

MSU

Cranes and Rigging

1. General Information

1.1 Contractors whose activities require the use of cranes are responsible for proper set up and operation. Evidence of up-to-date crane inspections (annual) must be provided to MSU upon request within 4 hours of the request. Cranes may be rejected for any defect, no matter how minor by MSU.

1.2 This procedure applies to the following types of cranes: crawler cranes, locomotive cranes, wheel mounted cranes of both truck and self-propelled wheel type, and any variations that have the same fundamental characteristics. This procedure also applies to other powered vehicles that may be used to hoist or lift equipment or material that breaks the roof line of any occupied building. All lifts must have a plan to respond to emergencies such as a crane collapse, turn over, or dropped load. Any accident shall be reported to MSU DPS and ORCBS immediately. All near-miss safety situations shall be reported to the Occupational Safety Compliance Officer as soon as possible.

1.3 All lifts that require material or equipment to break a roof line require prior notice to staff and employees who may be affected. This will be accomplished by the contractor proposing to conduct the work providing all needed information about the lift to the project engineer or the MSU representative contacting the work. MSU Physical Plant representative shall contact the appropriate facility supervisor or representative to initiate notification to all affected employees. Notification requirements will be accomplished by using the MSU building contacts list not less than 7 days prior to a lift. In the case of an emergency MSU representatives can contact each affected employee in person not less than 8 hours before a lift.

1.4 All lifts which require breaking a roof line require a crane placement and swing diagram to be developed by the contractor conducting the lift no later than 2 week prior to the lift. Crane placement and swing diagram shall be used by the MSU representative to produce a comprehensive shutdown notice no less than 7 days before the lift. MSU representative shall provide the crane company all available information about under ground vaults, tunnels or utilities in the area and the weight of each load to be lifted. If a material or equipment lift does not require a formal lift plan according to the above criteria, a Job Hazard Analysis of the lift must be performed by the crane company prior to the lift. Evidence of such an analysis may be demanded at any time by the MSU representative. For all lifts, a pre-lift meeting shall be conducted for all personnel involved with, or in the area of, the lift so that all are aware of the planned activity and the potential hazards associated with the lift.

1.5 MSU project manager, or the MSU representative may request documented evidence of an annual inspection in accordance with OSHA requirements for all cranes, hoisting, and associated rigging equipment brought onto the site. If the inspection record is not produced, if 1 year has elapsed since the last inspection, or if the crane or its associated rigging exhibits any damage or excessive wear, the crane cannot be used.

1.6 The crane operator or other competent person will perform a daily inspection of cranes in accordance with OSHA requirements. The person performing this inspection will document results in writing, and documentation will be available for examination upon request. In addition to daily inspections, if a crane is moved or the process changes during operations it must be re-inspected prior to performing the lift in order to reflect the changes.

1.7 A third-party crane inspection may be required for a critical lifts. A critical lift may include, but is not limited to:

- A. Any lift exceeding 75% of the crane's rated capacity at the required lifting configuration;
- B. Any lift that requires the use of more than one crane or is made in combination with other lifting equipment;
- C. Any lift located in an area where there is exposure to electrical hazards, overhead piping systems, vessels, operational buildings, etc. A critical lift may also involve the lifting of specialized equipment which has been designed, engineered or fabricated for a specific process or function, the loss of which would severely impact a project. The determination of what constitutes a critical lift shall be made by the MSU representative.

1.8 At no time will any lift be made over occupied space. To avoid lifts over occupied space lifts shall be conducted before or after normal MSU site working hours and weekends. A lift will be made during normal working hours only under certain circumstances and only with approval of the MSU Engineering Department and the management of the space to be lifted over. At no time will lifts be made over personnel, active roadways, moving or parked vehicles.

2. Recordkeeping

- 2.1 Records pertaining to crane inspections will be kept on site with the crane or in the contractor's office.
- 2.2 The crane operations and maintenance manual shall be available for inspection at each crane or hoisting equipment.

3. Operator Qualifications and Operating Procedures

- 3.1 Only designated crane operators who have been licensed and approved by the company that owns the crane may operate cranes and hoisting equipment.
- 3.2 Rental cranes and other lifting equipment not subject to DOT requirements and operated by an MSU employee must have the operator approved by the MSU representative.
- 3.3 No one other than the designated operator will be in or on the crane during operations. Exceptions are oilers or supervisors whose duties may require their presence.
- 3.4 Crane operating procedures must be in accordance with OSHA requirements, 29 CFR 1926.550 Subpart N.

4. Maintenance

Records indicating a preventative maintenance program based on the equipment manufacturer's recommendations must be made available to MSU and be available for inspection upon requested.

5. Rigging Requirements

- 5.1 A qualified rigger must inspect rigging equipment prior to each use and immediately remove from service and destroy any damaged or defective equipment.
- 5.2 Rigging devices must have permanently affixed identification stating size, grade, rated capacity, and manufacturer.
- 5.3 Remove rigging not in use from the immediate work area.
- 5.4 Hang rigging and slings on a rigging frame to eliminate bends and kinks.
- 5.5 Do not leave slings lying on the ground or exposed to dirt or the elements.
- 5.6 Do not shorten slings using bolts, knots, or other devices.
- 5.7 A licensed engineer or the manufacturer must certify lifting beams and spreader bars as to their configuration and lifting capacity.

6. Work Platforms Suspended from Cranes

Cranes may be used to hoist, lower, and suspend personnel on a work platform ONLY when such action results in the least hazardous exposure to employees. This activity must be approved in writing by the MSU EHS manager when MSU personnel are to be in the suspended work platform.

Not: All of the above procedures shall be implemented by MSU departments who use cranes with Physical Plant employees. The division manager or director shall act as “MSU representative” for all approvals and submittals in such situations.