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## Hard Wire Jumper Policy

### Purpose

The purpose of this policy is to establish a uniform method of installing, recording, tracking and removal of the suppression of equipment safety interlocks or devices for the Escanaba mill. (The word jumper will be used for brevity)

### Extent

This policy applies to all BNA manufacturing locations. Each location may customize the policy for the purpose of administration only, but the rules must exist in each location's version.

### Definitions:

- Jumper: A general term which includes the following methods of suppressing an interlock or device: A piece of wire, a piece of tubing, closing an instrument isolation valve, a software modification including “forces”, temporary logic changes, or other means to temporarily modify the functionality of a control system to achieve a desired output.
- Operation Department Management or qualified designee: Person(s) who have been designated by the operating department as having the process knowledge and responsibility to authorize the installation of a jumper. This person is responsible for recording and tracking the installation and removal of jumpers.
- Skilled Person: A person who has the skills and knowledge necessary to install and remove a jumper and has been certified on this policy. These persons may include: electricians, instrument technicians, process control engineers
- Field Jumper Tag: A tag applied in the field where a jumper device has been installed or at a designated location.
- Control Room Jumper Tag: A tag kept at or near the operators' station to inform the operator that a jumper has been installed and a description of what has been jumped.
- Process Safety Management System: A process or system subject to OSHA 29 CFR 1910.119.
- SAP PM: A maintenance management software system.

### Execution

1. The jumper policy is mandatory for any jumper that will remain in place after completion of troubleshooting or diagnostic work performed by the skilled person.
2. Each mill will maintain a list of interlocks that under no circumstances will be jumped. This list will be reviewed by the operational department management and skilled person prior to starting the process of authorizing a jumper. (Ex; PSM, Flame Safety, EDP, Environmental, etc.)
3. **If it is a Safety interlock that is not included in the list in “Rule #2; it will not be bypassed without the expressed written permission of the mill manager or his/her designee for each occurrence.** The intent is to involve the approval of supervisory staff that has the appropriate knowledge and experience to identify the process safety implications of the bypass. The review and approval is to assure

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- that continued operations will be within the established safe limits. Typically, for this category, other electrical/mechanical devices to indicate the process status and/or appropriate modified operating procedures would be available and utilized.
4. Use of Bypasses or jumpers on any safety interlock shall require a written procedure to allow for temporary operation.
  5. Only operation department management (or their qualified designee) can authorize a jumper. (Does not apply if jumper is listed in Rules 2&3) This person must sign the field jumper tag and control room jumper tag [If the jumper involves a PSM system the operating department management must also follow the Management of Change Policy]
  6. A jumper tag must be prepared for each device that is jumpered. Lists of devices that get jumpered for certain conditions must still have a tag for each device to ensure that each jumper is removed prior to returning the equipment to normal operation.
  7. A 2 year Record Retention is mandatory for all Verso locations.
  8. Operation department management (or their qualified designee) shall advise the operator(s) of any special precautions and record these in a shift log or similar method prior to shift change.
  9. Only a skilled person can install the jumper. This person must sign off on the field jumper tag and control room jumper tag.
  10. Every "Skilled Person" will maintain an understanding of this policy. Each person is required to read and understand this policy on an annual basis. The completion will be documented and tracked by the Maintenance Department.
  11. This person must fill out an Electrical Safety Related Work Permit prior to commencing with jumper installation. If installing the jumper requires only software or logic changes then a permit is not required
  12. The field tag shall be posted by the skilled person at the jumper location or designated location. This field tag is needed to notify anyone in the field that a jumper is installed on that piece of equipment.
  13. The control room tag shall be posted by the skilled person in a location visible to the operator.
  14. The existence of the jumper shall be recorded in SAP PM as a Work Order and be tracked on a weekly basis and discussed at the weekly MWS meeting on progress to remove the jumper.
  15. The jumper shall be removed as soon as practical. In general the maximum time allowed for a jumper to remain in place shall be no longer than the next scheduled outage of the equipment. **If your DCS does not allow you to build in Summer and Winter logic, then seasonal jumpers are considered exempt from the requirement of being removed at the next scheduled outage; but will still require a communication plan when they are installed and removed.**
  16. When the necessary repairs have been completed the skilled person shall consult with operation department management (or their designee) and request approval to remove the jumper. Operation department management (or their designee) must

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- approve the removal of the jumper by signing off on a copy of the jumper tag (field or control room).
17. Once the jumper has been removed the field tag and control room tag shall be removed, the skilled person shall sign the same copy that was signed by operating department management (or their designee and deliver both copies mill designee for tracking.
  18. Operation department management (or their designee) shall advise the operator(s) that the jumper has been removed, update the shift log or similar method prior to shift change noting the removal of the jumper and issue a request to the maintenance department to close out the work order.
  19. The maintenance department shall then close out the work order.

### Sample Procedure:

#### **Determination of need:**

If it is determined that a jumper must be installed and it will need to remain in place after the completion of troubleshooting or diagnostic activities by the skilled person then the following procedure must be followed.

#### **Safety and Operational Review:**

The skilled person together with operation department management (or their qualified designee) shall consult with each other to determine:

1. Any safety precautions necessary while the jumper is in place
2. Any special operating precautions required
3. The estimated duration the jumper will be in place
4. Verify that the equipment to be jumpered is not on the lists outlined in rule 2 and 3.

#### **Communication with the Operator(s)**

Operation department management (or their qualified designee) shall inform the operator(s) of the installation of the jumper and any special precautions necessary. The existence of the jumper and the precautions shall be entered into a log or similar method so that other operators have the information.

#### **Tracking through SAP PM:**

The operation department management or maintenance planner shall enter a Work Notification coded as JMP in the work notification description field to track the installation and removal of the jumper. The work notification shall include the following information:

1. The reason the jumper was installed
2. What was jumpered
3. The type of jumper hardware or software

A weekly report of JMP work orders in SAP PM shall be produced and routed to operation department management and area E&I maintenance management. This report will be

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reviewed at the weekly MWS meetings to evaluate the progress being made to remove the jumper.

### I. Installing the Jumper: **See Flow Chart Attachment “B”**

The jumper shall be installed by a skilled person.

#### Posting the Field and Control Room Jumper Tags:

The skilled person shall fill out two copies of jumper tags (or similar documents) with the following information:

1. What is jumpered
2. The type of jumper
3. For software jumpers, the details necessary to locate the jumper
4. The date and signature of the skilled person
5. The date and signature of operation department management

The control room tag shall be posted in a designated location visible to the operator.

The field tag shall be posted at one of the following designated locations: (location specific)

1. A dedicated tag holder in the MCC room
2. A dedicated tag holder at the engineering work station (DCS or PLC system)
3. Physically hanging from the jumper device
4. Physically hanging from the PLC main processor

### II. Removal of the Jumper: **See Flow Chart Attachment “C”**

After the necessary repairs are completed:

1. The skilled person shall consult with operation department management (or their qualified designee) and receive approval to remove the jumper
2. Operation department management (or their qualified designee) must sign one copy of the jumper tag “removal approved by”
3. The skilled person removes the jumper
4. The skilled person remove the field tag and control room tag
5. The skilled person signs the same copy of the tag that operation department management signed “removed by”
6. The skilled person returns the tags to the mill designee for tracking

#### Tracking the Removal of the Jumper:

After operation department management (or their qualified designee) has received both the field and control room jumper tags this person shall perform the following:

1. Notify the operator and the safety department that the jumper has been removed
2. Update the shift log or similar method to communicate the removal of the jumper to other operators before the end of the shift
3. Notify the maintenance department to close out the jumper work order
4. The maintenance department shall close out the jumper work order when notified



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### **Audit**

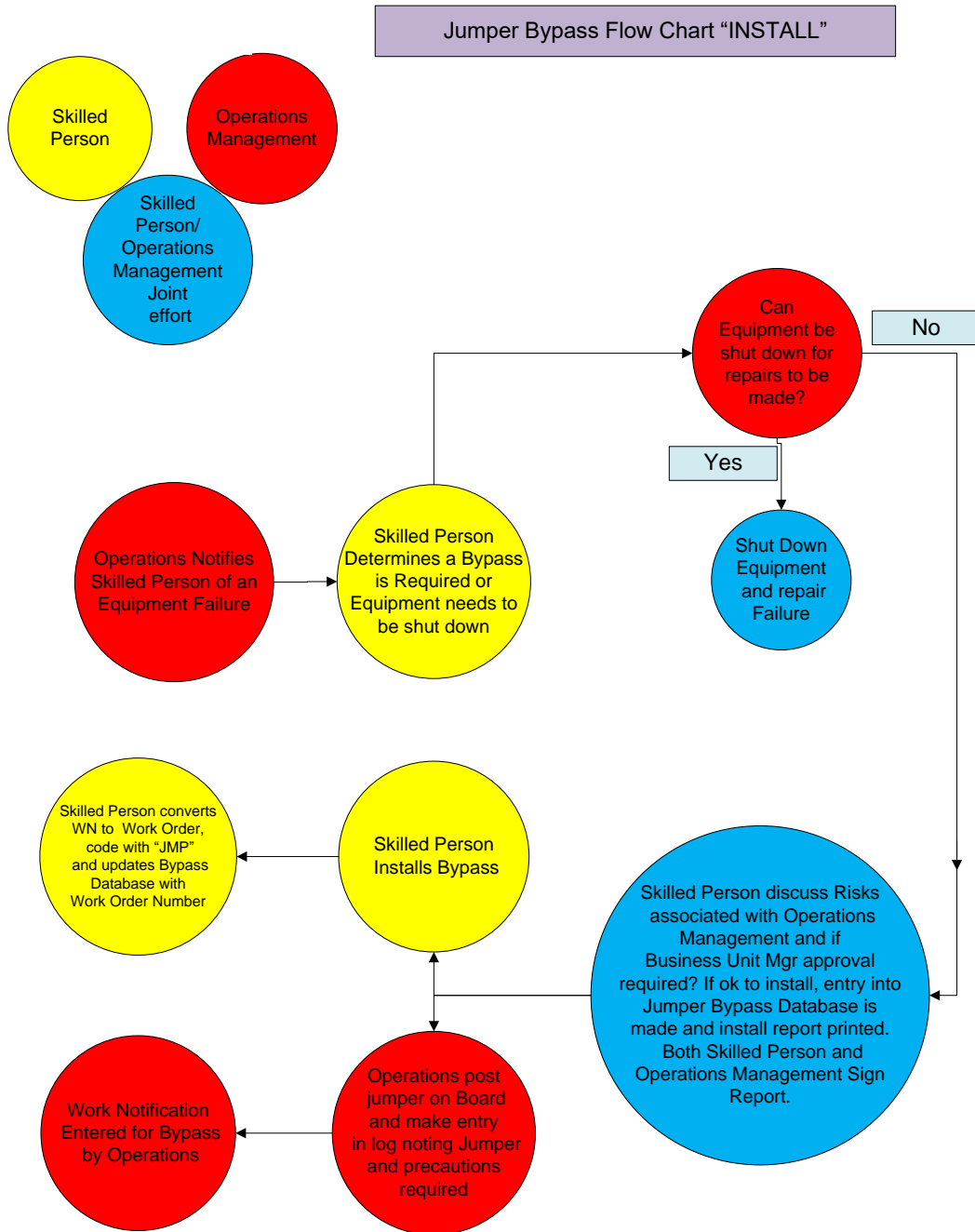
An audit exists for the Jumper policies. It is DMS #48867.

## **ATTACHMENT "B"**



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### ATTACHMENT "C"

Jumper Bypass Flow Chart "REMOVE"

