

EHS SAFETY

Subject: Overhead Crane Policy		Doc ID: #34506	Page 1 of 10
Effective: 01/13/21	Document Owner: Safety Manager	Approved By:	

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I. POLICY/SCOPE

It is the policy of the Quinnesec mill that all members and contractors follow overhead crane safety requirements. The scope of this policy is applied to the installation, maintenance, and operation of overhead and gantry cranes.

Monorails, hoists, and mobile cranes are excluded from this policy.

II. INTENT/PURPOSE

This policy outlines the program and procedures necessary for safe operation of overhead and gantry cranes.

III. DEFINITIONS

Crane – means a top running overhead or gantry crane.

Overhead Crane – a top running crane that has a movable bridge carrying a movable or fixed hoisting mechanism for lifting and lowering, moving horizontally and traveling on an overhead fixed runway.

Gantry Crane - a crane similar to an overhead crane except that the bridge for carrying the trolley or trolleys is rigidly supported on one or more legs running on fixed rails or other runway.

Level II Trainer – designated member authorized by the company to perform the training who has the knowledge, training, and experience to train and to evaluate the competence of the crane operator and to provide refresher training when it is required.

Designated – means selected or assigned by the employer as being qualified to perform specific duties.

Qualified Person - a person who, through attainment of a recognized degree or certificate of professional standing or by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

Side Pull – means to pull a load with a hoist, chain or cable other than vertically.

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IV. PROCEDURES/PRACTICES

A. Safe Work Practices

1. An operator shall respond to signals only from the employee directing the lift. However, they shall obey at all times an emergency stop signal from any employee. See Appendix A for table for Standard Hand Signals.
2. A crane shall not be used to make a side pull, except where it has been specifically established by a qualified person who has determined all of the following:
 - (a) Various parts of the crane will not be overstressed.
 - (b) The hoist rope will not bear or rub against other members of the crane, such as the girders or trolley frame, except members specifically designed for such contact.
 - (c) A side pull will not cause the hoist rope to be pulled out of the sheaves or across drum grooves.
 - (d) A side pull will not result in excessive swinging of the load block or load.
3. The hoist rope shall not bear or rub against other members of the crane or other equipment.
4. Compressed gases shall be lifted only by a cradle or enclosed platform.
5. An employee shall not ride a hoisting device. (i.e ball or hook)
6. Loads are not to be carried over head of other members.
7. A crane hook shall be discarded if the throat opening is more than 15% greater than the manufactured size, or has more than a 10 degree twist from a vertical center line drawn through the hook socket.
8. An operator shall use a warning device (horn, bell or siren) before starting and intermittently while traveling in occupied areas.
9. A crane operator shall not leave a crane unattended with a suspended load greater than 6" above the floor.

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10. A crane remote controller will be turned “off” and the unit placed in a designated storage area, when not in use.
11. The crane operator must ensure that the crane hooks are fully engaged when lifting. Crane operators must either check the hooks themselves or verify through the hand signals of someone assisting them.
12. When attaching or moving a load, the operator, or rigger shall make sure of all of the following:
 - (a) The hoisting rope or chain is free of kinks or twists and not wrapped around the load.
 - (b) The load is attached to the load block hook by means of a sling or other approved device.
 - (c) The sling and load will clear all obstacles or obstructions.
 - (d) The load is balanced and secured before lifting the load more than a few inches.
 - (e) Multiple lines are not twisted around each other.
 - (f) The hook is brought over the load in a manner to prevent swinging.
 - (g) There is no sudden acceleration or deceleration of the moving load.
13. If a mobile crane is being used in the vicinity of an overhead crane and the overhead crane cannot be locked out, a spotter must be used while the mobile crane is in operation (making picks).

B. Inspections

1. At the beginning of each shift during which a crane is used, visual inspections shall be made in accordance with the table shown in Appendix C. A visual inspection shall be limited to that which can be made from a catwalk or other safe observation point. Any defects shall be reported to a supervisor

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2. Formal, documented inspections and maintenance will be performed on a periodic basis by a qualified contractor. Records of these inspections will be maintained in Engineering.

C. Operator Training

1. **Initial training** must be provided by the Level II Trainer before a member can be assigned as an operator of a crane. Training shall include all of the following:
 - Capacities of equipment and attachments
 - Purpose, use, and limitations of controls
 - How to make daily inspections
 - The energizing sequence for overhead and gantry cranes used on the mill site.
 - Start-up and shutdown procedures
 - Emergency shutdown procedures
 - General operating procedures
 - All basic signaling procedures
 - Knowledge of applicable MiOSHA standards and mill policies.
 - Practice in operating the assigned equipment through the mechanical functions necessary to perform the task
 - Maximum rated capacity of site cranes

2. **Refresher training** in relevant topics shall be provided to an operator under any of the following conditions.
 - An operator has been observed to operate the crane in an unsafe manner.
 - An operator has been involved in an accident or a near-miss incident.
 - An operator has received an evaluation that reveals that the operator is not operating the crane safely.
 - An operator is assigned to a different type of crane.
 - A condition in the workplace changes that could affect safe operation of the crane.

3. **3-year Permit Renewal Training:** This will include both classroom and operator evaluation.

4. **Rigger Training:** Crane operators and those who rig loads carried by crane must be trained in the following MiOSHA standards: Part 18 Overhead and

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Gantry Cranes / Part 49 Slings / Part 33 Personal Protective Equipment. In addition, they shall be trained in the following:

- a. Maximum capacity of the crane
- b. Rigging procedures
- c. Ensure capacity of rigging equipment (slings, hardware, etc.) is adequately rated for the load to be lifted.
- d. Mill rules and regulations related to overhead crane safety.

5. Trainer Qualifications

- a. The mills will provide qualified Level II Trainers, who will be authorized to conduct initial training and refresher training.
- b. Refresher training for Level II trainers will be conducted every 3 years.

D. Operator Testing

1. Members shall be tested for their knowledge and ability before being permitted to operate a crane. The test shall determine all of the following with respect to the member:
 - Ability to operate the equipment through its functions necessary to perform the required jobs.
 - Knowledge of the equipment.
 - Knowledge of daily inspection requirements.
 - Knowledge of applicable MIOSHA standards and company rules and regulations.
 - A performance test shall be given to determine that the employee can operate the assigned crane or cranes through the functions necessary to perform the required task.

Testing shall be documented, with a copy forwarded to the training group (HR).

- E. Permits – A permit will indicate the type of crane the operator has been trained on and is qualified to operate and will be kept on file

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V. RESPONSIBILITIES

A. Operating Departments

Assure team members operating cranes are trained in the elements of this policy and in the safe operating practices associated with the equipment they may be operating.

Assure that a copy of the operator permit (**Crane Operator Certification Sheet**) is sent to Human Resources (training) for documentation in the Verso Learning System.

B. Maintenance Departments

Assure team members operating cranes are trained in the elements of this policy and in the safe operating practices associated with the equipment they may be operating.

Assure that a copy of the operator permit (**Crane Operator Certification Sheet**) is sent to Human Resources (training) for documentation in the Verso Learning System.

C. Crane Operator

1. Assure compliance with the provisions of this policy and any department specific safety policies involving cranes.
2. Conduct visual inspections of the crane, wire ropes and slings before each use.
3. Report all accidents or near misses involving crane use.
4. Report all crane equipment problems and tag the equipment when unsafe to operate.

D. Safety Department

1. Develop initial training materials to ensure MIOSHA requirements are incorporated into operator training.

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2. Provide technical guidance on resolving issues related to training and safe operating practices.
- E. Human Resources (Training group)
1. Maintain documentation of training and permitting as completed by operating and maintenance departments.

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APPENDIX A

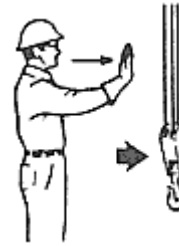
Overhead and Gantry Crane Hand Signals



HOIST. With forearm vertical, and forefinger pointing up, move hand in small horizontal circle.



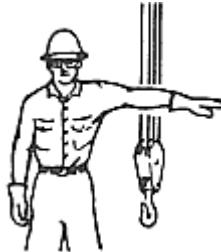
LOWER. With arm extended downward, forefinger pointing down, move hand in a small horizontal circle.



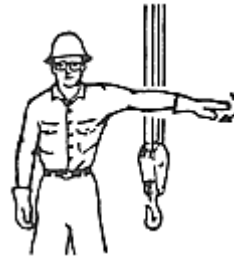
BRIDGE TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.



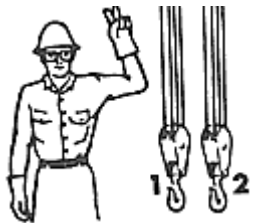
TROLLEY TRAVEL. Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.



STOP. Arm extended, palm down, hold position rigidly.



EMERGENCY STOP. Arm extended, palm down, move hand rapidly right and left.



MULTIPLE TROLLEYS. Hold up one finger for block marked "1" and two fingers for block marked "2". Regular signals follow.

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Appendix B

OPERATOR PERMIT
Overhead Crane Operation

Operator's Name

Operator's Signature

Instructor's Name

Instructor's Signature

Dept: _____

Date ____/____/____

TYPE OF TRAINING

TYPE OF CRANE:

- Gantry Crane
- Overhead Crane

Initial Crane Training / Testing / Issuance of Permit
Expiration Date (3 year permit) _____

MiOSHA Required Retraining

- Operator has been observed to operate the Crane in an unsafe manner
- Operator has been involved in an accident or near miss incident
- Operator has received a workplace evaluation that reveals the crane is not being operated safely
- Operator is assigned to operate a different type of Crane
- Operator Transfer to a Different Department
- Condition in the workplace has changed in a manner that could affect crane safe operations

3-Year Permit Renewal Training Expiration Date _____

Level II Trainer

DESCRIPTION OF REFRESHER TRAINING

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Appendix C: from MIOSHA standards

TABLE 2 SHIFT/OPERATOR INSPECTION CHECKS	
INSPECTION ITEM	DESCRIPTION OF INSPECTION CHECK POINTS
Tagged Crane or Hoist	Check that crane or hoist is not tagged with an out-of-order sign.
Control Devices	Test run that all motions agree with control device markings.
Brakes	Check that all motions do not have excessive drift and that stopping distances are normal.
Hook	Check for damage, cracks, nicks, gouges, deformations of the throat opening, wear on saddle or load bearing point, and twist. Refer to the manual furnished by the original manufacturer of the crane.
Hook Latch	If a hook latch is required, check for proper operation.
Wire Rope	Check for broken wires, broken strands, kinks, and any deformation or damage to the rope structure.
Reeving	Check that the wire rope is properly reeved and that rope parts are not twisted about each other.
Limit Switches	Check that the upper limit device stops lifting motion of the hoist load block before striking any part of the hoist or crane.
Oil Leakage	Check for any sign of oil leakage on the crane and on the floor area beneath the crane.
Unusual Sounds	Check for any unusual sounds from the crane or hoist mechanism while operating the crane and hoist.
Warning and Safety Labels	Check that warning and other safety labels are not missing and that they are legible.
Housekeeping and Lighting	Check area for accumulation of material, trip or slip hazards, and poor lighting.