

# Safety of tower cranes in construction

**Safe At Work Ontario**  
Enforcement > Compliance > Partnership >

The unsafe condition of some tower cranes supplied to — and used at — Ontario workplaces continues to concern the Ministry of Labour.

## Some duties of workplace parties

### Employers

To protect workers, employers must ensure that all workplace parties comply with all provisions of the Occupational Health and Safety Act (OHSA) and regulations. Some of the many duties of an employer who is covered by the OHSA include ensuring that:

- equipment, material and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)]
- every precaution reasonable in the circumstances is taken for the protection of a worker [clause 25(2)(h)]
- all vehicles, machines, tools and equipment are used in accordance with any operating manuals issued by the manufacturers [O. Reg. 213/91, subsection 93(3)]
- copies of any operating manuals issued by the manufacturers (for vehicles, machines, tools and equipment rated at greater than 10 horsepower) are kept readily available at the project [O. Reg. 213/91, subsection 93(4)]
- the tower crane is inspected by a competent worker to determine whether it can handle the rated capacity and to identify any hazardous conditions (The inspection shall be performed before the tower crane is first used at the project and thereafter at least once a year or more frequently as recommended by the manufacturer [O. Reg. 213/91, subsections 94(1)(2)].)
- all engineering reports and maintenance records regarding for the tower crane are kept at the project [O. Reg. 213/91, subsections 152, 158, 159 and 163]
- the foundation of the tower crane is designed by a professional engineer in accordance with the crane manufacturer's specifications, and signed drawings are at the construction project [O. Reg. 213/91, subsection 157]
- the structural elements and components are inspected before the tower crane is erected at the project [O. Reg. 213/91, subsection 158(1)]
- the structural elements and components such as drive systems, wire ropes, hydraulic and electrical systems are inspected after the tower crane is erected and before it is used at the project [O. Reg. 213/91, subsection 159(1)]
- safety systems – load indicators, rated capacity limiters, limit switches – are operating properly and are continuously monitored and tested per manufacturer's instructions and the construction regulation [O. Reg. 213/91, subsections 160 and 161].

### Supervisors

To protect workers, supervisors must ensure that all workplace parties comply with all provisions of the OHSA and prescribed regulations. Under the OHSA, a supervisor has duties that include (but are not limited) to:

- ensuring that workers use the protective devices and work in compliance with measures and procedures required by the OHSA and regulations [clause 27(1)(a)]



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- taking every precaution reasonable in the circumstances for the protection of workers [clause 27(2)(c)]
  - inspecting — or designating a competent person appointed by the supervisor to inspect — machinery and equipment at least once a week (or more frequently as required) to ensure that the machinery and equipment does not endanger any worker [O. Reg. 213/91, subsections 14(3) and 14(4)].

## Suppliers

Every person who supplies any machine, device, tool or equipment under any rental, leasing or similar arrangement for use in or about a workplace covered by the OHSA has obligations, including ensuring that:

- the machine, device, tool or equipment is in good condition [clause 31(1)(a)]
- the machine, device, tool or equipment complies with the OHSA and related regulations [clause 31(1)(b)], and that
- the machine, device, tool or equipment is maintained in good condition (if it is the person's responsibility under the rental, leasing or similar arrangement to do so) [clause 31(1)(c)].

## Owners

The owner of a crane or similar hoisting device must:

- keep a permanent record of all inspections of, tests of, repairs to, modifications to and maintenance of the crane or similar hoisting device [O. Reg. 213/91, subsection 152(1)]
- prepare a log book for it for use at a project that shall include the record referred to in subsection 152(1) covering the period that is the greater of:
  - the immediately preceding twelve months, and
  - the period the crane or similar hoisting device is on the project [O. Reg. 213/91, subsection 152(2)]
- keep this prepared log book with the crane or similar hoisting device [O. Reg. 213/91, subsection 152(3)], and
- retain and make available to the constructor on request copies of all log books and records for the crane or similar hoisting device [O. Reg. 213/91, subsection 152(4)].

## Erection of a tower crane

Before a tower crane is erected at a project, a professional engineer — or a competent worker designated by a professional engineer — must inspect its structural elements and components (using methods of non-destructive testing approved by the Canadian General Standards Board) to determine their structural integrity [O. Reg. 213/91, subsection 158(1) and O. Reg. 631/94, section 5].

## Points to consider for operating a tower crane safely

- Have all of the specific hazards associated with the work in progress been analyzed?
- Has specific training with respect to the hazards of operating a tower crane been provided (authorized crane operator, fall protection, material handling, rigging, signalling)?
- Are rescue procedures in place?
- Has the tower crane been properly maintained (maintenance record, log books)?
- Has the tower crane been properly inspected before erection (non-destructive testing report, components identified and tracked to ensure all structural components inspected)?
- Has the tower crane been properly inspected after erection (engineering reports for the foundation, shoring and bracing, structural integrity of the building, drawings and reports to be approved and signed by a professional engineer)?

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## Compliance information

- Ontario Ministry of Labour: <http://www.ontario.ca/SafeAtWorkOntario>
- Ministry of Labour, construction safety: <http://www.ontario.ca/ConstructionSafety>
- Infrastructure Health & Safety Association: <http://www.ihsa.ca>
- Workplace Safety & Insurance Board: <http://www.wsib.on.ca>
- A Guide to the Occupational Health and Safety Act:  
<http://www.labour.gov.on.ca/english/hs/pubs/ohsa/index.php>
- CSA standards referenced in occupational health and safety legislation:  
<http://ohsviewaccess.csa.ca>

## Call toll-free

Call **1-877-202-0008** anytime to report workplace health and safety incidents or for general inquiries about health and safety at the workplace.

**Note:** *This document has been prepared to assist the workplace parties in understanding some of their obligations under the Occupational Health and Safety Act (OHSA) and the regulations. It is not intended to replace the OHSA or the regulations, and reference should always be made to the official version of the legislation.*

[http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90o01\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o01_e.htm).

*It is the responsibility of the workplace parties to ensure compliance with the legislation. This document does not constitute legal advice and has no legal effect. If you require assistance with respect to the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.*