERGENCY PROCEDURES:**

- Shutdown all work, vehicles, machines.
- Proceed out of area crosswind or go upwind from danger.
- Go to designated assembly area.

PAST MATERIAL(S) POSSIBLY IN LINE: \_\_\_\_\_

**Requirements**

N/A     YES

Line/system contents identified, drained, cleaned and purged?

Is line/system isolated, locked out and secured?

Has closest safety shower been located and tested?

Escape route identified?

Area barricaded and tagged for maximum protection of personnel?

Personnel Assigned to job instructed in proper safe work practices?

Drain valve open and tagged? (In case line fills)

Respiratory Protection needed and/or available? If so, state type \_\_\_\_\_

Steam and/or electric tracing shut off?

Scaffolds installed or other safe access to equipment provided?

Hot Work Permit provided as needed?

If line contains or is coated with asbestos, has asbestos been properly removed?

Water supply at site to decontaminate equipment?

Obtain, if needed and have on-site the SDS on the last chemical contained in the line, pipe or pressure equipment.

Equipment vented?

Are special precautions necessary to complete job safely? If so, please list:

Other \_\_\_\_\_

Is a lockout addendum required to complete this line break?

**CUSTODIAN DESIGNATES REQUIREMENTS PRIOR TO SIGNING**

Protective Equipment Required: (Check)

<input type="checkbox"/> Blue Suit with Hood	<input type="checkbox"/> Full Face Shield	<input type="checkbox"/> Chemical Gloves
<input type="checkbox"/> Flame Retardant Gloves	<input type="checkbox"/> Chemical Goggles	<input type="checkbox"/> Neoprene Gloves
<input type="checkbox"/> Rubber Boots	<input type="checkbox"/> Leather Gloves	<input type="checkbox"/> Insulated Neoprene Gloves
<input type="checkbox"/> Cooling Vests		<input type="checkbox"/> Fall Protection
<input type="checkbox"/> Other _____		<input type="checkbox"/> Safety Glasses

**FOR ALL EMERGENCIES CALL 23333**

We CERTIFY that the below signatures have verified at the job site that the precautions checked and / or written above have been taken, and will be followed for the duration of the job

Signed: \_\_\_\_\_

Custodial Supervisor/Designee
Phone \_\_\_\_\_
Permit Recipient

\_\_\_\_\_

PSM-Issuers Supervisor/Designee
Phone \_\_\_\_\_

DATE ISSUED \_\_\_\_\_ TIME ISSUED \_\_\_\_\_ DATE EXPIRES \_\_\_\_\_ TIME EXPIRES \_\_\_\_\_

THIS PERMIT IS TO BE POSTED AT THE WORK SITE FOR THE DURATION OF THE JOB.  
THIS PERMIT SHALL BE MAINTAINED ON FILE WITH AREA SUPERVISOR FOR TWO MONTHS.

ORIGINAL - Custodial Supervisor / COPY - Posted at Job Site

Initial: \_\_\_\_\_

Oncoming Custodial Supervisor / Designee

Section B. Custodial Supervisor / Designee

Section C. Authorized Signature

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