2520 Venture Oaks Way, Suite 350 Sacramento, CA 95833 (916) 274-5721

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Title 8, Horizontal Sliding and Swinging Gates Section 3324

Advisory Committee Meeting Minutes

March 12, 2025 9:00 am – 4:00 pm

1515 Clay Street, Room 1304 Oakland, CA 94612

Chair

Kevin Goddard, Senior Safety Engineer

Attorney

Kelly Chau

Analyst

Tishara Ann Davis, Regulatory Analyst

Standard's Board Staff

Mille Barajas, Executive Officer Steve Smith, Principal Safety Engineer Ruth Ibarra, Regulations Manager Marlo Muira, Regulatory Analyst

Participants

Name	Organization
Robert Armstrong	Pacific Gas & Electric Company (PG&E)
Eric Berg	Cal/OSHA
Eric Bledsoe	Electronics Innovations Inc.
Aaron Castro	Modesto City Schools
Zach Eichenberger	Controlled Products Systems Groups
Rob Epstein	City of San Rafael Attorney
Ron Grubb	Phylmar Group
Don Jeppson	City of San Rafael Building Official
Sabrina Lockhart	California Attractions & Parks Association
Mike Paulmarie	California Department of Transportation
Dave Smith	Dave & Smith Company Inc.
Maged Soliman	San Bernardino County

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Name	Organization
Kevin Thompson	Cal/OSHA Reporter
Eric Quanbeck	Hummingbird Alliance
Elon Ullman	California Department of Public Health
Yancy Yap	Cal/ OSHA

Summary of Rulemaking Topic

On May 24, 2024, the Board granted Petition 605 to convene an advisory committee. The advisory committee will review section 3324 for horizontal sliding gates and consider a new section to address any unmitigated occupational hazards presented by swinging gates. At this advisory committee meeting, stakeholders and the public have an opportunity to discuss section 3324 as well as industry best practices, codes implemented by other regulatory agencies, and related consensus standards (e.g., ASTM F1184-23, ASTM F2200-20, ASTM F900-11, and UL 325) as they relate to horizontal sliding gates and swinging gates.

Economic & Fiscal Impact

The Board will conduct an assessment regarding the potential economic and fiscal impact of the proposed regulations.

Discussion

Section 3324. Horizontal Sliding and Swinging Gates

- 1. Review Section 3324(a).
 - a. Regulatory Text

 (a) Application. This section applies to gate panels exceeding 100-pounds or 12-feet wide or 4-feet tall.
 - b. Proposed Amendments

Maged Soliman, San Bernardino County: Replace "or" with "and".

Don Jeppson, City of San Rafael Building Official: Strike "100 lbs."(Agreement form Modesto City Schools, California Dept. of Public Health)

Kevin Goddard, OSHSB: Consider measurements only, Strike 100 lbs."

Yancy Yap, Cal/OSHA: Strike "or 12-feet wide or 4-feet tall."

Eric Berg, Cal/OSHA: Consider adding a table correlating gate materials to weight.

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c. Comments

Kevin Goddard, OSHSB: The requirements for sliding and swinging gates are combined into one standard. Section 3324 applies to all gates, including automated and non-automated.

Eric Berg, Cal/OSHA: Does section 3324(a) originate from an ASTM standard?

Kevin Goodard, OSHSB: Section 3324(a) was from a recommendation. The City of San Rafael also specifies something similar.

Don Jeppson, City of San Rafael Building Official: San Rafael defines the application of gate panels as "wider than 4 feet and more than 72 inches long."

Rob Epstein, City of San Rafael Attorney: "Or 4 feet tall" in section 3324(a) significantly broadens the scope of the regulation, which will invoke a considerable burden of documentation for inspections.

Yancy Yap, Cal/OSHA: Section 3324(a) resembles existing regulations for cattle gates.

Maged Soliman, San Bernardino County: Replacing "or" with "and" to ensure the gates meet all required criteria.

Don Jeppson, City of San Rafael Building Official: "Exceeding 100 lbs." may not accurately describe the weight of all applicable gates to the proposed regulations.

Yancy Yap, Cal/OSHA: The intent of section 3324(a) is to focus on hazardous gates that may cause harm when failing over. The terminology "exceeding 100 lbs." eliminates small gates. Steel standard density will dictate weight and size for applicable gates.

Eric Berg, Cal/OSHA: Injuries are correlated to the weight of the gate, not height.

Eric Quanbeck, Hummingbird Alliance: Another vital determining factor is the height of a gate falling at the speed of gravity in relation to the injured person's weight and the portion of the body hit. The defining factor for hazardous gates should not be exclusively based on weight. Height and width should remain in the proposed text.

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Ellon Ullman, California Department of Public Health: Several hazards other than the gate failing over invoke injury, such as a nip point with a motor.

Don Jeppson, City of San Rafael Building Official: Documenting dimensions is practical in the field. Therefore, San Rafael relies on height and width. Inspectors cannot weigh a gate in the field. Relying on material is also problematic; hybrid gates exist.

Dave Smith, Dave & Smith Company Inc.: The proposed regulations should address weight and height.

Rob Epstein, City of San Rafael Attorney: Despite cost factors, the proposed regulations should include all gates with section 3324(a) application.

Outcome: The proposed text will be amended.

Action Item: The Chair will consider the proposed amendments.

2. Review section 3324(a)(b).

a. Regulatory Text

(b) Definitions.

<u>Entrapment. The condition when a person is caught or held in a position that</u> increases the risk of injury.

Horizontal slide gate. A gate that travels in a horizontal straight-line path. Horizontal swing gate. A gate that swings in a horizontal arc in a horizontal plane.

Positive stop. A physical device that limits gate travel.

b. Proposed Amendments

Rob Epstein, City of San Rafael Attorney: Strike "when a person is caught or held in a position" from the definition of entrapment.

Zach Eichenberger, Controlled Products Systems Groups: Consider adopting the two definitions of "entrapment" from UL Standard 325.

Eric Quanbeck, Hummingbird Alliance: Consider defining "qualified person" and "gate". (Agreement from City of San Rafael Attorney)

Ruth Ibarra, OSHSB: Consider adding "A qualified person is defined in Title 8 section 3208."

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c. Comments

Kevin Goddard, OSHSB: The definition of "entrapment" originates from the ASTM F2200 standard.

Eric Quanbeck, Hummingbird Alliance: The definition of "positive stop" should include how the concept applies to a swinging gate.

Eric Bledsoe, Electronic Innovations: Most accidents are caused by unskilled employees. If an employer identifies an employee as qualified, that status should be verified. Most industry officials go through a certification process.

Zach, Eichenberger, Controlled Product Systems Groups: Certification is required for business owners, but not for installers. The current certifications are mandatory for Louisiana.

Yancy Yap Cal/OSHA: When a definition is broad, Cal/OSHA relies on the common definition within Webster. ASTM Standards F1184 and F2400 do not define gate, so defining "gate" is unnecessary.

Outcome: The proposed text will be amended.

Action Item: The Chair will consider the proposed amendments.

3. Review section 3324(a)(b)(c)-(B).

a. Regulatory Text

(c) Horizontal Sliding Gate Design, Construction, and Installation:
(a)(1) All horizontal sliding gates shall be equipped with positive stops or
devices that limit the gate travel to the designed fully open and closed positions.
(A) The positive stops or devices shall be designed, constructed, and installed to
withstand four times the working impact forces from gate opening and closing.

b. Proposed Amendments

Yancy Yap, Cal/OSHA: Strike "all" from the proposed text.

Dave Smith, Dave & Smith Company Inc.: Consider removing "four times". (Agreement from California Department of Public Health)

Yancy Yap, Cal/OSHA: The "four times" requirement should remain in the proposed text.

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c. Comments

Sabrina Lockhart, CA Attractions & Parks Association: California Labor Code for permanent and temporary amusement rides prevents positive stops for swinging gates to avoid accidents.

Eric Berg, Cal/OSHA: Consider adding a note stating this supersedes the California Labor Code for permanent and temporary amusement rides

Eric Quanbeck, Hummingbird Alliance: The text is an existing regulation. A note is not necessary. (Agreement from Cal/OSHA)

Eric Bledsoe, Electronic Innovations: A stop prevents the gate from mechanically overrunning the opening. Section 3324 subsection(a) is necessary.

Aaron Castro, Modesto City Schools: The language "withstand four times" is not applicable to all industries.

Yancy Yap, Cal/OSHA: A qualified engineer from the specified manufacturer will correctly calculate the language "withstand four times." The four times requirement originates from Construction Safety Orders, Article 24 Fall Protection, section 1617. The four times requirement is a margin of error for inexperienced engineers and an installation requirement. The intent of four times also addresses the embedment measure for the installation of positive stops and devices

Dave Smith, Dave & Smith Company Inc.: The impact force of a gate is difficult to pinpoint from an enforcement aspect. The language should place the burden on the designer.

Elon Ullman, California Department of Public Health: The industry utilizes a broad range of positive stops. The proposed regulation should establish the appropriate criteria for all positive stops.

Zach, Eichenberger, Controlled Product Systems Groups: The appropriate criteria for all positive stops should be descriptive, such as material, instead of only specifying "four times."

Outcome: The proposed text will be amended.

Action Item: The Chair will consider the proposed amendments.

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4. Review Section 3324(B)1.2.

- a. Regulatory Text
 - (B) The function of limiting gate travel to the designated fully opened and closed positions shall be:
 - 1. Designed by a registered professional engineer
 - 2. Constructed and installed with a redundancy such that failure of the primary positive stop or device component results in functioning of an independent secondary positive stop or device component.
- b. Proposed Amendments

Dave Smith, Dave & Smith Company Inc: Considering adding a non-mandatory appendix to address the specific requirements of positive stops.

Zach Eichenberger, Controlled Product Systems Groups: Consider collaborating with the American Society for Testing and Materials to develop a definition and guidelines for positive stops. (Agreement from Cal/OSHA)

c. Comments

Maged Soliman, San Bernardino County: Hiring a registered professional engineer is a significant concern for small business owners. Providing employees with a table of the appropriate requirements should be considered an alternative.

Yancy Yap, Cal/OSHA: What are stop devices made of?

Eric Bledsoe, Electronic Innovations: The material must be welded to the back of the gate or on the ground track for efficiency. (Agreement from Controlled Product Systems Groups)

Zach Eichenberger, Controlled Product Systems Groups: The safety standards regarding the material for positive stops are not specific.

Maged Soliman, San Bernardino County: Is an approximate labor and material estimate available for positive stops?

Zach Eichenberger, Controlled Product Systems Groups: The approximate labor and material costs for sliding gate positive stops are approximately \$100.00, and the positive stop cost for swinging gates is \$25.00 or less.

Outcome: The proposed text will be amended.

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Action Item: The Board will consider collaborating with the American Society for Testing and Materials and consider developing a definition and guidelines for positive stops.

5. Review Section 3324(B)1.2.(d)(1)(2)(3).

- a. Regulatory Text
 - (d) Horizontal Sliding Gate Maintenance, Inspection, and Repair:
 - (1) Horizontal sliding gates shall be removed from service when its primary positive stop device unit does not limit gate travel to the designated fully opened and closed positions.
 - (2) Gates missing positive stop device units or whose positive stop device unit does not limit gate travel to the designated fully opened and closed positions shall be locked-out to prevent function. Locked out gates shall be tagged with information describing the cause of removal from service and the contact information of the authorized person(s) for lock removal.
 - (3) Gates undergoing installation, repair, or service shall be locked-out to prevent function. Locked out gates shall be tagged with information describing the cause of removal from service and the contact information of the authorized person(s) for lock removal.

b. Proposed Amendments

Eric Bledsoe, Electronic Innovations: Consider adding "or if a hazard is detected".

Aaron Castro, Modesto City Schools: Consider adding "When the gate is not operating as constructed and designed, the gate shall be locked out and repaired.

Mike Paulmarie, California Department of Transportation: Consider adding a timeframe for a gate lockout.

Rob Epstein, City of San Rafael Attorney: Consider adding "Repair shall be completed within a specific timeframe, or the gate shall be decommissioned."

Eric Berg, Cal/OSHA: Consider adding a "Timely manner based on the severity of the hazard(s)."

Elon Ullman, California Department of Public Health: Replace "function" with "movement" in section 3324(B)1.2(d)(1)(2).

Robert Armstrong, PG&E: Consider adding "sufficiently secure to prevent unintended movement" in section 3324(B)1.2(d)(1)(2)(3).

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Dave Smith, Dave &Smith Company Inc.: Replace "authorized person" with "qualified person for gates".

Yancy Yap: Consider using Standard 3314(c)(1) regarding unintended movement during repairs.

c. Comments

Mike Paulmarie, California Department of Transportation: A timeframe for a gate lockout.

Aaron Castro, Modesto City Schools: A specific timeframe is unreasonable due to the manufacturing of parts. Instead, add a "reasonable timeframe."

Zach Eichenberger, Controlled Product Systems Groups: The parts described thus far are assembled on-site. Automatic Gates and safety devices are not assembled on-site.

Rob Epstein, City of San Rafael Attorney: There are too many factors to add a specific timeframe to the proposed regulations. The proposed text should stipulate a reasonable timeframe and state that the gate shall be decommissioned if not repaired.

Robert Armstrong, **PG&E**: A timeframe is arbitrary if a gate is locked out properly because a hazard would not be present.

Zach Eichenberger, Controlled Product Systems Groups: A gate that is locked out and tagged is secure.

Eric Berg, Cal: "Locked out" is described in Standard 3314 as "physically preventing the object from running, not just mechanical control".

Eric Bledsoe, **Electronic Innovations**: A restrictive key and padlock is a type of lockout mechanism used within the industry.

Yancy Yap, Cal/OSHA: Standard 3314 defines locked out as "The use of devices, positive methods and procedures, which will result in the effective isolation or securing of prime movers, machinery and equipment from mechanical, hydraulic, pneumatic, chemical, electrical, thermal or other hazardous energy sources."

Dave Smith, Dave & Smith Company Inc.: I oppose using the entire lockout definition from section 3314. The objective is to reiterate preventing uncontrolled

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movement. Consider incorporating some language from section 3314 in the proposed regulation concerning gates.

Yancy Yap, Cal/OSHA: Lockout and tag procedures alert workers during shift change of a hazard. Accidents have occurred when lockout and tag procedures are not used.

Robert Armstrong, PG&E: To prevent citations, the proposed text should differentiate that unintended movement will occur during repairs.

Outcome: The proposed text will be amended to address potential defective parts of the gate, as well as repair and decommissioning gates if necessary.

Action Item: The Chair will amend the proposed text. The proposed amendments will be considered.

6. Review Section 3324(B)1.2. (d)(1)(2)(3)(e)(1).

- a. Regulatory Text
 - (e) Requirements for All Horizontal Sliding And Swinging Gates:
 - (1) Have an effective number of devices or design elements that prevents a person from being entrapped or put at risk of injury from the gate or any of its components.
- b. Proposed Amendments

Rob Epstein, City of San Rafael Attorney: Consider using other language besides entrap such as "stuck, crush, or put at risk of entry."

Eric Berg, Cal/OSHA: Consider "recordable injury".

Aaron Castro, Modesto City Schools: Consider defining "recordable injury".

c. Comments

Yancy Yap, Cal/OSHA: The proposed text may duplicate section 4002(a).

Zach Eichenberger, Controlled Product Systems Groups: ASTM has existing language for "entrapment area."

Eric Berg: Consider utilizing some applicable language in section 4002.

Robert Armstrong, PG&E: The terminology "put at risk of entry" is too broad. Some gates that are aged and rusted present a risk of entry.

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Kelly Chau, OSHSB: Section 4002, Group 6. Power Transmission Equipment, Prime Movers, Machines, and Machine Parts, Article 41. Prime Movers and Machinery should not be referenced. It would not be clear to the regulated public that gates apply to that subsection.

Kevin Goddard, OSHSB: The language from section 4002 may be utilized, but the section will not be referenced.

Yancy Yap, Cal/OSHA: The definition of entrapment originates from automated gates, which are machinery. Therefore, section 4002 applies to automated gates.

Kelly Chau, OSHSB: Although section 4002 includes automated parts, the existing regulation is ambiguous concerning gates. Section 4002 should not be referenced or utilized for the proposed regulation. (Agreement from Dave & Smith Company Inc)

Robert Armstrong, **PG&E**: Incorporating some language from section 4002 for automated gates applies to the proposed regulations.

Kevin Goodard, OSHSB: The proposed language may be separated into sections based on automated and manual.

Dave Smith, Dave & Smith Company Inc.: The proposed regulations should be specific to gates. Incorporating existing regulations by reference will not benefit the regulated public.

Outcome: The proposed text will be amended.

Action Item: The proposed text will be amended to define entrapment and possibly recordable injury.

7. Review Section 3324(B)1.2.(d)(1)(2)(3)(e)(1)(2)(3).

- a. Regulatory Text
 - (2) Be designed, constructed, and installed to not fall over more than 45 degrees from the vertical plane. Gates shall be equipped with a redundancy component independent in function from its original supporting hardware, to prevent gates from falling more than 45 degrees from the vertical plane.
 - (3) Be designed, constructed, and installed such that their movement shall not be initiated by gravity and shall not result in continuous, unimpeded movement.
- b. Proposed Amendments

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Rob Epstein, City of San Rafael Attorney: Hummingbird Alliance: After "to not fall over", add "and strike a person".

Zach Eichenberger, Controlled Product Systems Groups: Consider adding "when detached from supporting hardware." (ASTM 1184, 2200)

Yancy Yap, Cal/ OSHA: Consider adding "wind" to section 3324(B)1.2.(d)(1)(2)(3)(e)(1)(2)(3).

c. Comments

Eric Quanbeck, Hummingbird Alliance: The language "not fall over more than 45 degrees" can present a hazard. The language implies that a gate can fall over 33 degrees.

Zach Eichenberger, Controlled Product Systems Groups: The language originates from ASTM. Within the industry, it is understood that a gate would not be allowed to get close to falling over at 45 degrees.

Yancy Yap, Cal/OSHA: The "45 degrees" allows room for error concerning the posts if a gate comes off the track.

Zach Eichenberger, Controlled Product Systems Groups: What is the intent of redundancy in the proposed text?

Eric Berg, Cal/OSHA: "Redundancy" refers to an independent secondary system that prevents accidents when the primary system fails.

Unidentified Committee Member 1:2832: Follow-up protection is to protect the normal operation of gates. If the gate goes off track, follow-up protection will not be applicable.

Zach Eichenberger, Controlled Product Systems Groups: Every gate is susceptible to wind. The existing ASTM standard is written similarly to the proposed section 3324(B)1.2. (d)(1)(2)(3)(e)(1)(2)(3).

Eric Bledsoe, **Electronic Innovations**: Gravity is the key factor to halt movement.

Outcome: The proposed text will be amended.

Action Item: The Chair will consider the proposed amendments.

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8. Review Section 3324(B)1.2.(d)(1)(2)(3)(e)(1)(2)(3)(4)(A)-(G).

- a. Regulatory Text
 - (4) Gates shall be inspected at least annually and documented with the following information:
 - (A) Name of person performing the inspection.
 - (B) Date of the inspection.
 - (C) Proper functioning of primary and secondary positive stop devices for horizontal sliding gates.
 - (D) Proper functioning of primary and secondary fall over 45-degree prevention devices.
 - (E) Nip points are guarded against contact.
 - (F) Balanced to prevent gravity-initiated movement and impeded to prevent continuous movement.
 - (G) Check for defects, corrosion, wear, and improper function off all gate components
- b. Proposed Amendments

Elon Ullman, California Department of Public Health: Add "qualified person" to subsection (4)(A). (Agreement from Dave & Smith Company Inc.)

Dave Smith, Dave & Smith Company Inc.: Consider adding an inspection form example in an Appendix.

Aaron Castro, Modesto City Schools: Consider defining "nip points."

c. Comments

Dave Smith, Dave & Smith Company Inc.: The language should address which gates specifically new versus old, and inspection frequency.

Eric Quanbeck, Hummingbird Alliance: The determining factor should be safety, not new versus old.

Zach Eichenberger, Controlled Product Systems Groups: Every gate is susceptible to wind. The existing ASTM standard is written similarly to the proposed section 3324(B)1.2. (d)(1)(2)(3)(e)(1)(2)(3).

Eric Bledsoe, **Electronic Innovations**: Gravity is the key factor to halt movement.

Outcome: The proposed language will be amended.

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Action Item: The Chair will define nip points and add specific language regarding inspection requirements.

9. Review Section 3324(B)1.2.(d)(1)(2)(3)(e)(1)(2)(3)(4)(A)-(G)(5).

a. Regulatory Text

(5) All gate hardware, its construction, and installation shall be of sufficient strength and durability to support four times the operating force of the gate and the demands of repeated open-close cycles.

b. Proposed Amendments

Dave Smith, Dave & Smith Company Inc.: Consider adding an appendix concerning the proposed text.

Aaron Castro, Modesto City Schools: Consider defining "nip points."

Yancy Yap: Change hardware to component."

c. Comments

Zach Eichenberger, Controlled Product Systems Groups: An engineer must assess "four times the operating force". It would be hard to determine all the hardware as described.

Eric Bledsoe, **Electronic Innovations**: Gravity is the key factor to halt movement.

Outcome: The proposed language will be amended.

Action Item: The Chair will consider the proposed amendments.

10. Review Section 3324(B)1.2.(d)(1)(2)(3)(e)(1)(2)(3)(4)(A)-(G)(5).

a. Regulatory Text

(b)(6) Positive stops or devices All gate components shall be constructed, installed and maintained by a qualified person to resist impact loads at least four times their operating force to safely contain sliding all gate components and operate safely within their designed stop limits.

(c)(7) Employees responsible for operating or inspecting horizontal sliding gates shall be instructed in the safe operation of such gates.

(d)(8) Repairs to gate hardware shall only be performed by a qualified person.

b. Proposed Amendments

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Dave Smith, Dave & Smith Company Inc.: Consider adding an appendix concerning the proposed text.

c. Comments

Zach Eichenberger, Controlled Product Systems Groups: The operating person may not be qualified, but the inspecting person should be qualified. However, requiring a qualified person for each company may pose a challenge.

Outcome: The proposed language will be amended.

Action Item: The Chair will consider the proposed amendments and reach out to committee members as needed.

NOTE: The Chair directed a discussion on alternatives to the proposed changes and the costs that could be associated with those changes. The content of those discussions was insufficient for rulemaking; therefore, it is not included in this document.

Closing Remarks

Please email written comments to Kevin J. Goddard, Committee Chair, at kgoddard@dir.ca.gov by March 31, 2025.

The Board appreciates your participation and time in the proposed rulemaking.