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Practice Advisory Bulletin #7
Regulation Changes to Tower Crane Inspections under O. Reg. 213/91 under the *Occupational Health and Safety Act* December 20, 2023

1. Introduction

PEO has a mandate to regulate the practice of professional engineering in Ontario under the *Professional Engineers Act* to serve and protect the public interest by setting and upholding high academic, experience and professional practice standards for the engineering profession. Individuals licensed by PEO are the only people permitted by law to undertake and assume responsibility for engineering work in Ontario. As a service to its licence holders and the public, PEO is issuing this bulletin to notify licence holders of their professional responsibilities relating to the provincial government's recent regulation changes for tower crane inspections that came into effect on January 1, 2024.

In November 2015, PEO published the *Practice Standard for Tower Crane Review* , and Part IV of Ontario Regulation 260/08 (Performance Standards) was amended in 2016 to reference that practice standard (O. Reg. 260/08: PERFORMANCE STANDARDS (ontario.ca)).

On August 8, 2023, the Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) published changes to its regulations to improve crane safety on construction sites to keep workers and the public safe and avoid work stoppages. The amendments apply to all construction projects where tower cranes may be used and where the Construction Projects Regulation applies. Most of these amendments come into force on **January 1, 2024.** Other requirements, mainly more thorough inspection for tower cranes older than ten years, will come into force on January 1, 2025. This bulletin addresses the regulation changes coming into effect on **January 1, 2024**, and January 1, 2025**. (Updates for January 1, 2025 are highlighted in grey in Table 1 of Section 5.)**

Note: PEO licence holders are required to "make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner", and failure to do so can constitute professional misconduct under section 72(2)(d) of Regulation 941. Therefore, all licence holders who practise professional engineering in any capacity related to tower cranes must personally review and comply with all changes to O.Reg. 213/91. Reading this bulletin alone does not substitute for reviewing those changes, and PEO is not liable for any licence holder failing to comply with the requirements in O.Reg. 213/91. This bulletin should not be used as, or considered, legal advice.

2. Summary of Ministry of Labour, Immigration, Training and Skills Development (MLITSD) Regulation changes

On August 8, 2023, through Ontario Regulation 241/23, the Ministry of Labour, Immigration, Training and Skills Development (MLITSD) ("the ministry") made updates to modernize and clarify existing requirements relating to the use of tower cranes set out in the Construction Projects Regulation (O. Reg. 213/91) under the *Occupational Health and Safety Act* (OHSA) including those that pertain to professional engineers:

- Clarifying or adding new design, installation, maintenance, inspection and record-keeping requirements;
- Requiring more comprehensive inspections of tower cranes, including referencing PEO's *Practice Standard for Tower Crane Review*, and clarifying and expanding the role and responsibilities of professional engineers in the design, erection and inspection of tower cranes;
- Introducing new, and updating existing, references to relevant national and international standards relating to the design and operation of tower cranes;
- Addressing advances in technology, including adding and amending requirements that take into account specific operational needs for self-erecting tower cranes;
- Clarifying requirements for cables, slings and rigging that apply to all cranes and cover hoisting operations by other equipment; and
- Expanding inspections of tower cranes beyond structural components to include electrical, mechanical and hydraulic components, and its control systems.

3. Roles and Responsibilities of Professional Engineers

Firstly, O.Reg. 213/91 refers to an "engineer", as defined in section 1 of the *Occupational Health and Safety Act* (OHSA), as "...subject to any prescribed requirements or restrictions, a person who is licensed as a professional engineer or who holds a limited licence under the *Professional Engineers Act".* This means that only holders of a P.Eng. licence or a limited licence can perform the duties required of an engineer in O.Reg. 213/91. Temporary licence holders are therefore prohibited from these duties.

Secondly, the amendments to section 158 of O. Reg. 213/91 require an engineer (licence holder or limited licence holder) or multiple engineers to ensure that a tower crane's structural elements, as well as its electrical, mechanical and hydraulic components and control systems, are inspected both pre- and post-erection in accordance with PEO's performance standards for those inspections in O.Reg. 260/08. A single engineer performing all required inspections may be incompatible with PEO's definition of "professional misconduct" in clause 72(2)(h) of Regulation 941 as "undertaking work the practitioner is not competent to perform by virtue of the practitioner's training and experience". As the revised sections 158, 159 and 165 of O.Reg. 213/91 require inspections to be done in accordance with PEO's performance standards, PEO is interpreting those sections in accordance with subsection 72(2)(h) of Regulation 941 as well.

PEO's *Professional Engineering Practice Guideline*, more specifically addresses this issue in section 8, regarding professional responsibility, as follows:

> "Good professional conduct includes practising only within one's competence. **Practitioners must realize that for both legal and ethical reasons they should not undertake assignments unless they honestly and reasonably believe that they are competent to carry out the work, or that they can become competent without undue delay, risk or expense to the client or employer, or that they will engage a competent licence holder to carry out work that is beyond their expertise. Practitioners who proceed on any other basis are not being honest with their clients or employers."**

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1 Definition added on July 1, 2022

> "Failure to meet these requirements leaves practitioners open to scrutiny by their peers and their professional association, pursuant to section 72(2)(h) of O. Reg. 941/90. Refer to "professional misconduct" (section 72 of O. Reg. 941/90) and to "incompetence" (section 28(3) of the Act). "In assessing their own position, practitioners should be aware of the essential difference between "qualification" and "competence". Dictionaries define qualification as "a quality or accomplishment which fits a person for some function, office or the like." This includes the conferring of degrees and certification by technical bodies. It is a one-time, static thing that cannot be lost or diminished by time. On the other hand, competence is a "quality of having suitable skill, knowledge or experience for some purpose." Competence, then, is a dynamic quality that relates to the present task, assignment or activity. Practitioners need always to assess their competence to undertake the proposed assignment before agreeing to carry out the work."

4. General guidance for the interim, in relation to amendments of O. Reg. 213/91 effective Jan. 1, 2024, and Jan. 1, 2025

1. PEO's current practice standard defines the term "review engineer" as "a holder of a licence or a temporary licence to practise professional engineering who is carrying out the work described in s. 2". Since temporary licence holders are not defined as "engineers" in the OHSA they are not permitted to carry out the duties of an engineer under O.Reg. 213/91, and thus, only (P.Eng.) licence holders are permitted to be a "review engineer".

2. In terms of duties, a "review engineer" shall review the work and not take any responsibility for work which is not within their competency but should instead delegate work to other licence holders who are competent in those other areas. For example, when conducting inspections within one's competency, typically, a mechanical engineer would be required to conduct or supervise the mechanical inspections, a structural engineer would be required to conduct or supervise the structural inspections, and an electrical engineer would be required to conduct or supervise the electrical inspections etc. Thus, it is likely that more than one licence holder will be required to carry out the full range of components of tower crane inspection. Therefore, each engineer performing or supervising an inspection of tower crane components within their competency must sign or stamp their work, and multiple seals or stamps will be required for a completed inspection of a tower crane based on those competencies.

3. PEO is currently updating the *Practice Standard for Tower Crane Review* and *Performance Standards for Tower Crane Inspections*. Until those updates are published, licence holders must continue to comply with the existing practice standard (and the performance standard which refers to it) along with this practice bulletin.

4. Where the new regulation does not yet reference any specific industry or government technical standards, or where a level of engineering practice related to those specific requirements is not yet established (such as use interval inspections or for self-erecting tower cranes), licence holders are expected to use their professional judgment to the best of their abilities, based on the generic provisions for tower crane review specified in the current practice standard.

For further information, please contact PEO's Practice Advisor at practicestandards@peo.on.ca

5. Comparison of Relevant Sections of O. Reg. 213/91 and Interim Guidance

The following table shows the amended requirements in O. Reg. 213/91 compared to the version that existed on December 31, 2023, as well as PEO's interim guidance to "review engineers" (P.Eng. licence holders), pending an update to PEO's Practice Standard on Tower Crane and its Performance Standard for Tower Crane Inspections in O.Reg. 260/08.

Amended Regulation	**Previous Regulation**	**Interim guidance for "review engineers"**
157.(1) A tower crane, other than a tower crane mounted on a travelling base using a travelling undercarriage or a self-erecting tower crane that does not require foundations, shall be erected at a project in accordance with this section. O. Reg. 241/23, s. 12.	157.(1) No tower crane shall be erected at a project except in accordance with this section. O. Reg. 213/91, s. 157 (1).	For all subsections of 157, refer to General guidance for the interim above, numbers 3 and 4
(2) The foundation, shoring and bracing that support a tower crane or tie it in place shall be, (a) designed by an engineer in accordance with the crane manufacturer's specifications, if any; and (b) constructed, installed and dismantled in accordance with the design drawings, subject to any deviations approved in writing by an engineer. O. Reg. 241/23, s. 12.	(2) The foundations supporting a tower crane shall be designed by an engineer in accordance with the crane manufacturer's specifications and shall be constructed in accordance with the design. O. Reg. 213/91, s. 157 (2); O. Reg. 375/22, s. 5.	
(3) The engineer who prepares the foundation design drawings shall consider the tower crane ground bearing pressure in preparing the drawings. O. Reg. 241/23, s. 12.	(3) The shoring and bracing that support a tower crane or tie it in place shall be designed by an engineer in accordance with the crane manufacturer's specifications and shall be installed in accordance with the design. Reg. 213/91, s. 157 (3); O. Reg. 375/22, s. 5.	
(4) Where a building or structure is supporting the tower crane, the engineer responsible for the structural integrity of the building or structure shall review the design drawings for the foundation, shoring and bracing for the tower crane before the crane is erected on a project to ensure the structural integrity of the building or structure. O. Reg. 241/23, s. 12.	(4) The structural engineer responsible for the structural integrity of the building or structure shall review the design drawings for the foundation, shoring and bracing for a tower crane before the crane is erected at a project to ensure the structural integrity of the building or structure. O. Reg. 213/91, s. 157 (4).	

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
(5) An engineer shall sign the design drawings for the foundation, shoring and bracing for a tower crane upon approving them. O. Reg. 241/23, s. 12.	(5) The structural engineer who reviews the design drawings shall sign the drawings upon approving them. O. Reg. 213/91, s. 157 (5).	
(6) The constructor shall keep at the project a copy of the signed design drawings for the foundation, shoring and bracing for a tower crane and any written opinion about the drawings by an engineer. O. Reg. 241/23, s. 12.	(6) The constructor shall keep at the project while a tower crane is erected a copy of the signed design drawings for its foundation, shoring and bracing and any written opinion about the drawings by a structural engineer. O. Reg. 213/91, s. 157 (6).	
(7) An engineer shall, (a) inspect the foundation supporting a tower crane before the concrete is poured and prepare a written report; and (b) confirm that the foundation or support surface complies with the foundation design drawings, subject to any deviations from the design drawings approved in writing by an engineer. O. Reg. 241/23, s. 12.		
(8) The written report required under clause (7) (a) shall be kept at the project while the tower crane is on the project. O. Reg. 241/23, s. 12.		
(9) A tower crane may not be erected until the concrete foundation reaches the strength specified in the design drawings for the foundation. O. Reg. 241/23, s. 12.		
(10) The shoring and bracing that support a tower crane or tie it in place must be inspected by an engineer after the shoring and bracing or the tie-ins have been installed and before the crane is put into service for the first time at a project. O. Reg. 241/23, s. 12.		

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
(11) An engineer shall prepare a written report of the inspection required under subsection (10), which shall include confirmation of whether the shoring, bracing and tie-ins have been installed in accordance with the design drawings, subject to any deviations approved in writing by an engineer and, where a building or structure is supporting the tower crane, whether the building or structure has reached sufficient strength to resist the crane reactions. O. Reg. 241/23, s. 12. (12) The written report prepared shall indicate any circumstances that would require additional inspections of the shoring, bracing and tie-ins by an engineer after the initial inspection required under subsection (10). O. Reg. 241/23, s. 12. (13) After the initial inspection required under subsection (10), the shoring and bracing components and tie-ins installed for the climbing operation shall be inspected by a competent worker, (a) unless otherwise specified by the engineer in the written report required under subsection (11), before and after each climbing operation of the crane, to ensure the shoring and bracing components and tie-ins have been installed in accordance with the foundation design drawings; and (b) weekly after each climbing operation to ensure all the installed shoring and bracing components and tie-ins are in place. O. Reg. 241/23, s. 12. (14) Each major component used for shoring the tower crane shall be marked by a conspicuous label stating that the component shall not be removed or repositioned unless authorized by an engineer. O. Reg. 241/23, s. 12.		

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
157.1 (1) A tower crane shall be, (a) erected plumb to a tolerance of 1:500 unless otherwise specified by the manufacturer; and (b) plumbed while balanced and then held in the plumbed condition by wedges or other means, initially when it is set up and again after each climb. O. Reg. 241/23, s. 12.		
Note: On January 1, 2025, the Regulation is amended by adding the following sections: (See: O. Reg. 241/23, s. 13) **157.2 A tower crane shall be erected, dismantled and climbed in accordance with the following clauses of CSA Standard Z248-17:** 1. Clause 5.1, Crane erection crew. 2. Clause 5.8, Erection, climbing, and dismantling equipment. 3. Clause 5.9, General erection, climbing, and dismantling procedure. O. Reg. 241/23, s. 13. 157.3 (1) Each component of a tower crane manufactured on or after January 1, 2025, must be designed to meet the standards set out in the Table to this section. O. Reg. 241/23, s. 13. (2) If a tower crane manufactured before January 1, 2025 does not meet the standards set out in the Table to this section, or equivalent standards		Pending guidance later in 2024 for regulations coming into effect in 2025

<table>
<tr><th>Amended Regulation</th><th>Previous Regulation</th><th>Interim guidance for “review engineers”</th></tr>
<tr><td>as determined by an engineer, the crane shall not be used until an engineer verifies that the crane has been modified to meet those standards. O. Reg. 241/23, s. 13.

TABLE
<table><tr><th>Item</th><th>Column 1
Component</th><th>Column 2
Minimum design standards</th></tr><tr><td>1.</td><td>Crane design</td><td>Clauses 4.1 to 4.25 of CSA Standard Z248-17, or European Standard EN 14439:2006+A2:2009</td></tr><tr><td>2.</td><td>Electrical</td><td>Electrical Safety Authority SPEC-009 R0, Electrical Safety for Tower Cranes</td></tr><tr><td>3.</td><td>Control systems</td><td>Clause 4.21 of CSA Standard Z248-17</td></tr></table>
O. Reg. 241/23, Table.</td><td></td><td></td></tr>
<tr><td>158. (1) An engineer shall ensure that a tower crane’s structural elements, its electrical, mechanical and hydraulic components, and its control systems, are inspected in accordance with the performance standards for inspecting a tower crane as prescribed by Ontario Regulation 260/08 (Performance Standards) made under the Professional Engineers Act, and that any defects are identified, at the following times:

1. For a tower crane other than a self-erecting tower crane,</td><td>158. (1) Before a tower crane is erected at a project, an engineer shall ensure that the structural elements and components of the crane be subjected to non-destructive testing to ensure the structural integrity of the crane. O. Reg. 242/16, s. 16; O. Reg. 375/22, s. 5.</td><td>Refer to General guidance for the interim above, numbers 1 and 2</td></tr>
</table>

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
i. before the crane is erected at a project, ii. after the crane is erected and before it is used, and iii. thereafter at intervals not greater than 12 months or as often as is recommended by the crane manufacturer, whichever is more frequent, while the tower crane is erected at a project. 2. For a self-erecting tower crane, i. before the crane is put into service for the first time, and ii. thereafter at intervals not greater than 12 months while the crane is in use at a project, after every 12 erections of the crane or as often as is recommended by the crane manufacturer, whichever occurs first. O. Reg. 241/23, s. 14.		
(2) The inspection of structural components must include non-destructive testing to ensure the structural integrity of the crane. O. Reg. 241/23, s. 14.	(2) The engineer conducting an inspection or under whose direction an inspection is done shall prepare a written report of the test results. O. Reg. 213/91, s. 158 (2); O. Reg. 85/04, s. 17; O. Reg. 375/22, s. 5.	Refer to General guidance for the interim above, number 3 and 4
(3) The engineer conducting the inspection or under whose direction an inspection is done shall prepare a written report of the inspection and test results in accordance with the performance standards for inspecting a tower crane as prescribed by Ontario Regulation 260/08, including confirmation that all components are in adequate condition. O. Reg. 241/23, s. 14.	(3) The constructor shall keep the report at the project while the crane is erected. O. Reg. 213/91, s. 158 (3).	Refer to General guidance for the interim above, numbers 1 and 2
159. (1) An engineer shall ensure that the climbing system for a tower crane is inspected in accordance with the performance standards for inspecting a tower crane as prescribed by Ontario	159. (1) An engineer or a competent worker designated by an engineer shall visually inspect for defects the structural elements and components of a tower crane,	Refer to General guidance for the interim above, number 1 and 2

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
Regulation 260/08 (Performance Standards) made under the Professional Engineers Act, (a) prior to the initial climbing operation of the tower crane at the project; and (b) thereafter at intervals not greater than 12 months while the tower crane is erected at a project. O. Reg. 241/23, s. 14. (2) The engineer conducting the inspection or under whose direction an inspection is done shall prepare a written report of the inspection in accordance with the performance standards for inspecting a tower crane as prescribed by Ontario Regulation 260/08, including confirmation that all components are in adequate condition. O. Reg. 241/23, s. 14.	(a) after the crane is erected and before it is used; and (b) after the inspection under clause (a), at intervals not greater than twelve months. O. Reg. 213/91, s. 159 (1); O. Reg. 375/22, s. 5. (2) No tower crane shall be used until any defects found during an inspection are repaired in accordance with the instructions of the crane's manufacturer or an engineer. O. Reg. 213/91, s. 159 (2); O. Reg. 375/22, s. 5. (3) An engineer or a competent worker designated by an engineer shall inspect a tower crane that has been repaired to ensure that the defects are corrected. O. Reg. 213/91, s. 159 (3); O. Reg. 375/22, s. 5. (4) The engineer conducting an inspection or under whose direction the inspection is done shall prepare a written report of the test results. O. Reg. 213/91, s. 159 (4); O. Reg. 85/04, s. 18; O. Reg. 375/22, s. 5. (5) The constructor shall keep the report at a project while the crane is erected. O. Reg. 213/91, s. 159 (5).	

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
Note: On January 1, 2025, the Regulation is amended by adding the following section: (See: O. Reg. 241/23, s. 15) 159.1 (1) An engineer shall ensure that a tower crane's structural elements, its electrical, mechanical and hydraulic components and its control systems that may affect the structural integrity, stability or motion of a tower crane or its load are inspected in accordance with subsection (2), (a) before the tower crane is erected at a project, if 10 years have elapsed since the time the tower crane was manufactured; and (b) thereafter at least once every 10 years after the date of the last inspection under this section before the tower crane is erected at a project. O. Reg. 241/23, s. 15. (2) The inspection required in subsection (1) shall include the following: 1. Inspection of structural components including, i. visual inspection of all welds and non-destructive testing of a sampling of welds determined by an engineer, and ii. measurements of the consistency of wall thickness within the closed section of the structural components to confirm the sections are compliant with the original design requirements. 2. Inspection of the rotating shafts, gears, hook blocks and mechanical linkages for signs of cracks, damage or wear using non-destructive testing.		Pending guidance later in 2024 for regulations coming into effect in 2025

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
3. For hydraulic components, i. measurement of the pressure at which pressure relief valves actuate, and ii. testing of hydraulic holding valves used to stop movement in the case of pressure loss. 4. Measurements to confirm that components that routinely wear due to use including clutch plates, brake pads, sheaves, wire ropes, bushings and pins, are within tolerances specified by their manufacturers. 5. Inspection of non-structural components that may be subject to cracking, damage or wear. 6. Performance of operational tests on the components listed below in accordance with the manufacturer's instructions to confirm that the components are in adequate condition and operating in accordance with the manufacturer's specifications: i. Brakes. ii. Slew ring. iii. Hydraulic motors. iv. Hydraulic pumps. v. Valve blocks. vi. Hoist and luff drums. vii. Gearboxes and drive shafts. O. Reg. 241/23, s. 15. (3) The operational tests required under paragraph 6 of subsection (2) do not require the components to be dismantled. O. Reg. 241/23, s. 15. (4) The engineer conducting the inspection or under whose direction an inspection is done shall prepare a written report of the inspection including test results, observations,		

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
measurements and records. O. Reg. 241/23, s. 15. (5) Any defects identified in the inspection that may affect the structural integrity, non-structural components, stability or motion of the tower crane or its load shall be corrected or repaired in accordance with the instructions of the tower crane or component manufacturer or an engineer. O. Reg. 241/23, s. 15. (6) An engineer shall confirm in a written report that any defects identified have been corrected or repaired and that the corrected or repaired components are in adequate condition. O. Reg. 241/23, s. 15.		
160. A tower crane shall have, (a) limiting devices to, as applicable, (i) limit trolley travel at both ends of the boom, (ii) stop boom luffing at the lower or upper limits of boom movement, (iii) stop load block upward motion before two-blocking occurs, (iv) limit crane travel at both ends of the runway tracks, (v) limit maximum load lifted in each gear ratio, (vi) prevent overloading the crane by limiting the lifted load in accordance with the operating radius, (vii) limit the maximum load lifted to the allowable line pull, and, (viii) limit pressures in hydraulic or pneumatic circuits; (b) load and radius indicating devices; and (c) such other switches and devices as the manufacturer specifies. O. Reg. 241/23, s. 16.	160. (1) A tower crane shall have automatic limit switches and automatic overload limit devices that prevent, (a) overloading at relative radii; (b) a load on the crane from reaching beyond the highest permissible position specified by the manufacturer; and (c) the trolley from reaching beyond the permissible travel limit specified by the manufacturer. O. Reg. 213/91, s. 160 (1). (2) In addition to automatic limit switches and overload limit devices, a tower crane shall have such other switches and devices as the manufacturer specifies. O. Reg. 213/91, s. 160 (2).	Refer to General guidance for the interim above, number 3 and 4

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
161(1) A competent worker shall perform operational tests on a tower crane to ensure that, (a) its limiting and indicating devices are installed and functioning in accordance with the manufacturer's specifications or an engineer's instructions; (b) all clearances and alignments are adequate; (c) gearing and all other moving parts are operating correctly; (d) controller switches and other control devices are operating correctly; (e) all limit switches are operating correctly; (f) all circuits, interlocks, and sequences of operation are operating in accordance with the manufacturer's specifications; (g) all protective devices are operating correctly; (h) the audio device near the base of travelling cranes is operating correctly; and (i) each motion of the crane operates in accordance with the manufacturer's specifications. O. Reg. 241/23, s. 17. (1.1) After the erection of a tower crane but before the tower crane is put into service, load	161. (1) A competent worker shall perform operational tests on a tower crane to ensure that its automatic limit switches and overload limit devices are installed and functioning in accordance with the manufacturer's specifications, if any. O. Reg. 213/91, s. 161 (1). (2) Operational tests shall be done, (a) after the tower crane is erected on the project and before it is used; and (b) at one-week intervals after the test under clause (a) while the crane is erected on the project. O. Reg. 213/91, s. 161 (2). (3) Overload limit devices for a tower crane shall be tested using test blocks designed for the purpose that have their weight clearly marked on them. O. Reg. 213/91, s. 161 (3). (4) The test blocks shall be kept on the project while the crane is erected. O. Reg. 213/91, s. 161 (4).	For ss. 161(1) and 161.1, refer to General guidance for the interim above, number 3 and 4

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
tests shall be performed on the tower crane in accordance with clause 6.3.3 of CSA Standard Z248-17. O. Reg. 241/23, s. 17. 161.1 While a tower crane is in use at a project its components shall be inspected by a competent worker in accordance with the manufacturer's instructions, but at a minimum the following inspections shall be done: 1. Every day, a competent worker shall, i. inspect all structural pins and keepers, ii. ensure all wedges in slab openings are in place and are tight, iii. ensure all guy lines and all guy line connections, if used, are adequate, iv. inspect mast bolts and anchor bolts, v. ensure all limit devices (except the line pull limit switch), signal lights, audio and visual indicators and brakes are operating correctly, vi. visually inspect all wire rope cable that winds on a drum or passes over a sheave that may reasonably be expected to be in use during the day's operation of the tower crane for damage or possible evidence of rope failure, vii. inspect grounding connections, viii. inspect the tracks for loose connections, proper drainage, subsidence and bogie wear on travelling cranes,		

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
ix. inspect rail clamps, if used, daily or each time their application is made, and x. inspect the turn table bolts. 2. Every week, a competent worker shall inspect, i. all trolley rollers, tracks, slewing rings and rollers, ii. all gear shafts and belt drives, iii. all sheaves, bushings and pins, iv. all guy ropes, pendant lines, cable clips, thimbles and ferrules, v. all jib backstops and boom stops, vi. all rope attachments, vii. all walkways, handrails and ladders, viii. the locations in the structure where accumulation of water could result in damage, to ensure that such water is drained, ix. any tie-ins to slabs or other bracing systems that are used, and x. any other components recommended by the manufacturer. 3. Every month, a competent worker shall inspect, i. all running ropes, in accordance with clause 6.5.1.3. of CSA Standard Z248-17 for all types of deterioration,		

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
ii. all mast and boom structures for cracks or buckling, iii. travelling cranes for bogie wear, iv. counterweight supports, v. brake adjustments for wear, vi. drums, sheaves, bearings, and mounts, and vii. any other components recommended by the manufacturer. O. Reg. 241/23, s. 18.		
162. (1) A tower crane boom shall be able to slew freely when the crane is unattended except when, (a) the boom may collide with another crane, a structure or another object; or (b) to slew freely would be contrary to the written procedures of the crane's manufacturer. O. Reg. 213/91, s. 162 (1). 162. (2) When a tower crane boom is not permitted to slew freely because of the circumstances in clauses (1) (a) or (1) (b), it shall be secured in accordance with the written procedures of the crane's manufacturer or written procedures prepared by an engineer. O. Reg. 241/23, s. 19. (3) Unattended or out of service cranes shall be secured in accordance with clauses 8.7.1 to 8.7.5 of CSA Standard Z248-17. O. Reg. 241/23, s. 19.	162. (1) A tower crane boom shall be able to slew freely when the crane is unattended except when, (a) the boom may collide with another crane, a structure or another object; or (b) to slew freely would be contrary to the written procedures of the crane's manufacturer. O. Reg. 213/91, s. 162 (1). (2) When a tower crane boom is not permitted to slew freely it shall be secured in accordance with the written procedures of the crane's manufacturer. O. Reg. 213/91, s. 162 (2).	For ss.162(2) and 162(3), refer to General guidance for the interim above, number 3 and 4

Amended Regulation	Previous Regulation	Interim guidance for "review engineers"
Note: On January 1, 2025, the Regulation is amended by adding the following section: (See: O. Reg. 241/23, s. 20) 162.1 When there are multiple cranes at a project, hoisting operations shall meet the clearance requirements set out in clause 8.10 of CSA Standard Z248-17. O. Reg. 241/23.		Pending guidance later in 2024 for regulations coming into effect in 2025
No change	163. (1) Subject to subsection (2), the operator's cabin of a tower crane shall be located on and attached to or positioned on the crane in accordance with the instructions of the crane's manufacturer for the specific model and configuration of the crane and in such a manner that in the event of a failure of the boom, the cabin will not be crushed against the mast. O. Reg. 213/91, s. 163 (1). (2) The operator's cabin shall not be located on or attached to the boom unless, (a) the cabin and its attachments have been specifically designed and fabricated for that purpose by the original manufacturer of the crane in accordance with good engineering practice; (b) the boom of the crane cannot affect or be affected by the operation of another crane or make contact with a structure or equipment; (c) the crane is not overlapped by any part of another crane; (d) because of specific site conditions, the location of the cabin on the boom provides greater visibility for the operator than does the manufacturer's standard cabin location;	N/A

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	(e) the means of access to the cabin or other locations on the boom is by a catwalk constructed of skid resistant expanded metal or similar material and fitted with solidly constructed guardrails and devices which provide fall protection for the operator; (f) the structural, environmental and ergonomic design of the cabin is equal to or greater than that of the crane's manufacturer's standard cabin design; and (g) the proposed location and attachment method provide a structural and mechanical safety factor equal to or greater than that of a cabin located on the crane mast or attached to the slewing ring. O. Reg. 213/91, s. 163 (2). (3) If the crane manufacturer specifies the location of the operator's cabin to be on the boom of a tower crane, the crane manufacturer shall provide to the owner of the crane a report for the specific model and specific configuration of crane on a project. O. Reg. 213/91, s. 163 (3). (4) The crane manufacturer's report shall include, (a) the crane load restrictions, reductions or modifications resulting from the effect of the cabin weight and its offset from the boom centreline; (b) the crane configuration and operating restrictions resulting from the effect of the cabin location and attachment method; and	

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	(c) engineering design drawings that include, (i) the structural and ergonomic design of the cabin, (ii) the location of the cabin on the boom, (iii) the attachment method including all fittings and hardware, and (iv) all means of access. O. Reg. 213/91, s. 163 (4).	
164. Unless otherwise specified by the manufacturer or approved by an engineer that a weight needs to be secured to a load block of an unattended tower crane to balance a crane that cannot slew freely, a load block of an unattended tower crane shall be left empty, at the top position and located at the minimum radius specified by the manufacturer or approved by an engineer. O. Reg. 241/23, s. 21.	164. A load block of an unattended tower crane shall be left empty, at the top position and located at minimum radius. O. Reg. 213/91, s. 164.	Refer to General guidance for the interim above, number 3 and 4
165. (1) The track foundation and track, including rails and ties, of a tower crane mounted on a travelling base using a travelling undercarriage shall be capable of carrying all loads to which it is likely to be subjected without deformation or settlement that affects the stability of the crane. O. Reg. 241/23, s. 21. (2) Design drawings for the track foundation and track, including rails and ties, shall be prepared by an engineer in accordance with the crane manufacturer's specifications. O. Reg. 241/23, s. 21. (3) The track foundation and track, including rails and ties, shall be inspected by an engineer in accordance with the performance standards for inspecting a tower crane as prescribed by Ontario Regulation 260/08 (Performance Standards) made under the Professional Engineers Act	165.(1) The track bed of a rail-mounted tower crane shall have a sound and rigid base capable of carrying all loads to which it is likely to be subjected without deformation or settlement which affects the stability of the crane. O. Reg. 213/91, s. 165 (1). (2) The undercarriage of a rail-mounted tower crane shall be fitted with rail clamps that can be firmly attached to the rails to lock the crane in position. O. Reg. 213/91, s. 165 (2). (3) A rail-mounted tower crane shall be locked in position on the rails when not in use. O. Reg. 213/91, s. 165 (3). (4) A rail-mounted tower crane shall have rail stops or bumpers that extend at least as high as the centre of the undercarriage wheels and that are securely attached to the rail at both ends. O. Reg. 213/91, s. 165 (4).	For all subsections other than 165(3), refer to General guidance for the interim above, number 3 and 4 Refer to General guidance for the interim above, number 1 and 2

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before a crane is placed on the track to confirm that the track foundation and track have been installed in accordance with the design drawings. O. Reg. 241/23, s. 21. (4) The undercarriage of a tower crane mounted on a travelling base shall be fitted with rail clamps that can be firmly attached to the rails to lock the crane in position. O. Reg. 241/23, s. 21. (5) A tower crane mounted on a travelling base using a travelling undercarriage shall be locked in position on the rails when not in use. O. Reg. 241/23, s. 21. (6) A tower crane mounted on a travelling base using a travelling undercarriage shall have rail stops or bumpers that extend at least as high as the centre of the undercarriage wheels and that are securely attached to the rail at both ends. O. Reg. 241/23, s. 21.		