
SENATE BILL 5900

State of Washington

68th Legislature

2024 Regular Session

By Senators Frame, Keiser, Nobles, Saldaña, and Valdez

Prefiled 12/22/23. Read first time 01/08/24. Referred to Committee on Labor & Commerce.

1 AN ACT Relating to construction crane safety; amending RCW
2 49.17.400, 49.17.420, and 49.17.440; adding new sections to chapter
3 49.17 RCW; adding a new section to chapter 36.70B RCW; and creating a
4 new section.

5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

6 NEW SECTION. **Sec. 1.** The legislature finds that there is
7 significant opportunity to improve worker and public safety in tower
8 crane assembly, disassembly, and reconfiguration. The Seattle tower
9 crane incident on April 27, 2019, killing two members of the public,
10 Sarah Pantip Wong and Alan Jay Justad, and two iron workers, Travis
11 Daniel Corbet and Andrew W. Yoder, exposed weaknesses in construction
12 safety efforts. Requirements for permitting, street closures, and
13 penalties are created to ensure that assembly, disassembly, and
14 reconfiguration of tower cranes proceed safely.

15 NEW SECTION. **Sec. 2.** A new section is added to chapter 49.17
16 RCW to read as follows:

17 Sections 3 through 9 of this act apply to construction crane
18 safety.

1 **Sec. 3.** RCW 49.17.400 and 2007 c 27 s 2 are each amended to read
2 as follows:

3 The definitions in this section apply throughout ((RCW 49.17.400
4 ~~through 49.17.430~~)) this section and sections 4 through 8 of this act
5 unless the context clearly requires otherwise.

6 (1) "Apprentice operator or trainee" means a crane operator who
7 has not met requirements established by the department under RCW
8 49.17.430.

9 (2) "Attachments" includes, but is not limited to, crane-attached
10 or suspended hooks, magnets, grapples, clamshell buckets, orange peel
11 buckets, concrete buckets, drag lines, personnel platforms, augers,
12 or drills and pile-driving equipment.

13 (3) "Certified crane inspector" means a crane inspector who has
14 been certified by the department.

15 (4) "Construction" means all or any part of excavation,
16 construction, erection, alteration, repair, demolition, and
17 dismantling of buildings and other structures and all related
18 operations; the excavation, construction, alteration, and repair of
19 sewers, trenches, caissons, conduits, pipelines, roads, and all
20 related operations; the moving of buildings and other structures, and
21 the construction, alteration, repair, or removal of wharfs, docks,
22 bridges, culverts, trestles, piers, abutments, or any other related
23 construction, alteration, repair, or removal work. "Construction"
24 does not include manufacturing facilities or powerhouses.

25 (5) "Crane" means power-operated equipment used in construction
26 that can hoist, lower, and horizontally move a suspended load.
27 "Crane" includes, but is not limited to: Articulating cranes, such as
28 knuckle-boom cranes; crawler cranes; floating cranes; cranes on
29 barges; locomotive cranes; mobile cranes, such as wheel-mounted,
30 rough-terrain, all-terrain, commercial truck mounted, and boom truck
31 cranes; multipurpose machines when ((~~configured~~)) used to ((~~hoist~~))
32 lift and lower ((~~by means of a winch or hook and~~)) a suspended load,
33 or horizontally move a suspended load; industrial cranes, such as
34 carry-deck cranes; dedicated pile drivers; service/mechanic trucks
35 with a hoisting device; a crane on a monorail; tower cranes, such as
36 fixed jib, hammerhead boom, luffing boom, and self-erecting; pedestal
37 cranes; portal cranes; overhead and gantry cranes; straddle cranes;
38 side-boom tractors; derricks; and variations of such equipment.

39 (6) "Crane operator" means an individual engaged in the operation
40 of a crane.

1 (7) "Professional engineer" means a professional engineer as
2 defined in RCW 18.43.020.

3 (8) "Qualified crane operator" means a crane operator who meets
4 the requirements established by the department under RCW 49.17.430.

5 (9) "Safety or health standard" means a standard adopted under
6 this chapter.

7 (10) "Assembly, disassembly, and reconfiguration" means the
8 assembly, disassembly, or reconfiguration of cranes covered under
9 this section and sections 4 through 8 of this act.

10 (11) "Assembly/disassembly work zone" is applicable to tower
11 cranes and means the total area that the crane and/or components or
12 attachments could reach if the crane were to collapse. Height of the
13 crane, length of boom, attachments, and loads, shall all be
14 considered to calculate the area, which can shrink or grow as the
15 work progresses.

16 (12) "Crane owner" means the company or entity that has custodial
17 control of a crane by virtue of lease or ownership.

18 (13) "Crane user" means the person or entity that arranges the
19 crane's location on a worksite and controls its use.

20 (14) "Prime contractor" means the person or entity that has
21 overall responsibility for the construction of the project, its
22 planning, quality, and completion and serves as the site supervisor.

23 (15) "Reconfiguration" means adding or subtracting components
24 that alter the height, length, or capacity of a crane. The set-up of
25 a crane is not considered reconfiguration.

26 NEW SECTION. Sec. 4. A new section is added to chapter 49.17
27 RCW to read as follows:

28 (1) The prime contractor must obtain a permit from the department
29 prior to performing or allowing the performance of any work involving
30 the operation, assembly, disassembly, or reconfiguration of a tower
31 crane. An exemption from the permit requirement may be allowed by the
32 department for exceptions as determined by the department. For
33 example, exceptions may be allowed for self-erecting and mobile
34 cranes if determined by the department.

35 (2) (a) The prime contractor must possess an active and
36 unrestricted permit, as required under subsection (1) of this
37 section, at all times a tower crane is present on a construction
38 worksite.

1 (b) At no times may a tower crane be operated, assembled,
2 disassembled, or reconfigured without a valid permit. If the permit
3 is suspended or revoked, the tower crane may not be used in
4 operations, nor can assembly, disassembly, or reconfiguration take
5 place until all deficiencies have been addressed and the permit is
6 reinstated by the department.

7 (3) The prime contractor must apply for a permit required under
8 this section. The application must include information needed to
9 ensure safety and establish clear responsibility for the operations,
10 assembly, disassembly, and reconfiguration of a tower crane. The
11 application must include, but is not limited to, the following:

- 12 (a) Name and unified business identifier number;
- 13 (b) Project site address;
- 14 (c) Contact person's name and contact information for the overall
15 project safety;
- 16 (d) Name of the prime contractor;
- 17 (e) Name of the crane owner;
- 18 (f) Name of crane user(s) at the worksite;
- 19 (g) Contractor registration number of the prime contractor;
- 20 (h) Name of the assembly/disassembly director;
- 21 (i) Listing of all parties to be involved with the assembly,
22 disassembly, and reconfigurations of the tower crane;
- 23 (j) Beginning January 1, 2027, a copy of the assembly/disassembly
24 director's national assembly/disassembly director certification from
25 an approved national accrediting organization;
- 26 (k) Number of employees for the applicant working at the worksite
27 at the time of the permit application;
- 28 (l) Project anticipated start and end dates;
- 29 (m) Crane manufacturer and crane model;
- 30 (n) An attestation from the prime contractor that the prime
31 contractor will comply with all applicable occupational safety and
32 health standards;
- 33 (o) An attestation from the prime contractor that the prime
34 contractor will comply with all manufacturer operation instructions
35 and guidelines for the subject crane and/or written procedures from a
36 registered professional structural engineer;
- 37 (p) Certification from the prime contractor that the prime
38 contractor will comply with all applicable requirements of this
39 chapter and all applicable safety standards and that the conditions,

1 practices, means, methods, operations, or processes used or proposed
2 to be used will be safe and healthful;

3 (q) Certification that the prime contractor will post at the
4 worksite the permit to operate, assemble, disassemble, and
5 reconfigure the tower crane, and the current crane certification;

6 (r) A written job plan as required under RCW 49.17.440; and

7 (s) Certification from the prime contractor that all assembly,
8 disassembly, and reconfigurations will be performed with a safety
9 representative for the tower crane distributor or manufacturer
10 present to assure that such processes and operations are performed in
11 accordance with manufacturer operation instructions and guidelines.

12 (4) Prior to issuing a permit, the department must complete a
13 safety permit conference to ensure all parties involved with the
14 assembly, disassembly, and reconfigurations of the tower crane are
15 aware of the requirements and responsibilities under the permit,
16 including manufacturer operation instructions and guidelines and
17 recommended best practices. The safety permit conference shall
18 require the presence of at least the following: Permit applicant,
19 assembly/disassembly director, safety representative for the tower
20 crane distributor or manufacturer, representatives of the employees
21 conducting the assembly, disassembly, or reconfiguration of the tower
22 crane and, if the project is a public works projects, representatives
23 of the governmental entity overseeing the project. During the safety
24 permit conference, at a minimum the following items must be
25 evaluated:

26 (a) The previous history of safety and health violations,
27 including those violations under other business identities during the
28 previous seven-year period for the permit applicant and all entities
29 required in the operation, assembly, disassembly, and reconfiguration
30 of the tower crane;

31 (b) The potential risks of the procedures, including those
32 addressed in the crane operating manual, as well as specific measures
33 to be taken by the permit applicant and all entities required in the
34 operation, assembly, disassembly, and reconfiguration of the tower
35 crane to minimize these risks;

36 (c) The written accident prevention programs of the permit
37 applicant and all entities involved in the operation, assembly,
38 disassembly, and reconfiguration of the tower crane;

39 (d) Applicable tower crane requirements under this chapter and
40 department rules and safety standards;

1 (e) The permit applicant's written job plan as required under RCW
2 49.17.440; and

3 (f) A written self-attestation of each crane operator's
4 experience and qualifications in the assembly, disassembly, and
5 reconfiguration of the tower crane being assembled, disassembled, or
6 reconfigured, including an attached copy of the crane operator's
7 license.

8 (5)(a) As a condition of a valid permit, the permit holder must
9 notify the department when there is a change to any crane user or the
10 crane assembly/disassembly director that is different from what was
11 listed in the original permit application.

12 (b) In addition, as a condition of a valid permit, the permit
13 holder must notify the department in advance of any assembly,
14 disassembly, or reconfiguration of the tower crane in a time
15 specified by the department and receive confirmation from the
16 department to proceed. The department may require additional
17 information or an update safety conference before issuing a
18 confirmation to proceed. The permit holder's notice must include, but
19 is not limited to:

20 (i) The type of work being performed, such as assembly,
21 disassembly, or reconfiguration of the tower crane; and

22 (ii) The names and contact numbers of all employers involved and
23 their role in performing the work.

24 (6)(a) As part of the permit process, the department shall
25 inspect permitted activities including but not limited to the tower
26 crane once assembled or reconfigured, and the department may inspect
27 permitted activities at any time.

28 (b) A permit holder may not operate the tower crane once
29 assembled or reconfigured unless approved by the department following
30 the initial inspection required under this subsection.

31 (c) Deficiencies that directly affect the structural integrity of
32 a tower crane must be addressed immediately to ensure the health and
33 safety of worksite personnel and the public. The tower crane may not
34 be operated until deficiencies are corrected.

35 (d) Deficiencies that directly affect the safe operation of a
36 tower crane must be corrected. The tower crane may not be operated
37 until deficiencies are corrected.

38 (7) The department must deny a permit if:

39 (a) The application fails to include all required elements;

1 (b) The safety conference is not held in compliance with the
2 requirements under this chapter; or

3 (c) The permit applicant has a record of safety and health
4 violations which indicates that the permit applicant may not be
5 maintaining a safe worksite or operation.

6 (8) The department must suspend or revoke a permit if the permit
7 holder:

8 (a) Has failed to comply with any requirement of this chapter or
9 applicable occupational health and safety standard or regulation
10 involving tower cranes;

11 (b) Fails to notify the department in advance of the assembly,
12 disassembly, or reconfiguration of a fixed tower crane as required
13 under this section;

14 (c) Fails to ensure that a safety representative for the
15 distributor or manufacturer of the tower crane was present during
16 assembly, disassembly, or reconfiguration;

17 (d) Fails to immediately correct deficiencies directly affecting
18 the structural integrity of a tower crane;

19 (e) Fails to correct deficiencies directly affecting the safe
20 operation of a tower crane; or

21 (f) Has refused the department entry to a worksite that contains
22 activity for which a permit is required.

23 (9) The department will provide written notice of the denial,
24 suspension, or revocation of a permit to the applicant, specifying
25 the reasons for such denial, suspension, or revocation.

26 (10)(a) A denial, suspension, or revocation of a permit may be
27 appealed to department within 15 working days after the denial,
28 suspension, or revocation order is communicated.

29 (b) The department shall hold a hearing at such place designated
30 by the director or authorized representative for the convenience of
31 the attending parties within 2 working days of the applicant's or
32 suspended or revoked permit holder's appeal.

33 (c) The applicant or suspended or revoked permit holder has the
34 burden of establishing that it qualifies for a permit.

35 (d) The director or authorized representative shall preside at
36 the hearing, which must be open to employees or employees'
37 representatives.

38 (e) The applicant or permit holder shall notify the employees or
39 employees' representatives of such hearing a reasonable time prior to
40 the hearing, but in no case later than 24 hours prior to the hearing.

1 Proof of such notification by the applicant or permit holder must be
2 made at the hearing.

3 (f) The director or authorized representative shall issue a
4 decision within 10 business days of the hearing. The director's or
5 authorized representative's decision may affirm the order, reverse
6 the order, or reverse the order with conditions to mitigate any
7 deficiencies.

8 (g) The director's or authorized representative's decision is
9 subject to appeal to the board of industrial insurance appeal under
10 RCW 49.17.140.

11 NEW SECTION. **Sec. 5.** A new section is added to chapter 49.17
12 RCW to read as follows:

13 An employer is guilty of a misdemeanor if the employer:

14 (1) Allows any person to engage in the assembly, disassembly, or
15 reconfiguration of a tower crane without direct supervision by an
16 assembly/disassembly director as required under this chapter;

17 (2) Allows any person to act as an assembly/disassembly director
18 of a tower crane when the person fails to meet all qualifications for
19 the role of assembly/disassembly director as set by the department;
20 or

21 (3) Allows a tower crane to be assembled, disassembled, or
22 reconfigured not in accordance with manufacturer operation
23 instructions and guidelines or written procedures from a registered
24 professional structural engineer.

25 **Sec. 6.** RCW 49.17.420 and 2007 c 27 s 4 are each amended to read
26 as follows:

27 (1) The department shall establish, by rule, a crane
28 certification program for cranes used in construction. In
29 establishing rules, the department shall consult nationally
30 recognized crane standards.

31 (2) The crane certification program must include, at a minimum,
32 the following:

33 (a) The department shall establish certification requirements for
34 crane inspectors, including an experience requirement, an education
35 requirement, a training requirement, and other necessary requirements
36 determined by the director;

37 (b) The department shall establish a process for certified crane
38 inspectors to issue temporary certificates of operation for a crane

1 and the department to issue a final certificate of operation for a
2 crane after a certified crane inspector determines that the crane
3 meets safety or health standards, including meeting or exceeding
4 national periodic inspection requirements recognized by the
5 department;

6 (c) Crane (~~owners~~) suppliers must ensure that cranes are
7 inspected and load proof tested by a certified crane inspector at
8 least annually and after any significant modification or significant
9 repairs of structural parts. If the use of weights for a unit proof
10 load test is not possible or reasonable, other recording test
11 equipment may be used. In adopting rules implementing this
12 requirement, the department may consider similar standards and
13 practices used by the federal government;

14 (d) Tower cranes and tower crane assembly parts must be inspected
15 by a certified crane inspector (~~both~~) prior to and following every
16 assembly (~~and following erection~~), disassembly, and reconfiguration
17 of a tower crane. Any issues identified throughout the procedure must
18 be logged with a mitigation plan. If the crane inspector is unable to
19 certify, the procedure may not commence;

20 (e) Before installation of a nonstandard tower crane base, the
21 engineering design of the nonstandard base shall be reviewed and
22 acknowledged as acceptable by an independent professional engineer;

23 (f) A certified crane inspector must notify the department and
24 the crane (~~owner~~) supplier if, after inspection, the certified
25 crane inspector finds that the crane does not meet safety or health
26 standards. A certified crane inspector shall not attest that a crane
27 meets safety or health standards until any deficiencies are corrected
28 and the correction is verified by the certified crane inspector; and

29 (g) Inspection reports including all information and
30 documentation obtained from a crane inspection shall be made
31 available or provided to the department by a certified crane
32 inspector upon request.

33 (3) Except as provided in RCW 49.17.410(2), any crane operated in
34 the state must have a valid temporary or final certificate of
35 operation issued by the certified crane inspector or department
36 posted in the operator's cab or station.

37 (4) Certificates of operation issued by the department under the
38 crane certification program established in this section are valid for
39 one year from the effective date of the temporary operating
40 certificate issued by the certified crane inspector.

1 (5) This section does not apply to maritime cranes regulated by
2 the department.

3 **Sec. 7.** RCW 49.17.440 and 2007 c 27 s 6 are each amended to read
4 as follows:

5 (1) The department of labor and industries shall adopt rules
6 necessary to implement ((RCW 49.17.400 through 49.17.430)) sections 3
7 through 8 of this act.

8 (2) The department shall adopt rules for tower crane assembly,
9 disassembly, and reconfiguration including, but not limited to:

10 (a) A process for determining when the department will be present
11 for the assembly, disassembly, and reconfiguration of a tower crane;

12 (b) Requirements that the prime contractors of construction
13 projects acknowledge all applicable safety orders, crane manufacturer
14 operation instructions and guidelines, and recommended practices
15 prior to the assembly, disassembly, and reconfiguration of a tower
16 crane;

17 (c) Requirements that the prime contractor of the construction
18 project ensure that a qualified safety representative of the
19 distributor or manufacturer will be present during assembly,
20 disassembly, and reconfiguration of a tower crane to assure that such
21 procedures are performed in accordance with manufacturer operation
22 instructions and guidelines;

23 (d) Requiring prime contractors of construction projects to
24 follow crane manufacturer operation instructions and guidelines or
25 alternate plans/instructions approved by a registered professional
26 engineer when assembling, disassembling, and reconfiguring a tower
27 crane;

28 (e) Requiring the presence of an assembly/disassembly director at
29 every tower crane assembly, disassembly, and reconfiguration to
30 directly oversee all work performed. The assembly/disassembly
31 director may not serve in any other capacity while directly
32 supervising a tower crane assembly, disassembly, or reconfiguration
33 procedure;

34 (f) Conducting programmed inspections of workplaces that contain
35 tower cranes;

36 (g) Establishing requirements for the maximum allowable wind
37 speed for tower crane assembly, disassembly, and reconfiguration;

38 (h) Establishing requirements for a written job plan that
39 addresses the requirements of the manufacturer's manual tailored to

1 the site conditions where the tower crane will be installed, as
2 appropriate for assembly, disassembly, and reconfiguration of a tower
3 crane;

4 (i) Establishing requirements that must be met to be considered a
5 competent and qualified assembly/disassembly director;

6 (j) Establishing effective stop work procedures that ensure the
7 authority of any employee, including employees of contractors, to
8 refuse or delay the performance of a task related to a tower crane
9 that the employee believes could reasonably result in serious
10 physical harm or death. The rules must ensure that employees who
11 exercise stop work authority are protected from intimidation,
12 retaliation, or discrimination; and

13 (k) Other rules necessary to implement sections 3 through 8 of
14 this act.

15 (3) The department shall set fees in rule to be charged for
16 permits issued under section 4 of this act in an amount sufficient to
17 cover the costs of administering sections 3 through 8 of this act.

18 NEW SECTION. Sec. 8. A new section is added to chapter 49.17
19 RCW to read as follows:

20 Tower crane manufacturers and distributors must make available to
21 the public certain information about each crane in a standard format.
22 The prescribed information, format, and distribution channel must be
23 determined by the department, and must include but not be limited to
24 all relevant manufacturer operation instructions and guidelines for
25 the safe use and maintenance of all tower cranes located in the state
26 of Washington. These materials must be written in the English
27 language with customary grammar and punctuation. A tower crane
28 manufacturer or distributor shall, without exception, provide such
29 materials to any person who requests access to such materials, and no
30 manufacturer or distributor may refuse such request. Information must
31 be provided within a reasonable time frame, as determined by the
32 department.

33 NEW SECTION. Sec. 9. A new section is added to chapter 36.70B
34 RCW to read as follows:

35 (1) When a worksite contains a tower crane that is over 36 feet,
36 the municipality in which the tower crane is located must, at a
37 minimum, do the following before any assembly, disassembly, or
38 reconfiguration of the tower crane:

1 (a) Align permit issuance for street closures with the definition
2 of assembly/disassembly work zone; and

3 (b) Require the permit holder to give notice to residents of
4 buildings within the assembly/disassembly work zone.

5 (2) For purposes of this section, "assembly, disassembly, or
6 reconfiguration" and "assembly/disassembly work zone" have the same
7 meanings as those terms are defined in RCW 49.17.400.

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