

**2SHB 2022 - S AMD 723**

By Senator Keiser

**ADOPTED AS AMENDED 02/23/2024**

1 Strike everything after the enacting clause and insert the  
2 following:

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

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

14 Sections 3 through 10 of this act apply to construction crane  
15 safety.

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

18 The definitions in this section apply throughout ((RCW 49.17.400  
19 through 49.17.430)) this section and sections 4 through 7 of this act  
20 unless the context clearly requires otherwise.

21 (1) "Apprentice operator or trainee" means a crane operator who  
22 has not met requirements established by the department under RCW  
23 49.17.430.

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

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

1 (4) "Construction" means all or any part of excavation,  
2 construction, erection, alteration, repair, demolition, and  
3 dismantling of buildings and other structures and all related  
4 operations; the excavation, construction, alteration, and repair of  
5 sewers, trenches, caissons, conduits, pipelines, roads, and all  
6 related operations; the moving of buildings and other structures, and  
7 the construction, alteration, repair, or removal of wharfs, docks,  
8 bridges, culverts, trestles, piers, abutments, or any other related  
9 construction, alteration, repair, or removal work. "Construction"  
10 does not include manufacturing facilities or powerhouses.

11 (5) "Crane" means power-operated equipment used in construction  
12 that can hoist, lower, and horizontally move a suspended load.  
13 "Crane" includes, but is not limited to: Articulating cranes, such as  
14 knuckle-boom cranes; crawler cranes; floating cranes; cranes on  
15 barges; locomotive cranes; mobile cranes, such as wheel-mounted,  
16 rough-terrain, all-terrain, commercial truck mounted, and boom truck  
17 cranes; multipurpose machines when (~~configured~~) used to (~~hoist~~)  
18 lift and lower (~~by means of a winch or hook and~~) a suspended load,  
19 or horizontally move a suspended load; industrial cranes, such as  
20 carry-deck cranes; dedicated pile drivers; service/mechanic trucks  
21 with a hoisting device; a crane on a monorail; tower cranes, such as  
22 fixed jib, hammerhead boom, luffing boom, and self-erecting; pedestal  
23 cranes; portal cranes; overhead and gantry cranes; straddle cranes;  
24 side-boom tractors; derricks; and variations of such equipment.

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

27 (7) "Professional engineer" means a professional engineer as  
28 defined in RCW 18.43.020.

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

31 (9) "Safety or health standard" means a standard adopted under  
32 this chapter.

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

36 (11) "Assembly/disassembly work zone" is applicable to tower  
37 cranes and means the total area that the crane and/or components or  
38 attachments could reach if the crane were to collapse. Height of the  
39 crane, length of boom, attachments, and loads, shall all be

1 considered to calculate the area, which can shrink or grow as the  
2 work progresses.

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

5 (13) "Prime contractor" means the person or entity that has  
6 overall responsibility for the construction of the project, its  
7 planning, quality, and completion and serves as the site supervisor.

8 (14) "Reconfiguration" means adding or subtracting components  
9 that alter the height, length, or capacity of a crane. The set-up of  
10 a crane is not considered reconfiguration.

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

13 (1) The department shall establish, by rule, a permit for the  
14 performance of any work involving the operation, assembly,  
15 disassembly, or reconfiguration of a tower crane, subject to the  
16 requirements of subsection (2) of this section.

17 (2) The tower crane permit established by rule under subsection  
18 (1) of this section must include the following provisions, at a  
19 minimum:

20 (a) Require a complete application, subject to the requirements  
21 of subsection (5) of this section;

22 (b) Require a safety conference prior to issuing the permit,  
23 subject to the requirements of subsection (6) of this section;

24 (c) Require the department to issue or deny a permit, subject to  
25 the requirements of subsections (7) and (8) of this section;

26 (d) Allow the department to suspend or revoke a permit, subject  
27 to the requirements of subsection (9) of this section;

28 (e) Require the department to provide written notice of denials,  
29 suspensions, or revocation of a permit specifying the reasons for the  
30 denial, suspension, or revocation;

31 (f) Allow appeals of a denial, suspension, or revocation of a  
32 permit, subject to the requirements of subsection (10) of this  
33 section;

34 (g) Require advance notification to the department of any  
35 assembly, disassembly, or reconfiguration of a tower crane and  
36 require confirmation from the department to proceed;

37 (h) Allow the department to require additional information or  
38 updated safety conferences before issuing a confirmation to proceed  
39 under (g) of this subsection;

1 (i) Require the department to inspect permitted activities for  
2 the tower crane once assembled, following any reconfiguration, or any  
3 other permitted activities; and

4 (j) Require that if the department identifies deficiencies that  
5 directly affect the structural integrity or safe operation of a tower  
6 crane, the deficiencies be addressed immediately, and the tower crane  
7 not be operated until the deficiencies are corrected.

8 (3) Beginning January 1, 2026, a prime contractor must obtain a  
9 permit from the department, as established under this section, prior  
10 to performing or allowing the performance of any work involving the  
11 operation, assembly, disassembly, or reconfiguration of a tower  
12 crane. An exemption from the permit requirement may be allowed by the  
13 department for exceptions as determined by the department.

14 (4) (a) The prime contractor must possess a permit, as required  
15 under subsection (3) of this section, at all times a tower crane is  
16 present on a construction worksite.

17 (b) If the prime contractor's permit is suspended or revoked, the  
18 tower crane may not be used in operations, nor can assembly,  
19 disassembly, or reconfiguration take place until all deficiencies  
20 have been addressed and the permit is reinstated by the department.

21 (5) The prime contractor must apply for a permit required under  
22 subsection (3) of this section in a manner and form prescribed by the  
23 department that must include, but is not limited to, the following:

24 (a) Name of the assembly/disassembly director;

25 (b) Beginning the later of January 1, 2027, or 12 months after  
26 the date an assembly/disassembly director program is approved by a  
27 nationally accredited organization recognized by the department, the  
28 application must include a copy of the assembly/disassembly  
29 director's national assembly/disassembly director certification; and

30 (c) Certification from the prime contractor that all assembly,  
31 disassembly, and reconfigurations will be performed with a technical  
32 representative of the distributor or manufacturer present to assure  
33 that such processes and operations are performed in accordance with  
34 manufacturer operation instructions and guidelines. The technical  
35 representative must be knowledgeable of assembly, disassembly, and  
36 reconfiguration procedures.

37 (6) (a) Prior to issuing a permit as required under subsection (3)  
38 of this section, the department must complete a safety permit  
39 conference, which may be conducted using remote videoconference  
40 technology, to ensure all parties involved with the assembly,

1 disassembly, and reconfiguration of the tower crane are aware of the  
2 requirements and responsibilities under the permit, including  
3 manufacturer operation instructions and guidelines, and recommended  
4 best practices. The department must establish the information and  
5 materials required to be submitted prior to the safety conference,  
6 the information and material required to be reviewed at the safety  
7 conference, and the required attendees at the safety conference.

8 (b) During the safety conference, at a minimum the following  
9 items must be evaluated:

10 (i) The potential risks of the procedures, including those  
11 addressed in the crane operating manual, as well as specific measures  
12 to be taken by the permit applicant and all entities required in the  
13 operation, assembly, disassembly, and reconfiguration of the tower  
14 crane to minimize these risks;

15 (ii) The written accident prevention programs of the permit  
16 applicant and all entities involved in the operation, assembly,  
17 disassembly, and reconfiguration of the tower crane;

18 (iii) The permit applicant's written job plan as required under  
19 RCW 49.17.440; and

20 (iv) For each employee directly involved with the permitted work,  
21 a review of their experience and qualifications, including a copy of  
22 the crane operator's license.

23 (7) The department shall issue a permit under this section within  
24 five working days of the initial project permit safety conference  
25 under subsection (6) of this section, if the application materials  
26 are complete and the materials presented by the prime contractor at  
27 the safety conference are complete. If the application or safety  
28 conference materials are not complete, the prime contractor must be  
29 given a written list, before leaving the safety conference, of the  
30 materials or information outstanding. The department shall then  
31 either issue the permit within five working days of receiving the  
32 outstanding materials or deny the permit in writing pursuant to the  
33 requirements under this chapter and rules established by the  
34 department. The department may issue conditional permits, including  
35 when specific information is not yet available.

36 (8) The department must deny a permit if the permit applicant has  
37 a record of safety and health violations which indicates that the  
38 permit applicant may not be maintaining a safe worksite or operation.

39 (9) The department must suspend or revoke a permit if the permit  
40 holder:

1 (a) Has failed to comply with applicable occupational health and  
2 safety standards or regulations involving tower cranes;

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

6 (c) Fails to ensure that a technical representative of the  
7 distributor or manufacturer of the tower crane who is knowledgeable  
8 of assembly, disassembly, and reconfiguration procedures was present  
9 during assembly, disassembly, or reconfiguration;

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

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

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

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

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

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

25 (d) The director or authorized representative shall preside at  
26 the hearing, which must be open to employees or employees'  
27 representatives.

28 (e) The applicant or permit holder shall notify the employees or  
29 employees' representatives of such hearing a reasonable time prior to  
30 the hearing, but in no case later than 24 hours prior to the hearing.  
31 Proof of such notification by the applicant or permit holder must be  
32 made at the hearing.

33 (f) The director or authorized representative shall issue a  
34 decision within 10 business days of the hearing. The director's or  
35 authorized representative's decision may affirm the order, reverse  
36 the order, or reverse the order with conditions to mitigate any  
37 deficiencies.

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

1       **Sec. 5.** RCW 49.17.420 and 2007 c 27 s 4 are each amended to read  
2 as follows:

3       (1) The department shall establish, by rule, a crane  
4 certification program for cranes used in construction. In  
5 establishing rules, the department shall consult nationally  
6 recognized crane standards.

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

9       (a) The department shall establish certification requirements for  
10 crane inspectors, including an experience requirement, an education  
11 requirement, a training requirement, and other necessary requirements  
12 determined by the director;

13       (b) The department shall establish a process for certified crane  
14 inspectors to issue temporary certificates of operation for a crane  
15 and the department to issue a final certificate of operation for a  
16 crane after a certified crane inspector determines that the crane  
17 meets safety or health standards, including meeting or exceeding  
18 national periodic inspection requirements recognized by the  
19 department;

20       (c) Crane owners must ensure that cranes are inspected and load  
21 proof tested by a certified crane inspector at least annually and  
22 after any significant modification or significant repairs of  
23 structural parts. If the use of weights for a unit proof load test is  
24 not possible or reasonable, other recording test equipment may be  
25 used. In adopting rules implementing this requirement, the department  
26 may consider similar standards and practices used by the federal  
27 government;

28       (d) Tower cranes and tower crane assembly parts must be inspected  
29 by a certified crane inspector (~~both~~) prior to and following every  
30 assembly (~~and following erection~~), disassembly, and reconfiguration  
31 of a tower crane. Any issues identified throughout the procedure must  
32 be tracked and corrected according to this chapter and applicable  
33 department rule;

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

37       (f) A certified crane inspector must notify the department and  
38 the crane owner if, after inspection, the certified crane inspector  
39 finds that the crane does not meet safety or health standards. A  
40 certified crane inspector shall not attest that a crane meets safety

1 or health standards until any deficiencies are corrected and the  
2 correction is verified by the certified crane inspector; and

3 (g) Inspection reports including all information and  
4 documentation obtained from a crane inspection shall be made  
5 available or provided to the department by a certified crane  
6 inspector upon request.

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

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

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

17 **Sec. 6.** RCW 49.17.440 and 2007 c 27 s 6 are each amended to read  
18 as follows:

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

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

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

26 (b) Requirements that the prime contractors of construction  
27 projects acknowledge all applicable safety orders, crane manufacturer  
28 operation instructions and guidelines, written procedures from a  
29 registered professional structural engineer, and recommended  
30 practices prior to the assembly, disassembly, and reconfiguration of  
31 a tower crane;

32 (c) Requirements that the prime contractor of the construction  
33 project ensure that a qualified technical representative of the  
34 distributor or manufacturer who is knowledgeable of assembly,  
35 disassembly, and reconfiguration procedures will be present during  
36 assembly, disassembly, and reconfiguration of a tower crane to assure  
37 that such procedures are performed in accordance with manufacturer  
38 operation instructions and guidelines;



1 (d) Requiring prime contractors of construction projects to  
2 follow crane manufacturer operation instructions and guidelines or  
3 alternate plans/instructions approved by a registered professional  
4 engineer when assembling, disassembling, and reconfiguring a tower  
5 crane;

6 (e) Requiring the presence of an assembly/disassembly director at  
7 every tower crane assembly, disassembly, and reconfiguration to  
8 directly oversee all work performed. The assembly/disassembly  
9 director may not serve in any other capacity while directly  
10 supervising a tower crane assembly, disassembly, or reconfiguration  
11 procedure;

12 (f) Conducting programmed inspections of workplaces that contain  
13 tower cranes;

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

16 (h) Establishing requirements for a written job plan that  
17 addresses the requirements of the manufacturer's manual tailored to  
18 the site conditions where the tower crane will be installed, as  
19 appropriate for assembly, disassembly, and reconfiguration of a tower  
20 crane;

21 (i) Establishing requirements that must be met to be considered a  
22 competent and qualified assembly/disassembly director including,  
23 beginning January 1, 2027, or 12 months after the date an applicable  
24 certification program is approved by a nationally accredited  
25 organization recognized by the department, certification from a  
26 national organization recognized by the department;

27 (j) Establishing effective stop work procedures that ensure the  
28 authority of any employee, including employees of contractors, to  
29 refuse or delay the performance of a task related to a tower crane  
30 that the employee believes could reasonably result in serious  
31 physical harm or death. The rules must ensure that employees who  
32 exercise stop work authority are protected from intimidation,  
33 retaliation, or discrimination; and

34 (k) Other rules necessary to implement sections 3 through 7 of  
35 this act.

36 (3) The department may set fees in rule to be charged for permits  
37 issued under section 4 of this act in an amount sufficient to cover  
38 the costs of administering section 4 of this act. Fees shall be  
39 deposited in the industrial insurance trust funds.

1        NEW SECTION.    **Sec. 7.**    A new section is added to chapter 49.17  
2    RCW to read as follows:

3        A tower crane manufacturer and distributor shall, without  
4    exception, provide all relevant manufacturer operation instructions  
5    and guidelines, including assembly, disassembly, and reconfiguration  
6    instructions, for the safe use and maintenance of all of the  
7    manufacturer's or distributor's tower cranes located in the state to  
8    any person who requests access to such materials. The prescribed  
9    information, format, and distribution channel must be determined by  
10   the department. These materials must be written in the English  
11   language with customary grammar and punctuation. Information must be  
12   provided within a reasonable time frame, as determined by the  
13   department.

14       NEW SECTION.    **Sec. 8.**    A new section is added to chapter 36.70B  
15    RCW to read as follows:

16        (1) When a worksite contains a tower crane, the local government  
17    in which the tower crane is located must, at a minimum, do the  
18    following before any assembly, disassembly, or reconfiguration of the  
19    tower crane:

20        (a) Align permit issuance for street closures with the definition  
21    of assembly/disassembly work zone when a tower crane is being  
22    assembled, disassembled, reconfigured, or otherwise not fully  
23    stabilized and secure;

24        (b) Issue permits in a timely manner allowing for sufficient time  
25    to safely conduct assembly, disassembly, or reconfiguration; and

26        (c) Provide notice to residents and occupants in buildings within  
27    the assembly/disassembly work zone in advance of any assembly,  
28    disassembly, or reconfiguration.

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

32       NEW SECTION.    **Sec. 9.**    A new section is added to chapter 49.17  
33    RCW to read as follows:

34        The provisions of this act do not apply to cranes used on marine  
35    vessels and at ports, terminals, and marine facilities for maritime  
36    activities regulated by the department.

1       **Sec. 10.** RCW 49.17.190 and 2011 c 96 s 40 are each amended to  
2 read as follows:

3       (1) Any person who gives advance notice of any inspection to be  
4 conducted under the authority of this chapter, without the consent of  
5 the director or his or her authorized representative, shall, upon  
6 conviction be guilty of a gross misdemeanor and be punished by a fine  
7 of not more than one thousand dollars or by imprisonment for not more  
8 than six months, or by both.

9       (2) Whoever knowingly makes any false statement, representation,  
10 or certification in any application, record, report, plan, or other  
11 document filed or required to be maintained pursuant to this chapter  
12 shall, upon conviction be guilty of a gross misdemeanor and be  
13 punished by a fine of not more than ten thousand dollars, or by  
14 imprisonment for not more than six months or by both.

15       (3) Any employer who willfully and knowingly violates the  
16 requirements of RCW 49.17.060, any safety or health standard  
17 promulgated under this chapter, any existing rule or regulation  
18 governing the safety or health conditions of employment and adopted  
19 by the director, or any order issued granting a variance under RCW  
20 49.17.080 or 49.17.090 and that violation caused death to any  
21 employee shall, upon conviction be guilty of a gross misdemeanor and  
22 be punished by a fine of not more than ~~((one hundred thousand  
23 dollars))~~ \$100,000 or by imprisonment for not more than six months or  
24 by both; except, that if the conviction is for a violation committed  
25 after a first conviction of such person, punishment shall be a fine  
26 of not more than ~~((two hundred thousand dollars))~~ \$200,000 or by  
27 imprisonment for not more than ~~((three hundred sixty-four))~~ 364 days,  
28 or by both.

29       (4) Any employer who has been issued an order immediately  
30 restraining a condition, practice, method, process, or means in the  
31 workplace, pursuant to RCW 49.17.130 or 49.17.170, and who  
32 nevertheless continues such condition, practice, method, process, or  
33 means, or who continues to use a machine or equipment or part thereof  
34 to which a notice prohibiting such use has been attached, shall be  
35 guilty of a gross misdemeanor, and upon conviction shall be punished  
36 by a fine of not more than ~~((ten thousand dollars))~~ \$10,000 or by  
37 imprisonment for not more than six months, or by both.

38       (5) Any employer who shall knowingly remove, displace, damage, or  
39 destroy, or cause to be removed, displaced, damaged, or destroyed any  
40 safety device or safeguard required to be present and maintained by

1 any safety or health standard, rule, or order promulgated pursuant to  
2 this chapter, or pursuant to the authority vested in the director  
3 under RCW 43.22.050 shall, upon conviction, be guilty of a  
4 misdemeanor and be punished by a fine of not more than (~~one thousand~~  
5 ~~dollars~~) \$1,000 or by imprisonment for not more than (~~ninety~~) 90  
6 days, or by both.

7 (6) An employer is guilty of a misdemeanor if the employer: (a)  
8 Allows any person to engage in the assembly, disassembly, or  
9 reconfiguration of a tower crane without direct supervision by a  
10 competent and qualified assembly/disassembly director as required  
11 under this chapter and defined by the department; or (b) allows a  
12 tower crane to be assembled, disassembled, or reconfigured not in  
13 accordance with manufacturer operation instructions, manufacturer  
14 guidelines, or written procedures from a registered professional  
15 structural engineer.

16 (7) Whenever the director has reasonable cause to believe that  
17 any provision of this section defining a crime has been violated by  
18 an employer, the director shall cause a record of such alleged  
19 violation to be prepared, a copy of which shall be referred to the  
20 prosecuting attorney of the county wherein such alleged violation  
21 occurred, and the prosecuting attorney of such county shall in  
22 writing advise the director of the disposition he or she shall make  
23 of the alleged violation.

24 NEW SECTION. Sec. 11. This act takes effect January 1, 2025."

**2SHB 2022 - S AMD 723**

By Senator Keiser

**ADOPTED AS AMENDED 02/23/2024**

25 On page 1, line 1 of the title, after "safety;" strike the  
26 remainder of the title and insert "amending RCW 49.17.400, 49.17.420,  
27 49.17.440, and 49.17.190; adding new sections to chapter 49.17 RCW;  
28 adding a new section to chapter 36.70B RCW; creating a new section;  
29 providing an effective date; and prescribing penalties."

EFFECT: (1) Requires the Department of Labor and Industries (L&I)  
to establish the tower crane permit by rule and establishes  
requirements for the permit rule making. Removes provisions related  
to matters covered by the permit rule making. Modifies the permit  
application requirements. Allows the required safety conference to be  
Code Rev/MFW:roy 12 S-5418.2/24 2nd draft

conducted using remote videoconference technology. Requires L&I to establish the materials, information, and attendees required for review at the safety conference. Removes the requirements for the safety conference except the requirements that the safety conference cover potential risks related to the tower crane, written accident prevention programs, the applicant's written job plan, and review of the experience and qualifications of the employees involved.

(2) Removes the requirement that L&I must deny the permit application if it fails to include all required elements or if the safety conference is not held. Removes the requirement that L&I provide written notice of permit denials, suspensions, or revocations. Requires prime contractors to, in addition to acknowledging applicable safety orders and operation instructions and guidelines, acknowledge applicable written procedures from a registered professional structural engineer. Requires L&I to include applicable national certifications as part of its requirements for assembly/disassembly directors.

--- END ---