

**GI Part 18. Overhead and Gantry Cranes  
Compared With  
29 C.F.R. 1910.179 Overhead and gantry cranes**

**Summary:** The significant differences between GI Part 18. Overhead and Gantry Cranes and 29 C.F.R. 1910.179 Overhead and gantry cranes are in:

- Employer responsibilities
- Certification; modification; guards; adoption of standards by reference
- Marking rated capacity; classifications; clearances
- Safety factor for hoisting cables
- Wire ropes
- Hooks; load blocks
- Brakes and restraints
- Controls
- Equipment
- Operators and Operations; qualification; training; testing; permits
- Limitations on use of cranes
- Reporting defects
- Personal protective equipment
- General conduct of operators
- Signals
- Lifting
- Inspections

The comparisons show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

\*\*\*\*means there is a comparable OSHA rule to this paragraph

MIOSHA	OSHA
<p><b>R 408.11808 Employer responsibilities.</b>  <b>Rule 1808.</b> (1) An employer shall comply with the manufacturer's specifications and limitations applicable to the operation of cranes. If a manufacturer's specifications are not available, then the limitations assigned to the equipment shall be based on the determination of a qualified engineer who is competent in the field of equipment limitations, and the determination shall be appropriately documented and recorded. Attachments that are used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.            (2) An employer shall designate a qualified person to perform all inspections of cranes as required by this part.</p>	<p><b>No comparable OSHA provisions</b></p>

MIOSHA	OSHA
<p>(3) An employer shall limit the use of a crane to the following entities:</p> <ul style="list-style-type: none"> <li>(a) An employee who has been trained and qualified to operate the type of crane to which he or she is assigned.</li> <li>(b) A learner who is under the direct supervision of a designated operator.</li> <li>(c) Designated maintenance personnel while performing their duties.</li> </ul> <p>(4) An employer shall maintain a crane and its accessories in a condition that will not endanger an operator or other employees</p> <p>(5) The original safety factor of the equipment shall not be reduced if modifications or changes are made to the equipment. Modifications or changes shall be certified by a qualified registered engineer. The capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly to reflect any modifications or changes.</p> <p>(6) An employer shall comply with all other applicable requirements of this part.</p> <p>(7) The manual provided by the crane manufacturer shall be readily accessible for the crane operator's reference at the work site.</p>	<p><b>No comparable OSHA provisions, except for:</b></p> <p><b>1910.179 (b)(8) Designated personnel.</b> Only designated personnel shall be permitted to operate a crane covered by this section.</p>
<p><b>CONSTRUCTION, INSTALLATION AND EQUIPMENT</b></p>	
<p><b>408.11821 Certification; modification; guards; adoption of standards by reference.</b></p> <p><b>Rule 1821.</b> (1) A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist, erected or modified after June 24, 1973 and before April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction or installation, or modification conforms to the American National Standards Institute Standard ANSI/ASME B30.2.0 "Overhead and Gantry Cranes," 1967 edition, which is adopted by reference in R 408.11807.</p> <p>(2) A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist, erected or modified after April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction or installation, or modification conforms to the American National Standards Institute Standard ANSI/ASME B30.2 "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 1996 edition, which is adopted by reference in R 408.11807.</p> <p>(3) A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist, erected or modified after August 31, 1971 and before April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction, installation, or modification conforms to the American National Standards Institute Standard ANSI/ASME B30.2.0 "Overhead and Gantry Cranes," 1967 edition, which is adopted by reference in R 408.11807.</p>	<p><b>No comparable OSHA provision except:</b></p> <p><b>1910.179 (b)(2)</b> New and existing equipment. All new overhead and gantry cranes constructed and installed on or after August 31, 1971, shall meet the design specifications of the American National Standard Safety Code for Overhead and Gantry Cranes, ANSI B30.2.0-1967, which is incorporated by reference as specified in Sec. 1910.6.</p> <p><b>1910.179(b)(3)</b> Modifications. Cranes may be modified and rerated provided such modifications and the supporting structure are checked thoroughly for the new rated load by a qualified engineer or the equipment manufacturer. The crane shall be tested in accordance with paragraph (k) (2) of this section. New rated load shall be displayed in accordance with subparagraph (5) of this paragraph.</p>

MIOSHA	OSHA
<p>(4) A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist, erected or modified after April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction, installation, or modification conforms to the American National Standard Institute Standard ANSI/ASME B30.17 "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)" 1998 edition, which is adopted by reference in R 408.11807.</p> <p>(5) Gears, couplings and other means of power transmission, except shafts, where exposed to contact, shall be guarded as prescribed in General Industry Safety Standard Part 7. "Guards for Power Transmission," being R 408.10701 et seq., which is referenced in R 408.11807.</p> <p>(6) A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist may be modified or rerated if the modifications and the supporting structure are checked thoroughly by a qualified engineer or the equipment manufacturer and conform to the American National Standards Institute Standard ANSI/ASME B30.2 "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 1996 edition, which is adopted by reference in R 408.11807.</p> <p>(7) A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist may be modified or rerated if the modifications and the supporting structure are checked thoroughly by a qualified engineer or the equipment manufacturer and conform to the American National Standards Institute Standard ANSI/ASME B30.17 "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)," 1998 edition, which is adopted by reference in R 408.11807.</p>	<p><b>No comparable OSHA provision exceptions continued.</b></p>
<p><b>R 408.11822 Marking rated capacity; classifications; clearances.</b></p> <p><b>Rule 1822.</b> (1) The rated capacity of a crane shall be legibly marked on each side of the crane. Markings shall be legible from the ground or floor. Each load block of the hoisting units of the crane shall be legibly marked with its individual rated capacity.</p> <p>(2) Each crane designed and manufactured after January 1, 1971 shall have a service class rating as prescribed in "CMAA #70--Specifications for Top Running Bridge and Gantry Type Multiple Girder Electric Overhead Traveling Cranes," 1970 edition, as shown in Appendix B. Additionally the service class rating shall be legibly marked on each crane.</p> <p>(3) Clearance from obstructions shall be a minimum of 3 inches overhead and 2 inches laterally between the crane and any obstruction.</p> <p>(4) Runways of parallel cranes that do not have an intervening wall or structure shall have adequate clearance between the 2 bridges.</p> <p>(5) The cab of a crane shall be located to afford a minimum of 3 inches clearance from all fixed structures within its area of possible movement.</p>	<p><b>No comparable OSHA provision except:</b></p> <p><b>1910.179(b)(5) Rated load marking.</b> The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block and this marking shall be clearly legible from the ground or floor</p>

MIOSHA	OSHA
<p><b>R 408.11823 Safety factor for hoisting cables.</b>  <b>Rule 1823.</b> The designed safety factor for the hoisting cable on:</p> <ul style="list-style-type: none"> <li>(a) A hot metal crane shall not be less than 8.</li> <li>(b) Any other crane shall not be less than 5.</li> </ul>	<p><b>No comparable OSHA provisions</b></p>
<p><b>R 408.11824 Wire rope.</b>  <b>Rule 1824.</b> (1) A wire rope used on a crane shall be repaired or replaced in any of the following circumstances:</p> <ul style="list-style-type: none"> <li>(a) One third or more of the original diameter of the outside individual wires is worn.</li> <li>(b) There is kinking, crushing, bird-caging, or any other damage that results in distortion of the running portion of the wire rope structure.</li> <li>(c) The wire rope shows heat or corrosive damage.</li> <li>(d) In running ropes, there are 6 randomly distributed broken wires in 1 lay or 3 broken wires on 1 strand in 1 lay. In rotation-resistant ropes, 2 randomly distributed broken wires in 6 rope diameters or 4 randomly distributed broken wires in 30 rope diameters.</li> <li>(e) There are reductions from nominal diameter of more than the following: <ul style="list-style-type: none"> <li>(i) One sixty-fourth of an inch for a diameter to and including 5/16 of an inch.</li> <li>(ii) One thirty-second of an inch for a diameter 3/8 of an inch to and including 1/2 of an inch.</li> <li>(iii) Three sixty-fourths of an inch for a diameter 9/16 of an inch to and including 3/4 of an inch.</li> <li>(iv) One sixteenth of an inch for a diameter 7/8 of an inch to and including 1 1/8 inches.</li> <li>(v) Three thirty-seconds of an inch for a diameter 1 1/4 inches to and including 1 1/2 inches.</li> </ul> </li> <li>(f) In standing ropes, there are more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection.</li> </ul> <p>(2) Wire rope discarded from a crane under subrule (1) of this rule shall not be used for any other load-carrying service.</p> <p>(3) Wire rope for a crane bent to form an eye shall be equipped with a metal thimble.</p> <p>(4) A wire rope end fitting shall be a clamp, swage, or a zinc or equivalent poured socket. Before cutting wire rope, seizings shall be placed as follows:</p> <ul style="list-style-type: none"> <li>(a) 1 seizing on each side of the cut on preformed wire rope.</li> <li>(b) 2 seizings on each side of 7/8 inch size or smaller nonpreformed wire rope.</li> <li>(c) 3 seizings on each side of 1 inch or larger size nonpreformed wire rope.</li> </ul> <p>(5) Wire rope, that has an independent wire rope core shall be used on all molten metal applications and in an area where the environmental atmosphere will cause deterioration of a hemp center.</p> <p>(6) Wire rope shall be stored in a manner to prevent damage or deterioration.</p> <p>(7) The unreeling or uncoiling of wire rope shall be done as recommended by the rope manufacturer and with care to avoid kinking or inducing a twist.</p>	<p><b>No comparable OSHA provisions, except:</b></p> <p><b>1910.179(m)(1) Running ropes.</b> A thorough inspection of all ropes shall be made at least once a month and a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier for the ropes which were inspected shall be kept on file where readily available to appointed personnel. Any deterioration, resulting in appreciable loss of original strength, shall be carefully observed and determination made as to whether further use of the rope would constitute a safety hazard. Some of the conditions that could result in an appreciable loss of strength are the following:</p> <p><b>1910.179(m)(1)(i)</b> Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.</p> <p><b>1910.179(m)(1)(ii)</b> A number of broken outside wires and the degree of distribution or concentration of such broken wires.</p> <p><b>1910.179(m)(1)(iii)</b> Worn outside wires.</p> <p><b>1910.179(m)(1)(iv)</b> Corroded or broken wires at end connections.</p> <p><b>1910.179(m)(1)(v)</b> Corroded, cracked, bent, worn, or improperly applied end connections.</p> <p><b>1910.179(m)(1)(vi)</b> Severe kinking, crushing, cutting, or unstranding.</p>

MIOSHA	OSHA
(8) to(10)****	Equivalent
<p><b>R 408.11825 Hooks; load blocks.</b></p> <p><b>Rule 1825.</b> (1) A crane hook shall be discarded if either of the following provisions applies:</p> <p>(a) The throat opening is more than 15% greater than the manufactured size.</p> <p>(b) The hook has more than a 10-degree twist from a vertical center line drawn through the hook socket.</p> <p>(2) A hook shall be equipped with a latch, unless the application makes the use of a latch impractical as determined by a qualified person. When required, a latch shall be provided to bridge the throat opening of the hook for the purpose of retaining slings, chains, or other equipment, under slack conditions.</p> <p>(3) Load blocks shall be of the enclosed type and shall be guarded against rope jamming during normal operations.</p>	<p><b>No comparable OSHA provisions except:</b></p> <p><b>1910.179(h)(4) Hooks.</b> Hooks shall meet the manufacturer's recommendations and shall not be overloaded.</p> <p><b>1910.179(j)(3)(i)</b> Deformed, cracked, or corroded members.</p>
<p><b>R 408.11841 Brakes and restraints.</b></p> <p><b>Rule 1841.</b> (1) to (2)****</p> <p>(3) A crane that is being used out-of-doors shall have a positive mechanical restraint, such as, but not limited to, an automatic rail clamp, to secure the crane against wind movement while parked. If clamps act on the rail heads, beads or weld flash on the rail heads shall be ground off. A positive mechanical restraint shall be utilized when the crane is parked in an area where the potential exposure to wind is prevalent.</p>	<p>Equivalent</p> <p><b>No comparable OSHA provisions, except:</b></p> <p><b>1910.179(b)(4)</b> Wind indicators and rail clamps. Outdoor storage bridges shall be provided with automatic rail clamps. A wind-indicating device shall be provided which will give a visible or audible alarm to the bridge operator at a predetermined wind velocity. If the clamps act on the rail heads, any beads or weld flash on the rail heads shall be ground off.</p>
<p><b>R 408.11843 Controls.</b></p> <p><b>Rule 1843.</b> (1)****</p> <p>(2) Rope controls for a floor-operated crane shall be equipped with an arrow attached to the rope showing the direction of travel when the rope is pulled.</p> <p>(3) A pendant, radio, cab, or pulpit control station shall be equipped with a positive stop device, colored red, to disconnect all motors.</p> <p>(4) A crane shall be equipped with a main switch which can be locked out. An employer shall establish a written lockout procedure which shall be used in connection with R 408.11872 and R 408.11875. Lockout shall conform to the requirements prescribed in general industry safety standard Part 85. "Lockout/Tagout," being R 408.18501 et seq., which is referenced in R 408.11807.</p> <p>(5) to (17)****</p>	<p>Equivalent</p> <p><b>No comparable OSHA provisions except:</b></p> <p><b>1910.179 (l)(3)(iii)(d)</b> Pendant control stations shall be kept clean and function labels kept legible.</p> <p>Equivalent</p>

MIOSHA	OSHA
<p><b>R 408.11844 Equipment.</b>  <b>Rule 1844. (1)****</b></p> <p>(2) Clearances of 2 1/2 feet (762 mm) from electrical equipment shall be maintained in accordance with article 610-57 of the 2002 edition of the "National Electrical Code," which is adopted by reference in R 408.11807.</p> <p>(3) to (9)****</p>	<p>Equivalent</p> <p><b>1910.179 (g)(2) Equipment. (i)</b> Electrical equipment shall be so located or enclosed that live parts will not be exposed to accidental contact under normal operating conditions.</p> <p>Equivalent</p>
<p><b>OPERATORS AND OPERATIONS</b></p>	
<p><b>R 408.11851 Qualifications.</b>  <b>Rule 1851. (1)</b> An employee selected to operate a crane shall possess all of the following minimum qualifications and be examined for the qualifications at least once every 3 years:</p> <p>(a) Have corrected vision that meets the same requirements as vision for a valid Michigan driver's license. Possession of a Michigan driver's license or a doctor's certificate is evidence of meeting this requirement.</p> <p>(b) Have effective use of all 4 limbs.</p> <p>(c) Be of a height sufficient to operate the controls and to have an unobstructed view over the controls into the work area.</p> <p>(d) Have coordination between eyes, hands, and feet.</p> <p>(e) Be free of known convulsive disorders and episodes of unconsciousness.</p> <p>(2) An employee assigned to operate a crane shall have the ability to understand signs, labels, and instructions.</p> <p>(3) An employee who is operating a crane on the effective date of this part, and who does not meet the requirements of subrules (1)(a), (b), (c), and (d) and (2) of this rule may be continued as an operator if the handicap or disability does not prove detrimental to the task. (Note: the effective date of this part was July 25, 1973).</p>	<p><b>No comparable OSHA provisions except:</b></p> <p><b>1910.179 (b)(8) Designated personnel.</b> . Only designated personnel shall be permitted to operate a crane covered by this section.</p>

MIOSHA	OSHA
<p><b>R 408.11852 Training.</b></p> <p><b>Rule 1852.</b> (1) An employer shall train a prospective operator before the employee's assignment as an operator of a crane. An employer shall ensure that a designated individual authorized by the employer to perform the training has the knowledge, training, and experience to train and to evaluate the competence of the prospective operator and to provide refresher training to an operator when it is required. Training shall include all of the following:</p> <ul style="list-style-type: none"> <li>(a) Capacities of equipment and attachments.</li> <li>(b) Purpose, use, and limitation of controls.</li> <li>(c) How to make daily checks.</li> <li>(d) The energizing sequences, including pneumatic, hydraulic, and electrical sequences.</li> <li>(e) Start-up and shutdown procedures.</li> <li>(f) Emergency shutdown procedures.</li> <li>(g) General operating procedures.</li> <li>(h) All basic signaling procedures, including hand, radio, or telephone signals, where required.</li> <li>(i) Knowledge of general industry safety standard Part 18. "Overhead and Gantry Cranes," being R 408.11801 et seq., which is referenced in R 408.11807 and other applicable MIOSHA standards, and company rules and regulations.</li> <li>(j) Practice in operating the assigned equipment through the mechanical functions necessary to perform the required task.</li> <li>(k) Maximum rated capacity of the crane.</li> </ul> <p>(2) Training shall consist of a combination of formal instruction, practical training, and testing of the operator's performance, as required in R 408.11853.</p> <p>(3) Refresher training in relevant topics shall be provided to an operator under any of the following conditions:</p> <ul style="list-style-type: none"> <li>(a) An operator has been observed to operate the crane in an unsafe manner.</li> <li>(b) An operator has been involved in an accident or a near-miss incident.</li> <li>(c) An operator has received an evaluation that reveals that the operator is not operating the crane safely.</li> <li>(d) An operator is assigned to a different type of crane.</li> <li>(e) A condition in the workplace changes that could affect safe operation of the crane.</li> </ul> <p>(4) Maintenance personnel, crane inspectors, and all other users of the crane shall be trained as required in subrule (1) of this rule.</p> <p>(5) A rigger shall be trained in all of the following:</p> <ul style="list-style-type: none"> <li>(a) The requirements of general industry safety standard Part 18. "Overhead and Gantry Cranes," being R 408.11801 et seq., which is referenced in R 408.11807.</li> <li>(b) Knowledge of general industry safety standard Part 49. "Slings," being R 408.14901 et seq., which referenced in R 408.11807.</li> <li>(c) Knowledge of general industry safety standard Part 33. "Personal Protective Equipment," being R 408.13301 et seq., which is referenced in R 408.11807.</li> <li>(d) Maximum capacity of the crane.</li> <li>(e) Rigging procedures.</li> <li>(f) Company rules and regulations.</li> </ul>	<p><b>No comparable OSHA provisions</b></p>

MIOSHA	OSHA
<p><b>R 408.11853 Testing.</b></p> <p><b>Rule 1853.</b> (1) An employer shall test the knowledge and ability of an employee before authorizing him or her to operate a crane. The test shall determine all of the following with respect to the employee:</p> <ul style="list-style-type: none"> <li>(a) Ability to operate the equipment through its functions necessary to perform the required jobs.</li> <li>(b) Knowledge of equipment.</li> <li>(c) Knowledge of daily checks and inspection requirements.</li> <li>(d) Knowledge of applicable MIOSHA standards and company rules and regulations.</li> </ul> <p>(2) 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.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.11854 Permits.</b></p> <p><b>Rule 1854.</b> (1) An employer shall provide an employee with a permit to operate a crane only after the employee meets the requirements prescribed in R 408.11852, and R 408.11853 et seq.</p> <p>(2) An employee being trained is exempt from the permit requirement for a period of not more than 30 calendar days if the employee is under the supervision of an individual who is authorized by the employer and who has the knowledge, training, and experience to train operators and to evaluate their competence, and if the training period does not endanger the trainee or other employees.</p> <p>(3) A permit shall be carried by an operator or be available upon request of a department representative at all times during working hours</p> <p>(4) A permit shall indicate the type of crane or cranes an operator has been trained on and is qualified to operate, as required in R 408.11852 et seq.</p> <p>(5) A permit to operate a crane is valid only with the employer who issued the permit, and the permit shall be issued for a period of not more than 3 years.</p> <p>(6) A permit shall contain all of the following information (see sample permit):</p> <ul style="list-style-type: none"> <li>(a) Firm name.</li> <li>(b) Operator's name.</li> <li>(c) Operator I.D. number, if any.</li> <li>(d) Name of issuing authority.</li> <li>(e) Type or types of crane authorized to operate.</li> <li>(f) Operator restrictions, if any. The permit shall state the nature of the restriction.</li> <li>(g) Date issued.</li> <li>(h) Date expiring.</li> </ul> <p>(7) A sample permit is set forth as follows:</p> <p>See Sample Permit</p>	<p><b>No comparable OSHA provision</b></p>

MIOSHA	OSHA
<p><b>R 408.11855 Limitations on use of cranes.</b>  <b>Rule 1855.</b> (1) An employer shall limit the use of a crane to the following persons:</p> <p>(a) An employee who is trained and is qualified to operate the type of crane to which he or she is assigned.</p> <p>(b) A learner under the direct supervision of a designated operator.</p> <p>(c) Designated maintenance personnel while performing their duties.</p> <p>(2) An employer shall establish and enforce a safe procedure, applicable to authorized employees, for boarding and leaving an overhead cab-operated crane.</p> <p>(3) An employer shall assure that an unauthorized employee does not enter a crane cab or pulpit.</p> <p>(4) An employer shall limit the use of a crane to its maximum rated capacity, except during rated load test as prescribed in R 408.11874.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.11857 Reporting defects.</b>  <b>Rule 1857.</b> An operator shall report any defects in a crane to the supervisor.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.11859 Personal protective equipment.</b>  <b>Rule 1859.</b> (1) An operator and an employee directing a lift shall use the personal protective devices required in the area.</p> <p>(2) If the top of the load is not lifted to a height of more than 5 feet, then the load is not considered an overhead hazard.</p> <p>(3) An employee performing maintenance on an overhead or gantry crane, where a standard barrier, as prescribed in R 408.11835, or platform is not provided, shall wear an approved safety harness and lanyard, or a fall arrest device as prescribed in construction safety standard, Part 45. "Fall Protection," being R 408.44501, et seq., which is referenced in R 408.11807.</p>	<p><b>No comparable OSHA provisions</b></p>

MIOSHA	OSHA
<p><b>R 408.11861 General conduct of operators.</b></p> <p><b>Rule 1861.</b> (1) An operator, when starting on duty shall comply with both of the following provisions:</p> <p>(a) Shall not close the main switch or emergency contactor until checking to see if anyone is on the crane and if a warning sign is on the crane, hook, or main switch.</p> <p>(b) Shall test all controls, limit switches, and brakes. When a load approaches the rated load, the operator shall test the hoisting brakes by raising the load a few inches and applying the brakes.</p> <p>(2) A hoisting limit switch on a crane or hoisting means shall not be used as an operating control unless the crane is also equipped with a backup limit switch.</p> <p>(3) A load shall not be lowered below a point where less than 2 full wraps of wire rope remain on the hoisting drum.</p> <p>(4) If there is doubt concerning the safety of a crane or hoisting means, then an operator shall stop the crane and report the condition creating the doubt to the supervisor.</p> <p>(5) In case of power failure, an operator shall place all controllers in the "off" position.</p> <p>(6) An operator leaving a crane unattended shall land any attached load, place the controllers in the "off" position, and open the main switch. Before closing a main switch, an operator shall make sure all controllers are in the "off" position. The main switch need not be opened on a pendant-controlled crane if the crane is left unattended for short periods.</p>	<p><b>No comparable OSHA provisions, except:</b></p> <p><b>1910.179(n)(3)(viii)</b> The load shall not be lowered below the point where less than two full wraps of rope remain on the hoisting drum.</p> <p><b>1910.179(n)(3)(x)</b> The employer shall insure that the operator does not leave his position at the controls while the load is suspended.</p>
<p><b>R 408.11863 Signals.</b></p> <p><b>Rule 1863.</b> An operator shall respond to signals only from the employee directing a lift. However, they shall obey at all times an emergency stop signal from any employee. The signals given an operator shall conform to table 1. When 2 or more cranes are used to lift a load, a designated employee shall give all signals.</p> <p>See Table 1</p>	<p><b>No comparable OSHA provisions</b></p>

MIOSHA	OSHA
<p><b>R 408.11865 Lifting.</b>  <b>Rule 1865. (1)****</b></p> <p>(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:</p> <ul style="list-style-type: none"> <li>(a) Various parts of the crane will not be overstressed.</li> <li>(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.</li> <li>(c) A side pull will not cause the hoist rope to be pulled out of the sheaves or across drum grooves.</li> <li>(d) A side pull will not result in excessive swinging of the load block or load.</li> </ul> <p>(3) Compressed gases shall be lifted only by a cradle or enclosed platform.</p> <p>(4) An employee shall not ride a hoisting device, such as a magnet, hook, ball, or load, except on a work platform. The work platform shall meet all of the requirements as prescribed in construction safety standard Part 10. "Lifting and Digging," being R 408.41001 et seq., which is referenced in R 408.11807.</p> <p>(5) The work platform shall be suspended from the top 4 corners and fastened to the structural floor member and shall have the point of suspension at the hook fixed so that it cannot be accidentally disengaged.</p> <p>(6) When attaching or moving a load, the operator, rigger, or hooker shall make sure of all of the following:</p> <ul style="list-style-type: none"> <li>(a) The hoisting rope or chain is free of kinks or twists and not wrapped around the load.</li> <li>(b) The load is attached to the load block hook by means of a sling or other approved device.</li> <li>(c) The sling and load will clear all obstacles or obstructions.</li> <li>(d) The load is balanced and secured before lifting the load more than a few inches.</li> <li>(e) Multiple lines are not twisted around each other.</li> <li>(f) The hook is brought over the load in a manner to prevent swinging.</li> <li>(g) There is no sudden acceleration or deceleration of the moving load.</li> </ul>	<p>Equivalent</p> <p><b>No comparable OSHA provisions except:</b></p> <p><b>1910.179(n)(3)(iv)</b> Cranes shall not be used for side pulls except when specifically authorized by a responsible person who has determined that the stability of the crane is not thereby endangered and that various parts of the crane will not be overstressed.</p> <p><b>1910.179 (n)(3)(v)</b> While any employee is on the load or hook, there shall be no hoisting, lowering, or traveling.</p>

MIOSHA	OSHA
<b>INSPECTIONS</b>	
<p><b>R 408.11871 Initial and shift inspections.</b></p> <p><b>Rule 1871.</b> (1) New, reinstalled, altered, repaired, and modified cranes shall be inspected by a designated person before initial use to verify compliance with applicable provisions of these rules. Inspection of altered, repaired, and modified cranes may be limited to the provisions affected by the alteration, repair, or modification, as determined by a qualified person.</p> <p>(2) At the beginning of each shift during which a crane is used, visual inspections shall be made in accordance with table 2. 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.</p> <p>See Table 2</p>	<p><b>Due to the details of the checklist referred to in Table 3 of R 408.11871, no comparison has been made concerning inspections.</b></p>
<p><b>R 408.11872 Frequent and periodic inspections.</b></p> <p><b>Rule 1872.</b> (1) Inspections shall be made as designated in this subrule and table 3.</p> <p>(a) An employer shall establish an inspection schedule based on usage and classification as described in this subrule and Appendix B</p> <p>(b) The inspection procedure for cranes in regular service is divided into 2 general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of its exposure to wear, deterioration, or malfunction. The 2 general inspection classifications are designated as frequent and periodic, with respective intervals between inspections as specified in this rule.</p> <p>(c) Each crane designed and manufactured prior to January 1, 1971 shall be inspected at least monthly. The inspection schedule may be modified based on documented inspection and repair history and a qualified person's recommendations.</p> <p>(2) Frequent inspection includes examinations by a designated person who makes required records, as follows:</p> <p>(a) Monthly to quarterly (class C) or at intervals of 100 hours of use, whichever comes first. Frequent inspection includes observations during operation and of items listed in table 3.</p> <p>(b) A designated person shall determine whether conditions found during the inspection constitute a hazard and whether a more detailed inspection is required.</p> <p>(3) Periodic inspection includes inspection of the equipment in place by a designated person who makes records as listed in table 3 and as follows:</p> <p>(a) Annually or at intervals of 500 hours of use, whichever comes first. Periodic inspections include observations during operation and of items listed in table 3.</p> <p>(b) Conditions of extreme duty cycle, heat, and corrosive or climatic extremes indicate a need for more frequent inspections before use.</p>	<p><b>Due to the details of the checklist referred to in Table 3 of R 408.11871, no comparison has been made concerning inspections.</b></p>

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<p>(c) Cranes with multiple service classifications shall be inspected in accordance with the highest rated duty classification.</p> <p>(d) A designated person shall determine whether conditions found during an inspection constitute a hazard and whether disassembly is required for additional inspections.</p> <p>(4) A crane which is used in infrequent service, that is, which has been idle for a period of 1 month or more, shall be inspected before being placed in service.</p> <p>See Table 3</p>	<p><b>Due to the details of the checklist referred to in Table 3 of R 408.11871, no comparison has been made concerning inspections, continued.</b></p>
<p><b>R 408.11874 Rated load test.</b></p> <p><b>Rule 1874.</b> Before initial use, all new, extensively repaired, and altered cranes shall be tested and inspected by or under the direction of a designated or authorized person and a written report which confirms the load rating of the crane shall be furnished by the person. The load rating shall not be more than 80% of the maximum load sustained during the test. Test loads shall not be more than 125% of the rated load, unless otherwise recommended by the manufacturer. The test reports shall be placed on file where readily available to appointed personnel.</p>	<p><b>1910.179(k)(2) Rated load test.</b> Test loads shall not be more than 125 percent of the rated load unless otherwise recommended by the manufacturer. The test reports shall be placed on file where readily available to appointed personnel</p>
<p><b>R 408.11875 Maintenance.</b></p> <p><b>Rule 1875.</b> (1) An employer shall maintain a crane and its accessories in a condition that will not endanger an operator or other employee. A preventative maintenance program shall be established and the program shall be based on the manufacturer's recommendations and for the application as reviewed by a qualified person.</p> <p>(2) An unsafe condition on a crane determined by an inspection shall be corrected by a designated trained employee or a qualified crane service company before the crane is put into operation. Designated repair personnel shall have a thorough background in either mechanical or electrical operating systems, or both, and shall also have a permit to operate the type of crane that is being serviced.</p> <p>(3) to (3)(d)***</p> <p>(e) Illumination of not less than 15 foot-candles intensity shall be provided while maintenance is performed on a crane.</p> <p>(4) If any other crane uses the same runway, then a protective device shall be used to prevent interference with the idle crane undergoing repairs. If the protective device is impracticable, then a signal person shall be placed at a visual vantage point to warn the operator of the active crane when it reaches the limit of safe distance from the idle crane.</p> <p>(5)****</p>	<p><b>No comparable OSHA provision except as follows:</b></p> <p>Equivalent</p> <p><b>No comparable OSHA provision except as follows:</b></p> <p><b>1910.179(l)(2)(i)(e)</b>Where other cranes are in operation on the same runway, rail stops or other suitable means shall be provided to prevent interference with the idle crane.</p> <p>Equivalent</p>

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<p>(6) Manual lubrication on a crane shall comply with subrule (3)(c) of this rule.</p> <p>(7) An accumulation of dirt on a crane that would create a hazardous condition shall be removed.</p>	<p><b>No comparable OSHA provisions</b></p>

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