COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

AGENDA

SAFETY AND HEALTH CODES BOARD

PUBLIC HEARING

Main Street Centre
600 East Main Street
12th Floor Conference Room - North
Richmond, Virginia

Thursday, February 16, 2017

10:00 a.m.

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1. Call to Order

2. Items for Discussion:

   a) 16VAC 25-60, *et seq.*, Proposed Amendments to the Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program, Miscellaneous Changes; and

   b) 16VAC25-200, Proposed Regulation for the Virginia Voluntary Protection (VPP) Program

3. Opportunity for Public Comment on the Proposed Amendments

4. Adjournment

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VIRGINIA SAFETY AND HEALTH CODES BOARD

PUBLIC HEARING Briefing Package

February 16, 2017

16VAC-25-60, *et seq.*, Proposed Amendments to the Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program, Miscellaneous Changes

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption, as a proposed regulation of the Board, the attached proposed language to amend the Administrative Regulation for the VOSH Program, 16VAC25-60, *et seq*.

II. Summary of the Issues Under Consideration for Amendment

This proposed amendment addresses certain issues in regard to the Administrative Regulation of the VOSH Program:

- Allowing VOSH to enforce the requirements of the Virginia Department of Transportation (VDOT) Work Area Protection Manual in lieu of the federal Manual on Uniform Traffic Control Devices, i.e., Part VI of the MUTCD, 1988 Edition, Revision 3, or Part VI of the MUTCD, Millennium Edition, in any contract for construction, repair, or maintenance between either the Commonwealth or one of its local governments and an employer, where such contract stipulates employer compliance with the VDOT Work Area Protection Manual.

  Although the federal MUTCD has been adopted by OSHA and VOSH in §§1926.200 through 1926.202, a significant amount of the language provisions therein are merely recommended and

non-compulsory, i.e., the terms "should" or "may" are used rather than the mandatory "must" or "shall" for desired activities and procedures, and are therefore not enforceable in a compliance setting. To mitigate this problem, VDOT has adopted its own Work Area Protection Manual which contains fewer "shoulds" and "mays". VDOT routinely specifies language in its contracts with employers that requires employer compliance with the VDOT Work Area Protection Manual.

- Clarification of anti-retaliation safeguards for public sector employees, *16VAC25-60-30.* Allowing Commonwealth's Attorney to act on behalf of the Commissioner for public sector employers, *16VAC25-60-30.F.*

- Allowing the Commissioner to petition the Cabinet Secretary and then the Executive regarding resolution of anti-retaliation violations with a state agency, *16VAC25-60-30.G.*

- Virginia Freedom of Information Act requirements in regard to the Voluntary Protection Program, *16VAC25-60-90.*

- Change of section title(s) to reflect recent terminology changes in occupational discrimination or anti-retaliation cases, *16VAC25-60-110.*

- Clarifies that the Commissioner can request penalties or fines for occupational discrimination or anti-retaliation cases at the litigation stage, *16VAC25-60-110.*

- Title update to reflect naming change with regard to the Commissioner's authority to issue administrative subpoenas, *16VAC25-60-245*.

- Clarifying that the "burden of proof" in VOSH court cases is by a "preponderance of the evidence", *16VAC25-60-260*.

- Clarifying that the burden for proving an affirmative defense to a citation lies with the employer, *16VAC25-60-260*.

III. Basis, Purpose and Impact of the Proposed Rulemaking.

A. Basis.

The Safety and Health Codes Board is authorized by Title 40.1-22(5) to:

> "... adopt, alter, amend, or repeal rules and regulations to further, protect and promote the safety and health of employees in places of employment over which it has jurisdiction and to effect compliance with the federal OSH Act of 1970...as may be necessary to carry out its functions established under this title".
>
> "In making such rules and regulations to protect the occupational safety and health of employees, the Board shall adopt the standard which most adequately assures, to the extent feasible, on the basis of the best available

evidence that no employee will suffer material impairment of health or functional capacity".

"However, such standards shall be at least as stringent as the standards promulgated by the federal OSH Act of 1970 (P.L.91-596). In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experiences gained under this and other health and safety laws."

B. Purpose

The purpose of amending the Administrative Regulation is to make certain substantive, procedural and clarifying changes that reflect current VOSH policy:

1. Amendment to 16VAC25-60-130 allows VOSH to enforce the Virginia Department of Transportation (VDOT) Work Area Protection Manual in lieu of the federal Manual on Uniform Traffic Control Devices (Part VI of the MUTCD, 1988 Edition, Revision 3, or Part VI of the MUTCD, Millennium Edition) in any contract for construction, repair or maintenance between either the Commonwealth or one of its local governments and an employer, when such contract provides that the parties assure compliance with the VDOT Work Area Protection Manual. A housekeeping change to renumber all paragraphs in §§16VAC25-60-120 through 16VAC25-60-150 correctly is also proposed here.

2. Amendment to 16VAC25-60-30.D clarifies whistleblower anti-retaliation safeguards for public sector employees other than the Commonwealth and its agencies, e.g., political subdivisions such as city and county governments.

   The VOSH ARM defines the term "public employer" in §16VAC25-60-10 as:

   > *"Public employer"* means the Commonwealth of Virginia, including its agencies, authorities, or instrumentalities or any political subdivision or public body.

   The current wording of §16VAC25-60-30.D applies §40.1-51.2:2.A of the *Code of Virginia* to all public employers, i.e., both state and local government, but states that the Commissioner shall not bring an action in Circuit Court for a violation involving a public employer.[1] This language appears to conflict with paragraph §16VAC25-60-30.E's comprehensive application of §40.1-51.2:2. of the *Code of Virginia* to political subdivisions or public bodies, which allows the Commissioner to litigate such a violation in Circuit Court.

   Prior to proposing this amendment, it has been the Department's position that the right of the Commissioner to litigate a violation against a political subdivision or public body in

§16VAC25-60-30.E, takes precedence over §16VAC25-60-30.D, because paragraph E. is the more specific provision in that it specifically applies §40.1-51.2:2 to a subset of the broader category of the term "public employer". The proposed amendment will eliminate this conflict.

3. Amendment to 16VAC25-60-30.E applies §40.1-7 of the *Code of Virginia* to public employers other than the Commonwealth and its agencies, which will allow Commonwealth's Attorneys to act on behalf of the Commissioner in certain situations involving those public sector employers.

   Section 16VAC25-60-30.E provides that the following sections of the Code of Virginia apply to public employers other than the Commonwealth and its agencies:

   a. §40.1-49.4.F - Commissioner's authority to seek injunctive relief in certain situations.

   b. Commissioner's authority to obtain administrative search warrants under §§40.1-49.9 through -49.12 of the *Code of Virginia*.

4. Amendment to 16VAC25-60-30.G clarifies that when seeking to resolve whistleblower anti-retaliation cases involving the Commonwealth and its agencies, the Commissioner will petition the appropriate state official in a manner similar to that specified in 16VAC25-60-300.B, which outlines the process for resolving failure to abate issues involving the Commonwealth and its agencies.

   Section 16VAC25-60-300.B provides:

   > "B. Whenever the Commonwealth or any of its agencies fails to abate a violation within the time provided in an appropriate final order, the Commissioner of Labor and Industry shall normally petition for redress as follows: For violations in the Department of Law, to the Attorney General; for violations in the Office of the Lieutenant Governor, to the Lieutenant Governor; for violations otherwise in the executive branch, to the appropriate cabinet secretary; for violations in the State Corporation Commission, to a judge of the commission; for violations in the Department of Workers' Compensation, to the Chairman of the Workers' Compensation Commission; for violations in the legislative branch of government, to the Chairman of the Senate Committee on Commerce and Labor; for violations in the judicial branch, to the chief judge of the circuit court or to the Chief Justice of the Supreme Court. Where the violation cannot be timely resolved by this petition, the commissioner shall bring the matter to the Governor for resolution."

5. Amendment to 16VAC25-60-90 clarifying Virginia Freedom of Information Act (FOIA) requirements in regard to the Voluntary Protection Program, §40.1-49.13 of the *Code of Virginia*. The proposed amendment tracks federal OSHA's FOIA provisions for the federal VPP and provides that the following documents are releasable pursuant to an FOIA request:

   - Participant applications and amendments;
   - Onsite evaluation reports;
   - Annual self-evaluations;
   - Agency staff correspondence containing recommendations to the Commissioner;
   - Approval letters; and
   - Notifications to compliance staff removing the participants from the general inspection list, Related formal correspondence.

6. Amendment to 16VAC25-60-110 specifies that occupational safety and health anti-discrimination cases will also be referred to as "whistleblower" cases. This terminology change reflects changes implemented by federal OSHA to refer to employees who allege discriminatory practices by an employer when the employees have engaged in activities protected by §11(c) of the OSH Act of 1970, as "whistleblowers".

7. Amendment to 16VAC25-60-110 clarifies that the Commissioner may request penalties that would be paid to the employee for occupational whistleblower discrimination or anti-retaliation cases at the litigation stage pursuant to §40.1-51.2:2.

   Section 40.1-51.2:1 prohibits employers from discriminating against employees who have exercised their safety and health rights under Title 40.1. Section 40.1-51.2:2.A provides that the Commissioner shall bring an action in Circuit Court when it is determined that a violation of 40.1-51.2:1 has occurred and attempts at conciliation have failed. Section §40.1-51.2:2.A further provides that the court "...shall have jurisdiction, for cause shown, to restrain violations and order appropriate relief...."

   The amendment clarifies that the court's authority to "restrain violations and order appropriate relief" includes the ability to issue penalties or fines to the employer which would be payable to the employee.

8. Amendment to 16VAC25-60-245 clarifies that the Commissioner's authority in Subdivision 4 of § 40.1-6 of the Code of Virginia to take and preserve testimony, examine witnesses and administer oath constitutes an administrative subpoena power.

9. Amendment to 16VAC25-60-260 clarifies that the Commissioner's burden of proving the basis for a VOSH citation, penalty and order of abatement is by a "preponderance of the evidence". While the Virginia Court of Appeals has ruled that the burden of proof for the Commissioner in a VOSH case is by a preponderance of the evidence (Nat'l Coll. of Bus. &

Tech., Inc. v. Davenport, 57 Va. App. 677, 685, 705 S.E. 2d 519, 523 (2011)), the issue has not been definitively ruled on by the Virginia Supreme Court.

10. Amendment to 16VAC25-60-260 clarifies that the burden for proving an affirmative defense to a citation lies with the defendant. While it is generally accepted in case law that the burden for proving an affirmative defense to an OSHA/VOSH citation lies with the employer, it is not conclusively so. For instance the Fourth Circuit Court of Appeals has ruled that the burden of proving unforeseeable and unpreventable employee misconduct lies with the government (Ocean Electric Corp. v. Sec of Labor, 594 F. 2d 396 (4th Cir. 1979); and L.R. Willson & Sons, Inc. v. Occupational Safety and Health Review Comm'n, 134 F. 3d 1235 (4th Cir.), cert denied, 525 U. S. 962 (1998). While the Virginia Court of Appeals has ruled that the burden of proof on the issue of employee misconduct lies with the employer in Virginia (Magco of Maryland, Inc., v. Barr, 33 Va. App. 78, 531 S. E. 2d 614 (2000)), the issue has not been definitively ruled on by the Virginia Supreme Court.

C. Impact on Employers

Employer impact is discussed by item number listing from Section B. above:

Item 1. The amendment to 16VAC25-60-130, which allows VOSH to enforce the Virginia Department of Transportation (VDOT) Work Area Protection Manual in lieu of the federal Manual on Uniform Traffic Control Devices in certain situations, will subject employers to the potential for VOSH citations and penalties should they violate requirements in the Manual. However, by the terms of the regulation, such violations and penalties will only be issued in situations where the employer violates a contract freely and voluntarily entered into with a public sector body. Since such an employer is bound contractually to comply with the VDOT Work Area Protection Manual and incur the costs associated with compliance, the proposed regulation will place no additional financial burden on the employer for compliance with the VDOT requirements.

Items 2. - 6. No additional impacts on employers are anticipated.

Item 7. Employers could accrue increased costs in cases where the Commissioner files a complaint in Circuit Court alleging that an employer discriminated against a whistleblower employee should the Commissioner request and the Court grant additional penalties or fines under its authority to restrain violations and order appropriate relief. The fiscal impact is very limited as VOSH whistleblower court cases average less than one per year.

Items 8. - 10. No additional impacts on employers are anticipated.

D. **Impact on Employees**

Employees should be provided with additional safety and health protections in construction work zones as the amendment to 16VAC25-60-130 will permit VOSH to enforce the VDOT Work Area Protection Manual in certain situations in lieu of enforcing 1926.200 through 1926.202 which incorporate by reference Part VI of the Manual of Uniform Traffic Control Devices (MUTCD), 1988 Edition, Revision 3, or Part VI of the MUTCD, Millennium Edition.

Employees should benefit from the amendment to 16VAC25-60-110 that clarifies that the Commissioner may request penalties or fines that would be paid to the employee for occupational whistleblower discrimination or anti-retaliation cases at the litigation stage pursuant to §40.1-51.2:2. Although litigated cases are infrequent, the possibility that a court could restrain violations by adding additional fines or penalties should serve to deter discriminatory conduct by employers.

No adverse impacts to employees are anticipated from the adoption of the proposed amendments.

E. **Impact on the Department of Labor and Industry.**

Other than training DOLI employees on the changes to the regulation, no additional fiscal or other programmatic impacts are anticipated for the Department if the proposed amendments are adopted.

Footnote:

[1] Section §40.1-51.2:2.A of the *Code of Virginia* contains several provisions:

- The right of an employee who believes he or she has been discriminated against to file a complaint with the Commissioner of Labor and Industry.
- The complaint must be filed within 60 days after such violation occurs.
- Failure to file the complaint within 60 days bars the employee from seeking relief under §40.1-51.2:2.
- The Commissioner is authorized to conduct investigations of timely complaints received.
- If the Commissioner determines that a violation of the statute has occurred, settlement must be attempted.
- If voluntary settlement cannot be reached, the Commissioner will file litigation in Circuit Court.
- The Court has jurisdiction to "restrain violations and order appropriate relief, including rehiring or reinstatement of the employee to his former position with back pay plus interest at a rate not to exceed eight percent per annum."

Contact Person:

Mr. Jay Withrow
Director, Legal Support, VPP, ORA, OPP, and OWP
(804) 786-9873
withrow.jay@dol.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board consider for adoption, as a proposed regulation of the Board, the attached proposed amendments to 16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program, Miscellaneous Changes, in accordance with the authority of the Board under §40.1-22(5) and the requirements of the Administrative Process Act §2.2-4000, *et seq.*

The Department also recommends that the Board state in any motion it may make that it will receive, consider, and respond to petitions by any interested person with respect to reconsideration or revision of any regulation under the purview of the Board.

16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program, Miscellaneous Changes

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program

Part II

General Provisions

....

16VAC25-60-30. Applicability to public employers.

A. All occupational safety and health standards adopted by the board shall apply to public employers and their employees in the same manner as to private employers.

B. All sections of this chapter shall apply to public employers and their employees. Where specific procedures are set out for the public sector, such procedures shall take precedence.

C. The following portions of Title 40.1 of the Code of Virginia shall apply to public employers: §§ 40.1-10, 40.1-49.4 A(1), 40.1-49.8, 40.1-51, 40.1-51.1, 40.1-51.2, 40.1-51.2:1, 40.1-51.3, 40.1-51.3:2, and 40.1-51.4:2.

D. Section 40.1-51.2:2 A of the Code of Virginia shall apply to ~~public employers~~ the Commonwealth and its agencies except that the commissioner shall not bring action in circuit court in the event that a voluntary agreement cannot be obtained.

E. Sections 40.1-7, 40.1-49.4 F, 40.1-49.9, 40.1-49.10, 40.1-49.11, 40.1-49.12, and 40.1-51.2:2 of the Code of Virginia shall apply to public employers other than the Commonwealth and its agencies.

F. If the commissioner determines that an imminent danger situation, as defined in § 40.1-49.4 F of the Code of Virginia, exists for an employee of the Commonwealth or one of its agencies, and if the employer does not abate that imminent danger immediately upon request, the Commissioner of Labor and Industry shall forthwith petition the governor to direct that the imminent danger be abated.

G. If the commissioner is unable to obtain a voluntary agreement to resolve a violation of § 40.1-51.2:1 of the Code of Virginia by the Commonwealth or one of its agencies, the Commissioner of Labor and Industry shall petition for redress in the same manner as provided in ~~this chapter~~ 16VAC25-60-300.B.

....

16VAC25-60-90. Release of information and disclosure pursuant to requests under the Virginia Freedom of Information Act and subpoenas.

A. Pursuant to the Virginia Freedom of Information Act (FOIA) and with the exceptions stated in subsections B through H of this section, employers, employees and their representatives shall have access to information gathered in the course of an inspection.

B. Interview statements of employers, owners, operators, agents, or employees given to the commissioner pursuant to § 40.1-49.8 of the Code of Virginia are confidential. Pursuant to the requirements set forth in § 40.1-11 of the Code of Virginia, individuals shall have the right to request a copy of their own interview statements.

C. All file documents contained in case files which are under investigation, and where a citation has not been issued, are not disclosable until:

1. The decision has been made not to issue citations; or

2. Six months has lapsed following the occurrence of an alleged violation.

D. Issued citations, orders of abatement and proposed penalties are public documents and are releasable upon a written request. All other file documents in cases where a citation has been issued are not disclosable until the case is a final order of the commissioner or the court, except that once a copy of file documents in a contested case has been provided to legal counsel for the employer in response to a request for discovery, or to a third party in response to a subpoena duces tecum, such documents shall be releasable upon a written request, subject to the exclusions in this regulation and the Virginia Freedom of Information Act.

E. Information required to be kept confidential by law shall not be disclosed by the commissioner or by any employee of the department. In particular, the following specific information is deemed to be nondisclosable:

1. The identity of and statements of an employee or employee representative who has complained of hazardous conditions to the commissioner;

2. The identities of employers, owners, operators, agents or employees interviewed during inspections and their interview statements;

3. Employee medical and personnel records obtained during VOSH inspections. Such records may be released to the employee or his duly authorized representative upon a written, and endorsed request; and

4. Employer trade secrets, commercial, and financial data.

F. The commissioner may decline to disclose a document that is excluded from the disclosure requirements of the Virginia FOIA, particularly documents and evidence related to criminal investigations, writings protected by the attorney-client privilege, documents compiled for use in litigation and personnel records.

G. An effective program of investigation and conciliation of complaints of discrimination requires confidentiality. Accordingly, disclosure of records of such complaints, investigations, and conciliations will be presumed to not serve the purposes of Title 40.1 of the Code of Virginia, except for statistical and other general information that does not reveal the identities of particular employers or employees.

H. All information gathered through participation in consultation services or training programs of the department shall be withheld from disclosure except for statistical data which does not identify individual employers.

I. All information gathered through participation in voluntary protection programs of the department pursuant to §40.1-49.13 of the *Code of Virginia* shall be withheld from disclosure except for statistical data which does not identify individual employers and the following:

1. Participant applications and amendments, onsite evaluation reports, and annual self-evaluations;

2. Agency staff correspondence containing recommendations to the Commissioner, approval letters, notifications to compliance staff removing the participants from the general inspection list, and related formal correspondence.

~~I.~~J. The commissioner, in response to a subpoena, order, or other demand of a court or other authority in connection with a proceeding to which the department is not a party, shall not disclose any information or produce any material acquired as part of the performance of his official duties or because of his official status without the approval of the Commissioner of Labor and Industry.

~~J.~~K. The commissioner shall disclose information and statistics gathered pursuant to the enforcement of Virginia's occupational safety and health laws, standards, and regulations where it has been determined that such a disclosure will serve to promote the safety, health, and welfare of employees. Any person requesting disclosure of such information and statistics should include in his written request any information that will aid the commissioner in this determination.

....

16VAC25-60-110. Whistleblower discrimination; ~~Discrimination~~; discharge or retaliation; remedy for retaliation.

A. In carrying out his duties under § 40.1-51.2:2 of the Code of Virginia, the commissioner shall consider case law, regulations, and formal policies of federal OSHA. An employee's engagement in activities protected by Title 40.1 does not automatically render him immune from discharge or discipline for legitimate reasons. Termination or other disciplinary action may be taken for a combination of reasons, involving both discriminatory and nondiscriminatory motivations. In such a case, a violation of § 40.1-51.2:1 of the Code of Virginia has occurred if the protected activity was a substantial reason for the action, or if the discharge or other adverse action would not have taken place "but for" engagement in protected activity.

Employee whistleblower activities, protected by § 40.1-51.2:1 of the Code of Virginia include, but are not limited to:

1. Making any complaint to his employer or any other person under or related to the safety and health provisions of Title 40.1 of the Code of Virginia;

2. Instituting or causing to be instituted any proceeding under or related to the safety and health provisions of Title 40.1 of the Code of Virginia;

3. Testifying or intending to testify in any proceeding under or related to the safety and health provisions of Title 40.1 of the Code of Virginia;

4. Cooperating with or providing information to the commissioner during a worksite inspection; or

5. Exercising on his own behalf or on behalf of any other employee any right afforded by the safety and health provisions of Title 40.1 of the Code of Virginia.

Discharge or discipline of an employee who has refused to complete an assigned task because of a reasonable fear of injury or death will be considered retaliatory only if the employee has sought abatement of the hazard from the employer and the statutory procedures for securing abatement would not have provided timely protection. The condition causing the employee's apprehension of death or injury must be of such a nature that a reasonable person, under the circumstances then confronting the employee, would conclude that there is a real danger of death or serious injury and that there is insufficient time, due to the urgency of the situation, to eliminate the danger through resort to regular statutory enforcement. In addition, in such circumstances, the employee, where

possible, must also have sought from his employer, and been unable to obtain, an abatement of the dangerous condition.

Disciplinary measures taken by employers solely in response to employee refusal to comply with appropriate safety rules and regulations shall not be regarded as retaliatory action prohibited by § 40.1-51.2:1 of the Code of Virginia.

B. A complaint pursuant to § 40.1-51.2:2 of the Code of Virginia may be filed by the employee himself or anyone authorized to act in his behalf.

The investigation of the commissioner shall include an opportunity for the employer to furnish the commissioner with any information relevant to the complaint.

An attempt by an employee to withdraw a previously filed complaint shall not automatically terminate the investigation of the commissioner. Although a voluntary and uncoerced request from the employee that his complaint be withdrawn shall receive due consideration, it shall be the decision of the commissioner whether further action is necessary to enforce the statute.

The filing of a retaliation complaint with the commissioner shall not preclude the pursuit of a remedy through other channels. Where appropriate, the commissioner may postpone his investigation or defer to the outcome of other proceedings.

C. Section 40.1-51.2:2.A provides that the Commissioner shall bring an action in Circuit Court when it is determined that a violation of 40.1-51.2:1 has occurred and attempts at conciliating a voluntary agreement could not be obtained. Section §40.1-51.2:2.A further provides that the court "...shall have jurisdiction, for cause shown, to restrain violations and order appropriate relief...." The court's authority to "restrain violations and order appropriate relief" includes the ability to issue penalties or fines to the employer which would be payable to the employee. In determining the appropriate level of penalties or fines, the court may look to §§40.1-49.4.G, H, I and J.

Part III

Occupational Safety and Health Standards

16VAC25-60-120. General industry standards.

A. The occupational safety or health standards adopted as rules or regulations by the board either directly or by reference, from 29 CFR Part 1910 shall apply by their own terms to all employers and employees at places of employment covered by the Virginia State Plan for Occupational Safety and Health.

B. The employer shall comply with the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, unless specifically superseded by a more stringent corresponding requirement in 29 CFR Part 1910. The use of any machinery, vehicle, tool, material or equipment that is not in compliance with any applicable requirement of the manufacturer is prohibited, and shall either be identified by the employer as unsafe by tagging or locking the controls to render them inoperable or be physically removed from its place of use or operation.

16VAC25-60-130. Construction industry standards.

A. The occupational safety or health standards adopted as rules or regulations by the Virginia Safety and Health Codes Board either directly, or by reference, from 29 CFR Part 1926 shall apply by their own terms to all employers and employees engaged in either construction work or construction related activities covered by the Virginia State Plan for Occupational Safety and Health.

B. The employer shall comply with the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, unless specifically superseded by a more stringent corresponding requirement in 29 CFR Part 1926. The use of any machinery, vehicle, tool, material or equipment that is not in compliance with any applicable requirement of the manufacturer is prohibited, and shall either be identified by the employer as unsafe by tagging or locking the controls to render them inoperable or be physically removed from its place of use or operation.

~~1.~~C. For the purposes of the applicability of such Part 1926 standards, the key criteria utilized to make such a decision shall be the activities taking place at the worksite, not the primary business of the employer. Construction work shall generally include any building, altering, repairing, improving, demolishing, painting or decorating any structure, building, highway, or roadway; and any draining, dredging, excavation, grading or similar work upon real property. Construction also generally includes work performed in traditional construction trades such as carpentry, roofing, masonry work, plumbing, trenching and excavating, tunneling, and electrical work. Construction does not include maintenance, alteration or repair of mechanical devices, machinery, or equipment, even when the mechanical device, machinery or equipment is part of a pre-existing structure.

D. The employer shall comply with the Virginia Department of Transportation (VDOT) Work Area Protection Manual in lieu of the federal Manual on Uniform Traffic Control Devices (Part VI of the MUTCD, 1988 Edition, Revision 3, or Part VI of the MUTCD, Millennium Edition - referenced in 1926.200 through 1926.202), when working under any contract for construction, repair or maintenance between the employer and the Commonwealth, its agencies, authorities, or instrumentalities , or any political subdivision or public body; when such contract stipulates employer compliance with the VDOT Work Area Protection Manual in effect at the time of contractual agreement.

~~2.~~E. Certain standards of 29 CFR Part 1910 have been determined by federal OSHA to be applicable to construction and have been adopted for this application by the board.

~~3.~~F. The standards adopted from 29 CFR Part 1910.19 and 29 CFR Part 1910.20 containing respectively, special provisions regarding air contaminants and requirements concerning access to employee exposure and medical records shall apply to construction work as well as general industry.

16VAC25-60-140. Agriculture standards.

A. The occupational safety or health standards adopted as rules or regulations by the board either directly, or by reference, from 29 CFR Part 1910 and 29 CFR Part 1928 shall apply by their own terms to all employers and employees engaged in either agriculture or agriculture related activities covered by the Virginia State Plan for Occupational Safety and Health.

B. For the purposes of applicability of such Part 1910 and Part 1928 standards, the key criteria utilized to make a decision shall be the activities taking place at the worksite, not the primary business of the employer. Agricultural operations shall generally include any operation involved in the growing or harvesting of crops or the raising of livestock or poultry, or activities integrally related to agriculture, conducted by a farmer or agricultural employer on sites such as farms, ranches, orchards, dairy farms or similar establishments. Agricultural operations do not include construction work as described in subdivision 1 of 16VAC25-60-130, nor does it include operations or activities substantially similar to those that occur in a general industry setting and are therefore not unique and integrally related to agriculture.

C. The employer shall comply with the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, unless specifically superseded by a more stringent corresponding requirement in 29 CFR Part 1910 or 29 CFR Part 1928. The use of any machinery, vehicle, tool, material or equipment that is not in compliance with any applicable requirement of the manufacturer is prohibited, and shall either be identified by the employer as unsafe by tagging or locking the controls to render them inoperable or be physically removed from its place of use or operation.

16VAC25-60-150. Maritime standards.

A. The occupational safety or health standards adopted as rules or regulations by the board either directly, or by reference, from 29 CFR Part 1915, 29 CFR Part 1917, 29 CFR Part 1918 and 29 CFR Part 1919 shall apply by their own terms to all public sector employers and employees engaged in maritime related activities covered by the Virginia State Plan for Occupational Safety and Health.

B. The employer shall comply with the manufacturer's specifications and limitations applicable to the operation, training, use, installation, inspection, testing, repair and maintenance of all machinery, vehicles, tools, materials and equipment, unless specifically superseded by a more stringent corresponding requirement in Part 1915, 1917, 1918 or 1919. The use of any machinery, vehicle, tool, material or equipment that is not in compliance with any applicable requirement of the manufacturer is prohibited, and shall either be identified by the employer as unsafe by tagging or locking the controls to render them inoperable or be physically removed from its place of use or operation.

....

Part V

Inspections

16VAC25-60-245. Use of Administrative Subpoenas to take ~~Take~~ and preserve testimony, examine witnesses and administer oaths.

A. Subdivision 4 of § 40.1-6 of the Code of Virginia authorizes the commissioner, in the discharge of his duties, to take and preserve testimony, examine witnesses and administer oaths. In accordance with subdivision 5 of § 40.1-6 of the Code of Virginia, the Commissioner of Labor and Industry may appoint such representatives as are necessary to carry out the functions outlined in subdivision 4 of § 40.1-6 of the Code of Virginia. Such appointments shall be made in writing; identify the individual being appointed, the length of appointment, and the method of withdrawal of such appointment; and specify what duties are being prescribed.

B. The oath shall be administered by the commissioner's appointed representative to the witness as follows: "Do you swear or affirm to tell the truth."

C. Testimony given under oath shall be recorded by a court reporter.

D. Questioning of employers, owners, operators, agents or employees under oath shall be in private in accordance with subdivision 2 of § 40.1-49.8 of the Code of Virginia.

E. An employer's refusal to make an owner, operator, agent or employee available to the commissioner for examination under this section shall be considered a refusal to consent to the commissioner's inspection authority under § 40.1-49.8 of the Code of Virginia. Upon such refusal the commissioner may seek an administrative search warrant in accordance with the provisions contained in §§ 40.1-49.9 through 40.1-49.12 of the Code of Virginia, and obtain an order from the appropriate judge commanding the employer to make the subject owner, operator, agent or employee available for examination at a specified location by a date and time certain.

F. In accordance with § 40.1-10 of the Code of Virginia, if any person who may be sworn to give testimony shall willfully fail or refuse to answer any legal and proper question propounded to him concerning the subject of the examination under § 40.1-6 of the Code of Virginia, he shall be guilty of a misdemeanor. Such person, upon conviction thereof, shall be fined not exceeding $100 nor less than $25 or imprisoned in jail not exceeding 90 days or both. Any such refusal on the part of any person to comply with this section may be referred by the Commissioner of Labor and Industry to the appropriate attorney for the Commonwealth for prosecution.

....

Part VI
Citation and Penalty

16VAC25-60-260. Issuance of citation and proposed penalty.

A. Each citation shall be in writing and describe with particularity the nature of the violation or violations, including a reference to the appropriate safety or health provision of Title 40.1 of the Code of Virginia or the appropriate rule, regulation, or standard. In addition, the citation must fix a reasonable time for abatement of the violation. The citation will contain substantially the following: "NOTICE: This citation will become a final order of the commissioner unless contested within fifteen working days from the date of receipt by the employer." The citation may be delivered to the employer or his agent by the commissioner or may be sent by certified mail or by personal service to an officer or agent of the employer or to the registered agent if the employer is a corporation.

1. No citation may be issued after the expiration of six months following the occurrence of any alleged violation. The six-month time frame is deemed to be tolled on the date the citation is issued by the commissioner, without regard for when the citation is received by the employer. For purposes of calculating the six-month time frame for citation issuance, the following requirements shall apply:

a. The six-month time frame begins to run on the day after the incident or event occurred or notice was received by the commissioner (as specified below), in accordance with § 1-210 A of the Code of Virginia. The word "month" shall be construed to mean one calendar month in accordance with § 1-223 of the Code of Virginia.

b. An alleged violation is deemed to have "occurred" on the day it was initially created by commission or omission on the part of the creating employer, and every day thereafter that it remains in existence uncorrected.

c. Notwithstanding subdivision 1 b of this subsection, if an employer fails to notify the commissioner of any work-related incident resulting in a fatality or in the in-patient hospitalization of three or more persons within eight hours of such occurrence as required by § 40.1-51.1 D of the Code of Virginia, the six-month time frame shall not be deemed to commence until the commissioner receives actual notice of the incident.

d. Notwithstanding subdivision 1 b of this subsection, if the commissioner is first notified of a work-related incident resulting in an injury or illness to an employee(s) through receipt of an Employer's Accident Report (EAR) form from the Virginia Workers' Compensation Commission as provided in § 65.2-900 of the Code of Virginia, the six-month time frame shall not be deemed to commence until the commissioner actually receives the EAR form.

e. Notwithstanding subdivision 1 b of this subsection, if the commissioner is first notified of a work-related hazard, or incident resulting in an injury or illness to an employee(s), through receipt of a complaint in accordance with 16VAC25-60-100 or referral, the six-month time frame shall not be deemed to commence until the commissioner actually receives the complaint or referral.

B. A citation issued under subsection A to an employer who violates any VOSH law, standard, rule or regulation shall be vacated if such employer demonstrates that:

1. Employees of such employer have been provided with the proper training and equipment to prevent such a violation;

2. Work rules designed to prevent such a violation have been established and adequately communicated to employees by such employer and have been effectively enforced when such a violation has been discovered;

3. The failure of employees to observe work rules led to the violation; and

4. Reasonable steps have been taken by such employer to discover any such violation.

C. For the purposes of subsection B only, the term "employee" shall not include any officer, management official or supervisor having direction, management control or custody of any place of employment which was the subject of the violative condition cited.

D. The penalties as set forth in § 40.1-49.4 of the Code of Virginia shall also apply to violations relating to the requirements for record keeping, reports or other documents filed or required to be maintained and to posting requirements.

E. In determining the amount of the proposed penalty for a violation the commissioner will ordinarily be guided by the system of penalty adjustment set forth in the VOSH Field Operations Manual. In any event the commissioner shall consider the gravity of the violation, the size of the business, the good faith of the employer, and the employer's history of previous violations.

F. On multi-employer worksites for all covered industries, citations shall normally be issued to an employer whose employee is exposed to an occupational hazard (the exposing employer). Additionally, the following employers shall normally be cited, whether or not their own employees are exposed:

1. The employer who actually creates the hazard (the creating employer);

2. The employer who is either:

a. Responsible, by contract or through actual practice, for safety and health conditions on the entire worksite, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or

b. Responsible, by contract or through actual practice, for safety and health conditions for a specific area of the worksite, or specific work practice, or specific phase of a construction project, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or

3. The employer who has the responsibility for actually correcting the hazard (the correcting employer).

G. A citation issued under subsection F of this section to an exposing employer who violates any VOSH law, standard, rule or regulation shall be vacated if such employer demonstrates that:

1. The employer did not create the hazard;

2. The employer did not have the responsibility or the authority to have the hazard corrected;

3. The employer did not have the ability to correct or remove the hazard;

4. The employer can demonstrate that the creating, the controlling and/or the correcting employers, as appropriate, have been specifically notified of the hazards to which his employees were exposed;

5. The employer has instructed his employees to recognize the hazard and, where necessary, informed them how to avoid the dangers associated with it;

6. Where feasible, an exposing employer must have taken appropriate alternative means of protecting employees from the hazard; and

7. When extreme circumstances justify it, the exposing employer shall have removed his employees from the job.

H. The Commissioner's burden of proving the basis for a VOSH citation, penalty or order of abatement is by a preponderance of the evidence.

I. The burden of proof in establishing an affirmative defense to a VOSH citation resides with the employer.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

PUBLIC HEARING BRIEFING PACKAGE FOR

February 16, 2017

16VAC25-200, Proposed Regulation on Virginia Voluntary Protection Programs (VPP)

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption as a proposed regulation of the Board the attached 16VAC25-200, Virginia Voluntary Protection Programs (VPP).

II. Summary of Intended Regulatory Action

On March 19, 2015, the Virginia General Assembly approved the adoption of §40.1-49.13 of the *Code of Virginia* (*see Attachment 1*), which codified the VOSH Voluntary Protection Program (VPP). Subsection B. of §40.1-49.13 requires the Safety and Health Codes Board to adopt a VPP regulation and provides for the following:

> B. "The Safety and Health Codes Board shall adopt definitions, rules, regulations, and standards necessary for the operation of the Voluntary Protection Program in a manner that will promote safe and healthy workplaces throughout the Commonwealth. The standards for the VPP shall include the following requirements for VPP participation:
>
> 1. Upper management leadership and active and meaningful employee involvement;

2. Systematic assessment of occupational hazards;

3. Comprehensive hazard prevention, mitigation, and control programs;

4. Employee safety and health training; and

5. Safety and health program evaluation."

Subsection B. of §40.1-49.13 also provides that current participants may continue as such, but on and after July 1, 2016, their continued participation is conditional upon complying with the standards for participation ultimately adopted by the Safety and Health Codes Board.

The proposed regulation addresses the following issues:

- Scope, purpose, and applicability
- Definitions
- Categories of participation (Star, Merit, Challenge, etc.);
- Ways to participate (site-based in both general industry and construction, mobile workforce, VPP corporate);
- Application requirements;
- Comprehensive safety and health management system requirements;
- Certification and re-certification processes;
- On-site evaluations;
- Annual submissions;
- Other participation requirements;
- Enforcement activity at VPP sites; and
- Withdrawal or termination

III. Basis, Purpose and Impact of the Proposed Rulemaking

A. Basis

In Virginia, the Voluntary Protection Program was instituted in 1996 and is patterned after federal OSHA's VPP, which was originally created in 1982. The VOSH Program adopted VPP as a component of DOLI's larger mission to "...make Virginia a better place in which to work, live and conduct business...by promoting safe, healthful workplaces, best employment practices...." An employer's membership in VPP is recognized as the nation's and Virginia's highest award that can be bestowed by a government agency to an employer for excellence in occupational safety and health management systems.

The traditional site-based VPP has two levels of participation, Star worksite and Merit worksite. Star participants are a select group of worksites that have designed and implemented outstanding safety and health programs, including full and meaningful employee involvement. Merit participants are those that have demonstrated the potential and willingness to achieve Star status and are implementing planned actions

to fully meet the VPP Star requirements.

VPP also encompasses the following programs which provide interested employers and employees the opportunity to develop and implement exemplary safety and health management systems:

- Challenge – where employers guided by Challenge Administrators through a three stage process, which can prepare a company to achieve VPP Star status;
- Site-based Construction – for long term construction sites;
- Mobile Workforce – for employers that move from site to site; and
- Corporate - designed for corporate applicants.

On March 19, 2015, the Virginia General Assembly approved the amendment of the *Code of Virginia* by adding §40.1-49.13, which codifies the VPP.

B. Purpose

The purpose of the proposed change is to adopt those definitions, rules, regulations, and standards required by §40.1-49.13 of the *Code of Virginia*, and necessary for the operation of the Virginia VPP in a manner that will promote and recognize employer implementation of exceptional safety and health management systems throughout the Commonwealth. Historically, employer adoption of the VPP concepts has consistently resulted in injury and illness rates 50 % or more below that of the employer's industry as a whole.

C. Impact on Employers

VPP is a voluntary program so there is no negative impact on Virginia's employers that are not program participants. Program participants do incur costs associated with developing and implementing safety and health management systems that often exceed current requirements in VOSH laws, standards and regulations. However, the costs are incurred on a voluntary basis.

Employers that take proactive steps to improve safety and health protections for employees can realize significant savings and avoided costs associated with workplace injuries and illnesses. In 2015, the National Safety Council reported that the average cost of a medically consulted occupational injury in 2013 was $42,000. In 2013, the Washington Post reported that the average net profit margin for all U.S. companies was 8.2 percent. With a net profit margin of 8.2%, a business would need to generate $512,195 in new revenues to simply pay for the costs of that single injury.

The Department tracks injury and illness rates for each VPP site on an annual basis. Virginia VPP participating worksites average more than 50 % lower injury and illness rates than their non-participating counterparts in their respective industries. Virginia VPP helps employers identify and correct occupational hazards in a proactive and cooperative approach that will reduce or eliminate debilitating injuries, illnesses and

fatal accidents suffered by Virginia's employees. Nationally, VPP sites' recordable injury and illness rates for VPP sites have averaged 50 % below that of other worksites in their industry.

VPP Star sites regularly report decreased bottom line expenditures, which are associated with both drastically reduced injury and illness rates, and improved productivity and employee morale. Reducing private sector employer costs associated with injuries, illnesses and fatal accidents enhances a company's economic viability and competitiveness, and increases available capital for reinvestment, expansion and new hiring.

Virginia VPP worksites have demonstrated over many years that VPP participation will:

- substantially reduce workplace injuries and illnesses;
- reduce workers' compensation costs;
- result in a more highly trained and experienced workforce;
- improve company productivity; and
- promote competiveness in the marketplace.

VPP is available to private and public sector employers of all sizes. For example, it includes the Dominion Power North Anna nuclear facility, which has almost 1,000 employees as well as Veritiv-Lynchburg with approximately ten employees. A small sample of other participants in the Virginia VPP include: Delta Airlines, Miller Coors, Raytheon, Eastman Chemical Company, and International Paper.

Virginia was the first VPP in the country to recognize state correctional institutions as VPP members – Augusta and Lunenburg Correctional Facilities of the Virginia Department of Corrections (VADOC). Both facilities have consistently incurred lower workers' compensation costs than other comparable Virginia Department of Corrections (VADOC) sites and have significantly lower injury and illness rates than the national rates for correctional facilities.

VADOC, a participant in the VPP program since 2001, estimates that the Commonwealth saved approximately $1.5 million at Lunenburg Correctional Center (LCC) between 2002 and 2006. VADOC further estimates that since 2001, based on a 2009 comparative analysis, the five other medium security dormitory-design Virginia correctional centers achieved similar results in VPP to that of LCC. The potential savings may have been approximately $3 million in direct (insured) costs and $10.4 million in indirect costs, for a total savings of $13.4 million. With the program's continued expansion into other state facilities, the Commonwealth could expect increased savings. Other state agencies, as well as local governments, could also experience these benefits from participating in VPP.

Virginia's VPP has recognized a total of 66 Star worksites since the program began in 1996. Currently, there are a total of 45 active Star sites providing exceptional worksite safety and health protections for more than 11,000 employees through Virginia's VPP. [*Virginia Capitol Connections, Winter 2015*, p.12]. The number of Star worksites in the

program fluctuates for a variety of reasons, including a site's withdrawal because injury and illness rates become too high; a business gets downgraded; a site is purchased by another company; or a business site closes.

Virginia VPP sites host VPP Best Practices Days which annually provide occupational safety and health training and education to current and prospective VPP members, state and local government entities, as well as other selected invitees. Recent subjects covered include:

- electrical safety;
- lockout/tagout protection;
- workplace violence and active shooter scenarios;
- ergonomics;
- fall protection in general industry;
- machine guarding;
- safety and health wellness fairs; and
- forklift safety.

D. Impact on Employees

VPP participation benefits employees by enhancing workplace safety and health practices; reducing workplace injuries and illnesses and the associated workers' compensation and medical costs; and improving employee morale.

VPP participation encourages active employee involvement in safety and health, which can lead to higher quality production, increased productivity and better general housekeeping. Employee suggestions translate into improved efficiency and other exceptional business metrics. [*Virginia Capitol Connections, Winter 2015*, p. 13]

The Virginia VPP tracks injury and illness rates at each VPP site on an annual basis. Virginia VPP participating worksites average over 50 % lower injury and illness rates than their counterparts in their respective industries.

E. Impact on the Department of Labor and Industry

Expanding Virginia's VPP will promote safer and healthier work places in Virginia by using a proactive, cooperative approach between employers, employees and Virginia government, rather than a punitive one. The Department benefits from this cooperative relationship by having exemplary sites to lead and guide other employers to improve their occupational safety and health performance.

Once a site has qualified and successfully submitted an application for consideration in the VPP Star program, final approval requires an intensive weeklong onsite evaluation by a VOSH VPP team. Final approval is determined by DOLI's Commissioner. VPP participants are exempt from regular VOSH programmed compliance inspections while they maintain their VPP status. Each VPP member site is required to be re-certified by

an onsite evaluation team of safety and health professionals every 3-4 years to remain in VPP.

Adopting a regulation for the operation of VPP and establishing a formal and permanent structure for VPP will also assist DOLI in its pursuit of several bold initiatives it hopes will greatly enhance safety and health protections for Virginia's workers.

First, DOLI is using VPP staffing resources to work cooperatively with the Virginia Associated General Contractors (AGC) to establish a pilot strategic partnership, known as Virginia BEST (**B**uilding **E**xcellence in **S**afety and **H**ealth **T**raining) to encourage and recognize construction contractors who voluntarily implement extensive safety and health management systems to benefit construction workers. Virginia BEST is a modified version of the Challenge concept where employers are guided by Challenge Administrators through a three stage process to achieving exemplary safety and health management systems.

Second, DOLI is developing a pilot strategic partnership with the Virginia Department of Corrections (VADOC) to substantially increase VADOC participation in VPP. The VADOC partnership will use Challenge concepts as well.

Finally, DOLI is working to expand the scope of VPP by implementing a Virginia unique version of the OSHA Challenge Program which would establish three levels of participation for employers wishing to enhance their safety and health management systems.

Contact Person:

Mr. Jay Withrow
Director, Legal Support, VPP, ORA, OPP and OWP
(804) 786-9873
withrow.jay@dol.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board consider for adoption as a proposed regulation of the Board, the attached draft of 16VAC25-200, Virginia Voluntary Protection Programs in accordance with the authority of the Board under §40.1-22(5) and the requirements of the Administrative Process Act §2.2-4000, *et seq.*

The Department also recommends that the Board state in any motion it may make that it will receive, consider, and respond to petitions by any interested person with respect to reconsideration or revision of any regulation under the purview of the Board.

ATTACHMENT 1

VIRGINIA ACTS OF ASSEMBLY -- 2015 SESSION

CHAPTER 339

An Act to amend the Code of Virginia by adding a section numbered 40.1-49.13, relating to Safety and Health Codes Board; establishment of a Voluntary Protection Program.

[H 1768] Approved March 19, 2015

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding a section numbered 40.1-49.13 as follows:

§ 40.1-49.13. Voluntary Protection Program.

A. As used in this section:

"Model system" means an exemplary, voluntarily implemented worker safety and health management system that (i) implements comprehensive safety and health programs that exceed basic compliance with occupational safety and health laws and regulations and (ii) meets the VPP standards adopted by the Safety and Health Codes Board pursuant to subsection B.

"Voluntary Protection Program" or "VPP" means a program under which the Commissioner recognizes and partners with workplaces in which a model system has been implemented.

B. The Safety and Health Codes Board shall adopt definitions, rules, regulations, and standards necessary for the operation of the Voluntary Protection Program in a manner that will promote safe and healthy workplaces throughout the Commonwealth. The standards for the VPP shall include the following requirements for VPP participation:

1. Upper management leadership and active and meaningful employee involvement;

2. Systematic assessment of occupational hazards;

3. Comprehensive hazard prevention, mitigation, and control programs;

4. Employee safety and health training; and

5. Safety and health program evaluation.

C. Applications for participation in the VPP shall be submitted by the workplace's management. Applications shall include documentation establishing to the satisfaction of the Commissioner that the employer meets all standards for VPP participation.

D. The Department shall provide for onsite evaluations by VPP evaluation teams of each workplace that has applied to participate in the VPP to determine that the applicant's workplace complies with the standards for VPP participation.

E. A workplace's continued participation in the VPP shall be conditioned on compliance with the standards for VPP participation, as determined by periodic onsite evaluations by VPP evaluation teams.

F. During periods in which a workplace is a participant in the VPP, the workplace shall be exempt from inspections or investigations under § 40.1-49.4; however, this exception shall not apply to inspections or investigations of the workplace arising from complaints, referrals, fatalities, catastrophes, nonfatal accidents, or significant toxic chemical releases.

2. That any workplace that was a participant in the uncodified voluntary protection program conducted by the Department of Labor and Industry prior to July 1, 2015, may continue as a participant in the Voluntary Protection Program established pursuant to § 40.1-49.13 of the Code of Virginia, as created by this act. On and after July 1, 2016, the continued participation by such a workplace in the Voluntary Protection Program shall be conditioned upon the workplace's compliance with the standards for participation in the Voluntary Protection Program adopted by the Safety and Health Codes Board pursuant to subsection B of § 40.1-49.13.

16VAC25-200, Proposed Regulation on
Virginia Voluntary Protection Programs

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-200

16VAC25-200-10. Scope, purpose, and applicability.

A. Scope.

In accordance with the requirements of §40.1-49.13 of the *Code of Virginia*, this regulation establishes requirements for Virginia Occupational Safety and Health (VOSH) Voluntary Protection Programs (VPP) as established by the Commissioner and based on the following principles:

1. Participation in VPP is strictly voluntary. The applicant who wishes to participate freely submits information to VOSH on its safety and health management system and opens itself to agency review.

2. VPP emphasizes trust and cooperation between VOSH, the employer, employees, and employee representatives and is complementary to the agency's enforcement activity, but does not take its place. This partnership enables the agency to remove participating sites from programmed inspection lists, allowing it to focus inspection resources on establishments in greater need of agency oversight and intervention. However, VOSH will continue to investigate valid employee safety and health complaints, referrals, fatalities, accidents, and other significant events at VPP participant sites, in accordance with VOSH enforcement procedures.

3. VPP participants develop and implement a systems approach to effectively identify, evaluate, prevent, and control occupational hazards so that injuries and illnesses to employees are prevented. Participants are often on the leading edge of hazard prevention methods and technology, and serve as models of safety and health excellence, demonstrating the benefits of a systems approach to worker protection.

4. VPP participants are selected based on their written safety and health management system, the effective implementation of this system over time, and their performance in meeting VPP requirements. Not all worksites are appropriate candidates for VPP. At qualifying sites, all personnel are involved in the effort to maintain rigorous, detailed attention to safety and health. VPP participants often mentor other worksites interested in improving safety and health, participate in safety and health outreach and training initiatives, share best practices and promote excellence in safety and health in their industries and communities.

5. VPP participants must demonstrate continuous improvement in the operation and impact of their safety and health management systems. Annual VPP self-evaluations help participant's measure success, identify areas needing improvement, and determine needed changes. VOSH on-site evaluation teams verify this improvement.

6. Participation in VPP does not diminish employee and employer rights and responsibilities under VOSH laws, standards and regulations.

7. The provisions of this regulation are intended to provide solely for the safety, health and welfare of employees and the benefits thereof shall not run to any applicant, participant or any other person nor shall a third party have any right of action for breach of any provision of this regulation except as otherwise specifically provided herein.

8. Nothing in this regulation shall be construed to in any way limit the Commissioner's discretion to use agency personnel and resources in accordance with the powers and duties as set forth in Title 40.1 of the *Code of Virginia*.

B. Purpose.

This regulation establishes requirements necessary for the operation of Virginia Voluntary Protection Programs in a manner that will promote safe and healthy workplaces throughout the Commonwealth. The elements for VPP shall include the following requirements for participation:

1. Upper management leadership and active and meaningful employee involvement;

2. Systematic assessment of occupational hazards;

3. Comprehensive hazard prevention, mitigation, and control programs;

4. Employee safety and health training;

5. Safety and health program evaluation.

C. Applicability.

1. This regulation applies to Virginia employers and employees that volunteer to participate in Virginia VPP.

2. Because Virginia VPP is a voluntary program, the Commissioner's final decision to accept or reject an application, or suspend or terminate a company's participation in VPP, or to take any other action contemplated by this regulation or §40.1-49.13 of the *Code of Virginia*, is not subject to the provisions of the Virginia Administrative Process Act, Va. Code §2.2-4000 through 2.2-4032 of the *Code of Virginia*.

16VAC25-200-20. Definitions.

"1-Year Conditional Goal" means a target for correcting deficiencies in safety and health management system elements or sub-elements identified by VOSH during the on-site evaluation of a Star participant. Such deficiencies, which indicate that a participant no longer fully meets Star requirements, must be corrected within 90 days, and the participant must then operate at the Star level for 1 year, for the conditional status to be lifted. Failure to meet this requirement will result in termination from VPP.

"90-Day Item" means compliance related issues that must be corrected within a maximum of 90 days, with effective protection provided to employees in the interim.

"Annual Evaluation" means a participant's yearly self-assessment to gauge the effectiveness of all required VPP elements and any other elements of the safety and health management system.

"Annual Submission" means a document written by a participant and submitted to the Department on or before the 15th of February each year, consisting of the following information: Updated names and addresses, the participant's and applicable contractors' injury and illness case numbers and rates, average annual employment and hours worked for the previous calendar year, a copy of the most recent annual evaluation of the safety and health management system, descriptions of significant changes or events, progress made on the previous year's recommendations, Merit or 1-Year Conditional goals (if applicable), and any success stories.

"Applicable Contractor" means a contractor whose employees worked at least 1,000 hours for the participant in any calendar quarter within the last 12 months and are not directly supervised by the applicant/participant.

"Challenge Administrator" means selected individuals in organizations such as corporations, state agencies or non-profit associations that have met VOSH VPP criteria including, dedicated resources to administer the Challenge program for their worksites/members or other organizations' worksites/members. Administrators are involved in the application and review processes. In certain situations as specified by the Commissioner, VOSH can serve as a Challenge Administrator.

"Commissioner" means the Commissioner of Labor and Industry or his designees.

"Contract Employees" means workers who are employed by a company that provides services under contract to the VPP applicant or participant, usually at the VPP applicant's or participant's worksite.

"Days Away, Restricted, and/or Transfer Case Incidence Rate (DART rate)" means the rate of all injuries and illnesses resulting in days away from work, restricted work activity, and/or job transfer. This rate is calculated for a worksite for a specified period of time, usually one to three years.

"Department" means the Department of Labor and Industry.

"Mentoring" means the assistance that a VPP participant provides to another company to improve that site's safety and health management system or prepare it for VPP application or participation.

"Merit Goal" means a target for improving one or more deficient safety and health management system elements for a participant approved to the Merit program. A Merit goal must be met in order for a site to achieve Star status.

"Merit Program" means a program designed for worksites that have demonstrated the potential and commitment to achieve Star quality, but that need to further improve their safety and health management system. A worksite may be designated as Merit when, during an initial Star certification review, the VOSH review team determines that not all Star requirements are being fully met. In the case of a Merit designation, the participant must complete specified Merit goals in order to achieve Star status and continue in VPP. "Merit" is not a participation level that can be applied for.

"Misclassification" means when an employer improperly classifies a worker as an independent contractor who should in fact be an employee.

"Model system" means an exemplary, voluntarily implemented worker safety and health management system that (i) implements comprehensive safety and health programs that exceed basic compliance with

occupational safety and health laws and regulations and (ii) meets the VPP standards adopted by the Safety and Health Codes Board pursuant to this regulation.

"On-site Assistance Visit" means a visit to an applicant or participant site by agency personnel or other non-enforcement personnel, to offer assistance, including help with their application, conduct a records review, and/or make general observations about the site's safety and health management system.

"On-site Evaluation" means a visit to an applicant or participant site by a VOSH on-site evaluation team to determine whether the site qualifies to participate, continue participation, or advance within VPP.

"On-site Evaluation Report" means a document written by the VOSH on-site evaluation team and consisting of the site report. This document contains the team's assessment of the safety and health management system and the team's recommendation regarding approval of the applicant or re-approval of the participant in VPP.

"On-site Evaluation Team" means an interdisciplinary group of VOSH professionals and private industry volunteers who conduct on-site evaluations. The team normally consists of a team leader, a backup team leader, safety and health specialists, and other specialists as appropriate.

"Private Industry Volunteer (PIV)" means a volunteer from a VPP site or corporation, knowledgeable in safety and health management system assessment, formally trained in the policies and procedures of VPP, and determined by VOSH to be qualified to perform as a team member on a VPP on-site evaluation.

"Recommendations" means suggested improvements noted by the on-site evaluation team that are not requirements for VPP participation but that would enhance the effectiveness of the site's safety and health management system. Compliance with VOSH standards is a requirement, not a recommendation.

"Safety and Health Management System" means a method of preventing worker fatalities, injuries and illnesses through the ongoing planning, implementation, integration, and control of four interdependent elements: management leadership and employee involvement, worksite analysis, hazard prevention and control, and safety and health training.

"Small Business" means a company having no more than 250 employees at any one facility, and no more than 500 employees nationwide.

"Star Program" means the program within VPP designed for participants whose safety and health management systems operate in a highly effective, self-sufficient manner and meet all VPP requirements. Star is the highest level of VPP participation.

"Temporary Employee" means an employee hired on a non-permanent basis by the applicant/participant site.

"Total Case Incidence Rate (TCIR)" means a number that represents the total recordable injuries and illnesses per 100 full-time employees, calculated for a worksite for a specified period of time (usually one to three years).

"Voluntary Protection Programs" or "VPP" means voluntary programs under which the Commissioner recognizes and partners with workplaces in which a model system has been implemented.

"Voluntary Protection Program Participants' Association (VPPPA)" means a nonprofit 501(c) (3) organization whose members are involved in VPP. The mission of the VPPPA is to promote safety, health, and environmental excellence through cooperative efforts among employees, management, and government.

16VAC25-200-30. Categories of participation.

A. Categories of participation may include, but are not limited to:

1. Site-based fixed worksites and long term construction sites, including traditional Star and Merit designations;

2. Challenge participants where employers are guided by Challenge Administrators through a three stage process, which can prepare a company to achieve VPP Star status;

3. Mobile workforce participants where employers often work as subcontractors and move from site to site;

4. Corporate participants that have adopted VPP on a large scale.

B. Levels of recognition:

1. Star Worksite status recognizes the safety and health excellence of worksites where workers are successfully protected from fatality, injury, and illness by the implementation of comprehensive and effective workplace safety and health management systems. These worksites are self-sufficient in identifying and controlling workplace hazards.

2. Merit Worksite status recognizes worksites that have good safety and health management systems and that show the willingness, commitment, and ability to achieve site-specific goals that will qualify them for Star participation.

a. If the on-site evaluation team recommends participation in the Merit program, the site must then complete a set of goals in order to maintain Merit status and qualify for the Star Program.

b. Merit goals must address Star requirements not presently in place or aspects of the safety and health management system that are not up to Star quality.

c. Methods for improving the safety and health management system that will address identified problem areas must be included in Merit goals.

d. Correction of a specific hazardous condition must be a 90-day item, not a Merit goal. However, when a safety and health management system deficiency underlies a specific hazardous condition, then corrections to the system must be included as Merit goals.

e. Reducing a 3-year TCIR or DART rate to below the national average is not by itself an appropriate Merit goal. Corrections to safety and health management system deficiencies underlying the high rate must be included in the Merit goals.

f. Merit worksites are given a three year conditional goal of achieving Star status. A participant must meet Star rate requirements within the first two years of its Merit participation. This is to afford an additional year's experience, for a total of no more than three years to gain Star approval.

g. A Merit participant qualifies for Star when it has met its Merit goals, Star rate requirements, and when all other safety and health elements and sub-elements are operating at Star quality.

h. A Merit participant may qualify for the Star Program before the end of its Merit term if the participant meets all conditions in g., above.

3. Challenge recognizes three stages of accomplishment as specified in 16VAC25-200-40.B.

C. Nothing in this regulation shall be construed to prohibit the Commissioner from establishing programs that are site-specific, company-wide, statewide, or any combination thereof.

16VAC25-200-40. Ways to participate.

A. Site-based fixed participation is directed at the owners and site officials who control site operations and have ultimate responsibility for assuring safe and healthful working conditions of:

1. Private-sector fixed worksites in general industry;

2. Construction worksites or projects that will have been in operation for at least 12 months at the projected time of approval and that expect to continue in operation for at least an additional 12 months;

3. State and local government sector fixed worksites;

4. Resident contractors at participating VPP sites for the contractors' operations at those VPP sites;

5. Resident contractors at non-participating sites for the contractors' operations at those sites, so long as the resident contractors are part of a larger organization approved to participate under the corporate option.

B. Challenge provides participating employers and workers an avenue to work with designated Challenge Administrators to develop and/or improve their safety and health management system. Challenge participants do not generally receive exemptions from VOSH programmed inspections, although it is within the Commissioner's discretion to design programs that permit exemption from programmed inspections for successful Stage 3 applicants.

Challenge Administrators collaborate with participating employers to improve their safety and health management programs in three stages through mentoring, training and progress tracking:

1. Stage 1 - Assess, Learn, and Develop. Challenge participants learn the elements necessary to develop and implement an effective safety and health management program; assess performance of existing safety and health programs and policies; provide training to management and workers; and develop strategies, programs, and policies.

2. Stage 2 - Implement, Track, and Control. Challenge participants complete and implement policies and programs developed in Stage 1; continue to enhance and develop their safety and health management program; implement and improve their safety and health management program; and begin to incorporate policies for contractor/special trade contractor safety and health management program requirements.

3. Stage 3 - Reassess, Monitor, and Improve. Challenge participants monitor, reassess, and continuously improve their safety and health management program. Challenge participants who complete Stage 3 have a safety and health management system sufficiently advanced for the participant to begin the application process for VPP Star certification.

C. Mobile workforce companies typically function as contractors or subcontractors which may or may not have the authority for safety and health for an entire worksite; and for those companies that have employees that move site-to-site, such as a specialty trade contractor or repair and maintenance company, regardless of size or length and duration of the project or service.

D. VPP corporate is designed for corporate applicants, who demonstrate a strong commitment to employee safety and health and VPP. These applicants, typically large corporations or state or local government agencies, have adopted VPP on a large scale for protecting the safety and health of their employees. VPP corporate applicants must have established standardized corporate-level safety and health management systems that are effectively implemented organization-wide, as well as internal audit/screening processes that evaluate their facilities for safety and health performance.

16VAC25-200-50. Application requirements.

A. Term of Participation.

1. There is no time limit to the term of participation in Star, as long as a site continues to meet all Star requirements and to maintain Star quality.

2. Fixed-site construction participation ceases with the completion of the construction project.

3. There is no time limit to the term of participation for Mobile Worksite, Corporate or Challenge site as long as the participant continues to meet all applicable requirements and maintain quality systems.

B. Injury and Illness History Requirements.

1. Injury and illness history is evaluated using a 3-year total case incident rate (TCIR) and a 3-year day away, restricted, and/or transfer case incident rate (DART rate). The 3-year TCIR and DART rates must be compared to the published Bureau of Labor Statistics (BLS) national average for the five- or six-digit North American Industrial Classification System (NAICS) code for the industry in which the applicant is classified. The BLS publishes NAICS industry averages two years after data is collected. For example, in calendar year 2016, calendar year 2014 national averages will be available and used for comparison.

2. Both the 3-year TCIR and the 3-year DART rate must be below one of the three most recently published BLS national averages for the specific NAICS code.

3. Some smaller worksites may be eligible to use the alternate rate calculation as provided for in VOSH written procedures.

C. VOSH Inspection History.

1. The applicant must not have been issued final VOSH citations related to a fatality in the preceding three-year period. In the event that the company elects to contest a citation related to a VOSH fatality, the company may not submit a VPP application until such time as all fatality-related citations have been successfully contested.

2. If VOSH has inspected an applicant site in the 36 months preceding the application, the inspection, abatement, and any other history of interaction with VOSH must indicate good faith attempts by the employer to improve safety and health at the site. This includes verification of correction of all serious violations. In addition, the existence of any of the following at the site precludes the site's participation in VPP:

a. Open enforcement investigations;

b. Pending or open contested citations or notices under appeal at the time of application;

c. Affirmed willful or anti-discrimination whistleblower violations under §40.1-51.2:1 of the *Code of Virginia* during the 36 months prior to application;

d. Documented instances of misclassification of employees during the 36 months prior to application;

e. Unresolved, outstanding enforcement actions, such as long term abatement agreements or contests.

D. Contract Worker Coverage.

1. Workers for applicable contractors must be provided with safety and health protection equal in quality to that provided to participant employees.

2. All contractors, whether regularly involved in routine site operations or engaged in temporary projects such as construction or repair, must follow the safety and health rules of the host site.

3. VPP participants must have in place a documented oversight and management system covering applicable contractors to:

a. Ensure that safety and health considerations are addressed during the process of selecting contractors and when contractors are on-site;

b. Ensure that contractors follow site safety rules;

c. Include provisions for timely identification, correction, and tracking of uncontrolled hazards in contractor work areas;

d. Include a provision for removing a contractor or contractor's employees from the site for safety or health violations.

4. Nested contractors, such as contracted maintenance workers, and temporary employees who are supervised by host site management and governed by the site's safety and health management system are entitled to the same workplace protections as host employees; and are therefore included in the host site's injury and illness rates.

5. Site management must maintain copies of the TCIR and DART rate data for all applicable contractors based on hours worked at the site. Sites must report all applicable contractors' TCIR and DART rate data to VOSH annually.

6. Managers, supervisors, and non-supervisory employees of contract employers must be made aware of:

a. The hazards they may encounter while on the site;

b. How to recognize hazardous conditions and the signs and symptoms of workplace-related illnesses and injuries;

c. The implemented hazard controls, including safe work procedures;

d. Emergency procedures.

E. Assurances.

1. Applicants must understand and agree, through assurances, to fulfill program requirements for participation in VPP.

2. Applicants must assure that:

a. The applicant will comply with VOSH laws, standards, and regulations, and will correct in a timely manner all hazards discovered through self-inspections, employee notification, accident investigations, a VOSH on-site review, process hazard reviews, annual evaluations, or any other means. The applicant will provide effective interim protection as necessary.

b. Site deficiencies related to compliance with VOSH requirements and identified during the VOSH on-site review will be corrected within 90 days, with interim protection provided to employees.

c. Site employees support the VPP application.

d. VPP elements are in place, and the requirements of the elements will be met and maintained.

e. Employees, including newly hired employees and contract employees when they reach the site, will have the VPP explained to them, including employee rights under the program and VOSH laws, standards and regulations.

f. Employees performing safety and health duties as part of the applicant's safety and health management system will be protected from discriminatory actions resulting from their carrying out such duties. See §40.1-51.2:1 of the *Code of Virginia*.

g. Employees will have access to the results of self-inspections, accident investigations, and other safety and health management system data upon request. At unionized sites, this requirement may be met through the employee representative's access to these results.

h. The information listed below will be maintained and available for VOSH review to determine initial and continued approval to the VPP:

(1) Written safety and health management system;

(2) Any agreements between management and the collective bargaining agent(s) concerning safety and health;

(3) Any data necessary to evaluate the achievement of individual Merit or 1-Year Conditional goals.

i. On or before the 15th of February each year, each participating site must submit its annual evaluation to the Department.

j. Whenever significant organizational, ownership, union, or operational changes occur, such as but not limited to a change in management, corporate takeover, merger, or consolidation, a new statement of commitment signed by both management and any authorized collective bargaining agents, as appropriate will be provided to VOSH within 60 days of the effective date of the aforementioned changes.

3. The applicant must demonstrate a willingness to follow through on all assurances.

4. Employees must be aware of the recourse available to them if management fails to fulfill any of these assurances. This may include rescinding their support of VPP participation or exercising the right to file a VOSH complaint.

F. Pre-Application Assistance.

1. Agency personnel may visit a prospective applicant's site to offer assistance in the application process or before scheduling the on-site evaluation to obtain additional information or clarification of information provided in the application.

2. Pre-application assistance may also include referrals to the VPP mentoring program, Virginia VPP Best Practices training sessions, VPPPA conferences, and VPPPA application workshops.

G. Application Receipt and Review.

1. The Commissioner shall establish written procedures to address requirements concerning receipt and review of application contents, including but not limited to the comprehensive safety and health management system requirements outlined in 16VAC25-200-60.

2. If, upon review, the application is considered incomplete, the Department shall notify the applicant by letter, noting the missing elements and requesting that the missing information be submitted within 90 days. If the additional information is not provided within that time, the application must be returned to the applicant. Applications can be resubmitted at any time.

3. If it is clear that the applicant cannot qualify for VPP, the agency must ask the applicant to withdraw the application within 30 days. If the application is not withdrawn, the application will be returned with a letter indicating the reasons the application was denied.

4. An applicant may withdraw the application by notifying the Department. The withdrawal is effective on the date the notification is received. The original application must be returned to the applicant. If the application had already been accepted, the agency must retain a working copy for one year, for use in responding to questions that may arise.

16VAC25-200-60. Comprehensive safety and health management system requirements.

A. The elements for VPP shall include the following requirements for VPP participation:

1. Upper management leadership and active and meaningful employee involvement;
2. Systematic assessment of occupational hazards;
3. Comprehensive hazard prevention, mitigation, and control programs;
4. Employee safety and health training;
5. Safety and health program evaluation.

B. The Commissioner shall establish written procedures to address applicant and participant requirements concerning the elements and sub-elements appropriate to the program:

1. Management commitment;
2. VPP commitment;
3. Employee involvement;
4. Contract worker coverage;
5. Safety and health management system evaluation;
6. Worksite analysis;
7. Baseline and comprehensive safety and industrial hygiene hazard analysis;
8. Hazard analysis of routine jobs, tasks and processes;
9. Hazard analysis of significant changes;
10. Pre-use analysis;
11. Documentation and use of hazard analysis;
12. Routine self-inspections;
13. Hazard reporting system for employees;
14. Industrial hygiene (IH) program;
    a. IH surveys;

b. Sampling strategy:
c. Sampling results;
d. Documentation;
e. Communication;
f. Use of results;
g. IH expertise;
h. Procedures;
i. Use of contractors for IH surveys;

15. Analysis of injury, illness and near-hit incidents;
16. Trend analysis;
17. Hazard prevention and control;
18. Certified professional resources;
19. Hazard elimination and control methods;
    a. Engineering;
    b. Adminstrative;
    c. Work practices;
    d. PPE;
20. Hazard control programs;
21. Compliance with applicable Virginia unique occupational safety and health regulations;
22. Occupational health care program;
23. Preventative maintenance of equipment;
24. Tracking of hazard correction;
25. Disciplinary system;
26. Emergency preparedness and response; and
27. Safety and health training.

16VAC25-200-70. Certification process.

A. Evaluation periods.

The Commissioner shall establish written procedures to set time periods and scheduling requirements for on-site evaluations in response to initial applications accepted by the agency and for re-certification of participants.

B. Scheduling exceptions.

1. On-site evaluations shall be conducted earlier than normal scheduled requirements when:

a. Significant changes have occurred in management, processes or products that may require evaluation to ensure the site is maintaining a VPP quality safety and health management system;

b. VOSH has learned of significant problems at the site, such as increasing injury and illness rates, serious deficiencies described in the site's annual evaluation of its safety and health management

system, or deficiencies discovered through VOSH enforcement activity resulting from an employee complaint, fatality, accident, or other event.

C. Decision to conduct the on-site evaluation.

1. Once an application is accepted, the agency must:

a. Notify the site by letter or e-mail in a timely manner that an on-site evaluation will be conducted. However, no on-site evaluation may be conducted until all prior enforcement actions have been closed.

b. Notify the appropriate VOSH enforcement personnel so that the site can be removed from any programmed inspection lists, effective no more than 75 days prior to the scheduled on-site review.

D. Methods of evaluation.

The three primary methods of evaluation during the certification or recertification process are document review, walkthrough, and employee interviews. Additional activities that must occur are the opening conference, daily briefings, report preparation, and closing conference. The on-site evaluation team must evaluate each element and sub-element of the safety and health management system and VPP requirements.

E. Recommendations.

At the conclusion of the on-site evaluation, the on-site evaluation team must reach a consensus to recommend to the Commissioner as to whether the site is suitable for participation or continued participation in VPP, and at what level of participation.

16VAC25-200-80. On-site evaluations.

A. On-site evaluation team.

An on-site evaluation consists of a thorough evaluation of a VPP applicant's or participant's safety and health management system in order to recommend approval or re-approval. On-site evaluations are carried out by a team consisting of VOSH staff acting in a non-enforcement capacity, qualified volunteer safety or health professionals from private industry, and other qualified team members.

B. On-site evaluation procedures.

The Commissioner shall establish written procedures for onsite evaluations of applicants and participants undergoing recertification. The procedures shall address issues including, but not limited to:

1. Prioritizing and scheduling on-site evaluations;

2. Inclusion of union representatives, if any, in the opening and closing conferences and the opportunity to accompany the on-site evaluation team on the site walkthrough;

3. On-site evaluation team composition, qualifications, preparation and assessment of personal protective equipment needed;

4. Opening conference subjects, review of injury and illness records, incentive programs, document review, walkthrough, review of safety and health management system elements and sub-elements, formal and informal interviews of employees, including applicable contractor employees, and closing conference subjects and recommendations;

5. Employee rights under the program and under VOSH laws, standards and regulations;

6. Assuring that employees performing safety and health duties as part of the applicant's safety and health management system will be protected from discriminatory actions resulting from their carrying out such duties, pursuant to §40.1-51.2:1 of the *Code of Virginia*.

C. Correction of hazards.

1. As hazards are found and discussed during the walkthrough, the on-site evaluation team must add them to a written list of the uncontrolled hazards identified. This list will be used when the team briefs site management at the end of each day on-site.

2. VOSH expects that every effort will be made by the site to correct identified hazards before the closing conference. If hazard correction cannot be accomplished before the conclusion of the on-site evaluation, the on-site evaluation team and site management must discuss and agree upon correction methods and time frames.

3. The site may be given up to a maximum of 90 days to correct uncontrolled hazards, as long as interim protection is provided. These "90-day Items" must be corrected before the final on-site evaluation report can be processed. Management must provide the team leader with a signed letter indicating how and when the correction will be made. The team leader may decide to return to the site to verify correction.

4. If, after repeated attempts to reach agreement, site management refuses to correct a situation that exposes employees to serious safety or health hazards, that situation shall be referred for enforcement action.

5. Should any identified hazard be determined to present a risk of imminent danger to life or health of an employee, agency personnel shall assure that its procedures for immediately removing employees from exposure to the hazard until corrected are complied with by the applicant or participant.

D. Deficiencies in the Safety and Health Management System.

Where the team detects deficiencies in the safety and health management system, even when physical hazards are not present, the on-site evaluation team must document these deficiencies as goals for correction, recommendations for improvement, or both.

1. If the system deficiency is a requirement for VPP at the Star level, it must become the subject of a goal, either Merit or One-Year Conditional. Implementation of goals is mandatory for VPP participation. Time frames, interim protection, and methods of achieving goals must be discussed and agreed to with site management.

2. If improvement of the system deficiency is not necessarily a requirement for VPP, but will improve worker safety and health at the site, the improvement must be a recommendation. Implementation of recommendations is encouraged but is not mandatory for VPP participation.

E. Final Analysis of Findings.

1. When the documentation review, the walkthrough, and employee interviews have been completed, the on-site evaluation team must meet privately to review and summarize its findings before conducting the closing conference.

2. A draft of the certification or re-certification report shall be completed by the team before leaving the site. The draft report must reflect the consensus of the on-site evaluation team.

F. Closing conference.

The findings of the on-site evaluation team, including its recommendation to the Commissioner, must be presented to site management and appropriate employee representatives before the team leaves the site.

16VAC25-200-90. Annual submissions.

A. Annual self-assessment.

1. Participation in VPP requires each site/participant to annually evaluate the effectiveness of its safety and health management system, including the effectiveness of all VPP elements and sub-elements.

2. The Commissioner shall establish written procedures establishing the content and reporting requirements of participant annual submissions.

3. Annual submissions are due on or before the 15th of February each year.

B. Applicable contractors.

Participants shall report on the injury and illness data for all applicable contractors.

16VAC25-200-100. Enforcement activity at VPP sites.

A. Types of enforcement activity.

Two types of enforcement activity trigger additional VPP assessment:

1. Unprogrammed VOSH inspections, which occur in response to all referrals, formal complaints, fatalities, and certain accidents;

2. Other incidents or events, whether or not injuries or illnesses have occurred and whether or not normal enforcement procedures apply to the situation, may trigger reassessment.

B. Site reassessment.

VOSH may reassess the site's safety and health management system if there is reason to believe that a serious deficiency exists that would have an impact on the site's continued qualification for VPP.

C. Enforcement personnel.

The Commissioner shall establish written procedures describing the use of enforcement personnel during on-site evaluations and any limitations placed on their conducting an enforcement inspection at a VPP site.

D. Impact of enforcement activity.

1. If the event that triggers enforcement activity occurs during the time between application and on-site evaluation, the on-site evaluation must be postponed until the enforcement case is closed.

2. If the event that triggers enforcement activity occurs during the on-site evaluation, the on-site evaluation must cease until the enforcement case is closed.

16VAC25-200-110. Withdrawal, suspension or termination.

A. Withdrawal.

1. Participants may withdraw of their own accord or be asked by VOSH to withdraw from the programs.

2. Any participant may choose to withdraw voluntarily at any time.

3. VOSH shall request that a participant withdraw from VPP if it is determined that it is no longer meeting the requirements for VPP participation.

4. The Commissioner shall establish written withdrawal procedures which provide for the company's formal notification to the Department, the Commissioner's acknowledgement of receipt and notification to the company of the status change, notification to agency personnel of the status change, return of the company to the VOSH programmed inspection list and disposition of the VPP participant file.

5. The Commissioner shall establish written procedures to address a VPP participant's change of location which establishes criteria for determining whether the participant can retain its VPP status or must withdraw.

6. The Commissioner will consider the company's reapplication to VPP if and when eligibility requirements are met.

B. Suspension.

1. Participants that experience a work-related fatality, whether an employee or contract employee, may be immediately suspended from program participation until such time as a VOSH fatality investigation can be completed.

2. The Commissioner shall establish written procedures to address a VPP participant's temporary suspension from VPP, which provides for the Department's formal notification to the participant and removal of the VPP flag or other recognition device from display until the suspension is lifted.

3. A participant's suspension will not result in the company being returned to the VOSH programmed inspection list.

C. Termination.

1. The Commissioner may terminate a site from the VPP for failure to maintain the requirements of the program.

2. In the event a fatality investigation shows substantial deficiencies in the participant's safety and health programs, such that during a normal certification audit the types of deficiencies would have precluded the site from participation in the VPP, the Commissioner, at his discretion, may terminate the site's participation in VPP.

3. In the a whistleblower investigation pursuant to §40.1-51.2:1 and §40.1-51.2:2 of the *Code of Virginia* shows substantial deficiencies in the participant's safety and health programs, such that during a normal certification audit the types of deficiencies would have precluded the site from participation in the VPP, the Commissioner, at his discretion, may terminate the site's participation in VPP.

4. Under most other situations, termination should occur only when all reasonable efforts for assistance have been exhausted.

5. The Commissioner shall establish written termination procedures which provide for the Commissioner's formal notification to the participant and union representatives, an appeal process, and notification of the Commissioner's final decision.

6. If the Commissioner finds the site's appeal valid, the site may continue in VPP.

7. In the event of a final decision to terminate, the written procedures shall provide for notification to agency personnel of the status change, return of the company to the VOSH programmed inspection list and disposition of the VPP participant file. If a terminated company wishes to pursue reinstatement, it must wait three years to reapply.

8. Because Virginia VPP is a voluntary program, the Commissioner's final decision to terminate a company's participation in VPP is not subject to the provisions of the Virginia Administrative Process Act, §2.2-4000 through §2.2-4032 of the *Code of Virginia*.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

AGENDA

SAFETY AND HEALTH CODES BOARD

Main Street Centre
600 East Main Street
12th Floor Conference Room - South
Richmond, Virginia

Thursday, February 16, 2017

10:00 a.m.

1. Call to Order

2. Approval of Agenda

3. Approval of Minutes for Board Meeting of September 13, 2016

4. Opportunity for the Public to Address the Board on these issues pending before the Board today or on any other topics that may be of concern to the Board or within the scope of authority of the Board.

   This will be the only opportunity for public comment at this meeting. Please limit remarks to 5 minutes in consideration of others wishing to address the Board.

5. **Old Business**

a) Proposed Regulation to 16VAC25-50, Boiler and Pressure Vessel Rules and Regulations; Amendment

Presenter – Ed Hilton

b) Proposed Amendments to the Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program, 16VAC25-60, et seq.; Issuance of Penalties to State and Local Government Employers

Presenter – Jay Withrow

6. **New Business**

Federal-identical Regulations:

a) Clarification of Employer's Continuing Obligation to Make and Maintain an Accurate Record of Each Recordable Injury and Illness; Final Rule

Presenter – Jay Withrow

b) Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems); Final Rule

Presenter – Jennifer Rose

c) Occupational Exposure to Beryllium, Parts 1910, 1915, and 1926; Final Rule; and Other Related Provisions

Presenter – Ron Graham

d) Occupational Exposure to Respirable Crystalline Silica and Other Related Provisions; Correction

Presenter – Ron Graham

e) Notice of Periodic Review of Certain Existing Regulations:

1) 16VAC25-20, Regulation Concerning Licensed Asbestos Contractor Notification, Asbestos Project Permits, and Permit Fees;

2) 16VAC25-30, Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos-Containing Construction Waste – Incorporation By Reference, 40 CFR 61.140 through 61.156;

3) 16VAC25-40, Standard for Boiler and Pressure Vessel Operator Certification;

4) 16VAC25-70, Virginia Confined Space Standard for the Telecommunications Industry; and

5) 16VAC25-97, Reverse Signal Procedures – General Industry – Vehicles/Equipment Not Covered by Existing Standards

Presenter – Holly Raney

7. Items of Interest from the Department of Labor and Industry

8. Items of Interest from Members of the Board

9. Meeting Adjournment

DRAFT
SAFETY AND HEALTH CODES BOARD
MEETING MINUTES
TUESDAY, SEPTEMBER 13, 2016

BOARD MEMBERS PRESENT:
Mr. Jerome Brooks
Mr. Lou Cernak, Jr., Newly Elected Vice Chair
Mr. John Fulton
Mr. Chris Gordon
Ms. Anna Jolly
Mr. Courtney Malveaux
Mr. David Martinez
Mr. Travis Parsons
Mr. Kenneth Richardson, II
Ms. Milagro Rodriguez, Outgoing Chair
Mr. Tommy Thurston

BOARD MEMBERS ABSENT:
Mr. Chuck Stiff, Outgoing Vice Chair; Newly Elected Chair

STAFF PRESENT:
Mr. C. Ray Davenport, Commissioner of Dept. of Labor & Industry
Mr. Bill Burge, Assistant Commissioner
Mr. Jay Withrow, Director, Legal Support, BLS, VPP, ORA, OPP & OWP
Mr. Ron Graham, Director, VOSH Health Compliance
Ms. Jennifer Rose, Director, VOSH Safety Compliance
Mr. Ed Hilton, Director, Boiler Safety Compliance Management
Mr. John Crisanti, Manager, Office of Policy and Planning
Ms. Holly Raney, Regulatory Coordinator
Ms. Diane Duell, Director, Legal Services
Mr. Warren Rice, Director, Consultation Services
Ms. Regina Cobb, Senior Management Analyst
Ms. Deonna Hargrove, Richmond Regional Health Director
Ms. Mariah Gardner, VOSH Safety/Health Compliance Officer
Mr. Joseph Rick, VOSH Safety/Health Compliance Officer
Mr. Mike Gonzalez, VOSH Safety/Health Compliance Officer Apprentice
Mr. Justin Paxton, Senior Industrial Hygienist
Ms. Zelma Wilkins, VOSH Safety/Health Compliance Officer
Ms. Cathy Brown, Program Support Technician, Senior

OTHERS PRESENT:
Ms. Andrea Pegram, Court Reporter, Andrea Pegram Court Reporting Services
Ms. Beverly Crandell, Safety Program Coordinator, Tidewater Community College
Mr. Sam Revenson
Mr. Ed Boulanger, Safety Response Association
Mr. Bob Naujelis, Landin, Inc.

PUBLIC HEARING

Board Chair Ms. Milly Rodriguez called the Public Hearing to order at 10 a.m. A quorum was present. She explained that the sole purpose of the hearing is for the Board members to receive comments from the public regarding the Proposed Amendments to 16 VAC 25-50, Boiler and Pressure Vessel Rules and Regulations.

Since there were no comments made, Ms. Rodriguez adjourned the hearing at 10:05 a.m.

BOARD MEETING

ORDERING OF AGENDA

Chair Milly Rodriguez called the Public meeting to order at 10:05 a.m. A quorum was present.

Ms. Rodriguez requested a motion to approve the Agenda. A motion to accept the Agenda was made and properly seconded. The Agenda was approved, as submitted, and the motion was carried by unanimous voice vote.

APPROVAL OF MINUTES

Ms. Rodriguez asked the Board for a motion to approve the Minutes from the March 3, 2016, Board meeting. A motion was made and properly seconded. The Minutes were approved by unanimous voice vote.

ELECTION OF OFFICERS

Ms. Rodriguez asked for nominations for Chair. Mr. Chuck Stiff was nominated, in absentia, as Chair and the nomination was properly seconded. There were no other nominations. By voice vote, the Board unanimously elected Mr. Stiff to serve as Chair.

Next, Chair Rodriguez asked for nominations for Vice Chair. Mr. Lou Cernak was nominated as Vice Chair and the nomination was properly seconded. There were no other nominations. By voice vote, the Board unanimously elected Mr. Cernak to serve as Vice Chair.

PUBLIC COMMENTS

Ms. Rodriguez opened the floor for comments from the public, however, there were no comments.

OLD BUSINESS

Recording and Reporting Occupational Injuries and Illnesses-Reporting Fatalities, Hospitalizations, Amputations, and Losses of an Eye As a Result of Work-Related Incidents to OSHA, 16VAC25-85-1904.39

Mr. Jay Withrow, Director of Legal Support, BLS, VPP, ORA, OPP & OWP for the Department, began by requesting the Board to consider for adoption Correcting Amendments to the Occupational Injury and Illness Recording and Reporting Requirements - and 16VAC25-85-1904.39, as authorized by Chapter 336 of the 2016 Virginia Acts of Assembly.

He referred to this action as a re-adoption of a federal-identical regulation by the Board. He then explained that in 2014, OSHA passed a regulation that changed reporting requirements. The old requirements were that you had to report a fatality or a catastrophe within eight hours of its occurrence. He stated that in 2014, OSHA included some additional categories: amputations, in-patient hospitalizations and the loss of an eye. He continued by stating that Virginia's reporting requirements are in statute, and the department needed to change the statute. In 2015, the Department sent a legislative package to the General Assembly which was adopted. Subsequently, the Department discovered that the legislative package contained an error about the reporting time for the new reporting categories. As a result, the Department came back to the Board for approval to reflect what was in the statute because the statute trumps what's in regulation. The Board adopted a revised version of the federal OSHA regulation which had an eight reporting requirement in it, and the Department returned to the General Assembly in 2016.

Mr. Withrow informed the Board of the successful amendment of §40.1-51.1.D, signed by Gov. McAuliffe, during the 2016 General Assembly Session, which brought the statute into conformity with the OSHA regulation, with an effective date of July 1, 2016. He added that it is this action which facilitates the Board's option to adopt regulatory amendments requested by VOSH to the Part 1904 changes adopted by the Board last year bringing the Board's Part 1904 requirements into complete conformity with the federal OSHA Part 1904 requirements.

Mr. Withrow informed the Board of the affected timeframes requested for this amendment to become OSHA-identical. They are as follows:

- Every in-patient hospitalization resulting from a work-related incident must be reported with twenty-four (24) hours of the hospitalization;
- All amputations resulting from work-related incidents, resulting from a work-related incident must be reported with twenty-four (24) hours of the incident; and
- Each loss of an eye resulting from a work-related incident must be reported within twenty-four (24) hours of the incident.

He explained that, if adopted, employers would still not be issued a monetary penalty if they report the workplace incident within 24 hours, and that the only change would be that employers would no longer be issued a *de minimis* violation as they would now be in compliance with the regulation if they report the incident within the specified 24-hour period. He added that no impact is anticipated on employees by this change and that impact on the Department would be minimal – VOSH would no longer be required to issue a penalty for a *de minimis* violation of the standard.

With respect to benefits to employers from the adoption of this change, Mr. Withrow stated that, in VOSH's jurisdiction, construction industry employers who operate in several states or jurisdictions will only have to deal with a regulation identical to the federal regulation. He added that there are no additional costs to employers or the Department with the adoption of these requested regulatory amendments. Lastly, he informed the Board that the change is deemed to be technologically feasible as the requested change has been in effect for approximately two years in those jurisdictions under OSHA's direct enforcement.

In conclusion, Mr. Withrow recommended that the Board consider for adoption the amendments to Recording and Reporting Occupational Injuries and Illnesses –Reporting Fatalities, Hospitalizations, Amputations, and Losses of an Eye as a Result of Work-related Incidents to OSHA, 16VAC85-1904.39, as authorized by Virginia Code §§40.1-22(5), 40.1-51.1.D., and 2.2-4006.A.4(c), with an effective date of December 1, 2016.

A motion to accept the Department's recommendation was properly made and seconded. The motion was approved unanimously by voice vote.

NEW BUSINESS

Updating National Consensus Standards - Eye & Face Protection, Final Rule; Parts 1910, 1915, 1917, 1918, and 1926

Ms. Jennifer Rose, VOSH Safety Compliance Director for the Department of Labor and Industry, requested that the Board consider for adoption federal OSHA's Final Rule on Updating OSHA Standards Based on the National Consensus Standards for Eye and Face Protection, Parts 1910, 1915, 1917, 1918, and 1926, as published in 81 FR 16085 on March 25, 2016.

She summarized the final rule by stating that it updates eye and face protection requirements in OSHA's general industry, shipyard employment, marine terminals, longshoring, and construction standards, and that these changes involved the incorporation by reference of the latest ANSI/International Safety Equipment Protection Devices, and the removal of the oldest ANSI version of the same standard.

Ms. Rose explained that this incorporation by reference will ensure consistency among OSHA's standards, clarify employer obligations, eliminate any confusion, and provide up-to-date protection for workers exposed to eye and face hazards.

Ms. Rose added that, other than improved clarity, no significant impact is anticipated on employers, employees or the Department with the adoption of these corrections.

Ms. Rose stated that the OSHA believes the Final Rule is technologically feasible because protectors are already manufactured in accordance with the 2010 ANSI/ISEA standard. She added that employers are already in compliance with the 1998 and 2003 versions of the ANSI standard, which are incorporated by reference into general industry and maritime standards, and which thereby constitutes compliance with the Final Rule.

In conclusion, she recommended that the Board adopt the Final Rule Updating OSHA Standards Based on National Consensus Standards for Eye and Face Protection, Parts 1910, 1915, 1917, 1918, and 1926,

as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of December 1, 2016.

A motion to accept the Department's recommendation was made and properly seconded. The motion was approved unanimously by voice vote.

Occupational Exposure to Respirable Crystalline Silica

Mr. Ron Graham, Director of the Occupational Health Compliance for the Department of Labor and Industry, requested the Board to consider for adoption federal OSHA's Final Rule on the Occupational Exposure to Crystalline Silica, Parts 1910, 1915, and 1926 and Other Related Standards, as published on March 25, 2016 in 81 FR 16285.

Mr. Graham informed the Board that federal OSHA amended its existing standards for the Occupational Exposure to Respirable Crystalline Silica because OSHA determined that employees exposed to respirable crystalline silica at the previous permissible exposure limits face a significant risk of material impairment to their health, such as developing silicosis and other non-malignant respiratory diseases, lung cancer, and kidney disease.
He explained that this final rule, which has been issued as two separate standards – one for general industry and maritime and the other for construction, establishes a new permissible exposure limit (PEL) of 50 micrograms of respirable crystalline silica per cubic meter of air (50 $\mu g/m^3$) as an 8-hour time-weighted average in all industries covered by the rule, with the exception of agricultural operations covered under Part 1928. It also includes other provisions to protect employees, such as requirements for exposure assessment, methods for controlling exposure, respiratory protection, medical surveillance, hazard communication, and recordkeeping.

Mr. Graham also detailed amendments made to other related standards, such as Air Contaminants, §1910.1000, and in Gases, Vapors, Fumes, Dusts, and Mists, §1926.55.

He described the various uses of crystalline silica, e.g., road building and concrete construction, to form molds for metal castings in foundries, and in abrasive blasting operations, as filler in plastics, rubber and paint to name a few. He also explained that silicosis is an irreversible, progressive disease which affects the lungs and can lead to disability and death.

Next, Mr. Graham detailed key provisions of the standards, as well as employer responsibilities in affected industries. He stated that there are over 30 major industries and operations where exposures to crystalline silica can occur, i.e., foundries, dental laboratories, concrete products and paint and coating manufacture and in the use of heavy equipment during demolition activities involving silica-containing materials.

Mr. Graham provided the background and history of the final rule and stated that its purpose is to reduce the numbers of fatalities and illnesses occurring among employees exposed to respirable crystalline silica in general industry, maritime, and construction sectors. Additionally, he stated that this objective will be achieved by requiring employers to install engineering controls, respirators, training, exposure monitoring, medical surveillance, and other protective measures necessary for them to perform their jobs safely.

With respect to impact on Virginia employers, Mr. Graham informed the Board that the final rule provides flexibility to help employers protect workers from silica exposure, with staggered compliance dates to ensure sufficient time to meet the requirements. He stated that flexible alternatives are also useful for employers. He added that, for most common tasks in construction, OSHA has spelled out in Table 1 exactly how employers can best protect workers. He stated that the final rule would improve worker protection by requiring employers to reduce the PEL by using engineering controls. He added that any impact from the adoption of this final rule on the Department would be negligible.

Additionally, Mr. Graham detailed the benefits, costs, technological and economical feasibilities of the final rule, in addition to the compliance schedule.

Mr. Graham concluded by recommending that the Board adopt the Final Rule on the Occupational Exposure to Crystalline Silica, Parts 1910, 1915, and 1926 and Other Related Standards, as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of December 1, 2016.

A motion to accept the Department's recommendation was properly made and seconded. The motion was approved unanimously by voice vote.

Improve Tracking of Workplace Injuries and Illnesses, §§1904.35, 1904.36, and 1904.41; Final Rule; and Correction to §1904.35(b)(2)

Mr. Jay Withrow requested the Safety and Health Codes Board to consider for adoption federal OSHA's final rule to Improve Tracking of Workplace Injuries and Illnesses, as published on May 12, 2016 in 81 FR 29623; and its Correction, as published on May 20, 2016, in 81 FR 31854.

He summarized this final rule by stating that several changes to the existing recording and reporting requirements under Part 1904 were made. He continued by stating that the final rule requires certain employers to electronically submit the injury and illness information that they are already required to keep under existing OSHA regulations, and the employer groups were determined by the number of employees within the various establishments, e.g., establishments with 250 or more employees; those with 20 to 249 employees; and those establishments with fewer than 20 employees.

He informed the Board of the phased-in implementation schedule of over two years for the new reporting requirements.

Mr. Withrow explained that the purpose of this final rule is to assure completeness and accuracy of injury and illness data collected by employers and reported to OSHA by modernizing injury and illness data collection to better inform workers, employers, the public, and OSHA about workplace hazards. With respect to impact on employers, Mr. Withrow explained that the final rule only requires employers to submit to OSHA electronically information employers have already collected and recorded. He added that employers are not required to adopt an electronic system to record occupational injuries and illnesses. With respect to impact on employees, Mr. Withrow stated that the final rule expands the previous requirement by requiring employers to inform employees how to report work-related injuries and illnesses and by prohibiting employers from retaliating against workers for making those reports.

Lastly, in explaining the final rule's impact on the Department, Mr. Withrow stated that the new rule differs from section 11(c) of the OSHA Act because it is specifically designed to promote the accuracy

and integrity of the injury and illness records employers are required to keep under Part 1904. He continued by explaining that, under section 11(c), OSHA may not act against an employer unless an employee files a complaint; however, under §1904.35(b)(1)(iv) of the final rule, OSHA will be permitted to cite an employer for taking an adverse action against an employee for reporting an injury or illness, even if the employee did not file a section 11(c) complaint with OSHA. He stated that these citations can result in orders requiring employers to abate violations. He also added that the rule will provide OSHA/VOSH with data to assist the agency in improving allocation of compliance assistance and enable more rigorous evaluations of governmental impact of injury prevention activities.

Mr. Withrow detailed the numerous benefits of the final rule, which include better information obtained, makes it easier to identify, target, and remove workplace safety and health hazards.

Next, he detailed the costs, and informed the Board of OSHA's conclusion that the final rule is economically and technologically feasible.

In conclusion, Mr. Withrow recommended that the Safety and Health Codes Board adopt the Final Rule to Improve Tracking of Workplace Injuries and Illnesses, §§1904.35, 1904.36, and 1904.41; Final Rule; and the Correction to §1904.35(b)(2), as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of January 1, 2017, except for §§1904.35 and 1904.36, which become effective on December 1, 2016.

Mr. Malveaux expressed his concern that this final rule will be a deincentive to honest employers from reporting and the reports in terms of accidents and injuries and illnesses being made available through public information. He stated that employers would be exposing themselves to in the press. He added that state organizations have raised concerns the possible negative impact this final rule will have on honest reporting. Lastly, he stated that there might be a better approach through a voluntary compliance or enhanced abatement.

Mr. Withrow added that Virginia is a State Plan State and is required to either adopt this federal regulation or something equivalent to it, with one exception – Recordkeeping. He stated that OSHA does not allow State Plans to adopt something different when it comes to recordkeeping regulations mostly because the scientific data collection requirements must be the same everywhere; if not, the validity of the data is lost.

A motion to accept the Department's recommendation was properly made and seconded. The motion was approved by voice vote. Mr. Malveaux voted nay.

16VAC 25-60, Notice of Intended Regulatory Action (NOIRA) to Amend Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program

Mr. Jay Withrow requested the Safety and Health Codes Board to consider for adoption federal OSHA's final rule to Improve Tracking of Workplace Injuries and Illnesses, as published on May 12, 2016 in 81 FR 29623; and its Correction, as published on May 20, 2016, in 81 FR 31854.

Mr. Withrow requested the Board to authorize a NOIRA to establish procedures for the application of penalties for state and local government employers in accordance with §40.1-2.1 of the Code of Virginia. He explained that allowing VOSH to issue proposed penalties to state and local government employers

for willful, repeat and failure-to-abate violations, as well as serious violations that cause a fatal accident or are classified as "high gravity", i.e., a violation that is classified as "high severity" and "high probability".

To explain the basis for this NOIRA, Mr. Withrow stated that recent incidents, resulting in the death of government employees, as well as other accident situations, have highlighted a need for an additional incentive for compliance with the safety and health laws and regulations. He continued by stating that from January 1, 2007 to August 1, 2014, twenty-nine fatalities and catastrophes occurred in state and local government employment. He informed the Board of the 2016 legislative action by the General Assembly amending the language in the existing statute to allow the issuance of monetary penalties to state and local government employers for certain occupational safety and health program violations. He stated that this statutory change, introduced by DOLI in 2007, was approved by the General Assembly and signed by Governor McAuliffe on March 29, 2016, effective on July 1, 2016.

Mr. Withrow informed the Board that the proposed imposition of penalties has the anticipated deterrent effect, pro-active steps to develop and implement injury and illness prevention programs can have a significant positive impact in reducing injury and illness rates and the significant associated costs for employers. He stated that employees will benefit from the identification and correction of workplace hazards as a result of cited violations and issued penalties, the development and implementation of injury and illness prevention programs, and the anticipated reduction injuries and illnesses. He added that no significant impact is anticipated on the Department from the adoption of this amendment.

In conclusion, Mr. Withrow recommended that the Safety and Health Codes Board direct the Department to initiate a Notice of Intended Regulatory Action (NOIRA) to amend the Administrative Regulation for the VOSH Program by filing a Notice of Intended Regulatory Action (NOIRA), pursuant to the Virginia Administrative Process Act, §2.2-4007 of the *Code of Virginia.*

A motion to accept the Department's recommendation was properly made and seconded. The motion was approved unanimously by voice vote.

Report of Periodic Review of Certain Existing Regulations

Ms. Holly Raney, Regulatory Coordinator for the Department of Labor and Industry, reported on the Board's March 3, 2016, approval to proceed with the periodic review process. She added that no comments were received during the twenty-one day public comment period (May 23, 2016 to June 14, 2016). She explained the periodic review and analysis process for the affected regulations, which considers the following factors: continued need for the regulation; complexity of the regulation; extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and the length of time since the regulation has been evaluated or affected by technology, economic conditions, etc.

On behalf of the Department, Ms. Raney made the following recommendations:

1. 16VAC25-11, Public Participation Guidelines – amend through the fast-track rulemaking process.
2. 16VAC25-50, Boiler and Pressure Vessel Rules and Regulations – amend as a proposed regulation to include the most recent editions of the Documents Incorporated by Reference;
3. 16VAC25-160, Construction Industry Standard for Sanitation – retain with no changes; and

4. 16VAC25-180, Virginia Field Sanitation Standard, Agriculture – retain with no changes.

A motion to accept the Department's recommendation was properly made and seconded. The recommendation was approved unanimously by voice vote.

Public Participation Guidelines, 16VAC25-11-50; Fast-Track Amendment

Ms. Regina Cobb, Senior Management Analyst for the Department of Labor and Industry, requested the board to consider for adoption an amendment to Subsection A of 16VAC25-11, Public Participation Guidelines, pursuant to the fast-track regulatory process of §2.2-4012.1 of the *Code of Virginia*.

She explained that Chapter 795 of the 2012 Acts of Assembly amended the Public Participation Guidelines of the Administrative Process (APA) at §2.2-4007.02 of the *Code of Virginia*. She stated that during the periodic review of this regulation, the Department of Planning and Budget informed the Department of Labor and Industry of a required revision to the Public Participation Guidelines. Ms. Cobb explained that the revised amended APA language required the Board to afford interested persons an opportunity to present their views and be accompanied by and represented by counsel or other representative in the promulgation of any regulatory action.

She continued by stating that the fast-track rulemaking process was being used for this regulation because this amendment is expected to be non-controversial, the Board has no discretion over the proposal, and no individual or entity will be adversely affected by this required regulatory change.

Lastly, she stated that the Department does not anticipate any impact on Virginia employers, employees or this Department.

In conclusion, on behalf of the Department of Labor and Industry, Ms. Cobb recommended that the Board consider for adoption an amendment to Subsection A of the Public Participation Guidelines, 16VAC25-11-50, pursuant to the fast-track regulatory process of §2.2-4012.1 of the *Code of Virginia*.

A motion to accept the Department's recommendation was properly made and seconded. The recommendation was approved unanimously by voice vote.

Items of Interest from the Department of Labor and Industry

Mr. John Crisanti, Manager of the Office of Policy and Planning for the Department of Labor and Industry, addressed the Board to briefly review the venues for Board meetings over the last 25 years and difficulties regarding both meeting room availability and related parking issues as the rationale for holding meetings of the Board at Main Street Centre since 2015. He also apologized for the temporary construction work ongoing in the building on behalf on a new tenant moving in. In closing, Mr. Crisanti asked if the Board decided it had concerns to please let him know.

Next, Commissioner Ray Davenport explained to the Board that the Department was unsuccessful with respect to the General Assembly passing our Agency budget proposals. He stated that the Department still has twelve unfunded compliance positions. He also mentioned an email, with a public service announcement (PSA) attached, was sent to each Board member. The PSA discussed the increase in workplace fatalities in Virginia. He stated that, at the time of the PSA, there were 29 fatalities with

which VOSH has been involved. He added that two more fatalities have occurred statewide since the PSA, not including three fatalities not on our list.

He asked each Board member to extend our concern about workplace fatalities through work organizations, other Board memberships, etc., because it is important to get the word out about these workplace fatalities.

Lastly, he thanked the Board for their time commitments.

Items of Interest from the Department or from the Board

A question was asked about OSHA increasing their fines substantially. Mr. Withrow responded that the Department has put in a legislative change to increase penalties.

Adjournment

There being no further business, a motion was properly made and seconded to adjourn the meeting. The motion was carried unanimously by voice vote. The meeting adjourned at 1 p.m.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

BRIEFING PACKAGE

February 16, 2017

Proposed Regulatory Action to Amend
16 VAC 25-50, Boiler and Pressure Vessel Rules and Regulations

I. Action Requested

The Boiler Safety Compliance Program of the Virginia Department of Labor and Industry requests the Safety and Health Codes Board to consider for adoption as a proposed regulation of the Board amendments to 16 VAC 25-50, Boiler and Pressure Vessel Rules and Regulations, pursuant to the Virginia Administrative Process Act, §2.2-4007.01.

II. Summary of the Proposed Regulation

The Boiler Safety Compliance Program seeks to amend the Boiler and Pressure Vessel Rules and Regulations by updating to the most recent editions of the following "Forms" and "Documents Incorporated by Reference" (DIBR), as listed below:

Forms (16VAC 25-50)

Form R-1, Report of Repair, National Board Inspection Code NB-66 ~~(rev. 2012)~~ (rev.13 6/28/15)

Form R-2, Report of Alteration, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-229 (rev.7 11/12/15)

Form R-3, Report of Parts Fabricated By Welding, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-230 (Rev.3 9/24/15)

Form R-4, Report Supplementary Sheet, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-231 (9/23/15).

Documents Incorporated by Reference (16VAC 25-50)

1. ~~2007~~ 2015 Boiler and Pressure Vessel Code, ASME Code, American Society of Mechanical Engineers;

2. National Board Bylaws, national Board of boiler and Pressure Vessel Inspectors, ~~August 8, 1996~~ August 12, 2015;

3. ANSI/NB 23, ~~2007~~ 2015 National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors;

4. ASME Code B 31.1, ASME Code for Pressure Piping, American National Standards Institute, ~~2007~~ 2014;

5. NFPA 85 Boiler and Combustion Systems Hazards, ~~2001 Edition~~ 2015 Edition, National Fire Protection Association;

6. Part CG (General), Part CW (Steam and Waterside Control) and Part CF (Combustion Side Control) Flame Safeguard of ANSI/ASME CSD-1, Controls and Safety Devices for Automatically Fired Boilers, ~~2009~~ 2012, American Society of Mechanical Engineers; and

7. API 510, Pressure Vessel Inspection Code, Maintenance Inspection, Rating, Repair and Alteration, ~~Ninth Edition~~ Tenth Edition, ~~June 2006~~ May 2014, American Petroleum Institute.

III. Basis and Purpose of Intended Regulatory Action

A. Basis

The Safety and Health Codes Board is authorized by Title 40.1-51.6.A. of the *Code of Virginia* to:

> "...formulate definitions, rules, regulations and standards which shall be designed for the protection of human life and property from the unsafe or dangerous construction, installation, inspection, operation, maintenance and repair of boilers and pressure vessels in this Commonwealth."

B. Purpose

The purpose of the proposed regulatory action is to conform to the most current editions of the ASME, NBIC, and NFPA safety and inspection codes, as noted in Section II of this briefing package.

IV. Impact on Employers, Employees and the Department

A. Impact on Employers

For the most part, there would be little impact on employers as a result of the American Society Mechanical Engineers (ASME), National Board Inspection Code (NBIC), and National Fire Protection Association (NFPA) code updates. Companies that utilize the ASME or NBIC codes for construction or repair are already required to have and work to the current editions of these codes, therefore, there is no financial burden for them to purchase the most recent editions. The major change would be the requirement in the NBIC for signage and metering for CO_2 tank installations.

B. Impact on Employees

No negative impact is anticipated on employees as a result of the proposed regulatory changes. For employees working in, and citizens visiting, the restaurant, fast food, and convenience store industry utilizing CO_2 tanks for beverage dispensers, there will be additional safety added by the requirement for CO_2 metering/alarms.

C. Impact on the Department of Labor and Industry

Any impact on the Department would be minimal because the Department already has copies of, and already follows, the most recent editions of the NBIC and ASME when performing reviews of manufacturers and repair shops. As noted in subsection IV.A., above, such firms are required to use the most recent code edition.

V. Comments

The Boiler Safety Compliance Program of the Virginia Department of Labor and Industry received no comments during the August 8, 2016 through September 7, 2016, NOIRA 30-day public comment period.

Contact Person:

Mr. Ed Hilton
Director, Boiler Safety Compliance
(804) 786-3262
Ed.Hilton@doli.virginia.gov

RECOMMENDED ACTION

The Boiler Safety Compliance Program recommends that the Safety and Health Codes Board adopt the amendments to 16 VAC 25-50, Boiler and Pressure Rules and Regulation as a proposed regulation of the Board, as authorized by §40.1-51.6.

The Department also recommends that the Board state in any motion it may make to amend this regulation that it will receive, consider and respond to petitions by any interested person with respect to reconsideration or revision of this or any other regulation.

16 VAC 25-50, Proposed Regulation to Amend the Boiler and Pressure Vessel Rules and Regulations

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

E. The completed forms for routine repairs, as the term is defined in the National Board Inspection Code, need not be forwarded to the chief inspector.

FORMS

Form R-1, Report of Repair, National Board Inspection Code NB-66 ~~(rev. 2012)~~ (rev.13 6/28/15)

Form R-2, Report of Alteration, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-229 (rev.7 11/12/15)

Form R-3, Report of Parts Fabricated By Welding, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-230 (Rev.3 9/24/15).

Form R-4, Report Supplementary Sheet, National Board Inspection Code ~~(eff. 1/1/99)~~ NB-231 (9/23/15).

Documents Incorporated by Reference

~~2007~~ 2015 ASME Boiler and Pressure Vessel Code, ASME Code, American Society of Mechanical Engineers;

National Board Bylaws, national Board of boiler and Pressure Vessel Inspectors, ~~August 8, 1996~~ August 12, 2015;

ANSI/NB 23, ~~2007~~ 2015 National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors;

ASME Code B31.1, ASME Code for Power Piping, American National Standards Institute, ~~2007~~ 2014;

NFPA 85 Boiler and Combustion Systems Hazards, ~~2001 Edition~~ 2015 Edition, National Fire Protection Association;

Part CG (General), Part CW (Steam and Waterside Control) and Part CF (Combustion Side Control) Flame Safeguard of ANSI/ASME CSD-1, Controls and Safety Devices for Automatically Fired Boilers, ~~2009~~ 2012, American Society of Mechanical Engineers;

API 510, Pressure Vessel Inspection Code, Maintenance Inspection, Rating, Repair and Alteration, ~~Ninth~~ Tenth Edition, June ~~2006~~ 2014, American Petroleum Institute.

COMMONWEALTH of VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

Briefing Package

February 16, 2017

16VAC-25-60, et seq., Proposed Amendments to the Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program; State and Local Government Penalties

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption, as a proposed regulation of the Board, the attached proposed language to amend 16VAC25-60, *et seq.*, Administrative Regulation for the VOSH Program, State and Local Government Penalties.

II. Summary of the Issues Under Consideration for Amendment

The proposed amendment establishes procedures for the application of penalties for state and local government employers in accordance with §40.1-2.1 of the *Code of Virginia.* In 2016, the Virginia General Assembly passed and Governor Terry R. McAuliffe signed into law legislation that allows the Board to authorize the Commissioner to issue penalties to state and local government employers. During the legislative process, the Department represented to General Assembly members that it would pursue authorization from the Board to:

> Allow VOSH to issue proposed penalties to state and local government employers for willful, repeat and failure-to-abate violations, as well as serious violations that cause a fatal accident or are classified as "high gravity", i.e., a violation that is classified as "high severity" and "high probability". An example of a "high gravity" serious violation would be one where a violation directly results in non-fatal but serious injuries such as broken bones or amputations. Violations that are classified as non-high gravity serious, and other-than-

serious violations would not receive a penalty.

III. Basis, Purpose and Impact of the Proposed Rulemaking.

A. Basis

The Safety and Health Codes Board is authorized by Title 40.1-22(5) to:

> "... adopt, alter, amend, or repeal rules and regulations to further, protect and promote the safety and health of employees in places of employment over which it has jurisdiction and to effect compliance with the federal OSH Act of 1970...as may be necessary to carry out its functions established under this title".
>
> "In making such rules and regulations to protect the occupational safety and health of employees, the Board shall adopt the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence that no employee will suffer material impairment of health or functional capacity".
>
> "However, such standards shall be at least as stringent as the standards promulgated by the federal OSH Act of 1970 (P.L.91-596). In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experiences gained under this and other health and safety laws."

Recent incidents which have resulted in the death of government employees, as well as other accident situations, have highlighted a need for an additional incentive for compliance with the safety and health laws and regulations. From January 1, 2007 to August 1, 2014, twenty-nine fatalities and catastrophes occurred in state and local government employment. The deterrent effect of a penalty can reduce this number by encouraging compliance. The Department introduced this legislation in 2007 based on what we viewed at the time as a high number of fatalities among government employees. Unfortunately, the rate of fatalities and catastrophes for state and local employees has increased from an average of 2.2 per year before the Department introduced the legislation to 3.9 per year since then.

Action by the General Assembly during the 2016 Session amended the language in the existing statute to allow the issuance of monetary penalties to state and local government employers for certain occupational safety and health program violations. On March 29, 2016, a statutory change approved by the General Assembly was signed by Governor McAuliffe with an effective date of July 1, 2016. *[Refer to Attachment-1 to this package.]*

B. Purpose

The purpose of amending the Administrative Regulation is to establish procedures for the application of penalties for state and local government employers in accordance with §40.1-2.1 of the *Code of Virginia.*

C. Impact on Employers

An average of three (3) willful violations have been issued by VOSH per year in the public sector. Since 2007 there have been 24 willful violations, all of which have been issued to local government employers. An average of 1.4 repeated violations are issued per year to local government and 3.3 to state agencies.

Approximately five percent (5%) of the serious violations issued are classified as high gravity. VOSH estimates that 15 such violations in state and local government would be subject to penalty per year. The average penalty issued for high gravity serious items is $6,300.

VOSH estimates up to three willful violations per year and up to five repeat violations per year. The average penalty for a "high gravity" willful violation is $63,000 and for a repeat is $12,600. VOSH estimates that total penalties on a per year basis could range from zero to $346,500.[1] In 2015, the National Safety Council (NSC) reported that the average cost of a medically consulted occupational injury in 2013 was $42,000. *(NSC Injury Facts, 2015 Edition, p. 69 - includes estimates of wage losses, medical expenses, administrative expenses, and employer costs; excludes property damage costs except to motor vehicles).* See reference at:

http://www.nsc.org/Membership%20Site%20Document%20Library/2015%20Injury%20Facts/NSC_InjuryFacts2015Ed.pdf

If the proposed imposition of penalties has the anticipated deterrent effect, pro-active steps to develop and implement injury and illness prevention programs can have a significant positive impact in reducing injury and illness rates and the significant associated costs for employers.

The Washington State Plan, which is tied directly into the states' workers' compensation system, conducted a study on "The Impact of DOSH Enforcement and Consultation Visits on Workers' Compensation Claims Rates and Costs, 1999-2008",[2] May, 2011. The study reviewed ten annual studies on the topic and found that:

> "...**enforcement inspections** conducted at fixed worksites 'were associated with a 7.4% larger decrease in non-MSD [musculoskeletal

[1] Va. Code §40.1-49.4.A.4(a) provides that the calculation of penalties shall take into account the size of the business of the employer being charged, the gravity of the violation, the good faith of the employer, and the history of previous violations.

[2] http://www.lni.wa.gov/Safety/Research/Files/OccHealth/DoshEnforce19992008.pdf

disorder] compensable claims rates relative to employers with no DOSH activity. DOSH **consultation visits were associated with a 24.8% larger decrease** in non-MSD compensable claims rates relative to employers with no DOSH activity.' *(Emphasis added)*.

and

"...enforcement inspections were associated with a **3.1% larger decrease** in compensable claims rates relative to employers with no DOSH activity. DOSH **consultation** visits were associated with an **8.5% larger decrease** in compensable claims rates relative to employers with no DOSH activity." *(Emphasis added)*.

D. Impact on Employees

Employees will benefit from the identification and correction of workplace hazards as a result of cited violations and issued penalties, the development and implementation of injury and illness prevention programs, and the anticipated reduction in injuries and illnesses.

According to OSHA publication "Adding Inequality to Injury: The Costs of Failing to Protect Workers on the Job", "the costs of workplace injury and illness are borne primarily by injured workers, their families, and tax-payer supported safety net programs....workers' compensation payments cover only a small fraction (about 21%) of lost wages and medical costs of work injuries and illnesses, workers, their families and private health insurance pay for nearly 63 percent of these costs, with taxpayers shouldering the remaining 16%."[3]

E. Impact on the Department of Labor and Industry

No significant impact on agency operations is anticipated. Adding penalties to citations issued does not significantly increase the workload for an individual VOSH Compliance Safety and Health Officer (CSHO). As referenced above, it is only anticipated that approximately 21 violations per year will carry a penalty for state and local government employers.

Contact Person:

Mr. Jay Withrow
Director, Legal Support, VPP, ORA, OPP and OWP
(804) 786-9873
withrow.jay@doli.virginia.gov

[3] https://www.osha.gov/Publications/inequality_michaels_june2015.pdf

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board consider for adoption, as a proposed regulation of the Board, the attached proposed amendments to 16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program; in accordance with the authority of the Board under §40.1-22(5) and the requirements of the Administrative Process Act §2.2-4000, *et seq.*

The Department also recommends that the Board state in any motion it may make that it will receive, consider, and respond to petitions by any interested person with respect to reconsideration or revision of any regulation under the purview of the Board.

16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-60, *et seq.*, Administrative Regulation for the Virginia Occupational Safety and Health (VOSH) Program

Part I
Definitions

16VAC25-60-10. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Abatement period" means the period of time defined or set out in the citation for correction of a violation.

"Board" means the Safety and Health Codes Board.

"Bureau of Labor Statistics" means the Bureau of Labor Statistics of the United States Department of Labor.

"Citation" means the notice to an employer that the commissioner has found a condition or conditions that violate Title 40.1 of the Code of Virginia or the standards, rules or regulations established by the commissioner or the board.

"Commissioner" means the Commissioner of Labor and Industry. Except where the context clearly indicates the contrary, any such reference shall include his authorized representatives.

"Commissioner of Labor and Industry" means only the individual who is Commissioner of Labor and Industry.

"Department" means the Virginia Department of Labor and Industry.

"De minimis violation" means a violation which has no direct or immediate relationship to safety and health.

"Employee" means an employee of an employer who is employed in a business of his employer.

"Employee representative" means a person specified by employees to serve as their representative.

"Employer" means any person or entity engaged in business who has employees but does not include the United States.

"Establishment" means, for the purpose of record keeping requirements, a single physical location where business is conducted or where services or industrial operations are performed, e.g., factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office. Where distinctly separate activities are performed at a single physical location, such as contract activities operated from the same physical location as a lumberyard; each activity is a separate establishment. In the public sector, an establishment is either (i) a single physical location

where a specific governmental function is performed; or (ii) that location which is the lowest level where attendance or payroll records are kept for a group of employees who are in the same specific organizational unit, even though the activities are carried on at more than a single physical location.

"Failure to abate" means that the employer has failed to correct a cited violation within the period permitted for its correction.

"FOIA" means the Freedom of Information Act.

"Gravity based penalty" means an unadjusted penalty that is calculated based on the severity of the hazard and the probability that an injury or illness would result from the hazard.

"High gravity violation" means a violation with a gravity based penalty calculated at the statutory maximums contained in §§40.1-49.4 H through J.

"Imminent danger condition" means any condition or practice in any place of employment such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through standard enforcement procedures provided by Title 40.1 of the Code of Virginia.

"OSHA" means the Occupational Safety and Health Administration of the United States Department of Labor.

"Other violation" means a violation which is not, by itself, a serious violation within the meaning of the law but which has a direct or immediate relationship to occupational safety or health.

"Person" means any individual, corporation, partnership, association, cooperative, limited liability company, trust, joint venture, government, political subdivision, or any other legal or commercial entity and any successor, representative, agent, agency, or instrumentality thereof.

"Public employer" means the Commonwealth of Virginia, including its agencies, authorities, or instrumentalities or any political subdivision or public body.

"Public employee" means any employee of a public employer. Volunteer members of volunteer fire departments, pursuant to § 27-42 of the Code of Virginia, members of volunteer rescue squads who serve without pay, and other volunteers pursuant to the Virginia State Government Volunteers Act are not public employees. Prisoners confined in jails controlled by any political subdivision of the Commonwealth and prisoners in institutions controlled by the Department of Corrections are not public employees unless employed by a public employer in a work-release program pursuant to § 53.1-60 or § 53.1-131 of the Code of Virginia.

"Recordable occupational injury and illness" means (i) a fatality, regardless of the time between the injury and death or the length of illness; (ii) a nonfatal case that results in lost work days; or (iii) a nonfatal case without lost work days which results in transfer to another job or termination of

employment, which requires medical treatment other than first aid, or involves loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illness which is reported to the employer but is not otherwise classified as a fatality or lost work day case.

"Repeated violation" means a violation deemed to exist in a place of employment that is substantially similar to a previous violation of a law, standard or regulation that was the subject of a prior final order against the same employer. A repeated violation results from an inadvertent or accidental act, since a violation otherwise repeated would be willful.

"Serious violation" means a violation deemed to exist in a place of employment if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment, unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation. The term "substantial probability" does not refer to the likelihood that illness or injury will result from the violative condition but to the likelihood that, if illness or injury does occur, death or serious physical harm will be the result.

"Standard" means an occupational safety and health standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment.

"VOSH" means Virginia Occupational Safety and Health.

"Willful violation" means a violation deemed to exist in a place of employment where (i) the employer committed an intentional and knowing, as contrasted with inadvertent, violation and the employer was conscious that what he was doing constituted a violation; or (ii) the employer, even though not consciously committing a violation, was aware that a hazardous condition existed and made no reasonable effort to eliminate the condition.

"Working days" means Monday through Friday, excluding legal holidays, Saturday, and Sunday.

16VAC25-60-20. Jurisdiction.

All Virginia statutes, standards, and regulations pertaining to occupational safety and health shall apply to every employer, employee and place of employment in the Commonwealth of Virginia except where:

1. The United States is the employer or exercises exclusive jurisdiction;

2. The federal Occupational Safety and Health Act of 1970 does not apply by virtue of § 4(b)(1) of that Act. The commissioner shall consider federal OSHA case law in determining where jurisdiction over specific working conditions has been preempted by the regulations of a federal agency; or

3. The employer is a public employer, as that term is defined in this chapter. In such cases, the Virginia laws, standards and regulations governing occupational safety and health are applicable as stated including 16VAC25-60-10, 16VAC25-60-30, 16VAC25-60-260, 16VAC25-60-280, 16VAC25-60-290, and 16VAC25-60-300.

Part II

General Provisions

....

16VAC25-60-30. Applicability to public employers.

A. All occupational safety and health standards adopted by the board shall apply to public employers and their employees in the same manner as to private employers.

B. All sections of this chapter shall apply to public employers and their employees. Where specific procedures are set out for the public sector, such procedures shall take precedence.

C. The following portions of Title 40.1 of the Code of Virginia shall apply to public employers: §§ 40.1-10, 40.1-49.4 A(1), 40.1-49.4 A(4), except that the reference to subsection G does not apply, 40.1-49.4 C, 40.1-49.4 D, 40.1-49.4 H through J, 40.1-49.8, 40.1-51, 40.1-51.1, 40.1-51.2, 40.1-51.2:1, 40.1-51.3, 40.1-51.3:2, and 40.1-51.4:2.

D. Section 40.1-51.2:2 A of the Code of Virginia shall apply to public employers except that the commissioner shall not bring action in circuit court in the event that a voluntary agreement cannot be obtained.

E. Sections 40.1-49.4 A(4), except that the reference to subsection G does not apply, 40.1-49.4 C, 40.1-49.4 D, 40.1-49.4 F, 40.1-49.4 H through J, 40.1-49.9, 40.1-49.10, 40.1-49.11, 40.1-49.12, and 40.1-51.2:2 of the Code of Virginia shall apply to public employers other than the Commonwealth and its agencies.

F. If the commissioner determines that an imminent danger situation, as defined in § 40.1-49.4 F of the Code of Virginia, exists for an employee of the Commonwealth or one of its agencies, and if the employer does not abate that imminent danger immediately upon request, the Commissioner of Labor and Industry shall forthwith petition the governor to direct that the imminent danger be abated.

G. If the commissioner is unable to obtain a voluntary agreement to resolve a violation of § 40.1-51.2:1 of the Code of Virginia by the Commonwealth or one of its agencies, the Commissioner of Labor and Industry shall petition for redress in the manner provided in this chapter.

....

Part VI
Citation and Penalty

16VAC25-60-260. Issuance of citation and proposed penalty.

A. Each citation shall be in writing and describe with particularity the nature of the violation or violations, including a reference to the appropriate safety or health provision of Title 40.1 of the Code of Virginia or the appropriate rule, regulation, or standard. In addition, the citation must fix a reasonable time for abatement of the violation. The commissioner shall have authority to propose penalties for cited violations in accordance with §40.1-49.4 of the Code of Virginia and this Chapter. The citation will contain substantially the following: "NOTICE: This citation will become a final order of the commissioner unless contested within fifteen working days from the date of receipt by the employer." The citation may be delivered to the employer or his agent by the commissioner or may be sent by certified mail or by personal service to an officer or agent of the employer or to the registered agent if the employer is a corporation.

1. No citation may be issued after the expiration of six months following the occurrence of any alleged violation. The six-month time frame is deemed to be tolled on the date the citation is issued by the commissioner, without regard for when the citation is received by the employer. For purposes of calculating the six-month time frame for citation issuance, the following requirements shall apply:

a. The six-month time frame begins to run on the day after the incident or event occurred or notice was received by the commissioner (as specified below), in accordance with § 1-210 A of the Code of Virginia. The word "month" shall be construed to mean one calendar month in accordance with § 1-223 of the Code of Virginia.

b. An alleged violation is deemed to have "occurred" on the day it was initially created by commission or omission on the part of the creating employer, and every day thereafter that it remains in existence uncorrected.

c. Notwithstanding subdivision 1 b of this subsection, if an employer fails to notify the commissioner of any work-related incident resulting in a fatality or in the in-patient hospitalization of three or more persons within eight hours of such occurrence as required by § 40.1-51.1 D of the Code of Virginia, the six-month time frame shall not be deemed to commence until the commissioner receives actual notice of the incident.

d. Notwithstanding subdivision 1 b of this subsection, if the commissioner is first notified of a work-related incident resulting in an injury or illness to an employee(s) through receipt of an Employer's Accident Report (EAR) form from the Virginia Workers' Compensation Commission as provided in § 65.2-900 of the Code of Virginia, the six-month time frame shall not be deemed to commence until the commissioner actually receives the EAR form.

e. Notwithstanding subdivision 1 b of this subsection, if the commissioner is first notified of a work-related hazard, or incident resulting in an injury or illness to an employee(s), through receipt of a

complaint in accordance with 16VAC25-60-100 or referral, the six-month time frame shall not be deemed to commence until the commissioner actually receives the complaint or referral.

B. A citation issued under subsection A to an employer who violates any VOSH law, standard, rule or regulation shall be vacated if such employer demonstrates that:

1. Employees of such employer have been provided with the proper training and equipment to prevent such a violation;

2. Work rules designed to prevent such a violation have been established and adequately communicated to employees by such employer and have been effectively enforced when such a violation has been discovered;

3. The failure of employees to observe work rules led to the violation; and

4. Reasonable steps have been taken by such employer to discover any such violation.

C. For the purposes of subsection B only, the term "employee" shall not include any officer, management official or supervisor having direction, management control or custody of any place of employment which was the subject of the violative condition cited.

D. The penalties as set forth in § 40.1-49.4 of the Code of Virginia shall also apply to violations relating to the requirements for record keeping, reports or other documents filed or required to be maintained and to posting requirements.

E. In determining the amount of the proposed penalty for a violation the commissioner will ordinarily be guided by the system of penalty adjustment set forth in the VOSH Field Operations Manual. In any event the commissioner shall consider the gravity of the violation, the size of the business, the good faith of the employer, and the employer's history of previous violations.

The commissioner shall have authority to propose civil penalties to public employers for willful, repeat and failure-to-abate violations in accordance with §§40.1-49.4 I and J; and for serious violation(s) that cause death to an employee or are classified as high gravity in accordance with §40.1-49.4 H.

F. On multi-employer worksites for all covered industries, citations shall normally be issued to an employer whose employee is exposed to an occupational hazard (the exposing employer). Additionally, the following employers shall normally be cited, whether or not their own employees are exposed:

1. The employer who actually creates the hazard (the creating employer);

2. The employer who is either:

a. Responsible, by contract or through actual practice, for safety and health conditions on the entire worksite, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or

b. Responsible, by contract or through actual practice, for safety and health conditions for a specific area of the worksite, or specific work practice, or specific phase of a construction project, and has the authority for ensuring that the hazardous condition is corrected (the controlling employer); or

3. The employer who has the responsibility for actually correcting the hazard (the correcting employer).

G. A citation issued under subsection F of this section to an exposing employer who violates any VOSH law, standard, rule or regulation shall be vacated if such employer demonstrates that:

1. The employer did not create the hazard;

2. The employer did not have the responsibility or the authority to have the hazard corrected;

3. The employer did not have the ability to correct or remove the hazard;

4. The employer can demonstrate that the creating, the controlling and/or the correcting employers, as appropriate, have been specifically notified of the hazards to which his employees were exposed;

5. The employer has instructed his employees to recognize the hazard and, where necessary, informed them how to avoid the dangers associated with it;

6. Where feasible, an exposing employer must have taken appropriate alternative means of protecting employees from the hazard; and

7. When extreme circumstances justify it, the exposing employer shall have removed his employees from the job.

....

16VAC25-60-270. Contest of citation or proposed penalty; general proceedings.

A. An employer to whom a citation, abatement order or proposed penalty has been issued may contest the citation by notifying the commissioner in writing of the contest. The notice of contest must be mailed or delivered by hand within 15 working days from the receipt of the citation or proposed penalty. No mistake, inadvertence, or neglect on the part of the employer shall serve to extend the 15 working day period in which the employer must contest.

B. The notice of contest shall indicate whether the employer is contesting the alleged violation, the proposed penalty or the abatement time.

C. Employees may contest abatement orders by notifying the commissioner in the same manner as described at subsection A.

D ~~C~~. The employer's contest of a citation or proposed penalty shall not affect the citation posting requirements of 16VAC25-60-40 unless and until the court ruling on the contest vacates the citation.

E ~~D~~. When the commissioner has received written notification of a contest of citation or proposed penalty, he will attempt to resolve the matter by settlement, using the procedures of 16VAC25-60-330 and 16VAC25-60-340.

F ~~E~~. If the matter is not settled or it is determined that settlement does not appear probable, the commissioner will initiate judicial proceedings by referring the contested issues to the appropriate Commonwealth's Attorney and arranging for the filing of a bill of complaint and issuance of a subpoena to the employer.

G ~~F~~. A contest of the proposed penalty only shall not stay the time for abatement.

....

16VAC25-60-280. General contest proceedings applicable to the public sector.

~~A. The commissioner will not propose penalties for citations issued to public employers.~~

A ~~B~~. Public employers may contest citations, ~~or~~ abatement orders or proposed penalties by notifying the commissioner in writing of the contest. The notice of contest must be mailed or delivered by hand within 15 working days from receipt of the citation or abatement order. No mistake, inadvertence, or neglect on the part of the employer shall serve to extend the 15 working day period during which the employer may contest.

B ~~C~~. The notice of contest shall indicate whether the public employer is contesting the alleged violations, the proposed penalty or the abatement order.

C ~~D~~. Public employees may contest abatement orders by notifying the commissioner in the same manner as described at subsection A ~~B~~.

D ~~E~~. The commissioner shall seek to resolve any controversies or issues rising from a citation issued to any public employer in an informal conference as described in 16VAC25-60-330.

E ~~F~~. The contest by a public employer shall not affect the requirements to post the citation as required at 16VAC25-60-40 unless and until the commissioner's or the court ruling on the contest vacates the citation. A contest of a citation may stay the time permitted for abatement pursuant to § 40.1-49.4 C of the Code of Virginia.

F. A contest of the proposed penalty only shall not stay the time for abatement.

VIRGINIA ACTS OF ASSEMBLY -- 2016 SESSION

CHAPTER 526

An Act to amend and reenact § 40.1-2.1 of the Code of Virginia, relating to the occupational safety and health program applicable to employees of agencies of the Commonwealth, political subdivisions, and other public bodies.

[S 607]

Approved March 29, 2016

Be it enacted by the General Assembly of Virginia:

1. That § 40.1-2.1 of the Code of Virginia is amended and reenacted as follows:

§ 40.1-2.1. Application of title to Commonwealth and its agencies, etc.; safety and health program for public employees.

The provisions of this title and any rules and regulations promulgated pursuant thereto shall not apply to the Commonwealth or any of its agencies, institutions, or political subdivisions, or any public body, unless, and to the extent that, coverage is extended by specific regulation of the Commissioner or the ~~Safety and Health Codes~~ Board. The Commissioner is authorized to establish and maintain an effective and comprehensive occupational safety and health program applicable to employees of the Commonwealth, its agencies, institutions, political subdivisions, or any public body. Such program shall be subject to any State plan submitted to the federal government for State enforcement of the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596), or any other regulation promulgated under Title 40.1. The Commissioner *or the Board* shall establish procedures *and adopt regulations* for enforcing the program ~~which~~ *that* shall include provisions for *(i) the issuance of proposed penalties; (ii) the payment of such penalties or a negotiated sum in lieu of such penalties; (iii) the deposit of such payments into the general fund of the state treasury; (iv)* fair hearings, including judicial review; and *(v) other* sanctions to be applied for violations.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

BRIEFING PACKAGE

For February 16, 2017

Clarification of Employer's Continuing Obligation to Make and Maintain an Accurate Record of Each Recordable Injury and Illness; Final Rule

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption federal OSHA's Final Rule on the Clarification of Employer's Continuing Obligation to Make and Maintain an Accurate Record of Each Recordable Injury and Illness, as published on December 19, 2016 in 81 FR 91792.

The proposed effective date is May 15, 2017.

II. Summary of the Standard

Federal OSHA has amended its recordkeeping regulations to clarify that the duty to make and maintain accurate records of work-related injuries and illnesses is an ongoing obligation. The duty to record an injury or illness continues for as long as the employer must keep records of the recordable injury or illness. The duty does not expire just because the employer fails to create the necessary records when first required to do so.

To that end, OSHA has revised the titles of some existing sections and subparts in Part 1904 and changed the text of some existing recordkeeping requirements. These amendments clarify the following:

a) ***OSHA 300 Log***. Employers must record every recordable injury or illness on the Log. This obligation continues through the five-year record retention-and-access period if employers do not create the record within seven days of when the employer learns of the injury or illness. During that five-year period, employers must update the OSHA 300 Log by adding cases not previously recorded and by noting changes to previously recorded cases.

b) ***OSHA 301 Incident Report***. Employers must prepare a Form 301 Incident Report for each recordable illness or injury. This obligation continues throughout the five-year retention-and-access period if employers do not prepare the report within seven days of when the employer learns of the injury or illness. Unlike with the OSHA 300 Log, employers are not required to update the Incident Report to show changes to the case that occur after the form is initially prepared.

c) ***Year-end records review; preparation certification; and posting of the Form 300A annual summary***. These ancillary tasks are intended to be performed at particular times during each year. They are not continuing obligations.

III. Basis, Purpose and Impact of the Amendment

A. Basis

OSHA has a longstanding position that an employer's duty to record an injury or illness continues for the full duration of the record-retention-and-access period, i.e., for five years after the end of the calendar year in which the injury or illness becomes recordable. *See Section 8(c) of the OSH Act (29 U.S.C. 657(c).* This means that if an employer still has an ongoing duty to record that case, the recording obligation does not expire simply because the employer failed to record the case when it was first required to do so.

As long as an employer fails to comply with its ongoing duty to record an injury or illness and, consequently, with its obligation to maintain accurate records, there is an ongoing violation of OSHA recordkeeping requirements that continue to occur every day employees work at the site. *See Section 9(c) of the OSH Act (29 U.S.C. 657(c).* Employers, therefore, can be cited for such recordkeeping violations for up to six months after the five-year retention period expires without running afoul of the OSH Act. *(See also §40.1-49.4 of the Code of Virginia and 16VAC25-60-260, A., Citation and Penalty).*

The amendments in this final rule were adopted in response to the *Volks II* decision of the United States Court of Appeals for the District of Columbia Circuit (*AKM LLC v. Sec'y of Labor*, 675 F.3d 752 (D.C. Cir. 2012)). In that case, a majority held, without discussion of the Commission precedent to the contrary, that the Occupational Safety and Health Act does not permit OSHA to impose a continuing recordkeeping obligation on employers. A concurring opinion, filed in this case, disagreed with this reading of the

statute, but found that the text of OSHA's recordkeeping regulations did not impose continuing recordkeeping duties. OSHA disagreed with the majority's reading of the law, but agreed that its recordkeeping regulations were not clear with respect to the continuing nature of employers' recordkeeping obligations.

Because of the *Volks II* decision, OSHA decided to clarify employers' obligations under recordkeeping regulations and to elaborate on its understanding of the statutory basis for those obligations.

B. Purpose

While there is statutory authority to impose continuing recordkeeping obligations, the text of the recordkeeping regulations did not make clear OSHA's longstanding intention to fully implement that authority. Therefore, OSHA has changed its recordkeeping regulations to clarify that the duty to make and maintain an accurate record of a work-related illness or injury is an ongoing obligation that continues until the required record is made or until the end of the record-retention-and-access period prescribed by the regulations.

The new rule is intended to clarify that if an employer fails to record an injury or illness within seven days, the obligation to record continues on past the seventh day, such that each successive day where the injury or illness remains unrecorded constitutes a continuing "occurrence" of the ongoing violation. If the employer records the injury on the twentieth, thirtieth, or some later day, the violation ceases to occur at that point, and any citation would need to be issued within six months of the cessation of the violation. OSHA states that this position is entirely consistent with section 9(c) of the federal OSH Act, regarding the OSH Act's statute of limitations dealing only with the question of when OSHA can cite a violation.

C. Impact on Employers

These amendments in the final rule are meant simply to clarify the employers' obligations. Under this final rule, an employer's obligations remain the same as they have always been under the recordkeeping rules: to record injuries and illnesses within seven days of when it learns of them and maintain the records for five years. The new rule simply reiterates and clarifies employers' existing obligations to record work-related injuries and illnesses.

This rule does not require employers to make records of any injuries or illnesses for which records were not already required. Also, the rule does not impose any new requirement that employers reconsider or reassess records once they have been made. Employers remain subject to the existing requirement that they ensure the accuracy and completeness of their 300 Logs.

D. Impact on Employees

Virginia Employees who have access to these work-related illness and injury records can use information about the occupational injuries and illnesses to become better informed about, and more alert to, the hazards they face. When employees are aware of the hazards around them, they may be more likely to follow safe work practices and report workplace hazards to their employers. As a result, Virginia employees will benefit from improved clarity of records for work-related injuries and illnesses.

E. Impact on the Department of Labor and Industry

In general, incomplete and inaccurate injury and illness records result in an ongoing non-compliance condition – namely employers, employees, and the government being denied access to information necessary to full enforcement of *§40.1-49.4 of the Code of Virginia* and 16VAC25-60-260. A.

Other than the above, no substantive impact on the Department is anticipated from the adoption of this amendment. This amendment clarifies what has always been OSHA's interpretation of its recordkeeping regulations.

Federal regulations 29 CFR 1953.23(a) and (b) require that Virginia, within six months of the occurrence of a federal program change, to adopt identical changes or promulgate equivalent changes which are at least as effective as the federal change. The Virginia Code reiterates this requirement in § 40.1-22(5). Adopting these revisions will allow Virginia to conform to the federal program change.

F. Benefits

The amended rule provides additional clarification of the existing and unchanged employers' obligations under the existing recordkeeping requirements to make and maintain accurate records of work-related injuries and illnesses. Adoption of the amended rule will result in no additional economic benefits.

G. Costs

OSHA accounted for the costs associated with full recordkeeping compliance as part of the 2001 rulemaking, which was adopted by the Board at its meeting on October 18, 2001. The revisions contained in this final rule impose no new cost burden because this final rule does not contain any new requirements for employers.

H. Technological Feasibility

OSHA believes the revisions to the recordkeeping rules are technologically feasible because they do not require employers to perform any actions that they were not already required to perform under existing recordkeeping requirements.

I. Economic Feasibility

Because the revisions to the recordkeeping rules do not impose any additional compliance costs, the final rule is deemed to be economically feasible. Additionally, the rule is not expected to have any effect on compliance costs and regulatory burden for employers, whether large or small.

Contact Person:

Mr. Jay Withrow, Director
Legal Support, VPP, ORA, OPP & OWP
804.786.9873
jay.withrow@doli.virginia.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board adopt federal OSHA's Final Rule for the Clarification of Employer's Continuing Obligation To Make and Maintain an Accurate Record of Each Recordable Injury and Illness, as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of May 15, 2017.

The Department also recommends that the Board state in any motion it may make to amend this regulation that it will receive, consider and respond to petitions by any interested person with respect to reconsideration or revision of this or any other regulation which has been adopted in accordance with the above-cited subsection A.4(c) of the Administrative Process Act.

Clarification of Employer's Continuing Obligation to Make and Maintain an Accurate Record of Each Recordable Injury and Illness; Final Rule

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-85-1904.32, Year-end Review and Annual Summary, §1904.32
16VAC25-85-1904.33, Retention and maintenance of Accurate Records, §1904.33
16VAC25-85-1904.34, Change in Business Ownership, §1904.34
16VAC25-85-1904.35, Employee Involvement, §1904.35
16VAC25-85-1904.40, Providing Accurate Records to Government Representatives, §1904.40

When the regulations, as set forth in the Final Rule for the Clarification of Employer's Continuing Obligation To Make and Maintain an Accurate Record of Each Recordable Injury and Illness, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
January 18, 2017	May 15, 2017

PART 1904—RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES

■ 2. Revise § 1904.0 to read as follows:

§ 1904.0 Purpose.

The purpose of this rule (part 1904) is to require employers to make and maintain accurate records of and report work-related fatalities, injuries, and illnesses, and to make such records available to the Government and to employees and their representatives so that they can be used to secure safe and healthful working conditions. For purposes of this part, accurate records are records of each and every recordable injury and illness that are made and maintained in accordance with the requirements of this part.

Note to § 1904.0: Recording or reporting a work-related injury, illness, or fatality does not mean that the employer or employee was at fault, that an OSHA rule has been violated, or that the employee is eligible for workers' compensation or other benefits.

Subpart C—Making and Maintaining Accurate Records, Recordkeeping Forms, and Recording Criteria

■ 3. Revise the heading of subpart C to read as set forth above.

■ 4. In § 1904.4, revise paragraph (a) introductory text and add a note to § 1904.4(a) to read as follows:

§ 1904.4 Recording criteria.

(a) *Basic requirement.* Each employer required by this part to keep records of fatalities, injuries, and illnesses must, in accordance with the requirements of this part, make and maintain an accurate record of each and every fatality, injury, and illness that:

* * * * *

Note to § 1904.4(a): This obligation to make and maintain an accurate record of each and every recordable fatality, injury, and illness continues throughout the entire record retention period described in § 1904.33.

* * * * *

■ 5. Revise § 1904.29(b)(3) to read as follows:

§ 1904.29 Forms.

* * * * *

(b) * * *

(3) *How quickly must each injury or illness be recorded?* You must enter each and every recordable injury or illness on the OSHA 300 Log and on a 301 Incident Report within seven (7) calendar days of receiving information that the recordable injury or illness occurred. A failure to record within seven days does not extinguish your continuing obligation to make a record of the injury or illness and to maintain accurate records of all recordable injuries and illnesses in accordance

with the requirements of this part. This obligation continues throughout the entire record retention period described in § 1904.33. See §§ 1904.4(a); 1904.32(a)(1); 1904.33(b)(1); and 1904.40(a).

* * * * *

■ 6. Revise the heading and paragraphs (a) and (b)(1) of § 1904.32 to read as follows:

§ 1904.32 Year-end review and annual summary.

(a) *Basic requirement.* At the end of each calendar year, you must:

(1) Review that year's OSHA 300 Log to verify that it contains accurate entries for all recordable injuries and illnesses that occurred during the year, and make any additions or corrections necessary to ensure its accuracy;

(2) Verify that each injury and illness recorded on the 300 Log, including any injuries and illnesses added to the Log following your year-end review pursuant to paragraph (a)(1) of this section, is accurately recorded on a corresponding 301 Incident Report form;

(3) After you have verified the accuracy of the Log, create an annual summary of injuries and illnesses recorded on the Log;

(4) Certify the summary; and

(5) Post the summary.

(b) * * *

(1) *How extensively do I have to review the OSHA 300 Log at the end of the year?* You must review the Log and its entries as extensively as necessary to verify that all recordable injuries and illnesses that occurred during the year are entered and that the Log and its entries are accurate.

* * * * *

■ 7. Revise the heading and paragraph (b) of § 1904.33 to read as follows:

§ 1904.33 Retention and maintenance of accurate records.

* * * * *

(b) *Implementation*—(1) *Other than the obligation identified in § 1904.32, do I have further recording duties with respect to the OSHA 300 Logs and 301 Incident Reports during the five-year retention period?* You must make the following additions and corrections to the OSHA Log and Incident Reports during the five-year retention period:

(i) The OSHA Logs must contain entries for all recordable injuries and illnesses that occurred during the calendar year to which each Log relates. In addition, each and every recordable injury and illness must be recorded on an Incident Report. This means that if a recordable case occurred and you failed to record it on the Log for the year in which the injury or illness occurred, and/or on an Incident Report, you are under a continuing obligation to record the case on the Log and/or Incident Report during the five-year retention period for that Log and/or Incident Report;

(ii) You must also make any additions and corrections to the OSHA Log that are necessary to accurately reflect any changes that have occurred with respect to previously recorded injuries and illnesses. Thus, if the classification, description, or outcome of a previously recorded case changes, you must remove or line out the original entry and enter the new information; and

(iii) You must have an Incident Report for each and every recordable injury and illness; however, you are not required to make additions or corrections to Incident Reports during the five-year retention period.

(2) *Do I have to make additions or corrections to the annual summary during the five-year retention period?* You are not required to make additions or corrections to the annual summaries during the five-year retention period.

■ 8. Revise § 1904.34 to read as follows:

§ 1904.34 Change in business ownership.

If your business changes ownership, you are responsible for recording and reporting work-related injuries and illnesses only for that period of the year during which you owned the establishment. You must transfer the Part 1904 records to the new owner. The new owner must save all records of the establishment kept by the prior owner, as required by § 1904.33, but need not update or correct the records of the prior owner. The new owner is not responsible for recording and reporting work-related injuries and illnesses that occurred before the new owner took ownership of the establishment.

■ 9. Revise paragraphs (b)(2) introductory text and (b)(2)(iii) of § 1904.35 to read as follows:

§ 1904.35 Employee involvement.

* * * * *

(b) * * *

(2) *Do I have to give my employees and their representatives access to the OSHA injury and illness records?* Yes, your employees, former employees, their personal representatives, and their authorized employee representatives have the right to access accurate OSHA injury and illness records, with some limitations, as discussed below.

* * * * *

(iii) *If an employee or representative asks for access to the OSHA 300 Log, when do I have to provide it?* When an employee, former employee, personal representative, or authorized employee representative asks for copies of your current or stored OSHA 300 Log(s) for an establishment the employee or former employee has worked in, you must give the requester a copy of the relevant and accurate OSHA 300 Log(s) by the end of the next business day.

* * * * *

Subpart E—Reporting Accurate Fatality, Injury, and Illness Information to the Government

■ 10. Revise the heading of subpart E to read as set forth above.

■ 11. Revise the heading and paragraph (a) of § 1904.40 to read as follows:

§ 1904.40 Providing accurate records to government representatives.

(a) *Basic requirement.* When an authorized government representative requests the records you keep under part 1904, you must provide accurate records, or copies thereof, within four (4) business hours of the request.

* * * * *

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

BRIEFING PACKAGE

For February 16, 2017

Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems), Final Rule; and Other Related Provisions

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption federal OSHA's Final Rule for Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems) and Other Related Provisions, as published on November 18, 2016 in 81 FR 82494.

The proposed effective date is May 15, 2017.

II. Summary of the Standard

A. General

The revised final rule revises and updates the requirements in all of the general industry walking-working surfaces, including but not limited to, floors, ladders, stairways, runways, dockboards, roofs, scaffolds, and elevated work surfaces and walkways.

The revised final rule also includes changes to provisions in Subparts F-Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms, N-Materials Handling and Storage, and R-Special Industries of Part 1910. OSHA drew many of the revisions, new provisions, and technological advancements in the amended final rules from various national consensus standards. Primarily, the changes are technical in nature and are

necessary so all sections in Part 1910 conform to final Subparts D-Walking-Working Surfaces and I- Personal Protective Equipment. Most of the changes in Subparts F, N, and R update references to final Subparts D and I. Some changes in Subparts F, N, and R replace existing references with references to final Subparts D and I.

The amended final rule for general industry revises and updates the requirements for ladders, stairs, dockboards, and fall and falling object protection. It adds new requirements on the design, performance, and use of personal fall protection systems in Part 1910, Subpart I-Personal Protective Equipment.

OSHA has permitted the use of personal fall protection systems in construction since 1994 and the new rule adopts similar requirements for general industry. The revised final rule includes a number of revisions to existing general industry standards. A summary of a few of the changes and new requirements includes:

- **Inspection of walking-working surfaces (§1910.22(d)).** The amended final rule requires that employers inspect walking-working surfaces regularly and as needed and correct, repair, or guard against hazardous conditions.

- **Updated scaffold requirements (§1910.27(a)).** The updated final rule replaces the outdated general industry scaffold standards with the requirement that general industry employers comply with OSHA's construction scaffold standards.

- **Rope descent systems (RDS) and certification of anchorages (§1910.27(b))**. The amended final rule defines RDS as a suspension system that allows a worker to descend in a controlled manner and, as needed, stop at any point doing the descent to perform work. An RDS usually consists of a roof anchorage, support rope, descent device, carabiners or shackles, and a chair (seat board). The revised final rule codifies OSHA's memorandum for employers who use RDS to perform elevated work. It prohibits employers from using RDS at heights greater than 300 feet above a lower level unless they demonstrate it is not feasible or creates a greater hazard to use any other system above that height.

- **Phase-in of ladder safety systems or personal fall arrest systems on fixed ladders (§1910.28(b)(9)**. The amended final rule phases-in over 20 years a requirement to equip fixed ladders that extend over 24 feet with ladder safety or personal fall arrest systems and prohibits the use of cages and wells as a means of fall protection after the phase-in deadline. There is wide recognition that cages and wells do not prevent workers from falling from fixed ladders or protect them from injury if a fall occurs.

- **Fall protection flexibility (§1910.28(b))**. This most significant update is that the revised final rule allows employers to protect workers from falls by choosing from a range of accepted fall protection systems, including personal fall protection systems. It eliminates the existing mandate to use guardrails as the primary fall

protection method and gives employers the flexibility to determine what method they believe will work best in their particular workplace situation.

- Phase-out of the "qualified climber" exception in outdoor advertising (§1910.28(b)(10)). The revised final rule phases out OSHA's directive allowing qualified climbers in outdoor advertising to climb fixed ladders on billboards without fall protection and phases in the requirements to equip fixed ladders over 24 feet with ladder safety or personal fall arrest systems. Outdoor advertising employers must follow the fall protection phase-in timeline for fixed ladders. However, if ladders do not have any fall protection, outdoor advertising employers have two years to comply with the existing standard, i.e., install a cage or well or, instead, they may install a ladder safety or personal fall arrest system, both of which are cheaper than cages or wells;

- **Training (§1910.30).** The updated final rule adds requirements that employers ensure workers who use personal fall protection and work in other specified high hazard situations are trained, and retrained as necessary, about fall and equipment hazards, including fall protection systems. Employers must provide information and training to each worker in a manner the worker understands.

- **Personal fall protection system performance and use requirements (§1910.140).** The amended final rule, which allows employers to use personal fall protection systems, i.e., personal fall arrest, travel restraint, and positioning systems, adds requirements on the performance, inspection, use, and maintenance of these systems. Like OSHA's construction standards, the amended final rule prohibits the use of body belts a part of a personal fall arrest system.

This revised final rule does not change construction or agricultural standards.

B. Nature of the Risk

Workers in many diverse general industry workplaces are exposed to walking-working surface hazards that can result in slips, trips, falls and other injuries or fatalities. According to the Bureau of Labor Statistics (BLS) data, slips, trips, and falls are a leading cause of workplace fatalities and injuries in general industry, which indicates that workers regularly encounter these hazards.

These walking-working surface hazards result in worker fatalities and serious injuries, including lost-workday injuries. Slips, trips, and falls, including falls on the same level, can result in injuries such as fractures, contusions, lacerations, and sprains, and may even be fatal. Falls to lower levels can increase the severity of injuries as well as the likelihood of death. Falls on the same level can also result in strains and sprains when employees try to "catch" themselves to prevent falling.

There are many walking-working surface hazards that can cause slips, trips, and falls. These hazards include:

- damaged or worn components on personal fall protection systems and rope descent systems;
- portable ladders used for purposes for which they were not designed;
- fixed ladders that are not equipped with fall protection;
- damaged stair treads;
- snow, ice, water, or grease on walking-working surfaces such as floors; and
- dockboards that are not properly secured or anchored.

Nationally, from 1999 to 2010, falls were second only to highway incidents in terms of fatal injuries. In 2011, slips, trips, and falls were the third leading cause of fatal occupational injuries and in 2012, approximately one-third of all fatal falls in private industry were falls to a lower level in general industry.

C. Affected Industries

Revised Subparts D and I apply to employers and industries covered by OSHA's standards for general industry in Part 1910. The general industry category excludes establishments in the agriculture, construction, maritime (longshoring, marine terminal, and shipyards), and mining industries (except for oil and gas extraction). Also, excluded from the final standard are employee tasks on surfaces that fall outside of OSHA's jurisdiction due to location or operational status, or those tasks that are subject to unique industry-specific fall protection requirements addressed elsewhere in Part 1910, including §1910.268, Telecommunications, and §1910.269, Electric power generation, transmission, and distribution.

The walking-working surfaces covered by the final standards are present in nearly every establishment. Therefore, OSHA assumes that the number of establishments and employees potentially affected by Subpart D includes all establishments and employees in general industry. To estimate the population affected, OSHA identified general industry employees in occupational codes involving construction, installation, maintenance and repair. OSHA relied on the U.S. Census' Statistics of U.S. Businesses for 2007 for its estimates that the final standard will affect 6.9 million establishments employing 112 million employees nationwide. In Virginia, it is estimated that approximately 185,000 establishments with approximately 3 million employees will be affected by the final standard.

OSHA estimated that nationwide there are 5,233,667 small business entities with approximately 44,446,321 employees covered by the final standard for Subparts D and I. In Virginia, it is estimated that approximately 140,500 small entities with 80,600 million employees will be affected by the amended final standard.

OSHA estimated that nationwide there are approximately 4,651,919 very small business entities (fewer than 20 employees) with 18,951,336 employees covered by the final standard for Subparts D and I. In Virginia, it is estimated that 12,400 very small entities

with approximately 508,800 employees also will be affected by the revised final standard.

1. Fatalities

From 2006 to 2012, the Professional, Scientific, and Technical Services industry and the Administrative and Support Services industry, i.e., NAICS codes 541 and 561, respectively, accounted for 9.6 and 7.1 percent of the fatal falls . Among the three-digit NAICS codes affected by the standard, the Bureau of Labor Statistics (BLS) reported the highest number of fatal falls were in NAICS code 561, Administrative and Support Services. A large majority of the fatalities for Administrative and Support Services – 86 percent for 2006 to 2012 – occurred in the industry concerned with services to buildings and dwellings (NAICS 5617). Based on these data, OSHA estimated that, on average, 261 deaths per year nationwide resulted from falls to a lower level and would be directly affected by the final standard. It is estimated that, on average, in Virginia seven (7) deaths per year resulted from falls to a lower level.

2. Injuries

Falls have also been one of the leading causes of lost work-day injuries. According to BLS data from 2006-2010, falls were consistently the third leading cause of injuries and illnesses, behind overexertion and contact with objects and equipment. From 2011-2012, slips, trips, and falls were the second leading cause of injuries and illnesses, behind only overexertion.

Falls to lower level had the second highest median days away from work, a key measure of the severity of an injury or illness, every year from 2006-2012, except 2010 (where it was the third highest). BLS data also demonstrated that for 2006-2012, approximately three-quarters of the lost-workday falls to a lower level in private industry occurred in general industry.

Based on this data, OSHA estimated that, on average, approximately 48,379 serious (lost-workday) injuries per year nationwide from 2006-2012 resulted from falls to a lower level, which are among the most severe lost-workday injuries. This statistic would be directly affected by the final standard. Also, OSHA estimated that the approximately 137,079 falls nationwide on the same level would be directly affected by the final standard. In Virginia, for that same time period, it is estimated that 1,300 lost-workday injuries annually resulted from falls to a lower level, and that approximately 3,700 falls on the same level would be directly affected by the final standard.

OSHA estimates that compliance with final Subparts D and I nationally will prevent 5,842 lost-workday fall injuries annually. In Virginia, it is estimated that 160 lost workday injuries will be prevented annually as a result of full compliance with the final rule.

III. Basis, Purpose and Impact of the Final Standard

A. Basis

In 1971, OSHA adopted its initial general industry standards on Walking-Working Surfaces (Part 1910, Subpart D) and Personal Protective Equipment (PPE) (Part 1910, Subpart I) and, subsequently, adopted as occupational safety and health standards any established federal and national consensus standards. OSHA adopted the Subparts D and I standards from national consensus standards in existence at the time. Those national consensus standards have been updated and revised over time to incorporate advancements in technology and industry best practices. OSHA's existing walking-working surfaces standards have not kept pace with those advancements.

OSHA's efforts to revise and update the existing walking-working surfaces standards have been ongoing since 1973. OSHA first issued a notice of proposed rulemaking on the rule in 1990, followed by a second notice in 2010. As a result, OSHA has gathered and analyzed a large body of data and information on walking-working surface hazards and methods to prevent and eliminate them.

B. Purpose

The purpose of this revised final rule is to update the outdated general industry Walking-Working Surfaces and Personal Fall Protection Systems standards on slip, trip, and fall hazards and to significantly reduce the number of worker deaths and injuries that occur each year due to these hazards, particularly workplace slip, trip, and fall fatalities and injuries.

C. Impact on Employers

The final rule benefits employers in several ways, including the following:

- Provides compliance flexibility for employers by increasing the fall protection options employers may use;

- Provides greater consistency between the General Industry and Construction Standards, which makes compliance easier for employers who perform both general industry and construction activities;

- Incorporates advances in technology, industry best practices, and national consensus standards, which provide employers with effective and cost-efficient measures to protect workers; and

- Replaces outdated specification requirements with performance-based language and criteria which provides greater flexibility and make the final rule easier for employers and workers to understand and follow.

OSHA estimates that nationally 6.9 million general industry establishments, employing 112.3 million employees will be affected by the final standard. In Virginia, it is estimated that the final standard will affect approximately 183,400 general industry establishments, with an estimated 3 million employees.

D. Impact on Employees

OSHA believes that the provisions of the final rule are necessary to assure that employees have the information, procedures, and equipment they need to protect themselves from fall hazards in the work place. Additionally, employees will benefit from the revised final rule's requirement that workers who use personal fall protection and other equipment the standard covers be trained and retrained, as necessary, in fall and equipment hazards before they work at elevated heights or use that equipment, including fall protection systems. This training is required to be in a language and vocabulary that the workers understand.

E. Impact on the Department of Labor and Industry

Since VOSH is already enforcing the existing standard, it is anticipated that any impact on the Department resulting from adoption of this amended final rule will be negligible. Any such costs would be related to additional training of VOSH compliance staff on the revised standard.

Federal regulations 29 CFR 1953.23(a) and (b) require that Virginia, within six months of the occurrence of a federal program change, to adopt identical changes or promulgate equivalent changes which are at least as effective as the federal change. The Virginia Code reiterates this requirement in § 40.1-22(5). Adopting these revisions will allow Virginia to conform to the federal program change.

F. Benefits

As mentioned previously, the revised final rule increases consistency between the general industry and construction Scaffolds, Fall Protection, and Stairway and Ladder standards (Part 1926, Subparts L, M, and X) which will make compliance easier for employers who conduct operations in both industry sectors. Similarly, the revised final rule updates requirements to reflect advances in technology and to make them consistent with more recent OSHA standards and national consensus standards. OSHA also reorganized the requirements and incorporated plain language in order to make the final rule easier to understand and follow. The final rule also uses performance-based language whenever possible to give employers greater compliance flexibility.

OSHA concludes that the "practices, means, methods, operations, or processes" the final rule requires will substantially reduce workplace exposure to hazards associated with walking-working surfaces, particularly the hazards of falling to a lower level.

An additional benefit of this amended standard is that it will provide updated, clear, and consistent safety standards for walking and working surfaces and personal fall protection equipment. Most of the existing OSHA standards for walking-working surfaces are more than 30 years old and inconsistent with both national consensus standards and more recently promulgated OSHA standards addressing fall protection.

OSHA's final standard for Subparts D and I contains safety requirements designed to prevent falls involving ladders, rope descent systems, unguarded floor holes, and unprotected platform edges, among other conditions. OSHA classifies these types of falls as "falls to [a] lower level" which include slips and trips from floor obstructions or wet or slippery working surfaces. Since the final rule has relatively few new provisions addressing falls on the same level, OSHA assigned these falls a preventability rate of one percent. The preventability rate is the percentage of fatal incidents that OSHA estimates will be prevented by the final rule to these types of falls.

OSHA estimated that full compliance with this amended rule nationally will prevent an estimated 5,842 injuries and 29 fatalities from falls to a lower level per year. Based on this rate, it is estimated that, in Virginia, 157 injuries and approximately one fatality from falls to a lower level will be prevented per year as a result of full compliance with the updated final rule.

G. Costs and Benefits

OSHA estimated that the combined dollar value of prevented fatalities and injuries through compliance with the final revisions to Subparts D and I will total approximately $615 million per year nationally. It also estimated that the net monetized benefits of the revised final standard will be $310 million ($615 million in benefits - $305 million in compliance costs).

The following chart is a breakdown by affected sections of the annualized costs, annual benefits – number of injuries and fatalities prevented by the final rule, the monetized benefits, injuries not resulting in lost workdays and improved compliance efficiency and the net benefits of the final Subparts D and I standards.

Annualized Costs	**National**	**Virginia**
§1910.22, General Requirements	$33.2M	$891,400
§1910.23, Ladders	$11.3M	$303,400
§1910.24, Step Bolts and Manhole Steps	$18.0M	$483,300
§1910.27, Scaffolds and Rope Descent Systems	$71.6M	$1.9M
§1910.28, Duty to Have Fall Protection and Falling Object Protection	$55.9M	$1.5M
§1910.29, Fall Protection Systems and Object Protection-Criteria and Practices	$13.1M	$351,700
§1910.30, Training requirements	$74.2M	$1,900,000
§1910.132, General Requirements	$12.7M	$341,000
§1910.140, Personal Fall Protection Systems	$11.0M	$295,400
Rule Familiarization	$4.1M	$110,100
Total Annual Costs	**$305.0M**	**$8.2M**
Annual Benefits		
Number of Injuries Prevented	5,842	160
Number of Fatalities Prevented	29	1
Monetized Benefits (assuming $62,000 per injury and $8.7 million per fatality prevented)	**$615M**	**$16.5M**
OSHA standards that are updated and consistent with voluntary standards	Unquantified	Unquantified
Net Benefits (benefits minus costs)	**$310M**	**$8.3M**

Source: U.S. Department of Labor, OSHA, Directorate of Standards and Guidance, Office of Regulatory Analysis-Safety.

H. Technological Feasibility

Following the review of substantial evidence collected throughout the rulemaking, OSHA determined that compliance with the final revisions to Subparts D, I, and other subparts in General Industry, Part 1910, is technologically feasible, and that many employers already are in compliance with many provisions in the revised final rule. OSHA also has included measures to make implementation of the final rule easier for employers. Since the final rule incorporates requirements from national consensus standards, which include advancements in technology and industry best practices, most equipment manufacturers already provide equipment and systems that meet the requirements of the updated final rule.

I. Economic Feasibility

OSHA concluded that compliance is economically feasible in every affected industry sector. OSHA has no expectation that compliance with the requirements of the revised requirements will threaten the viability of entities, or the existence, or competitive structure of any of the affected industry sectors.

OSHA determined that the costs of complying with the requirements of final Subparts D and I will not impose substantial economic impacts on employers in the industries affected by the final rule. The costs imposed by these changes are modest, and the increased safety and reduction in injuries and fatalities associated with the standards will reduce employers' direct and indirect costs.

J. **Implementation/Compliance Schedule**

Most of the requirements therein are existing provisions that OSHA is retaining and/or updating. OSHA believes that employers already are in compliance with those provisions and, therefore, it is not necessary to give additional time to comply with them. However, for some of the new requirements, additional time has been provided to come into compliance.

The extended compliance dates give employers time to get familiar with the new requirements, evaluate changes they may need to make, purchase equipment necessary to comply with the revised final rule, and develop and provide required training. In addition, the extended compliance dates allow employers to upgrade their fall protection systems as part of the normal "business cycle" or "useful life" of equipment, i.e., cage, well, fixed ladder, which reduces compliance costs.

Most of the final rule will become effective in Virginia on May 15, 2017, but some provisions have delayed effective dates. The following table specifies the amount of additional time OSHA is giving employers to certify anchorages, equip fixed ladders with fall protection, and train workers:

Final Subpart D Section and Requirement	Compliance Date	
	Federal OSHA	**Virginia**
§1910.27(b)(1) – Certification of anchorages	November 20, 2017	05/15/18
§1910.28(b)(9)(i)(A) – Deadline by which employers must equip existing fixed ladders with a cage, well, ladder safety system, or personal fall arrest system	November 19, 2018	05/15/19
§1910.28(b)(9)(i)(B) –Deadline by which employers must begin equipping new fixed ladders with a ladder safety system or personal fall arrest system	November 19, 2018	05/15/19
§1910.28(b)(9)(i)(D) – Deadline by which all fixed ladders must be equipped with a ladder safety system or personal fall arrest system	November 18, 2036 (20 years)	05/15/2037 (20 years)
§1910.30(a) and (b) – Deadline by which employers must train employees on fall and equipment hazards	May 17, 2017 (6 months of publication)	11/15/17 (6 months from effective date)

Contact Person:

Ms. Jennifer L. Rose
VOSH Safety Compliance Director
804.786.7776
jennifer.rose@doli.virginia.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board adopt federal OSHA's Final Rule for Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems), as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of May 15, 2017.

The Department also recommends that the Board state in any motion it may make to amend this regulation that it will receive, consider and respond to petitions by any interested person with respect to reconsideration or revision of this or any other regulation which has been adopted in accordance with the above-cited subsection A.4(c) of the Administrative Process Act.

Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems); Final Rule

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-90-1910.6, Incorporation by reference

Subpart D – Walking-Working Surfaces
16VAC25-90-1910.21, Scope and definitions,
16VAC25-90-1910.22, General requirements,
16VAC25-90-1910.23, Ladders
16VAC25-90-1910.24, Step bolts and manhole steps
16VAC25-90-1910.25, Stairways
16VAC25-90-1910.26, Dockboards
16VAC25-90-1910.27, Scaffolds and rope descent systems
16VAC25-90-1910.28, Duty to have fall protections and falling object protection,
16VAC25-90-1910.29, Fall protection systems and falling object protection – criteria and practices
16VAC25-90-1910.30, Training requirements

Subpart F-Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
16VAC25-90-1910.66, Powered platforms for building maintenance
Appendix C to 16VAC25-90-1910.66 [Reserved]
Appendix D to 16VAC25-90-1910.66 – Existing Installations (Mandatory)
16VAC25-90-1910.67, Vehicle-mounted elevating and rotating work platforms
16VAC25-90-1910.68, Manlifts

Subpart I-Personal Protective Equipment
16VAC25-90-1910.132, General requirements
16VAC25-90-1910.139, [Added and Reserved]
16VAC25-90-1910.140, Personal fall protection systems
Appendix C to Subpart I of Part 1910 – Personal Fall Protection Systems Non-Mandatory Guidelines
Appendix D to Subpart I of Part 1910 – Test methods and Procedures for Personal Fall Protection Systems Non-Mandatory Guidelines

Subpart N-Materials Handling and Storage
16VAC25-90-1910.178, Powered industrial trucks
16VAC25-90-1910.179, Overhead and gantry cranes

Subpart R-Special Industries
16VAC25-90-1910.261, Pulp, paper, and paperboard mills
16VAC25-90-1910.262, Textiles
16VAC25-90-1910.265, Sawmills
16VAC25-90-1910.268, Telecommunications
16VAC25-90-1910.269, Electric power generation, transmission, and distribution

When the regulations, as set forth in the federal OSHA's Final Rule for Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems), are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
January 17, 2017	May 15, 2017

For additional information about these compliance deadlines, see discussion of §§ 1910.27(b)(1), 1910.28(b)(9), and 1910.30 in Section IV.

List of Subjects in 29 CFR Part 1910

Falls, Fall arrest, Fall protection, Fall restraint, Guardrails, Incorporation by reference, Ladders, Occupational safety and health, Scaffolds, Stairs, Walking-working surfaces.

Authority and Signature

This document was prepared under the direction of David Michaels, Assistant Secretary of Labor for Occupational Safety and Health. This action is taken pursuant to sections 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 1–2012 (77 FR 3912 (1/25/2012)); and 29 CFR part 1911.

Signed at Washington, DC, on October 4, 2016.

David Michaels,

Assistant Secretary of Labor for Occupational Safety and Health.

Final Regulatory Text

For the reasons set forth in the preamble, OSHA amends part 1910 of title 29 of the Code of Federal Regulations as follows:

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

■ 1. The authority citation for part 1910 continues to read as follows:

Authority: 29 U.S.C. 653, 655, 657; Secretary of Labor's Order Numbers 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31159), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912), as applicable.

Sections 1910.6, 1910.7, 1910.8 and 1910.9 also issued under 29 CFR 1911. Section 1910.7(f) also issued under 31 U.S.C. 9701, 29 U.S.C. 9a, 5 U.S.C. 553; Public Law 106–113 (113 Stat. 1501A–222); Pub. L. 111–8 and 111–317; and OMB Circular A–25 (dated July 8, 1993) (58 FR 38142, July 15, 1993).

§ 1910.6 [Amended]

■ 2. Amend § 1910.6 by:

■ a. In paragraph (e)(9), removing "1910.68(b)(12)" and "1910.179(c)(2);"; and

■ b. Removing and reserving paragraphs (h)(8) and (j)(1).

■ 3. Revise subpart D to read as follows:

Subpart D—Walking-Working Surfaces

Sec.

1910.21 Scope and definitions.
1910.22 General requirements.
1910.23 Ladders.
1910.24 Step bolts and manhole steps.
1910.25 Stairways.
1910.26 Dockboards.
1910.27 Scaffolds and rope descent systems.
1910.28 Duty to have fall protection and falling object protection.
1910.29 Fall protection systems and falling object protection—criteria and practices.
1910.30 Training requirements.

Authority: 29 U.S.C. 653, 655, and 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), and 1–2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

§ 1910.21 Scope and definitions.

(a) *Scope.* This subpart applies to all general industry workplaces. It covers all walking-working surfaces unless specifically excluded by an individual section of this subpart.

(b) *Definitions.* The following definitions apply in this subpart:

Alternating tread-type stair means a type of stairway consisting of a series of treads that usually are attached to a center support in an alternating manner such that an employee typically does not have both feet on the same level while using the stairway.

Anchorage means a secure point of attachment for equipment such as lifelines, lanyards, deceleration devices, and rope descent systems.

Authorized means an employee who the employer assigns to perform a specific type of duty, or allows in a specific location or area.

Cage means an enclosure mounted on the side rails of a fixed ladder or fastened to a structure behind the fixed ladder that is designed to surround the climbing space of the ladder. A cage also is called a "cage guard" or "basket guard."

Carrier means the track of a ladder safety system that consists of a flexible cable or rigid rail attached to the fixed ladder or immediately adjacent to it.

Combination ladder means a portable ladder that can be used as a stepladder, extension ladder, trestle ladder, or stairway ladder. The components of a combination ladder also may be used separately as a single ladder.

Dangerous equipment means equipment, such as vats, tanks, electrical equipment, machinery, equipment or machinery with protruding parts, or other similar units, that, because of their function or form, may harm an employee who falls into or onto the equipment.

Designated area means a distinct portion of a walking-working surface delineated by a warning line in which employees may perform work without additional fall protection.

Dockboard means a portable or fixed device that spans a gap or compensates for a difference in elevation between a loading platform and a transport vehicle. Dockboards include, but are not limited to, bridge plates, dock plates, and dock levelers.

Equivalent means alternative designs, equipment, materials, or methods, that the employer can demonstrate will provide an equal or greater degree of safety for employees compared to the designs, equipment, materials, or methods specified in this subpart.

Extension ladder means a non-self-supporting portable ladder that is adjustable in length.

Failure means a load refusal, breakage, or separation of component parts. A load refusal is the point at which the ultimate strength of a component or object is exceeded.

Fall hazard means any condition on a walking-working surface that exposes an employee to a risk of harm from a fall on the same level or to a lower level.

Fall protection means any equipment, device, or system that prevents an employee from falling from an elevation or mitigates the effect of such a fall.

Fixed ladder means a ladder with rails or individual rungs that is permanently attached to a structure, building, or equipment. Fixed ladders include individual-rung ladders, but not ship stairs, step bolts, or manhole steps.

Grab bar means an individual horizontal or vertical handhold installed to provide access above the height of the ladder.

Guardrail system means a barrier erected along an unprotected or exposed side, edge, or other area of a walking-working surface to prevent employees from falling to a lower level.

Handrail means a rail used to provide employees with a handhold for support.

Hoist area means any elevated access opening to a walking-working surface through which equipment or materials are loaded or received.

Hole means a gap or open space in a floor, roof, horizontal walking-working surface, or similar surface that is at least 2 inches (5 cm) in its least dimension.

Individual-rung ladder means a ladder that has rungs individually attached to a building or structure. An individual-rung ladder does not include manhole steps.

Ladder means a device with rungs, steps, or cleats used to gain access to a different elevation.

Ladder safety system means a system designed to eliminate or reduce the possibility of falling from a ladder. A ladder safety system usually consists of a carrier, safety sleeve, lanyard, connectors, and body harness. Cages and wells are not ladder safety systems.

Low-slope roof means a roof that has a slope less than or equal to a ratio of 4 in 12 (vertical to horizontal).

Lower level means a surface or area to which an employee could fall. Such surfaces or areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, equipment, and similar surfaces and structures, or portions thereof.

Manhole steps means steps that are individually attached to, or set into, the wall of a manhole structure.

Maximum intended load means the total load (weight and force) of all employees, equipment, vehicles, tools, materials, and other loads the employer reasonably anticipates to be applied to a walking-working surface at any one time.

Mobile means manually propelled or moveable.

Mobile ladder stand (ladder stand) means a mobile, fixed-height, self-supporting ladder that usually consists of wheels or casters on a rigid base and steps leading to a top step. A mobile ladder stand also may have handrails and is designed for use by one employee at a time.

Mobile ladder stand platform means a mobile, fixed-height, self-supporting unit having one or more standing platforms that are provided with means of access or egress.

Open riser means the gap or space between treads of stairways that do not have upright or inclined members (risers).

Opening means a gap or open space in a wall, partition, vertical walking-working surface, or similar surface that is at least 30 inches (76 cm) high and at least 18 inches (46 cm) wide, through which an employee can fall to a lower level.

Personal fall arrest system means a system used to arrest an employee in a fall from a walking-working surface. It consists of a body harness, anchorage, and connector. The means of connection may include a lanyard, deceleration device, lifeline, or a suitable combination of these.

Personal fall protection system means a system (including all components) an employer uses to provide protection from falling or to safely arrest an employee's fall if one occurs. Examples of personal fall protection systems include personal fall arrest systems, positioning systems, and travel restraint systems.

Platform means a walking-working surface that is elevated above the surrounding area.

Portable ladder means a ladder that can readily be moved or carried, and usually consists of side rails joined at intervals by steps, rungs, or cleats.

Positioning system (work-positioning system) means a system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment."

Qualified describes a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

Ramp means an inclined walking-working surface used to access another level.

Riser means the upright (vertical) or inclined member of a stair that is located at the back of a stair tread or platform and connects close to the front edge of the next higher tread, platform, or landing.

Rope descent system means a suspension system that allows an employee to descend in a controlled manner and, as needed, stop at any point during the descent. A rope descent system usually consists of a roof anchorage, support rope, a descent device, carabiner(s) or shackle(s), and a chair (seatboard). A rope descent system also is called controlled descent equipment or apparatus. Rope descent systems do not include industrial rope access systems.

Rung, step, or cleat means the cross-piece of a ladder on which an employee steps to climb up and down.

Runway means an elevated walking-working surface, such as a catwalk, a foot walk along shafting, or an elevated walkway between buildings.

Scaffold means any temporary elevated or suspended platform and its supporting structure, including anchorage points, used to support employees, equipment, materials, and other items. For purposes of this subpart, a scaffold does not include a crane-suspended or derrick-suspended personnel platform or a rope descent system.

Ship stair (ship ladder) means a stairway that is equipped with treads, stair rails, and open risers, and has a slope that is between 50 and 70 degrees from the horizontal.

Side-step ladder means a type of fixed ladder that requires an employee to step sideways from it in order to reach a walking-working surface, such as a landing.

Spiral stairs means a series of treads attached to a vertical pole in a winding fashion, usually within a cylindrical space.

Stair rail or stair rail system means a barrier erected along the exposed or open side of stairways to prevent employees from falling to a lower level.

Stairway (stairs) means risers and treads that connect one level with another, and includes any landings and platforms in between those levels. Stairways include standard, spiral, alternating tread-type, and ship stairs.

Standard stairs means a fixed or permanently installed stairway. Ship, spiral, and alternating tread-type stairs are not considered standard stairs.

Step bolt (pole step) means a bolt or rung attached at intervals along a structural member used for foot placement and as a handhold when climbing or standing.

Stepladder means a self-supporting, portable ladder that has a fixed height, flat steps, and a hinged back.

Stepstool means a self-supporting, portable ladder that has flat steps and side rails. For purposes of the final rule, stepstool includes only those ladders that have a fixed height, do not have a pail shelf, and do not exceed 32 inches (81 cm) in overall height to the top cap, although side rails may extend above the top cap. A stepstool is designed so an employee can climb and stand on all of the steps and the top cap.

Through ladder means a type of fixed ladder that allows the employee to step through the side rails at the top of the ladder to reach a walking-working surface, such as a landing.

Tieback means an attachment between an anchorage (*e.g.*, structural member) and a supporting device (*e.g.*, parapet clamp or cornice hook).

Toeboard means a low protective barrier that is designed to prevent materials, tools, and equipment from falling to a lower level, and protect employees from falling.

Travel restraint system means a combination of an anchorage, anchorage connector, lanyard (or other means of connection), and body support that an employer uses to eliminate the possibility of an employee going over the edge of a walking-working surface.

Tread means a horizontal member of a stair or stairway, but does not include landings or platforms.

Unprotected sides and edges mean any side or edge of a walking-working surface (except at entrances and other points of access) where there is no wall, guardrail system, or stair rail system to protect an employee from falling to a lower level.

Walking-working surface means any horizontal or vertical surface on or through which an employee walks, works, or gains access to a work area or workplace location.

Warning line means a barrier erected to warn employees that they are approaching an unprotected side or edge, and which designates an area in which work may take place without the use of other means of fall protection.

Well means a permanent, complete enclosure around a fixed ladder.

§ 1910.22 General requirements.

(a) *Surface conditions.* The employer must ensure:

(1) All places of employment, passageways, storerooms, service rooms, and walking-working surfaces are kept in a clean, orderly, and sanitary condition.

(2) The floor of each workroom is maintained in a clean and, to the extent feasible, in a dry condition. When wet processes are used, drainage must be maintained and, to the extent feasible, dry standing places, such as false floors, platforms, and mats must be provided.

(3) Walking-working surfaces are maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.

(b) *Loads.* The employer must ensure that each walking-working surface can support the maximum intended load for that surface.

(c) *Access and egress.* The employer must provide, and ensure each employee uses, a safe means of access and egress to and from walking-working surfaces.

(d) *Inspection, maintenance, and repair.* The employer must ensure:

(1) Walking-working surfaces are inspected, regularly and as necessary, and maintained in a safe condition;

(2) Hazardous conditions on walking-working surfaces are corrected or repaired before an employee uses the walking-working surface again. If the correction or repair cannot be made immediately, the hazard must be guarded to prevent employees from using the walking-working surface until the hazard is corrected or repaired; and

(3) When any correction or repair involves the structural integrity of the walking-working surface, a qualified person performs or supervises the correction or repair.

§ 1910.23 Ladders.

(a) *Application.* The employer must ensure that each ladder used meets the requirements of this section. This section covers all ladders, except when the ladder is:

(1) Used in emergency operations such as firefighting, rescue, and tactical law enforcement operations, or training for these operations; or

(2) Designed into or is an integral part of machines or equipment.

(b) *General requirements for all ladders.* The employer must ensure:

(1) Ladder rungs, steps, and cleats are parallel, level, and uniformly spaced when the ladder is in position for use;

(2) Ladder rungs, steps, and cleats are spaced not less than 10 inches (25 cm) and not more than 14 inches (36 cm) apart, as measured between the centerlines of the rungs, cleats, and steps, except that:

(i) Ladder rungs and steps in elevator shafts must be spaced not less than 6 inches (15 cm) apart and not more than 16.5 inches (42 cm) apart, as measured along the ladder side rails; and

(ii) Fixed ladder rungs and steps on telecommunication towers must be spaced not more than 18 inches (46 cm) apart, measured between the centerlines of the rungs or steps;

(3) Steps on stepstools are spaced not less than 8 inches (20 cm) apart and not more than 12 inches (30 cm) apart, as measured between the centerlines of the steps;

(4) Ladder rungs, steps, and cleats have a minimum clear width of 11.5 inches (29 cm) on portable ladders and 16 inches (41 cm) (measured before installation of ladder safety systems) for fixed ladders, except that:

(i) The minimum clear width does not apply to ladders with narrow rungs that are not designed to be stepped on, such as those located on the tapered end of orchard ladders and similar ladders;

(ii) Rungs and steps of manhole entry ladders that are supported by the manhole opening must have a minimum clear width of 9 inches (23 cm);

(iii) Rungs and steps on rolling ladders used in telecommunication centers must have a minimum clear width of 8 inches (20 cm); and

(iv) Stepstools have a minimum clear width of 10.5 inches (26.7 cm);

(5) Wooden ladders are not coated with any material that may obscure structural defects;

(6) Metal ladders are made with corrosion-resistant material or protected against corrosion;

(7) Ladder surfaces are free of puncture and laceration hazards;

(8) Ladders are used only for the purposes for which they were designed;

(9) Ladders are inspected before initial use in each work shift, and more frequently as necessary, to identify any visible defects that could cause employee injury;

(10) Any ladder with structural or other defects is immediately tagged "Dangerous: Do Not Use" or with similar language in accordance with § 1910.145 and removed from service until repaired in accordance with § 1910.22(d), or replaced;

(11) Each employee faces the ladder when climbing up or down it;

(12) Each employee uses at least one hand to grasp the ladder when climbing up and down it; and

(13) No employee carries any object or load that could cause the employee to lose balance and fall while climbing up or down the ladder.

(c) *Portable ladders.* The employer must ensure:

(1) Rungs and steps of portable metal ladders are corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping;

(2) Each stepladder or combination ladder used in a stepladder mode is equipped with a metal spreader or locking device that securely holds the front and back sections in an open position while the ladder is in use;

(3) Ladders are not loaded beyond the maximum intended load;

Note to paragraph (c)(3): The maximum intended load, as defined in § 1910.21(b), includes the total load (weight and force) of the employee and all tools, equipment, and materials being carried.

(4) Ladders are used only on stable and level surfaces unless they are secured or stabilized to prevent accidental displacement;

(5) No portable single rail ladders are used;

(6) No ladder is moved, shifted, or extended while an employee is on it;

(7) Ladders placed in locations such as passageways, doorways, or driveways where they can be displaced by other activities or traffic:

(i) Are secured to prevent accidental displacement; or

(ii) Are guarded by a temporary barricade, such as a row of traffic cones or caution tape, to keep the activities or traffic away from the ladder;

(8) The cap (if equipped) and top step of a stepladder are not used as steps;

(9) Portable ladders used on slippery surfaces are secured and stabilized;

(10) The top of a non-self-supporting ladder is placed so that both side rails are supported, unless the ladder is equipped with a single support attachment;

(11) Portable ladders used to gain access to an upper landing surface have side rails that extend at least 3 feet (0.9 m) above the upper landing surface (see Figure D–1 of this section);

(12) Ladders and ladder sections are not tied or fastened together to provide

added length unless they are specifically designed for such use;

(13) Ladders are not placed on boxes, barrels, or other unstable bases to obtain additional height.

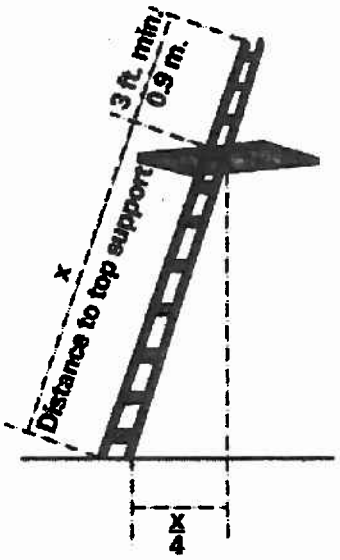


Figure D-1 – Portable Ladder Set-up

(d) *Fixed ladders.* The employer must ensure:

(1) Fixed ladders are capable of supporting their maximum intended load;

(2) The minimum perpendicular distance from the centerline of the steps or rungs, or grab bars, or both, to the nearest permanent object in back of the ladder is 7 inches (18 cm), except for elevator pit ladders, which have a minimum perpendicular distance of 4.5 inches (11 cm);

(3) Grab bars do not protrude on the climbing side beyond the rungs of the ladder that they serve;

(4) The side rails of through or side-step ladders extend 42 inches (1.1 m) above the top of the access level or landing platform served by the ladder. For parapet ladders, the access level is:

(i) The roof, if the parapet is cut to permit passage through the parapet; or

(ii) The top of the parapet, if the parapet is continuous;

(5) For through ladders, the steps or rungs are omitted from the extensions, and the side rails are flared to provide not less than 24 inches (61cm) and not more than 30 inches (76 cm) of clearance. When a ladder safety system is provided, the maximum clearance between side rails of the extension must not exceed 36 inches (91 cm);

(6) For side-step ladders, the side rails, rungs, and steps must be continuous in the extension (see Figure D–2 of this section);

(7) Grab bars extend 42 inches (1.1 m) above the access level or landing platforms served by the ladder;

(8) The minimum size (cross-section) of grab bars is the same size as the rungs of the ladder.

(9) When a fixed ladder terminates at a hatch (see Figure D–3 of this section), the hatch cover:

(i) Opens with sufficient clearance to provide easy access to or from the ladder; and

(ii) Opens at least 70 degrees from horizontal if the hatch is counterbalanced;

(10) Individual-rung ladders are constructed to prevent the employee's feet from sliding off the ends of the rungs (see Figure D–4 of this section);

(11) Fixed ladders having a pitch greater than 90 degrees from the horizontal are not used;

(12) The step-across distance from the centerline of the rungs or steps is:

(i) For through ladders, not less than 7 inches (18 cm) and not more than 12 inches (30 cm) to the nearest edge of the structure, building, or equipment accessed from the ladders;

(ii) For side-step ladders, not less than 15 inches (38 cm) and not more than 20 inches (51 cm) to the access points of the platform edge;

(13) Fixed ladders that do not have cages or wells have:

(i) A clear width of at least 15 inches (38 cm) on each side of the ladder centerline to the nearest permanent object; and

(ii) A minimum perpendicular distance of 30 inches (76 cm) from the centerline of the steps or rungs to the nearest object on the climbing side. When unavoidable obstructions are encountered, the minimum clearance at the obstruction may be reduced to 24 inches (61 cm), provided deflector plates are installed (see Figure D–5 of this section).

Note to paragraph (d): Section 1910.28 establishes the employer's duty to provide fall protection for employees on fixed ladders, and § 1910.29 specifies the criteria for fall protection systems for fixed ladders.

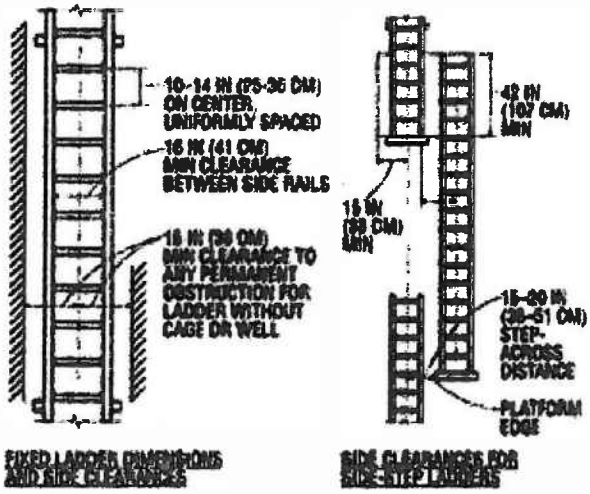


Figure D-2 -- Side-Step Fixed Ladder Sections

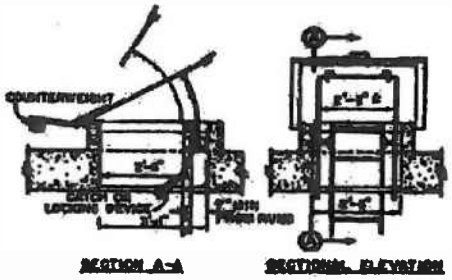


Figure D-3 – Example of Counterbalanced Hatch Cover at Roof

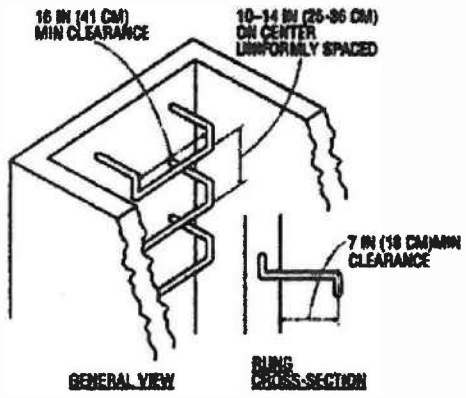


Figure D-4 -- Individual Rung Ladder

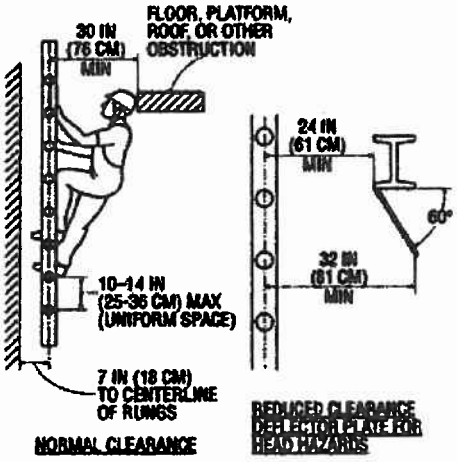


Figure D-5 -- Fixed Ladder Clearances

(e) *Mobile ladder stands and mobile ladder stand platforms*—(1) *General requirements.* The employer must ensure:

(i) Mobile ladder stands and platforms have a step width of at least 16 inches (41 cm);

(ii) The steps and platforms of mobile ladder stands and platforms are slip resistant. Slip-resistant surfaces must be either an integral part of the design and construction of the mobile ladder stand and platform, or provided as a secondary process or operation, such as dimpling, knurling, shotblasting, coating, spraying, or applying durable slip-resistant tapes;

(iii) Mobile ladder stands and platforms are capable of supporting at least four times their maximum intended load;

(iv) Wheels or casters under load are capable of supporting their proportional share of four times the maximum intended load, plus their proportional share of the unit's weight;

(v) Unless otherwise specified in this section, mobile ladder stands and platforms with a top step height of 4 feet (1.2 m) or above have handrails with a vertical height of 29.5 inches (75 cm) to 37 inches (94 cm), measured from the front edge of a step. Removable gates or non-rigid members, such as chains, may be used instead of handrails in special-use applications;

(vi) The maximum work-surface height of mobile ladder stands and platforms does not exceed four times the shortest base dimension, without additional support. For greater heights, outriggers, counterweights, or comparable means that stabilize the mobile ladder stands and platforms and prevent overturning must be used;

(vii) Mobile ladder stands and platforms that have wheels or casters are equipped with a system to impede horizontal movement when an employee is on the stand or platform; and

(viii) No mobile ladder stand or platform moves when an employee is on it.

(2) *Design requirements for mobile ladder stands.* The employer must ensure:

(i) Steps are uniformly spaced and arranged, with a rise of not more than 10 inches (25 cm) and a depth of not less than 7 inches (18 cm). The slope of the step stringer to which the steps are attached must not be more than 60 degrees, measured from the horizontal;

(ii) Mobile ladder stands with a top step height above 10 feet (3 m) have the top step protected on three sides by a handrail with a vertical height of at least 36 inches (91 cm); and top steps that are 20 inches (51 cm) or more, front to back, have a midrail and toeboard. Removable gates or non-rigid members, such as chains, may be used instead of handrails in special-use applications; and

(iii) The standing area of mobile ladder stands is within the base frame.

(3) *Design requirements for mobile ladder stand platforms.* The employer must ensure:

(i) Steps of mobile ladder stand platforms meet the requirements of paragraph (e)(2)(i) of this section. When the employer demonstrates that the requirement is not feasible, steeper slopes or vertical rung ladders may be used, provided the units are stabilized to prevent overturning;

(ii) Mobile ladder stand platforms with a platform height of 4 to 10 feet (1.2 m to 3 m) have, in the platform area, handrails with a vertical height of at least 36 inches (91 cm) and midrails; and

(iii) All ladder stand platforms with a platform height above 10 feet (3 m) have guardrails and toeboards on the exposed sides and ends of the platform.

(iv) Removable gates or non-rigid members, such as chains, may be used on mobile ladder stand platforms instead of handrails and guardrails in special-use applications.

§ 1910.24 Step bolts and manhole steps.

(a) *Step bolts.* The employer must ensure:

(1) Each step bolt installed on or after January 17, 2017 in an environment where corrosion may occur is constructed of, or coated with, material that protects against corrosion;

(2) Each step bolt is designed, constructed, and maintained to prevent the employee's foot from slipping off the end of the step bolt;

(3) Step bolts are uniformly spaced at a vertical distance of not less than 12 inches (30 cm) and not more than 18 inches (46 cm) apart, measured center to center (see Figure D–6 of this section). The spacing from the entry and exit surface to the first step bolt may differ from the spacing between the other step bolts;

(4) Each step bolt has a minimum clear width of 4.5 inches (11 cm);

(5) The minimum perpendicular distance between the centerline of each step bolt to the nearest permanent object in back of the step bolt is 7 inches (18 cm). When the employer demonstrates that an obstruction cannot be avoided, the distance must be at least 4.5 inches (11 cm);

(6) Each step bolt installed before January 17, 2017 is capable of supporting its maximum intended load;

(7) Each step bolt installed on or after January 17, 2017 is capable of supporting at least four times its maximum intended load;

(8) Each step bolt is inspected at the start of the workshift and maintained in accordance with § 1910.22; and

(9) Any step bolt that is bent more than 15 degrees from the perpendicular in any direction is removed and replaced with a step bolt that meets the requirements of this section before an employee uses it.

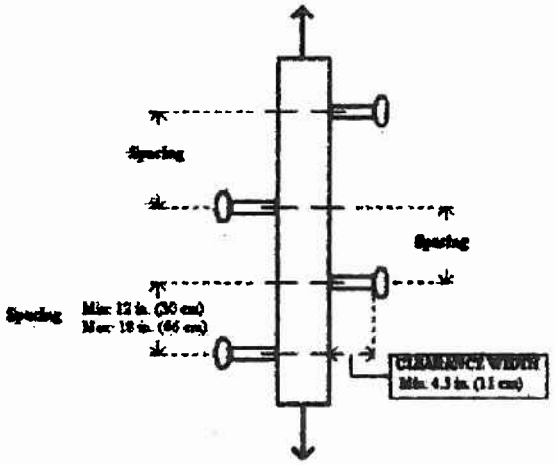


Figure D-6 – Step Bolt Spacing

(b) *Manhole steps.* (1) The employer must ensure that each manhole step is capable of supporting its maximum intended load.

(2) The employer must ensure that each manhole step installed on or after January 17, 2017:

(i) Has a corrugated, knurled, dimpled, or other surface that minimizes the possibility of an employee slipping;

(ii) Is constructed of, or coated with, material that protects against corrosion if the manhole step is located in an environment where corrosion may occur;

(iii) Has a minimum clear step width of 10 inches (25 cm);

(iv) Is uniformly spaced at a vertical distance not more than 16 inches (41 cm) apart, measured center to center between steps. The spacing from the entry and exit surface to the first manhole step may differ from the spacing between the other steps.

(v) Has a minimum perpendicular distance between the centerline of the manhole step to the nearest permanent object in back of the step of at least 4.5 inches (11 cm); and

(vi) Is designed, constructed, and maintained to prevent the employee's foot from slipping or sliding off the end.

(3) The employer must ensure that each manhole step is inspected at the start of the work shift and maintained in accordance with § 1910.22.

§ 1910.25 Stairways.

(a) *Application.* This section covers all stairways (including standard, spiral, ship, and alternating tread-type stairs), except for stairs serving floating roof tanks, stairs on scaffolds, stairs designed into machines or equipment, and stairs on self-propelled motorized equipment.

(b) *General requirements.* The employer must ensure:

(1) Handrails, stair rail systems, and guardrail systems are provided in accordance with § 1910.28;

(2) Vertical clearance above any stair tread to any overhead obstruction is at least 6 feet, 8 inches (203 cm), as measured from the leading edge of the tread. Spiral stairs must meet the vertical clearance requirements in paragraph (d)(3) of this section.

(3) Stairs have uniform riser heights and tread depths between landings;

(4) Stairway landings and platforms are at least the width of the stair and at least 30 inches (76 cm) in depth, as measured in the direction of travel;

(5) When a door or a gate opens directly on a stairway, a platform is provided, and the swing of the door or gate does not reduce the platform's effective usable depth to:

(i) Less than 20 inches (51 cm) for platforms installed before January 17, 2017; and

(ii) Less than 22 inches (56 cm) for platforms installed on or after January 17, 2017 (see Figure D–7 of this section);

(6) Each stair can support at least five times the normal anticipated live load, but never less than a concentrated load of 1,000 pounds (454 kg) applied at any point;

(7) Standard stairs are used to provide access from one walking-working surface to another when operations necessitate regular and routine travel between levels, including access to operating platforms for equipment. Winding stairways may be used on tanks and similar round structures when the diameter of the tank or structure is at least 5 feet (1.5 m).

(8) Spiral, ship, or alternating tread-type stairs are used only when the employer can demonstrate that it is not feasible to provide standard stairs.

(9) When paragraph (b)(8) of this section allows the use of spiral, ship, or alternating tread-type stairs, they are installed, used, and maintained in accordance with manufacturer's instructions.

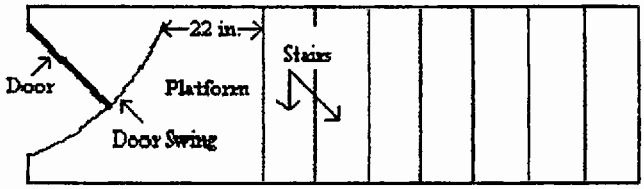


Figure D-7 -- Door or Gate Opening on Stairway

(c) *Standard stairs.* In addition to paragraph (b) of this section, the employer must ensure standard stairs:

(1) Are installed at angles between 30 to 50 degrees from the horizontal;

(2) Have a maximum riser height of 9.5 inches (24 cm);

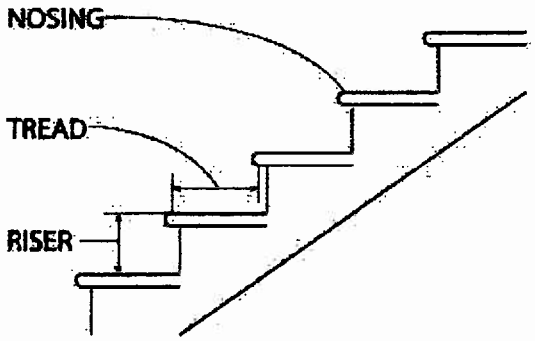
(3) Have a minimum tread depth of 9.5 inches (24 cm); and

(4) Have a minimum width of 22 inches (56 cm) between vertical barriers (see Figure D–8 of this section).

(5) *Exception to paragraphs (c)(2) and (3) of this section.* The requirements of paragraphs (c)(2) and (3) do not apply to standard stairs installed prior to January 17, 2017. OSHA will deem those stairs in compliance if they meet the dimension requirements specified in Table D–1 of this section or they use a combination that achieves the angle requirements of paragraph (c)(1) of this section.

Table D-1-- Stairway Rise and Tread Dimensions

Angle to horizontal	Rise (in inches)	Tread run (in inches)
30 deg. 35'	6 1/2	11
32 deg. 08'	6 3/4	10 3/4
33 deg. 41'	7	10 1/2
35 deg. 16'	7 1/4	10 1/4
36 deg. 52'	7 1/2	10
38 deg. 29'	7 3/4	9 3/4
40 deg. 08'	8	9 1/2
41 deg. 44'	8 1/4	9 1/4
43 deg. 22'	8 1/2	9
45 deg. 00'	8 3/4	8 3/4
46 deg. 38'	9	8 1/2
48 deg. 16'	9 1/4	8 1/4
49 deg. 54'	9 1/2	8



(d) *Spiral stairs.* In addition to paragraph (b) of this section, the employer must ensure spiral stairs:

(1) Have a minimum clear width of 26 inches (66 cm);

(2) Have a maximum riser height of 9.5 inches (24 cm);

(3) Have a minimum headroom above spiral stair treads of at least 6 feet, 6 inches (2 m), measured from the leading edge of the tread;

(4) Have a minimum tread depth of 7.5 inches (19 cm), measured at a point 12 inches (30 cm) from the narrower edge;

(5) Have a uniform tread size;

(e) *Ship stairs.* In addition to paragraph (b) of this section, the employer must ensure ship stairs (see Figure D–9 of this section):

(1) Are installed at a slope of 50 to 70 degrees from the horizontal;

(2) Have open risers with a vertical rise between tread surfaces of 6.5 to 12 inches (17 to 30 cm);

(3) Have minimum tread depth of 4 inches (10 cm); and

(4) Have a minimum tread width of 18 inches (46 cm).

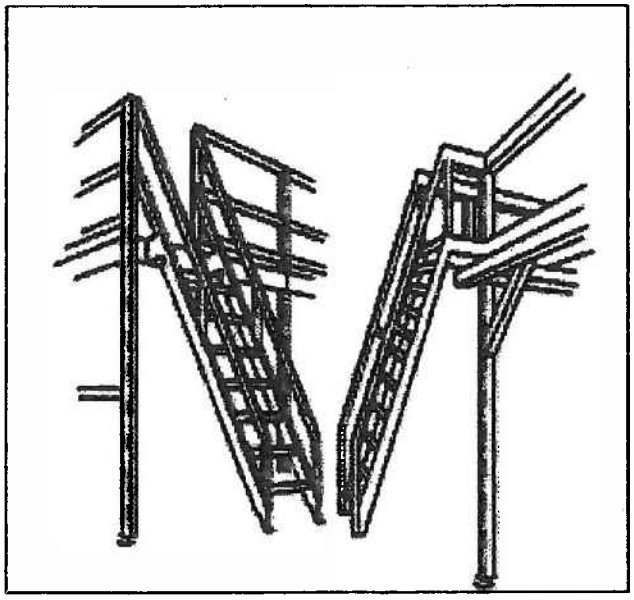


Figure D-9 – Ship Stairs

(f) *Alternating tread-type stairs.* In addition to paragraph (b) of this section, the employer must ensure alternating tread-type stairs:

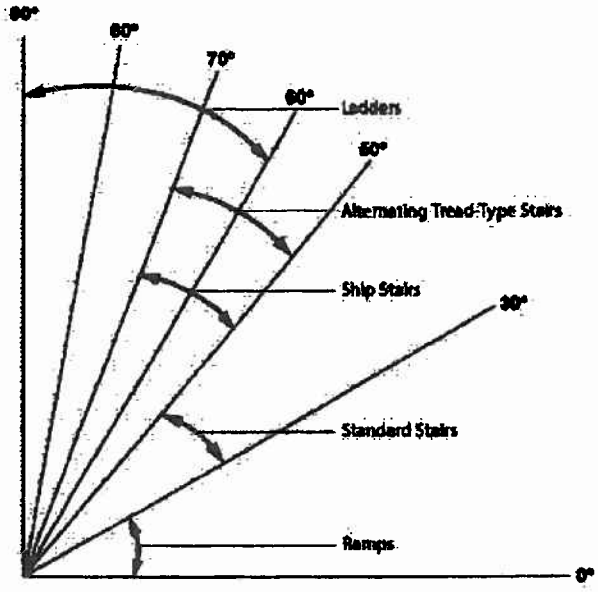
(1) Have a series of treads installed at a slope of 50 to 70 degrees from the horizontal;

(2) Have a distance between handrails of 17 to 24 inches (51 to 61 cm);

(3) Have a minimum tread depth of 8.5 inches (22 cm); and

(4) Have open risers if the tread depth is less than 9.5 inches (24 cm);

(5) Have a minimum tread width of 7 inches (18 cm), measured at the leading edge of the tread (*i.e.*, nosing).



Angle	Type
≤ 30°	Ramps
30° – 50°	Standard Stairs
50° – 70°	Ship Stairs
50° – 70°	Alternating Tread-Type Stairs
80° – 90°	Ladders

Figure D-10 – Angles for Stairs, Ramps, and Ladders

§ 1910.26 Dockboards.

The employer must ensure that each dockboard used meets the requirements of this section. The employer must ensure:

(a) Dockboards are capable of supporting the maximum intended load in accordance with § 1910.22(b);

(b)(1) Dockboards put into initial service on or after January 17, 2017 are designed, constructed, and maintained to prevent transfer vehicles from running off the dockboard edge;

(2) *Exception to paragraph (b)(1) of this section.* When the employer demonstrates there is no hazard of transfer vehicles running off the dockboard edge, the employer may use dockboards that do not have run-off protection.

(c) Portable dockboards are secured by anchoring them in place or using equipment or devices that prevent the dockboard from moving out of a safe position. When the employer demonstrates that securing the dockboard is not feasible, the employer must ensure there is sufficient contact between the dockboard and the surface to prevent the dockboard from moving out of a safe position;

(d) Measures, such as wheel chocks or sand shoes, are used to prevent the transport vehicle (*e.g.* a truck, semi-trailer, trailer, or rail car) on which a dockboard is placed, from moving while employees are on the dockboard; and

(e) Portable dockboards are equipped with handholds or other means to permit safe handling of dockboards.

§ 1910.27 Scaffolds and rope descent systems.

(a) *Scaffolds.* Scaffolds used in general industry must meet the requirements in 29 CFR part 1926, subpart L (Scaffolds).

(b) *Rope descent systems*—(1) *Anchorages.* (i) Before any rope descent system is used, the building owner must inform the employer, in writing that the building owner has identified, tested, certified, and maintained each anchorage so it is capable of supporting at least 5,000 pounds (268 kg), in any direction, for each employee attached. The information must be based on an annual inspection by a qualified person and certification of each anchorage by a qualified person, as necessary, and at least every 10 years.

(ii) The employer must ensure that no employee uses any anchorage before the employer has obtained written information from the building owner that each anchorage meets the requirements of paragraph (b)(1)(i) of this section. The employer must keep the information for the duration of the job.

(iii) The requirements in paragraphs (b)(1)(i) and (ii) of this section must be implemented no later than November 20, 2017.

(2) *Use of rope descent systems.* The employer must ensure:

(i) No rope descent system is used for heights greater than 300 feet (91 m) above grade unless the employer demonstrates that it is not feasible to access such heights by any other means or that those means pose a greater hazard than using a rope descent system;

(ii) The rope descent system is used in accordance with instructions, warnings, and design limitations set by the manufacturer or under the direction of a qualified person;

(iii) Each employee who uses the rope descent system is trained in accordance with § 1910.30;

(iv) The rope descent system is inspected at the start of each workshift that it is to be used. The employer must ensure damaged or defective equipment is removed from service immediately and replaced;

(v) The rope descent system has proper rigging, including anchorages and tiebacks, with particular emphasis on providing tiebacks when counterweights, cornice hooks, or similar non-permanent anchorages are used;

(vi) Each employee uses a separate, independent personal fall arrest system that meets the requirements of subpart I of this part;

(vii) All components of each rope descent system, except seat boards, are capable of sustaining a minimum rated load of 5,000 pounds (22.2 kN). Seat boards must be capable of supporting a live load of 300 pounds (136 kg);

(viii) Prompt rescue of each employee is provided in the event of a fall;

(ix) The ropes of each rope descent system are effectively padded or otherwise protected, where they can contact edges of the building, anchorage, obstructions, or other surfaces, to prevent them from being cut or weakened;

(x) Stabilization is provided at the specific work location when descents are greater than 130 feet (39.6 m);

(xi) No employee uses a rope descent system when hazardous weather conditions, such as storms or gusty or excessive wind, are present;

(xii) Equipment, such as tools, squeegees, or buckets, is secured by a tool lanyard or similar method to prevent it from falling; and

(xiii) The ropes of each rope descent system are protected from exposure to open flames, hot work, corrosive chemicals, and other destructive conditions.

§ 1910.28 Duty to have fall protection and falling object protection.

(a) *General.* (1) This section requires employers to provide protection for each employee exposed to fall and falling object hazards. Unless stated otherwise, the employer must ensure that all fall protection and falling object protection required by this section meet the criteria in § 1910.29, except that personal fall protection systems required by this section meet the criteria of § 1910.140.

(2) This section does not apply:

(i) To portable ladders;

(ii) When employers are inspecting, investigating, or assessing workplace conditions or work to be performed prior to the start of work or after all work has been completed. This exemption does not apply when fall protection systems or equipment meeting the requirements of § 1910.29 have been installed and are available for workers to use for pre-work and post-work inspections, investigations, or assessments;

(iii) To fall hazards presented by the exposed perimeters of entertainment stages and the exposed perimeters of rail-station platforms;

(iv) To powered platforms covered by § 1910.66(j);

(v) To aerial lifts covered by § 1910.67(c)(2)(v);

(vi) To telecommunications work covered by § 1910.268(n)(7) and (8); and

(vii) To electric power generation, transmission, and distribution work covered by § 1910.269(g)(2)(i).

(b) *Protection from fall hazards*—(1) *Unprotected sides and edges.* (i) Except as provided elsewhere in this section, the employer must ensure that each employee on a walking-working surface with an unprotected side or edge that is 4 feet (1.2 m) or more above a lower level is protected from falling by one or more of the following:

(A) Guardrail systems;

(B) Safety net systems; or

(C) Personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems.

(ii) When the employer can demonstrate that it is not feasible or creates a greater hazard to use guardrail, safety net, or personal fall protection systems on residential roofs, the employer must develop and implement a fall protection plan that meets the requirements of 29 CFR 1926.502(k) and training that meets the requirements of 29 CFR 1926.503(a) and (c).

Note to paragraph (b)(1)(ii) of this section: There is a presumption that it is feasible and will not create a greater hazard to use at least one of the above-listed fall protection systems specified in paragraph (b)(1)(i) of this section. Accordingly, the employer has the burden of establishing that it is not feasible or creates a greater hazard to provide the fall protection systems specified in paragraph (b)(1)(i) and that it is necessary to implement a fall protection plan that complies with § 1926.502(k) in the particular work operation, in lieu of implementing any of those systems.

(iii) When the employer can demonstrate that the use of fall protection systems is not feasible on the working side of a platform used at a loading rack, loading dock, or teeming platform, the work may be done without a fall protection system, provided:

(A) The work operation for which fall protection is infeasible is in process;

(B) Access to the platform is limited to authorized employees; and,

(C) The authorized employees are trained in accordance with § 1910.30.

(2) *Hoist areas.* The employer must ensure:

(i) Each employee in a hoist area is protected from falling 4 feet (1.2 m) or more to a lower level by:

(A) A guardrail system;

(B) A personal fall arrest system; or

(C) A travel restraint system.

(ii) When any portion of a guardrail system, gate, or chains is removed, and an employee must lean through or over the edge of the access opening to facilitate hoisting, the employee is protected from falling by a personal fall arrest system.

(iii) If grab handles are installed at hoist areas, they meet the requirements of § 1910.29(l).

(3) *Holes.* The employer must ensure:

(i) Each employee is protected from falling through any hole (including skylights) that is 4 feet (1.2 m) or more above a lower level by one or more of the following:

(A) Covers;

(B) Guardrail systems;

(C) Travel restraint systems; or

(D) Personal fall arrest systems.

(ii) Each employee is protected from tripping into or stepping into or through any hole that is less than 4 feet (1.2 m) above a lower level by covers or guardrail systems.

(iii) Each employee is protected from falling into a stairway floor hole by a fixed guardrail system on all exposed sides, except at the stairway entrance. However, for any stairway used less than once per day where traffic across the stairway floor hole prevents the use of a fixed guardrail system (*e.g.*, holes located in aisle spaces), the employer may protect employees from falling into the hole by using a hinged floor hole cover that meets the criteria in § 1910.29 and a removable guardrail system on all exposed sides, except at the entrance to the stairway.

(iv) Each employee is protected from falling into a ladderway floor hole or ladderway platform hole by a guardrail system and toeboards erected on all exposed sides, except at the entrance to the hole, where a self-closing gate or an offset must be used.

(v) Each employee is protected from falling through a hatchway and chute-floor hole by:

(A) A hinged floor-hole cover that meets the criteria in § 1910.29 and a fixed guardrail system that leaves only one exposed side. When the hole is not in use, the employer must ensure the cover is closed or a removable guardrail system is provided on the exposed sides;

(B) A removable guardrail system and toeboards on not more than two sides of the hole and a fixed guardrail system on all other exposed sides. The employer must ensure the removable guardrail system is kept in place when the hole is not in use; or

(C) A guardrail system or a travel restraint system when a work operation necessitates passing material through a hatchway or chute floor hole.

(4) *Dockboards.* (i) The employer must ensure that each employee on a dockboard is protected from falling 4 feet (1.2 m) or more to a lower level by a guardrail system or handrails.

(ii) A guardrail system or handrails are not required when:

(A) Dockboards are being used solely for materials-handling operations using motorized equipment;

(B) Employees engaged in these operations are not exposed to fall hazards greater than 10 feet (3 m); and

(C) Those employees have been trained in accordance with § 1910.30.

(5) *Runways and similar walkways.* (i) The employer must ensure each employee on a runway or similar walkway is protected from falling 4 feet (1.2 m) or more to a lower level by a guardrail system.

(ii) When the employer can demonstrate that it is not feasible to have guardrails on both sides of a runway used exclusively for a special purpose, the employer may omit the guardrail on one side of the runway, provided the employer ensures:

(A) The runway is at least 18 inches (46 cm) wide; and

(B) Each employee is provided with and uses a personal fall arrest system or travel restraint system.

(6) *Dangerous equipment.* The employer must ensure:

(i) Each employee less than 4 feet (1.2 m) above dangerous equipment is protected from falling into or onto the dangerous equipment by a guardrail system or a travel restraint system, unless the equipment is covered or guarded to eliminate the hazard.

(ii) Each employee 4 feet (1.2 m) or more above dangerous equipment must be protected from falling by:

(A) Guardrail systems;

(B) Safety net systems;

(C) Travel restraint systems; or

(D) Personal fall arrest systems.

(7) *Openings.* The employer must ensure that each employee on a walking-working surface near an opening, including one with a chute attached, where the inside bottom edge of the opening is less than 39 inches (99 cm) above that walking-working surface and the outside bottom edge of the opening is 4 feet (1.2 m) or more above a lower level is protected from falling by the use of:

(i) Guardrail systems;

(ii) Safety net systems;

(iii) Travel restraint systems; or,

(iv) Personal fall arrest systems.

(8) *Repair pits, service pits, and assembly pits less than 10 feet in depth.* The use of a fall protection system is not required for a repair pit, service pit, or assembly pit that is less than 10 feet (3 m) deep, provided the employer:

(i) Limits access within 6 feet (1.8 m) of the edge of the pit to authorized employees trained in accordance with § 1910.30;

(ii) Applies floor markings at least 6 feet (1.8 m) from the edge of the pit in colors that contrast with the surrounding area; or places a warning line at least 6 feet (1.8 m) from the edge of the pit as well as stanchions that are capable of resisting, without tipping over, a force of at least 16 pounds (71 N) applied horizontally against the stanchion at a height of 30 inches (76 cm); or places a combination of floor markings and warning lines at least 6 feet (1.8 m) from the edge of the pit. When two or more pits in a common area are not more than 15 feet (4.5m) apart, the employer may comply by placing contrasting floor markings at least 6 feet (1.8 m) from the pit edge around the entire area of the pits; and

(iii) Posts readily visible caution signs that meet the requirements of § 1910.145 and state "Caution—Open Pit."

(9) *Fixed ladders (that extend more than 24 feet (7.3 m) above a lower level).* (i) For fixed ladders that extend more than 24 feet (7.3 m) above a lower level, the employer must ensure:

(A) *Existing fixed ladders.* Each fixed ladder installed before November 19, 2018 is equipped with a personal fall arrest system, ladder safety system, cage, or well;

(B) *New fixed ladders.* Each fixed ladder installed on and after November 19, 2018, is equipped with a personal fall arrest system or a ladder safety system;

(C) *Replacement.* When a fixed ladder, cage, or well, or any portion of a section thereof, is replaced, a personal fall arrest system or ladder safety system is installed in at least that section of the fixed ladder, cage, or well where the replacement is located; and

(D) *Final deadline.* On and after November 18, 2036, all fixed ladders are equipped with a personal fall arrest system or a ladder safety system.

(ii) When a one-section fixed ladder is equipped with a personal fall protection or a ladder safety system or a fixed ladder is equipped with a personal fall arrest or ladder safety system on more than one section, the employer must ensure:

(A) The personal fall arrest system or ladder safety system provides protection throughout the entire vertical distance of the ladder, including all ladder sections; and

(B) The ladder has rest platforms provided at maximum intervals of 150 feet (45.7 m).

(iii) The employer must ensure ladder sections having a cage or well:

(A) Are offset from adjacent sections; and

(B) Have landing platforms provided at maximum intervals of 50 feet (15.2 m).

(iv) The employer may use a cage or well in combination with a personal fall arrest system or ladder safety system provided that the cage or well does not interfere with the operation of the system.

(10) *Outdoor advertising (billboards).* (i) The requirements in paragraph (b)(9) of this section, and other requirements in subparts D and I of this part, apply to fixed ladders used in outdoor advertising activities.

(ii) When an employee engaged in outdoor advertising climbs a fixed ladder before November 19, 2018 that is not equipped with a cage, well, personal fall arrest system, or a ladder safety system the employer must ensure the employee:

(A) Receives training and demonstrates the physical capability to perform the necessary climbs in accordance with § 1910.29(h);

(B) Wears a body harness equipped with an 18-inch (46 cm) rest lanyard;

(C) Keeps both hands free of tools or material when climbing on the ladder; and

(D) Is protected by a fall protection system upon reaching the work position.

(11) *Stairways.* The employer must ensure:

(i) Each employee exposed to an unprotected side or edge of a stairway

landing that is 4 feet (1.2 m) or more above a lower level is protected by a guardrail or stair rail system;

(ii) Each flight of stairs having at least 3 treads and at least 4 risers is equipped with stair rail systems and handrails as follows:

Table D-2 -- Stairway Handrail Requirements

Stair width	Enclosed	One open side	Two open sides	With earth built up on both sides
Less than 44 inches (1.1 m).	At least one handrail	One stair rail system with handrail on open side.	One stair rail system each open side.	
44 inches (1.1 m) to 88 inches (2.2 m).	One handrail on each enclosed side	One stair rail system with handrail on open side and one handrail on enclosed side.	One stair rail system with handrail on each open side.	
Greater than 88 inches (2.2 m).	One handrail on each enclosed side and one intermediate handrail located in the middle of the stair	One stair rail system with handrail on open side, one handrail on enclosed side, and one intermediate handrail located in the middle of the stair.	One stair rail system with handrail on each open side and one intermediate handrail located in the middle of the stair.	
Exterior stairs less than 44 inches (1.1 m).				One handrail on at least one side.
Note to table: The width of the stair must be clear of all obstructions except handrails.				

(iii) Each ship stairs and alternating tread type stairs is equipped with handrails on both sides.

(12) *Scaffolds and rope descent systems.* The employer must ensure:

(i) Each employee on a scaffold is protected from falling in accordance 29 CFR part 1926, subpart L; and

(ii) Each employee using a rope descent system 4 feet (1.2 m) or more above a lower level is protected from falling by a personal fall arrest system.

(13) *Work on low-slope roofs.* (i) When work is performed less than 6 feet (1.6 m) from the roof edge, the employer must ensure each employee is protected from falling by a guardrail system, safety net system, travel restraint system, or personal fall arrest system.

(ii) When work is performed at least 6 feet (1.6 m) but less than 15 feet (4.6 m) from the roof edge, the employer must ensure each employee is protected from falling by using a guardrail system, safety net system, travel restraint system, or personal fall arrest system. The employer may use a designated area when performing work that is both infrequent and temporary.

(iii) When work is performed 15 feet (4.6 m) or more from the roof edge, the employer must:

(A) Protect each employee from falling by a guardrail system, safety net system, travel restraint system, or personal fall arrest system or a designated area. The employer is not required to provide any fall protection, provided the work is both infrequent and temporary; and

(B) Implement and enforce a work rule prohibiting employees from going within 15 feet (4.6 m) of the roof edge without using fall protection in accordance with paragraphs (b)(13)(i) and (ii) of this section.

(14) *Slaughtering facility platforms.* (i) The employer must protect each employee on the unprotected working side of a slaughtering facility platform that is 4 feet (1.2 m) or more above a lower level from falling by using:

(A) Guardrail systems; or

(B) Travel restraint systems.

(ii) When the employer can demonstrate the use of a guardrail or travel restraint system is not feasible, the work may be done without those systems provided:

(A) The work operation for which fall protection is infeasible is in process;

(B) Access to the platform is limited to authorized employees; and

(C) The authorized employees are trained in accordance with § 1910.30.

(15) *Walking-working surfaces not otherwise addressed.* Except as provided elsewhere in this section or by other subparts of this part, the employer must

ensure each employee on a walking-working surface 4 feet (1.2 m) or more above a lower level is protected from falling by:

(i) Guardrail systems;

(ii) Safety net systems; or

(iii) Personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems.

(c) *Protection from falling objects.* When an employee is exposed to falling objects, the employer must ensure that each employee wears head protection that meets the requirements of subpart I of this part. In addition, the employer must protect employees from falling objects by implementing one or more of the following:

(1) Erecting toeboards, screens, or guardrail systems to prevent objects from falling to a lower level;

(2) Erecting canopy structures and keeping potential falling objects far enough from an edge, hole, or opening to prevent them from falling to a lower level; or

(3) Barricading the area into which objects could fall, prohibiting employees from entering the barricaded area, and keeping objects far enough from an edge or opening to prevent them from falling to a lower level.

§ 1910.29 Fall protection systems and falling object protection—criteria and practices.

(a) *General requirements.* The employer must:

(1) Ensure each fall protection system and falling object protection, other than personal fall protection systems, that this part requires meets the requirements in this section. The employer must ensure each personal fall protection system meets the requirements in subpart I of this part; and

(2) Provide and install all fall protection systems and falling object protection this subpart requires, and comply with the other requirements in this subpart before any employee begins work that necessitates fall or falling object protection.

(b) *Guardrail systems.* The employer must ensure guardrail systems meet the following requirements:

(1) The top edge height of top rails, or equivalent guardrail system members, are 42 inches (107 cm), plus or minus 3 inches (8 cm), above the walking-working surface. The top edge height may exceed 45 inches (114 cm), provided the guardrail system meets all other criteria of paragraph (b) of this section (see Figure D–11 of this section).

(2) Midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent intermediate members are installed between the walking-working surface and the top edge of the guardrail system as follows when there is not a wall or parapet that is at least 21 inches (53 cm) high:

(i) Midrails are installed at a height midway between the top edge of the guardrail system and the walking-working surface;

(ii) Screens and mesh extend from the walking-working surface to the top rail and along the entire opening between top rail supports;

(iii) Intermediate vertical members (such as balusters) are installed no more than 19 inches (48 cm) apart; and

(iv) Other equivalent intermediate members (such as additional midrails and architectural panels) are installed so that the openings are not more than 19 inches (48 cm) wide.

(3) Guardrail systems are capable of withstanding, without failure, a force of at least 200 pounds (890 N) applied in a downward or outward direction within 2 inches (5 cm) of the top edge, at any point along the top rail.

(4) When the 200-pound (890–N) test load is applied in a downward direction, the top rail of the guardrail system must not deflect to a height of less than 39 inches (99 cm) above the walking-working surface.

(5) Midrails, screens, mesh, intermediate vertical members, solid panels, and other equivalent intermediate members are capable of withstanding, without failure, a force of at least 150 pounds (667 N) applied in any downward or outward direction at any point along the intermediate member.

(6) Guardrail systems are smooth-surfaced to protect employees from injury, such as punctures or lacerations, and to prevent catching or snagging of clothing.

(7) The ends of top rails and midrails do not overhang the terminal posts, except where the overhang does not pose a projection hazard for employees.

(8) Steel banding and plastic banding are not used for top rails or midrails.

(9) Top rails and midrails are at least 0.25-inches (0.6 cm) in diameter or in thickness.

(10) When guardrail systems are used at hoist areas, a removable guardrail section, consisting of a top rail and midrail, are placed across the access opening between guardrail sections when employees are not performing hoisting operations. The employer may use chains or gates instead of a removable guardrail section at hoist areas if the employer demonstrates the chains or gates provide a level of safety equivalent to guardrails.

(11) When guardrail systems are used around holes, they are installed on all unprotected sides or edges of the hole.

(12) For guardrail systems used around holes through which materials may be passed:

(i) When materials are being passed through the hole, not more than two sides of the guardrail system are removed; and

(ii) When materials are not being passed through the hole, the hole must be guarded by a guardrail system along all unprotected sides or edges or closed over with a cover.

(13) When guardrail systems are used around holes that serve as points of access (such as ladderways), the guardrail system opening:

(i) Has a self-closing gate that slides or swings away from the hole, and is equipped with a top rail and midrail or equivalent intermediate member that meets the requirements in paragraph (b) of this section; or

(ii) Is offset to prevent an employee from walking or falling into the hole;

(14) Guardrail systems on ramps and runways are installed along each unprotected side or edge.

(15) Manila or synthetic rope used for top rails or midrails are inspected as necessary to ensure that the rope continues to meet the strength requirements in paragraphs (b)(3) and (5) of this section.

Note to paragraph (b) of this section: The criteria and practices requirements for guardrail systems on scaffolds are contained in 29 CFR part 1926, subpart L.

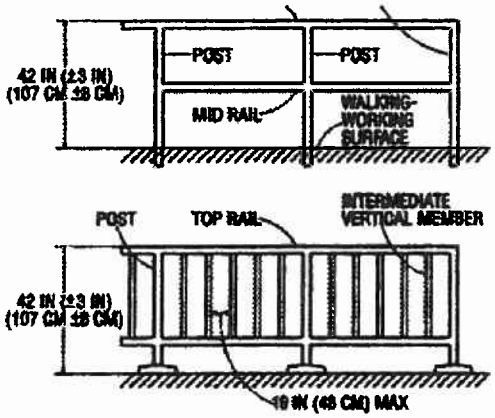


Figure D-11 – Guard Rail Systems

(c) *Safety net systems.* The employer must ensure each safety net system meets the requirements in 29 CFR part 1926, subpart M.

(d) *Designated areas.* (1) When the employer uses a designated area, the employer must ensure:

(i) Employees remain within the designated area while work operations are underway; and

(ii) The perimeter of the designated area is delineated with a warning line consisting of a rope, wire, tape, or chain that meets the requirements of paragraphs (d)(2) and (3) of this section.

(2) The employer must ensure each warning line:

(i) Has a minimum breaking strength of 200 pounds (0.89 kN);

(ii) Is installed so its lowest point, including sag, is not less than 34 inches (86 cm) and not more than 39 inches (99 cm) above the walking-working surface;

(iii) Is supported in such a manner that pulling on one section of the line will not result in slack being taken up in adjacent sections causing the line to fall below the limits specified in paragraph (d)(2)(ii) of this section;

(iv) Is clearly visible from a distance of 25 feet (7.6 m) away, and anywhere within the designated area;

(v) Is erected as close to the work area as the task permits; and

(vi) Is erected not less than 6 feet (1.8 m) from the roof edge for work that is both temporary and infrequent, or not less than 15 feet (4.6 m) for other work.

(3) When mobile mechanical equipment is used to perform work that is both temporary and infrequent in a designated area, the employer must ensure the warning line is erected not less than 6 feet (1.8 m) from the unprotected side or edge that is parallel to the direction in which the mechanical equipment is operated, and not less than 10 feet (3 m) from the unprotected side or edge that is perpendicular to the direction in which the mechanical equipment is operated.

(e) *Covers.* The employer must ensure each cover for a hole in a walking-working surface:

(1) Is capable of supporting without failure, at least twice the maximum intended load that may be imposed on the cover at any one time; and

(2) Is secured to prevent accidental displacement.

(f) *Handrails and stair rail systems.* The employer must ensure:

(1) *Height criteria.* (i) Handrails are not less than 30 inches (76 cm) and not more than 38 inches (97 cm), as measured from the leading edge of the stair tread to the top surface of the handrail (see Figure D–12 of this section).

(ii) The height of stair rail systems meets the following:

(A) The height of stair rail systems installed before January 17, 2017 is not less than 30 inches (76 cm) from the leading edge of the stair tread to the top surface of the top rail; and

(B) The height of stair rail systems installed on or after January 17, 2017 is not less than 42 inches (107 cm) from the leading edge of the stair tread to the top surface of the top rail.

(iii) The top rail of a stair rail system may serve as a handrail only when:

(A) The height of the stair rail system is not less than 36 inches (91 cm) and not more than 38 inches (97 cm) as measured at the leading edge of the stair tread to the top surface of the top rail (see Figure D–13 of this section); and

(B) The top rail of the stair rail system meets the other handrail requirements in paragraph (f) of this section.

(2) *Finger clearance.* The minimum clearance between handrails and any other object is 2.25 inches (5.7 cm).

(3) *Surfaces.* Handrails and stair rail systems are smooth-surfaced to protect employees from injury, such as punctures or lacerations, and to prevent catching or snagging of clothing.

(4) *Openings in stair rails.* No opening in a stair rail system exceeds 19 inches (48 cm) at its least dimension.

(5) *Handhold.* Handrails have the shape and dimension necessary so that employees can grasp the handrail firmly.

(6) *Projection hazards.* The ends of handrails and stair rail systems do not present any projection hazards.

(7) *Strength criteria.* Handrails and the top rails of stair rail systems are capable of withstanding, without failure, a force of at least 200 pounds (890 N) applied in any downward or outward direction within 2 inches (5 cm) of any point along the top edge of the rail.

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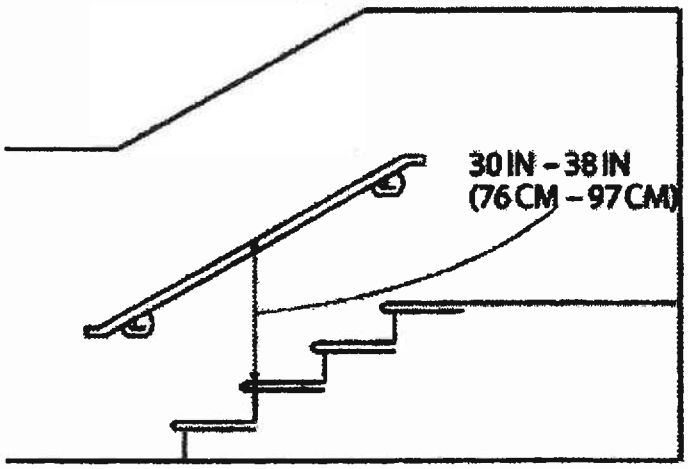

Figure D-12 – Handrail Measurement

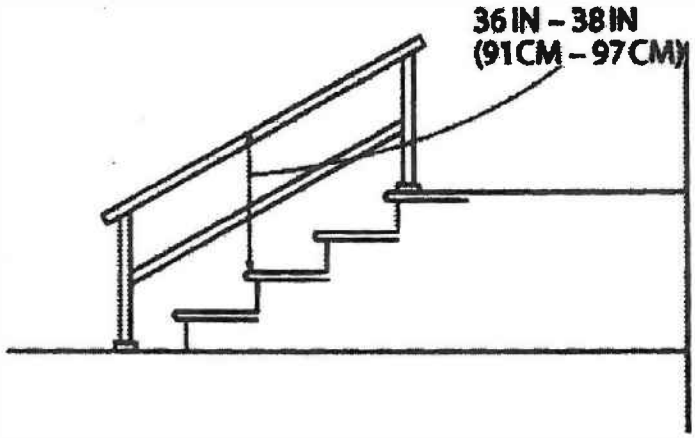

Figure D-13 – Combination Handrail and Stair Rail

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(g) *Cages, wells, and platforms used with fixed ladders.* The employer must ensure:

(1) Cages and wells installed on fixed ladders are designed, constructed, and maintained to permit easy access to, and egress from, the ladder that they enclose (see Figures D–14 and D–15 of this section);

(2) Cages and wells are continuous throughout the length of the fixed ladder, except for access, egress, and other transfer points;

(3) Cages and wells are designed, constructed, and maintained to contain employees in the event of a fall, and to direct them to a lower landing; and

(4) Platforms used with fixed ladders provide a horizontal surface of at least 24 inches by 30 inches (61 cm by 76 cm).

Note to paragraph (g): Section 1910.28 establishes the requirements that employers must follow on the use of cages and wells as a means of fall protection.

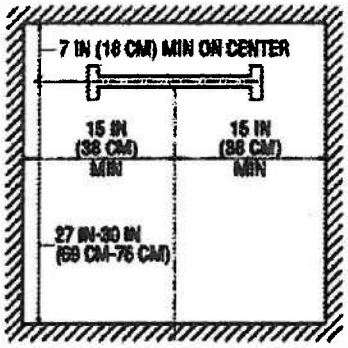

Figure D-14 -- Clearances for Fixed Ladders in Wells

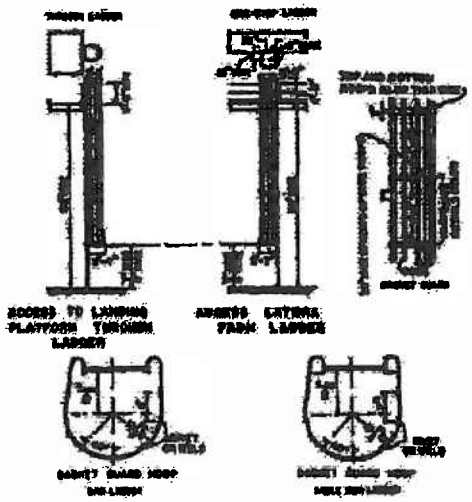

Figure D-15 -- Example of General Construction of Cages

(h) *Outdoor advertising.* This paragraph (h) applies only to employers engaged in outdoor advertising operations (see § 1910.28(b)(10)). Employers must ensure that each employee who climbs a fixed ladder without fall protection:

(1) Is physically capable, as demonstrated through observations of actual climbing activities or by a physical examination, to perform the duties that may be assigned, including climbing fixed ladders without fall protection;

(2) Has successfully completed a training or apprenticeship program that includes hands-on training on the safe climbing of ladders and is retrained as necessary to maintain the necessary skills;

(3) Has the skill to climb ladders safely, as demonstrated through formal classroom training or on-the-job training, and performance observation; and

(4) Performs climbing duties as a part of routine work activity.

(i) *Ladder safety systems.* The employer must ensure:

(1) Each ladder safety system allows the employee to climb up and down using both hands and does not require that the employee continuously hold, push, or pull any part of the system while climbing;

(2) The connection between the carrier or lifeline and the point of attachment to the body harness or belt does not exceed 9 inches (23 cm);

(3) Mountings for rigid carriers are attached at each end of the carrier, with intermediate mountings spaced, as necessary, along the entire length of the carrier so the system has the strength to stop employee falls;

(4) Mountings for flexible carriers are attached at each end of the carrier and cable guides for flexible carriers are installed at least 25 feet (7.6 m) apart but not more than 40 feet (12.2 m) apart along the entire length of the carrier;

(5) The design and installation of mountings and cable guides does not reduce the design strength of the ladder; and

(6) Ladder safety systems and their support systems are capable of withstanding, without failure, a drop test consisting of an 18-inch (41-cm) drop of a 500-pound (227-kg) weight.

(j) *Personal fall protection systems.* Body belts, harnesses, and other components used in personal fall arrest systems, work positioning systems, and travel restraint systems must meet the requirements of § 1910.140.

(k) *Protection from falling objects.* (1) The employers must ensure toeboards used for falling object protection:

(i) Are erected along the exposed edge of the overhead walking-working surface for a length that is sufficient to protect employees below.

(ii) Have a minimum vertical height of 3.5 inches (9 cm) as measured from the top edge of the toeboard to the level of the walking-working surface.

(iii) Do not have more than a 0.25-inch (0.5-cm) clearance or opening above the walking-working surface.

(iv) Are solid or do not have any opening that exceeds 1 inch (3 cm) at its greatest dimension.

(v) Have a minimum height of 2.5 inches (6 cm) when used around vehicle repair, service, or assembly pits. Toeboards may be omitted around vehicle repair, service, or assembly pits when the employer can demonstrate that a toeboard would prevent access to a vehicle that is over the pit.

(vi) Are capable of withstanding, without failure, a force of at least 50 pounds (222 N) applied in any downward or outward direction at any point along the toeboard.

(2) The employer must ensure:

(i) Where tools, equipment, or materials are piled higher than the top of the toeboard, paneling or screening is installed from the toeboard to the midrail of the guardrail system and for a length that is sufficient to protect employees below. If the items are piled higher than the midrail, the employer also must install paneling or screening to the top rail and for a length that is sufficient to protect employees below; and

(ii) All openings in guardrail systems are small enough to prevent objects from falling through the opening.

(3) The employer must ensure canopies used for falling object protection are strong enough to prevent collapse and to prevent penetration by falling objects.

(l) *Grab handles.* The employer must ensure each grab handle:

(1) Is not less than 12 inches (30 cm) long;

(2) Is mounted to provide at least 3 inches (8 cm) of clearance from the framing or opening; and

(3) Is capable of withstanding a maximum horizontal pull-out force equal to two times the maximum intended load or 200 pounds (890 N), whichever is greater.

§ 1910.30 Training requirements.

(a) *Fall hazards.* (1) Before any employee is exposed to a fall hazard, the employer must provide training for each employee who uses personal fall protection systems or who is required to be trained as specified elsewhere in this subpart. Employers must ensure employees are trained in the requirements of this paragraph on or before May 17, 2017.

(2) The employer must ensure that each employee is trained by a qualified person.

(3) The employer must train each employee in at least the following topics:

(i) The nature of the fall hazards in the work area and how to recognize them;

(ii) The procedures to be followed to minimize those hazards;

(iii) The correct procedures for installing, inspecting, operating, maintaining, and disassembling the personal fall protection systems that the employee uses; and

(iv) The correct use of personal fall protection systems and equipment specified in paragraph (a)(1) of this section, including, but not limited to, proper hook-up, anchoring, and tie-off techniques, and methods of equipment inspection and storage, as specified by the manufacturer.

(b) *Equipment hazards.* (1) The employer must train each employee on or before May 17, 2017 in the proper care, inspection, storage, and use of equipment covered by this subpart before an employee uses the equipment.

(2) The employer must train each employee who uses a dockboard to properly place and secure it to prevent unintentional movement.

(3) The employer must train each employee who uses a rope descent system in proper rigging and use of the equipment in accordance with § 1910.27.

(4) The employer must train each employee who uses a designated area in the proper set-up and use of the area.

(c) *Retraining.* The employer must retrain an employee when the employer has reason to believe the employee does not have the understanding and skill required by paragraphs (a) and (b) of this section. Situations requiring retraining include, but are not limited to, the following:

(1) When changes in the workplace render previous training obsolete or inadequate;

(2) When changes in the types of fall protection systems or equipment to be used render previous training obsolete or inadequate; or

(3) When inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee no longer has the requisite understanding or skill necessary to use equipment or perform the job safely.

(d) *Training must be understandable.* The employer must provide information and training to each employee in a manner that the employee understands.

Subpart F—[Amended]

■ 4. Revise the authority citation for subpart F to read as follows:

Authority: 29 U.S.C. 653, 655, and 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 5–2007 (72 FR 31159), or 1–2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

■ 5. In § 1910.66:

■ a. Revise paragraphs (b)(2)(i), (c)(3), (f)(5)(ii)(L) and (M), (f)(5)(iii)(B), and (j);

■ b. Remove and reserve appendix C; and

■ c. Revise appendix D, paragraph (c)(4).

The revisions read as follows:

§ 1910.66 Powered platforms for building maintenance.

* * * * *

(b) * * *

(2) * * *

(i) Permanent installations in existence and/or completed before July 23, 1990 shall comply with paragraphs (g), (h), (i), (j) and appendix C to subpart I of this part.

* * * * *

(c) * * *

(3) Building owners of all installations, new and existing, shall inform the employer in writing that the installation has been inspected, tested, and maintained in compliance with the requirements of paragraphs (g) and (h) of this section and that all anchorages meet the requirements of § 1910.140(c)(13).

* * * * *

(f) * * *

(5) * * *

(ii) * * *

(L) The platform shall be provided with a secondary wire rope suspension system if the platform contains overhead structures which restrict the emergency egress of employees. A horizontal lifeline or a direct connection anchorage shall be provided as part of a personal fall arrest system that meets the requirements of subpart I of this part for each employee on such a platform.

(M) A vertical lifeline shall be provided as part of a personal fall arrest system that meets the requirements of subpart I of this part for each employee on a working platform suspended by two or more wire ropes, if the failure of one wire rope or suspension attachment will cause the platform to upset. If a secondary wire rope suspension is used, vertical lifelines are not required for the personal fall arrest system, provided that each employee is attached to a horizontal lifeline anchored to the platform.

* * * * *

(iii) * * *

(B) Each single point suspended working platform shall be provided with a secondary wire rope suspension system which will prevent the working platform from falling should there be a failure of the primary means of support, or if the platform contains overhead structures which restrict the egress of

the employees. A horizontal life line or a direct connection anchorage shall be provided as part of a personal fall arrest system that meets the requirements of subpart I of this part for each employee on the platform.

* * * * *

(j) *Personal fall protection.* Employees on working platforms shall be protected by a personal fall arrest system meeting the requirements of subpart I of this part and as otherwise provided by this standard.

* * * * *

Appendix C to § 1910.66 [Reserved]

Appendix D to § 1910.66—Existing Installations (Mandatory)

* * * * *

(c) * * *

(4) *Access to the roof car.* Safe access to the roof car and from the roof car to the working platform shall be provided. If the access to the roof car at any point of its travel is not over the roof area or where otherwise necessary for safety, then self-closing, self-locking gates shall be provided. Access to and from roof cars must comply with the requirements of subpart D of this part.

* * * * *

■ 6. In § 1910.67, revise paragraph (c)(2)(v) to read as follows:

§ 1910.67 Vehicle-mounted elevating and rotating work platforms.

* * * * *

(c) * * *

(2) * * *

(v) A personal fall arrest or travel restraint system that meets the requirements in subpart I of this part shall be worn and attached to the boom or basket when working from an aerial lift.

* * * * *

■ 7. In § 1910.68, revise paragraphs (b)(8)(ii) and (b)(12) to read as follows:

§ 1910.68 Manlifts.

* * * * *

(b) * * *

(8) * * *

(ii) *Construction.* The rails shall be standard guardrails with toeboards that meet the requirements in subpart D of this part.

* * * * *

(12) *Emergency exit ladder.* A fixed metal ladder accessible from both the "up" and "down" run of the manlift shall be provided for the entire travel of the manlift. Such ladders shall meet the requirements in subpart D of this part.

* * * * *

Subpart I—[Amended]

■ 8. Revise the authority citation for subpart I to read as follows:

Authority: 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31159), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

■ 9. In § 1910.132, revise paragraph (g) to read as follows:

§ 1910.132 General requirements.

* * * * *

(g) Paragraphs (d) and (f) of this section apply only to §§ 1910.133, 1910.135, 1910.136, 1910.138, and 1910.140. Paragraphs (d) and (f) of this section do not apply to §§ 1910.134 and 1910.137.

* * * * *

§ 1910.139 [Added and Reserved]

■ 10. Add reserved § 1910.139.

■ 11. Add § 1910.140 to read as follows:

§ 1910.140 Personal fall protection systems.

(a) *Scope and application.* This section establishes performance, care, and use criteria for all personal fall protection systems. The employer must ensure that each personal fall protection system used to comply with this part must meet the requirements of this section.

(b) *Definitions.* The following definitions apply to this section:

Anchorage means a secure point of attachment for equipment such as lifelines, lanyards, or deceleration devices.

Belt terminal means an end attachment of a window cleaner's positioning system used for securing the belt or harness to a window cleaner's belt anchor.

Body belt means a strap with means both for securing about the waist and for attaching to other components such as a lanyard used with positioning systems, travel restraint systems, or ladder safety systems.

Body harness means straps that secure about the employee in a manner to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders, with a means for attaching the harness to other components of a personal fall protection system.

Carabiner means a connector generally comprised of a trapezoidal or oval shaped body with a closed gate or similar arrangement that may be opened to attach another object and, when released, automatically closes to retain the object.

Competent person means a person who is capable of identifying existing and predictable hazards in any personal fall protection system or any component of it, as well as in their application and uses with related equipment, and who has authorization to take prompt, corrective action to eliminate the identified hazards.

Connector means a device used to couple (connect) parts of the fall protection system together.

D-ring means a connector used:

(i) In a harness as an integral attachment element or fall arrest attachment;

(ii) In a lanyard, energy absorber, lifeline, or anchorage connector as an integral connector; or

(iii) In a positioning or travel restraint system as an attachment element.

Deceleration device means any mechanism that serves to dissipate energy during a fall.

Deceleration distance means the vertical distance a falling employee travels from the point at which the deceleration device begins to operate, excluding lifeline elongation and free fall distance, until stopping. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Equivalent means alternative designs, equipment, materials, or methods that the employer can demonstrate will provide an equal or greater degree of safety for employees compared to the designs, equipment, materials, or methods specified in the standard.

Free fall means the act of falling before the personal fall arrest system begins to apply force to arrest the fall.

Free fall distance means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, lifeline and lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before the devices operate and fall arrest forces occur.

Lanyard means a flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Lifeline means a component of a personal fall protection system consisting of a flexible line for connection to an anchorage at one end so as to hang vertically (vertical

lifeline), or for connection to anchorages at both ends so as to stretch horizontally (horizontal lifeline), and serves as a means for connecting other components of the system to the anchorage.

Personal fall arrest system means a system used to arrest an employee in a fall from a walking-working surface. It consists of a body harness, anchorage, and connector. The means of connection may include a lanyard, deceleration device, lifeline, or a suitable combination of these.

Personal fall protection system means a system (including all components) an employer uses to provide protection from falling or to safely arrest an employee's fall if one occurs.

Examples of personal fall protection systems include personal fall arrest systems, positioning systems, and travel restraint systems.

Positioning system (work-positioning system) means a system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment."

Qualified describes a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

Rope grab means a deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/lever locking, or both.

Safety factor means the ratio of the design load and the ultimate strength of the material.

Self-retracting lifeline/lanyard means a deceleration device containing a drum-wound line that can be slowly extracted from, or retracted onto, the drum under slight tension during normal movement by the employee. At the onset of a fall, the device automatically locks the drum and arrests the fall.

Snaphook means a connector comprised of a hook-shaped body with a normally closed gate, or similar arrangement that may be manually opened to permit the hook to receive an object. When released, the snaphook automatically closes to retain the object. Opening a snaphook requires two separate actions. Snaphooks are generally one of two types:

(i) Automatic-locking type (permitted) with a self-closing and self-locking gate that remains closed and locked until intentionally unlocked and opened for connection or disconnection; and

(ii) Non-locking type (prohibited) with a self-closing gate that remains closed, but not locked, until intentionally opened for connection or disconnection.

Travel restraint (tether) line means a rope or wire rope used to transfer forces from a body support to an anchorage or anchorage connector in a travel restraint system.

Travel restraint system means a combination of an anchorage, anchorage connector, lanyard (or other means of connection), and body support that an employer uses to eliminate the possibility of an employee going over the edge of a walking-working surface.

Window cleaner's belt means a positioning belt that consists of a waist belt, an integral terminal runner or strap, and belt terminals.

Window cleaner's belt anchor (window anchor) means specifically designed fall-preventing attachment points permanently affixed to a window frame or to a building part immediately adjacent to the window frame, for direct attachment of the terminal portion of a window cleaner's belt.

Window cleaner's positioning system means a system which consists of a window cleaner's belt secured to window anchors.

Work-positioning system (see *Positioning system* in this paragraph (b)).

(c) *General requirements.* The employer must ensure that personal fall protection systems meet the following requirements. Additional requirements for personal fall arrest systems and positioning systems are contained in paragraphs (d) and (e) of this section, respectively.

(1) Connectors must be drop forged, pressed or formed steel, or made of equivalent materials.

(2) Connectors must have a corrosion-resistant finish, and all surfaces and edges must be smooth to prevent damage to interfacing parts of the system.

(3) When vertical lifelines are used, each employee must be attached to a separate lifeline.

(4) Lanyards and vertical lifelines must have a minimum breaking strength of 5,000 pounds (22.2 kN).

(5) Self-retracting lifelines and lanyards that automatically limit free fall distance to 2 feet (0.61 m) or less must have components capable of sustaining a minimum tensile load of 3,000 pounds (13.3 kN) applied to the device with the lifeline or lanyard in the fully extended position.

(6) A competent person or qualified person must inspect each knot in a lanyard or vertical lifeline to ensure that it meets the requirements of paragraphs (c)(4) and (5) of this section before any employee uses the lanyard or lifeline.

(7) D-rings, snaphooks, and carabiners must be capable of sustaining a minimum tensile load of 5,000 pounds (22.2 kN).

(8) D-rings, snaphooks, and carabiners must be proof tested to a minimum tensile load of 3,600 pounds (16 kN) without cracking, breaking, or incurring permanent deformation. The gate strength of snaphooks and carabiners, must be proof tested to 3,600 lbs. (16 kN) in all directions.

(9) Snaphooks and carabiners must be the automatic locking type that require at least two separate, consecutive movements to open.

(10) Snaphooks and carabiners must not be connected to any of the following unless they are designed for such connections:

(i) Directly to webbing, rope, or wire rope;

(ii) To each other;

(iii) To a D-ring to which another snaphook, carabiner, or connector is attached;

(iv) To a horizontal life line; or

(v) To any object that is incompatibly shaped or dimensioned in relation to the snaphook or carabiner such that unintentional disengagement could occur when the connected object depresses the snaphook or carabiner gate, allowing the components to separate.

(11) The employer must ensure that each horizontal lifeline:

(i) Is designed, installed, and used under the supervision of a qualified person; and

(ii) Is part of a complete personal fall arrest system that maintains a safety factor of at least two.

(12) Anchorages used to attach to personal fall protection equipment must be independent of any anchorage used to suspend employees or platforms on which employees work. Anchorages used to attach to personal fall protection equipment on mobile work platforms on powered industrial trucks must be attached to an overhead member of the platform, at a point located above and near the center of the platform.

(13) Anchorages, except window cleaners' belt anchors covered by paragraph (e) of this section, must be:

(i) Capable of supporting at least 5,000 pounds (22.2 kN) for each employee attached; or

(ii) Designed, installed, and used, under the supervision of qualified

person, as part of a complete personal fall protection system that maintains a safety factor of at least two.

(14) Travel restraint lines must be capable of sustaining a tensile load of at least 5,000 pounds (22.2 kN).

(15) Lifelines must not be made of natural fiber rope. Polypropylene rope must contain an ultraviolet (UV) light inhibitor.

(16) Personal fall protection systems and their components must be used exclusively for employee fall protection and not for any other purpose, such as hoisting equipment or materials.

(17) A personal fall protection system or its components subjected to impact loading must be removed from service immediately and not used again until a competent person inspects the system or components and determines that it is not damaged and safe for use for employee personal fall protection.

(18) Personal fall protection systems must be inspected before initial use during each workshift for mildew, wear, damage, and other deterioration, and defective components must be removed from service.

(19) Ropes, belts, lanyards, and harnesses used for personal fall protection must be compatible with all connectors used.

(20) Ropes, belts, lanyards, lifelines, and harnesses used for personal fall protection must be protected from being cut, abraded, melted, or otherwise damaged.

(21) The employer must provide for prompt rescue of each employee in the event of a fall.

(22) Personal fall protection systems must be worn with the attachment point of the body harness located in the center of the employee's back near shoulder level. The attachment point may be located in the pre-sternal position if the free fall distance is limited to 2 feet (0.6 m) or less.

(d) *Personal fall arrest systems*—(1) *System performance criteria.* In addition to the general requirements in paragraph (c) of this section, the employer must ensure that personal fall arrest systems:

(i) Limit the maximum arresting force on the employee to 1,800 pounds (8 kN);

(ii) Bring the employee to a complete stop and limit the maximum deceleration distance the employee travels to 3.5 feet (1.1 m);

(iii) Have sufficient strength to withstand twice the potential impact energy of the employee free falling a distance of 6 feet (1.8 m), or the free fall distance permitted by the system; and

(iv) Sustain the employee within the system/strap configuration without making contact with the employee's neck and chin area.

(v) If the personal fall arrest system meets the criteria and protocols in appendix D of this subpart, and is being used by an employee having a combined body and tool weight of less than 310 pounds (140 kg), the system is considered to be in compliance with the provisions of paragraphs (d)(1)(i) through (iii) of this section. If the system is used by an employee having a combined body and tool weight of 310 pounds (140kg) or more and the employer has appropriately modified the criteria and protocols in appendix D, then the system will be deemed to be in compliance with the requirements of paragraphs (d)(1)(i) through (iii).

(2) *System use criteria.* The employer must ensure that:

(i) On any horizontal lifeline that may become a vertical lifeline, the device used to connect to the horizontal lifeline is capable of locking in both directions on the lifeline.

(ii) Personal fall arrest systems are rigged in such a manner that the employee cannot free fall more than 6 feet (1.8 m) or contact a lower level. A free fall may be more than 6 feet (1.8 m) provided the employer can demonstrate the manufacturer designed the system to allow a free fall of more than 6 feet and tested the system to ensure a maximum arresting force of 1,800 pounds (8 kN) is not exceeded.

(3) *Body belts.* Body belts are prohibited as part of a personal fall arrest system.

(e) *Positioning systems*—(1) *System performance requirements.* The employer must ensure that each positioning system meets the following requirements:

(i) *General.* All positioning systems, except window cleaners' positioning systems, are capable of withstanding, without failure, a drop test consisting of a 4-foot (1.2-m) drop of a 250-pound (113-kg) weight;

(ii) *Window cleaners' positioning systems.* All window cleaners' positioning systems must:

(A) Be capable of withstanding without failure a drop test consisting of a 6-foot (1.8-m) drop of a 250-pound (113-kg) weight; and

(B) Limit the initial arresting force on the falling employee to not more than 2,000 pounds (8.9 kN), with a duration not exceeding 2 milliseconds and any subsequent arresting forces to not more than 1,000 pounds (4.5 kN).

(iii) Positioning systems, including window cleaners' positioning systems, that meet the test methods and procedures in appendix D of this subpart are considered to be in compliance with paragraphs (e)(1)(i) and (ii).

(iv) *Lineman's body belt and pole strap systems.* Lineman's body belt and pole strap systems must meet the following tests:

(A) A dielectric test of 819.7 volts, AC, per centimeter (25,000 volts per foot) for 3 minutes without visible deterioration;

(B) A leakage test of 98.4 volts, AC, per centimeter (3,000 volts per foot) with a leakage current of no more than 1 mA; and

(C) A flammability test in accordance with Table I–7 of this section.

Table I-7 -- Flammability Test

Test Method	Criteria for Passing Test
1. Vertically suspend a 19.7-inch (500-mm) length of strapping supporting a 220.5-lb (100-kg) weight; 2. Use a butane or propane burner with a 3-inch (76-mm) flame; 3. Direct the flame to an edge of the strapping at a distance of 1 inch (25mm); 4. Remove the flame after 5 seconds; and 5. Wait for any flames on the positioning strap to stop burning.	Any flames on the positioning strap must self-extinguish. The positioning strap must continue to support the 220.5-lb (100-kg) mass.

(2) *System use criteria for window cleaners' positioning systems.* The employer must ensure that window cleaners' positioning systems meet and are used in accordance with the following:

(i) Window cleaners' belts are designed and constructed so that:

(A) Belt terminals will not pass through their fastenings on the belt or harness if a terminal comes loose from the window anchor; and

(B) The length of the runner from terminal tip to terminal tip is 8 feet (2.44 m) or less;

(ii) Window anchors to which belts are fastened are installed in the side frames or mullions of the window at a point not less than 42 inches (106.7 cm) and not more than 51 inches (129.5 cm) above the window sill;

(iii) Each window anchor is capable of supporting a minimum load of 6,000 pounds (26.5 kN);

(iv) Use of installed window anchors for any purpose other than attaching the window cleaner's belt is prohibited;

(v) A window anchor that has damaged or deteriorated fastenings or supports is removed, or the window anchor head is detached so the anchor cannot be used;

(vi) Rope that has wear or deterioration that affects its strength is not used;

(vii) Both terminals of the window cleaner's belt are attached to separate window anchors during any cleaning operation;

(viii) No employee works on a window sill or ledge on which there is snow, ice, or any other slippery condition, or one that is weakened or rotted;

(ix) No employee works on a window sill or ledge unless:

(A) The window sill or ledge is a minimum of 4 inches (10 cm) wide and slopes no more than 15 degrees below horizontal; or

(B) The 4-inch minimum width of the window sill or ledge is increased 0.4 inches (1 cm) for every degree the sill or ledge slopes beyond 15 degrees, up to a maximum of 30 degrees;

(x) The employee attaches at least one belt terminal to a window anchor before climbing through the window opening, and keeps at least one terminal attached until completely back inside the window opening;

(xi) Except as provided in paragraph (e)(2)(xii) of this section, the employee travels from one window to another by returning inside the window opening and repeating the belt terminal attachment procedure at each window in accordance with paragraph (e)(2)(x) of this section;

(xii) An employee using a window cleaner's positioning system may travel from one window to another while outside of the building, provided:

(A) At least one belt terminal is attached to a window anchor at all times;

(B) The distance between window anchors does not exceed 4 feet (1.2 m) horizontally. The distance between windows may be increased up to 6 feet (1.8 m) horizontally if the window sill or ledge is at least 1 foot (0.31 m) wide and the slope is less than 5 degrees;

(C) The sill or ledge between windows is continuous; and

(D) The width of the window sill or ledge in front of the mullions is at least 6 inches (15.2 cm) wide.

■ 12. Add appendices C and D to subpart I of part 1910 to read as follows:

Appendix C to Subpart I of Part 1910—Personal Fall Protection Systems Non-Mandatory Guidelines

The following information generally applies to all personal fall protection systems and is intended to assist employers and employees comply with the requirements of § 1910.140 for personal fall protection systems.

(a) Planning considerations. It is important for employers to plan prior to using personal fall protection systems. Probably the most overlooked component of planning is locating suitable anchorage points. Such planning should ideally be done before the structure or building is constructed so that anchorage points can be used later for window cleaning or other building maintenance.

(b) Selection and use considerations. (1) The kind of personal fall protection system

selected should be appropriate for the employee's specific work situation. Free fall distances should always be kept to a minimum. Many systems are designed for particular work applications, such as climbing ladders and poles; maintaining and servicing equipment; and window cleaning. Consideration should be given to the environment in which the work will be performed. For example, the presence of acids, dirt, moisture, oil, grease, or other substances, and their potential effects on the system selected, should be evaluated. The employer should fully evaluate the work conditions and environment (including seasonal weather changes) before selecting the appropriate personal fall protection system. Hot or cold environments may also affect fall protection systems. Wire rope should not be used where electrical hazards are anticipated. As required by § 1910.140(c)(21), the employer must provide a means for promptly rescuing an employee should a fall occur.

(2) Where lanyards, connectors, and lifelines are subject to damage by work operations, such as welding, chemical cleaning, and sandblasting, the component should be protected, or other securing systems should be used. A program for cleaning and maintaining the system may be necessary.

(c) Testing considerations. Before purchasing a personal fall protection system, an employer should insist that the supplier provide information about its test performance (using recognized test methods) so the employer will know that the system meets the criteria in § 1910.140. Otherwise, the employer should test the equipment to ensure that it is in compliance. Appendix D to this subpart contains test methods which are recommended for evaluating the performance of any system. There are some circumstances in which an employer can evaluate a system based on data and calculations derived from the testing of similar systems. Enough information must be available for the employer to demonstrate that its system and the tested system(s) are similar in both function and design.

(d) Component compatibility considerations. Ideally, a personal fall protection system is designed, tested, and supplied as a complete system. However, it is common practice for lanyards, connectors, lifelines, deceleration devices, body belts, and body harnesses to be interchanged since some components wear out before others. Employers and employees should realize that not all components are interchangeable. For instance, a lanyard should not be connected between a body harness and a deceleration device of the self-retracting type (unless specifically allowed by the manufacturer) since this can result in additional free fall for which the system was not designed. In addition, positioning components, such as pole straps, ladder hooks and rebar hooks, should not be used in personal fall arrest systems unless they meet the appropriate strength and performance requirements of part 1910 (*e.g.*, §§ 1910.140, 1910.268 and 1910.269). Any substitution or change to a personal fall protection system should be fully evaluated or tested by a competent person to determine that it meets applicable OSHA standards before the modified system is put in use. Also, OSHA suggests that rope be used according to manufacturers' recommendations, especially if polypropylene rope is used.

(e) Employee training considerations. As required by §§ 1910.30 and 1910.132, before an employee uses a fall protection system, the employer must ensure that he or she is trained in the proper use of the system. This may include the following: The limits of the system; proper anchoring and tie-off techniques; estimating free fall distance, including determining elongation and deceleration distance; methods of use; and inspection and storage. Careless or improper use of fall protection equipment can result in serious injury or death. Employers and employees should become familiar with the material in this standard and appendix, as well as manufacturers' recommendations, before a system is used. It is important for employees to be aware that certain tie-offs (such as using knots and tying around sharp edges) can reduce the overall strength of a system. Employees also need to know the maximum permitted free fall distance. Training should stress the importance of inspections prior to use, the limitations of the equipment to be used, and unique conditions at the worksite that may be important.

(f) Instruction considerations. Employers should obtain comprehensive instructions from the supplier or a qualified person as to the system's proper use and application, including, where applicable:

(1) The force measured during the sample force test;

(2) The maximum elongation measured for lanyards during the force test;

(3) The deceleration distance measured for deceleration devices during the force test;

(4) Caution statements on critical use limitations;

(5) Limits of the system;

(6) Proper hook-up, anchoring and tie-off techniques, including the proper D-ring or other attachment point to use on the body harness;

(7) Proper climbing techniques;

(8) Methods of inspection, use, cleaning, and storage; and

(9) Specific lifelines that may be used.

(g) Inspection considerations. Personal fall protection systems must be inspected before initial use in each workshift. Any component with damage, such as a cut, tear, abrasion, mold, or evidence of undue stretching, an alteration or addition that might affect its effectiveness, damage due to deterioration, fire, acid, or other corrosive damage, distorted hooks or faulty hook springs, tongues that are unfitted to the shoulder of buckles, loose or damaged mountings, non-functioning parts, or wear, or internal deterioration must be removed from service immediately, and should be tagged or marked as unusable, or destroyed. Any personal fall protection system, including components, subjected to impact loading must be removed from service immediately and not used until a competent person inspects the system and determines that it is not damaged and is safe to use for personal fall protection.

(h) Rescue considerations. As required by § 1910.140(c)(21), when personal fall arrest systems are used, special consideration must be given to rescuing an employee promptly should a fall occur. The availability of rescue personnel, ladders, or other rescue equipment needs to be evaluated since there may be instances in which employees cannot self-rescue (*e.g.*, employee unconscious or seriously injured). In some situations, equipment allowing employees to rescue themselves after the fall has been arrested may be desirable, such as devices that have descent capability.

(i) Tie-off considerations. Employers and employees should at all times be aware that the strength of a personal fall arrest system is based on its being attached to an anchoring system that can support the system. Therefore, if a means of attachment is used that will reduce the strength of the system (such as an eye-bolt/snaphook anchorage), that component should be replaced by a stronger one that will also maintain the appropriate maximum deceleration characteristics. The following is a listing of some situations in which employers and employees should be especially cautious:

(1) Tie-off using a knot in the lanyard or lifeline (at any location). The strength of the line can be reduced by 50 percent or more if a knot is used. Therefore, a stronger lanyard or lifeline should be used to compensate for the knot, or the lanyard length should be reduced (or the tie-off location raised) to minimize free fall distance, or the lanyard or lifeline should be replaced by one which has an appropriately incorporated connector to eliminate the need for a knot.

(2) Tie-off around rough or sharp (*e.g.*, "H" or "I" beams) surfaces. Sharp or rough surfaces can damage rope lines and this reduces strength of the system drastically. Such tie-offs should be avoided whenever possible. An alternate means should be used such as a snaphook/D-ring connection, a tie-off apparatus (steel cable tie-off), an effective padding of the surfaces, or an abrasion-resistant strap around the supporting member. If these alternative means of tie-off are not available, the employer should try to minimize the potential free fall distance.

(3) Knots. Sliding hitch knots should not be used except in emergency situations. The one-and-one sliding hitch knot should never be used because it is unreliable in stopping a fall. The two-and-two, or three-and-three knots (preferable) may be used in emergency situations; however, care should be taken to limit free fall distances because of reduced lifeline/lanyard strength. OSHA requires that a competent or qualified person inspect each knot in a lanyard or vertical lifeline to ensure it meets the strength requirements in § 1910.140.

(j) Horizontal lifelines. Horizontal lifelines, depending on their geometry and angle of sag, may be subjected to greater loads than the impact load imposed by an attached component. When the angle of horizontal lifeline sag is less than 30 degrees, the impact force imparted to the lifeline by an attached lanyard is greatly amplified. For example, with a sag angle of 15 degrees the force amplification is about 2:1, and at 5 degrees sag it is about 6:1. Depending on the angle of sag, and the line's elasticity, the strength

of the horizontal lifeline, and the anchorages to which it is attached should be increased a number of times over that of the lanyard. Extreme care should be taken in considering a horizontal lifeline for multiple tie-offs. If there are multiple tie-offs to a horizontal lifeline, and one employee falls, the movement of the falling employee and the horizontal lifeline during arrest of the fall may cause other employees to fall. Horizontal lifeline and anchorage strength should be increased for each additional employee to be tied-off. For these and other reasons, the systems using horizontal lifelines must be designed only by qualified persons. OSHA recommends testing installed lifelines and anchors prior to use. OSHA requires that horizontal lifelines are designed, installed and used under the supervision of a qualified person.

(k) Eye-bolts. It must be recognized that the strength of an eye-bolt is rated along the axis of the bolt, and that its strength is greatly reduced if the force is applied at right angles to this axis (in the direction of its shear strength). Care should also be exercised in selecting the proper diameter of the eye to avoid creating a roll-out hazard (accidental disengagement of the snaphook from the eye-bolt).

(l) Vertical lifeline considerations. As required by § 1910.140(c)(3), each employee must have a separate lifeline when the lifeline is vertical. If multiple tie-offs to a single lifeline are used, and one employee falls, the movement of the lifeline during the arrest of the fall may pull other employees' lanyards, causing them to fall as well.

(m) Snaphook and carabiner considerations. As required by § 1910.140(c)(10), the following connections must be avoided unless the locking snaphook or carabiner has been designed for them because they are conditions that can result in rollout:

(1) Direct connection to webbing, rope, or a horizontal lifeline;

(2) Two (or more) snaphooks or carabiners connected to one D-ring;

(3) Two snaphooks or carabiners connected to each other;

(4) Snaphooks or carabiners connected directly to webbing, rope, or wire rope; and

(5) Improper dimensions of the D-ring, rebar, or other connection point in relation to the snaphook or carabiner dimensions which would allow the gate to be depressed by a turning motion.

(n) Free fall considerations. Employers and employees should always be aware that a system's maximum arresting force is evaluated under normal use conditions established by the manufacturer. OSHA requires that personal fall arrest systems be rigged so an employee cannot free fall in excess of 6 feet (1.8 m). Even a few additional feet of free fall can significantly increase the arresting force on the employee, possibly to the point of causing injury and possibly exceeding the strength of the system. Because of this, the free fall distance should be kept to a minimum, and, as required by § 1910.140(d)(2), must never be greater than 6 feet (1.8 m). To assure this, the tie-off attachment point to the lifeline or anchor should be located at or above the connection point of the fall arrest equipment to the harness. (Otherwise, additional free fall distance is added to the length of the connecting means (*i.e.*, lanyard)). Tying off to the walking-working surface will often result in a free fall greater than 6 feet (1.8 m). For instance, if a 6-foot (1.8-m) lanyard is used, the total free fall distance will be the distance from the walking-working level to the harness connection plus the 6 feet (1.8 m) of lanyard.

(o) Elongation and deceleration distance considerations. During fall arrest, a lanyard will stretch or elongate, whereas activation of a deceleration device will result in a certain stopping distance. These distances should be available with the lanyard or device's instructions and must be added to the free fall distance to arrive at the total fall distance before an employee is fully stopped. The additional stopping distance may be significant if the lanyard or deceleration device is attached near or at the end of a long lifeline, which may itself add considerable distance due to its own elongation. As required by § 1910.140(d)(2), sufficient distance to allow for all of these factors must also be maintained between the employee and obstructions below, to prevent an injury due to impact before the system fully arrests the fall. In addition, a minimum of 12 feet (3.7 m) of lifeline should be allowed below the securing point of a rope-grab-type deceleration device, and the end terminated to prevent the device from sliding off the lifeline. Alternatively, the lifeline should extend to the ground or the next working level below. These measures are suggested to prevent the employee from inadvertently moving past the end of the lifeline and having the rope grab become disengaged from the lifeline.

(p) Obstruction considerations. In selecting a location for tie-off, employers and employees should consider obstructions in the potential fall path of the employee. Tie-offs that minimize the possibilities of exaggerated swinging should be considered.

Appendix D to Subpart I of Part 1910—Test Methods and Procedures for Personal Fall Protection Systems Non-Mandatory Guidelines

This appendix contains test methods for personal fall protection systems which may be used to determine if they meet the system performance criteria specified in paragraphs (d) and (e) of § 1910.140.

Test methods for personal fall arrest systems (paragraph (d) of § 1910.140).

(a) General. The following sets forth test procedures for personal fall arrest systems as defined in paragraph (d) of § 1910.140.

(b) General test conditions.

(1) Lifelines, lanyards and deceleration devices should be attached to an anchorage and connected to the body harness in the same manner as they would be when used to protect employees.

(2) The fixed anchorage should be rigid, and should not have a deflection greater than 0.04 inches (1 mm) when a force of 2,250 pounds (10 kN) is applied.

(3) The frequency response of the load measuring instrumentation should be 120 Hz.

(4) The test weight used in the strength and force tests should be a rigid, metal cylindrical or torso-shaped object with a girth of 38 inches plus or minus 4 inches (96 cm plus or minus 10 cm).

(5) The lanyard or lifeline used to create the free fall distance should be supplied with the system, or in its absence, the least elastic lanyard or lifeline available should be used with the system.

(6) The test weight for each test should be hoisted to the required level and should be quickly released without having any appreciable motion imparted to it.

(7) The system's performance should be evaluated, taking into account the range of environmental conditions for which it is designed to be used.

(8) Following the test, the system need not be capable of further operation.

(c) Strength test.

(1) During the testing of all systems, a test weight of 300 pounds plus or minus 3 pounds (136.4 kg plus or minus 1.4 kg) should be used. (See paragraph (b)(4) of this appendix.)

(2) The test consists of dropping the test weight once. A new unused system should be used for each test.

(3) For lanyard systems, the lanyard length should be 6 feet plus or minus 2 inches (1.83 m plus or minus 5 cm) as measured from the fixed anchorage to the attachment on the body harness.

(4) For rope-grab-type deceleration systems, the length of the lifeline above the centerline of the grabbing mechanism to the lifeline's anchorage point should not exceed 2 feet (0.61 m).

(5) For lanyard systems, for systems with deceleration devices which do not automatically limit free fall distance to 2 feet (0.61 m) or less, and for systems with deceleration devices which have a connection distance in excess of 1 foot (0.3 m) (measured between the centerline of the lifeline and the attachment point to the body harness), the test weight should be rigged to free fall a distance of 7.5 feet (2.3 m) from a point that is 1.5 feet (46 cm) above the anchorage point, to its hanging location (6 feet (1.83 m) below the anchorage). The test weight should fall without interference, obstruction, or hitting the floor or ground during the test. In some cases a non-elastic wire lanyard of sufficient length may need to be added to the system (for test purposes) to create the necessary free fall distance.

(6) For deceleration device systems with integral lifelines or lanyards that automatically limit free fall distance to 2 feet (0.61 m) or less, the test weight should be rigged to free fall a distance of 4 feet (1.22 m).

(7) Any weight that detaches from the harness should constitute failure for the strength test.

(d) Force test.

(1) General. The test consists of dropping the respective test weight specified in paragraph (d)(2)(i) or (d)(3)(i) of this appendix once. A new, unused system should be used for each test.

(2) For lanyard systems. (i) A test weight of 220 pounds plus or minus three pounds (100 kg plus or minus 1.6 kg) should be used. (See paragraph (b)(4) of this appendix.)

(ii) Lanyard length should be 6 feet plus or minus 2 inches (1.83 m plus or minus 5 cm) as measured from the fixed anchorage to the attachment on the body harness.

(iii) The test weight should fall free from the anchorage level to its hanging location (a total of 6 feet (1.83 m) free fall distance) without interference, obstruction, or hitting the floor or ground during the test.

(3) For all other systems. (i) A test weight of 220 pounds plus or minus 2 pounds (100 kg plus or minus 1.0 kg) should be used. (See paragraph (b)(4) of this appendix.)

(ii) The free fall distance to be used in the test should be the maximum fall distance physically permitted by the system during normal use conditions, up to a maximum free fall distance for the test weight of 6 feet (1.83 m), except as follows:

(A) For deceleration systems having a connection link or lanyard, the test weight should free fall a distance equal to the connection distance (measured between the centerline of the lifeline and the attachment point to the body harness).

(B) For deceleration device systems with integral lifelines or lanyards that automatically limit free fall distance to 2 feet (0.61 m) or less, the test weight should free fall a distance equal to that permitted by the system in normal use. (For example, to test a system with a self-retracting lifeline or lanyard, the test weight should be supported and the system allowed to retract the lifeline or lanyard as it would in normal use. The test weight would then be released and the force and deceleration distance measured).

(4) Failure. A system fails the force test when the recorded maximum arresting force exceeds 2,520 pounds (11.2 kN) when using a body harness.

(5) Distances. The maximum elongation and deceleration distance should be recorded during the force test.

(e) Deceleration device tests.

(1) General. The device should be evaluated or tested under the environmental conditions (such as rain, ice, grease, dirt, and type of lifeline) for which the device is designed.

(2) Rope-grab-type deceleration devices. (i) Devices should be moved on a lifeline 1,000 times over the same length of line a distance of not less than 1 foot (30.5 cm), and the mechanism should lock each time.

(ii) Unless the device is permanently marked to indicate the type of lifelines that must be used, several types (different diameters and different materials), of lifelines should be used to test the device.

(3) Other self-activating-type deceleration devices. The locking mechanisms of other self-activating-type deceleration devices designed for more than one arrest should lock each of 1,000 times as they would in normal service.

Test methods for positioning systems (paragraph (e) of § 1910.140).

(a) General. The following sets forth test procedures for positioning systems as defined in paragraph (e) of § 1910.140. The requirements in this appendix for personal fall arrest systems set forth procedures that may be used, along with the procedures listed below, to determine compliance with the requirements for positioning systems.

(b) Test conditions.

(1) The fixed anchorage should be rigid and should not have a deflection greater than 0.04 inches (1 mm) when a force of 2,250 pounds (10 kN) is applied.

(2) For window cleaners' belts, the complete belt should withstand a drop test consisting of a 250 pound (113 kg) weight falling free for a distance of 6 feet (1.83 m). The weight should be a rigid object with a girth of 38 inches plus or minus 4 inches (96 cm plus or minus 10 cm). The weight should be placed in the waistband with the belt buckle drawn firmly against the weight, as when the belt is worn by a window cleaner. One belt terminal should be attached to a rigid anchor and the other terminal should hang free. The terminals should be adjusted to their maximum span. The weight fastened in the freely suspended belt should then be lifted exactly 6 feet (1.83 m) above its "at rest" position and released so as to permit a free fall of 6 feet (1.83 m) vertically below the point of attachment of the terminal anchor. The belt system should be equipped with devices and instrumentation capable of measuring the duration and magnitude of the arrest forces. Failure of the test should consist of any breakage or slippage sufficient to permit the weight to fall free of the system. In addition, the initial and subsequent arresting forces should be measured and should not exceed 2,000 pounds (8.5 kN) for more than 2 milliseconds for the initial impact, or exceed 1,000 pounds (4.5 kN) for the remainder of the arrest time.

(3) All other positioning systems (except for restraint line systems) should withstand a drop test consisting of a 250 pound (113 kg) weight free falling a distance of 4 feet (1.2 m). The weight must be a rigid object with a girth of 38 inches plus or minus 4 inches (96 cm plus or minus 10 cm). The body belt or harness should be affixed to the test weight as it would be to an employee. The system should be connected to the rigid anchor in the manner that the system would be connected in normal use. The weight should be lifted exactly 4 feet (1.2 m) above its "at rest" position and released so as to permit a vertical free fall of 4 feet (1.2 m). Failure of the system should be indicated by any breakage or slippage sufficient to permit the weight to fall free to the ground.

Subpart N—[Amended]

■ 13. Revise the authority citation for subpart N to read as follows:

Authority: 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31159), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

■ 14. In § 1910.178, revise paragraph (j) to read as follows:

§ 1910.178 Powered industrial trucks.

* * * * *

(j) *Dockboards (bridge plates).* See subpart D of this part.

* * * * *

■ 15. In § 1910.179, revise paragraphs (c)(2), (d)(3), and (d)(4)(iii) to read as follows:

§ 1910.179 Overhead and gantry cranes.

* * * * *

(c) * * *

(2) *Access to crane.* Access to the car and/or bridge walkway shall be by a conveniently placed fixed ladder, stairs, or platform requiring no step over any gap exceeding 12 inches (30 cm). Fixed ladders must comply with subpart D of this part.

* * * * *

(d) * * *

(3) *Toeboards and handrails for footwalks.* Toeboards and handrails must comply with subpart D of this part.

(4) * * *

(iii) Ladders shall be permanently and securely fastened in place and constructed in compliance with subpart D of this part.

* * * * *

Subpart R—[Amended]

■ 16. Revise the authority citation for subpart R to read as follows:

Authority: 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 5–2007 (72 FR 31159), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

■ 17. In § 1910.261, revise paragraphs (c)(15)(ii), (e)(4), (g)(2)(ii), (g)(13)(i), (h)(1), (j)(4)(iii), (j)(5)(i), (k)(6), (k)(13)(i) and (k)(15) to read as follows:

§ 1910.261 Pulp, paper, and paperboard mills.

* * * * *

(c) * * *

(15) * * *

(ii) Where conveyors cross passageways or roadways, a horizontal platform shall be provided under the conveyor, extended out from the sides of the conveyor a distance equal to 1½ times the length of the wood handled. The platform shall extend the width of the road plus 2 feet (61 cm) on each side, and shall be kept free of wood and rubbish. The edges of the platform shall be provided with toeboards or other protection that meet the requirements of subpart D of this part, to prevent wood from falling.

* * * * *

(e) * * *

(4) *Runway to the jack ladder.* The runway from the pond or unloading dock to the table shall be protected with standard handrails and toeboards. Inclined portions shall have cleats or equivalent nonslip surfacing that

complies with subpart D of this part. Protective equipment shall be provided for persons working over water.

* * * * *

(g) * * *

(2) * * *

(ii) The worker shall be provided with eye protection, a supplied air respirator and a personal fall protection system that meets the requirements of subpart I of this part, during inspection, repairs or maintenance of acid towers. The line shall be extended to an attendant stationed outside the tower opening.

* * * * *

(13) * * *

(i) Blow-pit openings preferably shall be on the side of the pit instead of on the top. Openings shall be as small as possible when located on top, and shall be protected in accordance with subpart D of this part.

* * * * *

(h) * * *

(1) *Bleaching engines.* Bleaching engines, except the Bellmer type, shall be completely covered on the top, with the exception of one small opening large enough to allow filling, but too small to admit an employee. Platforms leading from one engine to another shall have standard guardrails that meet the requirements in subpart D of this part.

* * * * *

(j) * * *

(4) * * *

(iii) When beaters are fed from the floor above, the chute opening, if less than 42 inches (1.06 m) from the floor, shall be provided with a guardrail system that meets the requirements in subpart D of this part, or other equivalent enclosures. Openings for manual feeding shall be sufficient only for entry of stock, and shall be provided with at least two permanently secured crossrails or other fall protection system that meet the requirements in subpart D.

* * * * *

(5) * * *

(i) All pulpers having the top or any other opening of a vessel less than 42 inches (107 cm) from the floor or work platform shall have such openings guarded by guardrail systems that meet the requirements in subpart D of this part, or other equivalent enclosures. For manual changing, openings shall be sufficient only to permit the entry of stock, and shall be provided with at least two permanently secured crossrails, or other fall protection systems that meet the requirements in subpart D.

* * * * *

(k) * * *

(6) *Steps.* Steps of uniform rise and tread with nonslip surfaces that meet the requirements in subpart D of this part shall be provided at each press.

* * * * *

(13) * * *

(i) A guardrail that complies with subpart D of this part shall be provided at broke holes.

* * * * *

(15) *Steps.* Steps or ladders that comply with subpart D of this part and tread with nonslip surfaces shall be provided at each calendar stack. Handrails and hand grips complying with subpart D shall be provided at each calendar stack.

* * * * *

■ 18. In § 1910.262, revise paragraph (r) to read as follows:

§ 1910.262 Textiles.

* * * * *

(r) *Gray and white bins.* On new installations guardrails that comply with subpart D of this part shall be provided where workers are required to plait by hand from the top of the bin so as to protect the worker from falling to a lower level.

* * * * *

■ 19. In § 1910.265, revise paragraphs (c)(4)(v), (c)(5)(i), and (f)(6) to read as follows:

§ 1910.265 Sawmills.

* * * * *

(c) * * *

(4) * * *

(v) *Elevated platforms.* Where elevated platforms are used routinely on a daily basis, they shall be equipped with stairways or fixed ladders that comply with subpart D of this part.

* * * * *

(5) * * *

(i) *Construction.* Stairways shall be constructed in accordance with subpart D of this part.

* * * * *

(f) * * *

(6) *Ladders.* A fixed ladder complying with the requirements of subpart D of this part, or other adequate means, shall be provided to permit access to the roof. Where controls and machinery are mounted on the roof, a permanent stairway with standard handrail shall be installed in accordance with the requirements in subpart D.

* * * * *

■ 20. In § 1910.268:

■ a. Revise paragraphs (g)(1);

■ b. Remove paragraph (g)(2);

■ c. Redesignate (g)(3) as (g)(2); and

■ d. Revise paragraph (h).

The revisions read as follows:

§ 1910.268 Telecommunications.

* * * * *

(g) *Personal climbing equipment*—(1) *General.* A positioning system or a personal fall arrest system shall be provided and the employer shall ensure their use when work is performed at positions more than 4 feet (1.2 m) above the ground, on poles, and on towers, except as provided in paragraphs (n)(7) and (8) of this section. These systems shall meet the applicable requirements in subpart I of this part. The employer shall ensure that all climbing equipment is inspected before each day's use to determine that it is in safe working condition.

* * * * *

(h) *Ladders.* Ladders, step bolts, and manhole steps shall meet the applicable requirements in subpart D of this part.

* * * * *

■ 21. In § 1910.269, revise paragraphs (g)(2)(i), (g)(2)(iv)(B), and (g)(2)(iv)(C)(1) to read as follows:

§ 1910.269 Electric power generation, transmission, and distribution.

* * * * *

(g) * * *

(2) * * *

(i) Personal fall arrest systems shall meet the requirements of subpart I of this part.

* * * * *

(iv) * * *

(B) Personal fall arrest systems shall be used in accordance with subpart I of this part.

Note to paragraph (g)(2)(iv)(B): Fall protection equipment rigged to arrest falls is considered a fall arrest system and must meet the applicable requirements for the design and use of those systems. Fall protection equipment rigged for work positioning is considered work-positioning equipment and must meet the applicable requirements for the design and use of that equipment.

(C) * * *

(1) Each employee working from an aerial lift shall use a travel restraint system or a personal fall arrest system.

* * * * *

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

Virginia Safety and Health Codes Board

BRIEFING PACKAGE

For February 16, 2017

Occupational Exposure to Beryllium, Parts 1910, 1915, and 1926, Final Rule; and Other Related Provisions

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption federal OSHA's Final Rule for the Occupational Exposure to Beryllium, Parts 1910, 1915 and 1926, and Other Related Provisions, as published in 82 FR 2470 on January 9, 2017.

The proposed effective date is May 15, 2017.

II. Summary of the Standard

A. General

Beryllium is a strong, lightweight metal used in the aerospace, electronics, energy, telecommunication, medical, and defense industries. Beryllium-copper alloys are widely used because of their electrical and thermal conductivity, hardness, and good corrosion resistance.

It is highly toxic when beryllium-containing materials are processed in a way that releases airborne beryllium dust, fumes, or mist into the air in the workplace. This can be then inhaled by workers, potentially damaging their lungs and increasing their risk of developing chronic beryllium disease (CBD) or lung cancer.

OSHA has amended its existing standards for occupational exposure to beryllium and beryllium compounds because employees exposed to beryllium at the previous permissible exposure limits face a significant risk of the material impairment to their health. Key provisions of this final rule:

- Reduces the permissible exposure limit (PEL) for beryllium from 2.0 micrograms ($\mu g/m^3$) to 0.2 micrograms ($\mu g/m^3$) as an 8-hour time-weighted average. The PELs are the same for all employers covered by the standards. The new 8-hour TWA PEL represents a ten-fold decrease from the previous PEL.

- Establishes a new short term exposure limit for beryllium of 2.0 $\mu g/m^3$ as a short-term exposure limit, determined over a sampling period of 15 minutes.

It also includes other provisions to protect employees, such as:

- requirements for exposure assessment;
- methods for controlling exposure;
- methods for controlling exposure;
- respiratory protection;
- personal protective clothing and equipment;
- housekeeping;
- medical surveillance;
- hazard communication; and
- recordkeeping.

OSHA has issued three separate standards covering general industry, shipyards, and construction, tailoring the requirements to the unique circumstances found in these sectors. Although the structure of the three final standards remains generally consistent, there are some variations for each industry. The most significant change is in the standard for construction where paragraph (e), Competent Person, replaces paragraph (e), Beryllium work areas and regulated areas in general industry and paragraph (e), Regulated areas in shipyards.

All three final standards have a provision for methods of compliance, although in the standard for construction this provision has an additional requirement to describe procedures used by the designated competent person to restrict access to work areas, when necessary, to minimize the number of employees exposed to airborne beryllium above the PEL or STEL. This allows the competent person to perform essentially the same role as the requirement governing regulated areas in the general industry and shipyards, which is to regulate and minimize the number of workers exposed to hazardous levels of beryllium.

B. Health Hazards Caused by Exposure to Beryllium

Inhaling airborne beryllium can cause lung disease called chronic beryllium disease (CBD), which is the primary health risk for beryllium workers. Exposures occur when beryllium and beryllium-containing materials are processed in a way that releases beryllium dust, fume, or mist into the workplace air. Worker exposures to beryllium may occur in foundry and smelting operations, fabricating, machining, and grinding of

beryllium metal and alloys, beryllium oxide ceramics manufacturing, and dental lab work.

CBD symptoms may include shortness of breath, fatigue, weight loss, fever, and night sweats. CBD can continue to progress even after a worker has been removed from exposure. Individuals must become sensitized to beryllium through inhalation or skin exposure before they can develop CBD. Occupational exposure to beryllium has also been linked to lung cancer.

C. Affected Industries

As mentioned previously, the beryllium rule applies to occupational exposure to beryllium in all forms, compounds, and mixtures in general industry, construction, and shipyards. Workers at coal-fired power plants may encounter beryllium when handling fly ash residue from the coal burning process. Additionally, in the construction and shipyard industries, abrasive blasters and support personnel may be exposed to beryllium from slag. In these operations, significant beryllium exposures may occur because of the high dust levels generated despite the low beryllium content.

This rule does not apply to material that contains beryllium and that the employer does not process. The final rule also exempts materials containing less than 0.1 percent beryllium by weight if the employer has objective data demonstrating that employee exposure to beryllium will remain below the action level of 0.1 $\mu g/m^3$, as an 8-hour time weighted average, under any foreseeable conditions.

The following is a list of the main industries and application groups in which employees can reasonably be expected to be exposed to beryllium:

- Beryllium production
- Nonferrous Foundries
- Precision Turned Products
- Fabrication of Beryllium Alloy Products
- Dental Laboratories
- Coal-fired Power Utilities
- Beryllium Oxide Ceramics and Composites
- Secondary Smelting, Refining, and Alloying
- Copper Rolling, Drawing, and Extruding
- Welding
- Abrasive Blasting
- Aluminum Production

III. Basis, Purpose and Impact of the Final Standard

A. Basis

The final rule replaces a 40-year old permissible exposure limit (PEL) for beryllium that was outdated and did not adequately protect worker health. OSHA formally asked for public input on a possible beryllium rule in 2002 and rulemaking specialists visited work sites, performed risk assessments and calculated potential impacts on small businesses.

In 2012, the effort received a boost when a major beryllium manufacturer and a labor union representing many beryllium workers jointly submitted a model for a new rule.

OSHA issued a proposed rule in 2015, followed by a months-long public comment period and several days of public hearings. The final rule reflects input from industry and labor stakeholders, small business representatives, subject matter experts, and partner agencies.

B. Purpose

OSHA's previous permissible exposure limits (PELs) for beryllium are outdated and inadequate for protecting workers' health. The final rule is expected to reduce the number of fatalities and illnesses occurring among employees exposed to beryllium. OSHA anticipates that this objective will be achieved by requiring employers to install engineering controls, where appropriate, and to provide employees with the equipment, respirators, training, medical surveillance, and other protective measures necessary to perform their jobs safely.

C. Impact on Employers

Compared to other OSHA health standards, the revised beryllium rule will affect a relatively small worker population of approximately 62,000 workers in 7,300 establishments in general industry, shipyards and construction nationwide.

OSHA determined that the most effective way to prevent exposure to a hazardous metal, such as beryllium, is through elimination or substitution with viable, less toxic alternatives or through the use of engineering controls.

The revised final rule requires employers to:

- Use engineering and work practice controls, such as ventilation or enclosures, to limit worker exposure to beryllium;
- Provide affected workers with respiratory protection and protective clothing when controls cannot adequately limit exposure;
- Limit worker access to high-exposure areas;
- Utilize proper cleaning and housekeeping methods, including the use of HEPA vacuuming and wet mopping instead of dry sweeping;
- Develop a written exposure control plan; and
- Make medical exams available to monitor exposed workers and provides medical removal protection benefits to workers identified with a beryllium-related disease.

D. Impact on Employees

Employees in work environments addressed by the final rule are exposed to a variety of significant hazards that can and do cause serious injury and death. The final rule will protect workers in the following ways:

- Employees' access to high-exposure areas must be limited, respiratory protection and personal protective clothing, when necessary, must be provided when high exposures or dermal contact is possible.
- Employees must be provided with training specific to beryllium.
- Certain exposed employees must be offered medical examinations. If a specified beryllium-related health effect is identified, workers must be offered additional workplace accommodations to reduce beryllium exposures.

E. Impact on the Department of Labor and Industry

It is anticipated that any impact on the Department resulting from adoption of this amended final rule will be negligible and would be related to additional training for VOSH compliance staff on the standard.

Federal regulations 29 CFR 1953.23(a) and (b) require that Virginia, within six months of the occurrence of a federal program change, to adopt identical changes or promulgate equivalent changes which are at least as effective as the federal change. The Virginia Code reiterates this requirement in § 40.1-22(5). Adopting these revisions will allow Virginia to conform to the federal program change.

F. Benefits

This final regulation has the somewhat unusual feature for an OSHA substance-specific health standard in that most of the quantified benefits that OSHA estimated would come from the ancillary provisions, rather than from meeting the PELs with engineering controls.

The final rule contains several ancillary provisions – provisions other than the exposure limits – including regulations for exposure assessment, medical surveillance, medical removal, training, competent person, and regulated areas or access control. These ancillary provisions all serve to reduce the risks to beryllium – exposed workers beyond that which the final TWA PEL and STEL could achieve.

Nationally, the rule is estimated to prevent 90 fatalities and 46 new cases of beryllium-related illnesses annually once the full effects are realized *(See Section J of this document for the Implementation/Compliance schedule)*. Based on these figures, in Virginia, it is estimated that 2.4 fatalities and 1.2 new cases of CBD will be prevented annually.

G. Costs and Benefits

Nationally, the final rule is estimated to provide average annual net benefits of $561 million each year. The total annualized cost of the rule is estimated to be $74.0 million. It is estimated that the net monetized benefits of the amended standard will be approximately $487 million ($561 million in benefits minus $74 million in compliance costs).

The following chart is a breakdown of the revised final rule's affected sections by annualized costs, annual benefits – number of fatalities prevented, the monetized benefits, and resulting net benefits of the amended final rule.

Annualized Costs*	National	Virginia
Control Costs	$12.2M	$328,000
Rule Familiarization	$180,000	$5,000
Exposure Assessment	$13.7M	$369,000
Regulated Areas	$884,000	$24,000
Beryllium Work Areas	$130,000	$3500
Medical Surveillance	$7.4M	$199,000
Medical Removal	$1.2M	$32,000
Written Exposure Control Plan	$2.3M	$62,000
Protective Work Clothing & Equipment	$2.0M	$54,000
Hygiene Areas and Practices	$2.4M	$64,000
Housekeeping	$22.7M	$609,000
Training	$8.3M	$223,000
Respirators	$321,000	$8,600
Total Annualized Costs	$74M	$2M
Annual Benefits: Number of Cases Prevented:		
Fatal Lung Cancers (Midpoint Estimate)	4	.2
Fatal Chronic Beryllium Disease	86	2.3
Beryllium-Related Mortality	90	2.4
Beryllium Morbidity	46	1.2
Monetized Annual Benefits (Midpoint Estimate)	$561M	$15M
Net Benefits	$487M	$13M

Sources: US DOL, OSHA, Directorate of Standards and Guidance, Office of Regulatory Analysis

*[3 Percent Discount Rate, 2015 dollars]

H. Technological Feasibility

OSHA concluded that engineering and work practice controls must be used and will be sufficient as the primary ways to reduce and maintain beryllium exposures to the new PELs or below in most operations most of the time in the aforementioned affected industries. Engineering controls include using process isolation, ventilated enclosures, or local exhaust ventilation to keep beryllium from being dispersed throughout a work area. Examples of work practices to control beryllium exposures include keeping surfaces clean by using a HEPA-filtered vacuum or by wetting down dust before sweeping it up.

For those few operations within an industry or application group where compliance with the PELs cannot be achieved even when employers implement all feasible engineering and work practice controls, use of respirators will be required. Therefore, OSHA concluded that the revised final PEL of 0.2ug/m3 is technologically feasible.

The technology for most employers to meet the new standards is widely available and feasible.

I. Economic Feasibility

Based on its analysis of economic impacts, federal OSHA concluded that compliance with the requirements of the revised final rule is economically feasible in every affected industry sector.

J. Implementation/Compliance Schedule

To help employers comply with the updated final rule and protect their workers, OSHA provided staggered compliance dates to ensure that employers have sufficient time to meet the requirements and get the right protections in place.

Beryllium Implementation/Compliance Schedule for Parts 1910, 1915, and 1926	Nationwide	Virginia
Effective date of standards	March 10, 2017	May 15, 2017
Commencement of all obligations of this standard except:	March 12, 2018	March 12, 2018
Requirement to provide change rooms and showers in paragraph (i)	March 11, 2019	March 11, 2019
Requirement for engineering controls required in paragraph (f)	March 10, 2020	March 10, 2020

Contact Person:
Mr. Ron Graham
Director, Occupational Health Compliance
804.786.0574
ron.graham@doli.virginia.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board adopt federal OSHA's Final Rule for the Occupational Exposure to Beryllium, Parts 1910, 1915, and 1926 and Related Provisions, as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of May 15, 2017.

The Department also recommends that the Board state in any motion it may make to amend this regulation that it will receive, consider and respond to petitions by any interested person with respect to reconsideration or revision of this or any other regulation which has been adopted in accordance with the above-cited subsection A.4(c) of the Administrative Process Act.

Occupational Exposure to Beryllium, Parts 1910, 1915 and 1926, and Other Related Provisions; Final Rule

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-90-1910.1024, Beryllium, §1910.1024; and Appendix A
16VAC25-120-1915.1024, Beryllium, §1915.1024;
16VAC25-175-1926.1153, Beryllium, §1926.1153;
16VAC25-90-1910.1000, Air Contaminants, §1910.1000;
16VAC25-120-1915.1000, Air Contaminants, §1915.1000; and
16VAC25-175-1926.55, Gases, Vapors, Fumes, Dusts, and Mists, §1926.55; Appendix A

When the regulations, as set forth in federal OSHA's Final Rule for the Occupational Exposure to Beryllium, Parts 1910, 1915, and 1926, and Other Related Provisions, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
March 10, 2017	May 15, 2017

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Subpart Z—[Amended]

■ 2. In § 1910.1000, paragraph (e):

■ a. Amend Table Z–1—Limits on Air Contaminants, by revising the entry for "Beryllium and beryllium compounds (as Be)" and adding footnote 8.

■ b. Amend Table Z–2 by revising the entry for "Beryllium and beryllium compounds (Z37.29–1970)"; and adding footnote d.

The revisions read as follows:

§ 1910.1000 Air contaminants.

* * * * *

Amendments to Standards

For the reasons set forth in the preamble, Chapter XVII of Title 29, parts

TABLE Z–1—LIMITS FOR AIR CONTAMINANTS

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
* * * *	*	*	*	*
Beryllium and beryllium compounds (as Be); see 1910.1024 [8]	7440–41–7			
* * * *	*	*	*	*

[8] See Table Z–2 for the exposure limits for any operations or sectors where the exposure limits in § 1910.1024 are stayed or otherwise not in effect.

TABLE Z–2

Substance	8-hour time weighted average	Acceptable ceiling concentration	Acceptable maximum peak above the acceptable ceiling average concentration for an 8-hr shift	
			Concentration	Maximum duration
* * *	*	*	*	*
Beryllium and beryllium compounds (Z37.29–1970) [d]	2 µg/m³	5 µg/m³	25 µg/m³	30 minutes.

TABLE Z–2—Continued

Substance	8-hour time weighted average	Acceptable ceiling concentration	Acceptable maximum peak above the acceptable ceiling average concentration for an 8-hr shift	
			Concentration	Maximum duration
* * *	*	*	*	*
* * *	*	*	*	*

[d] This standard applies to any operations or sectors for which the exposure limits in the beryllium standard, § 1910.1024, are stayed or is otherwise not in effect.

* * * * *

■ 3. Add § 1910.1024 to read as follows:

§ 1910.1024 Beryllium.

(a) *Scope and application.* (1) This standard applies to occupational exposure to beryllium in all forms, compounds, and mixtures in general industry, except those articles and materials exempted by paragraphs (a)(2) and (a)(3) of this standard.

(2) This standard does not apply to articles, as defined in the Hazard Communication standard (HCS) (§ 1910.1200(c)), that contain beryllium and that the employer does not process.

(3) This standard does not apply to materials containing less than 0.1% beryllium by weight where the employer has objective data demonstrating that employee exposure to beryllium will remain below the action level as an 8-hour TWA under any foreseeable conditions.

(b) *Definitions.* As used in this standard:

Action level means a concentration of airborne beryllium of 0.1 micrograms per cubic meter of air ($\mu g/m^3$) calculated as an 8-hour time-weighted average (TWA).

Airborne exposure and *airborne exposure to beryllium* mean the exposure to airborne beryllium that would occur if the employee were not using a respirator.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, United States Department of Labor, or designee.

Beryllium lymphocyte proliferation test (BeLPT) means the measurement of blood lymphocyte proliferation in a laboratory test when lymphocytes are challenged with a soluble beryllium salt.

Beryllium work area means any work area containing a process or operation that can release beryllium where employees are, or can reasonably be expected to be, exposed to airborne beryllium at any level or where there is the potential for dermal contact with beryllium.

CBD diagnostic center means a medical diagnostic center that has an on-site pulmonary specialist and on-site facilities to perform a clinical evaluation for the presence of chronic beryllium disease (CBD). This evaluation must include pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. The CBD diagnostic center must also have the capacity to transfer BAL samples to a laboratory for appropriate diagnostic testing within 24 hours. The on-site pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.

Chronic beryllium disease (CBD) means a chronic lung disease associated with airborne exposure to beryllium.

Confirmed positive means the person tested has beryllium sensitization, as indicated by two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Emergency means any uncontrolled release of airborne beryllium.

High-efficiency particulate air (HEPA) filter means a filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.

Objective data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating airborne exposure to beryllium associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher airborne exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (*i.e.*, license, registration, or certification) allows the individual to independently provide or be delegated the responsibility to provide some or all of the health care services required by paragraph (k) of this standard.

Regulated area means an area, including temporary work areas where maintenance or non-routine tasks are performed, where an employee's airborne exposure exceeds, or can reasonably be expected to exceed, either the time-weighted average (TWA) permissible exposure limit (PEL) or short term exposure limit (STEL).

This standard means this beryllium standard, 29 CFR 1910.1024.

(c) *Permissible Exposure Limits (PELs)*—(1) *Time-weighted average (TWA) PEL.* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 0.2 $\mu g/m^3$ calculated as an 8-hour TWA.

(2) *Short-term exposure limit (STEL).* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 2.0 $\mu g/m^3$ as determined over a sampling period of 15 minutes.

(d) *Exposure assessment*—(1) *General.* The employer must assess the airborne exposure of each employee who is or may reasonably be expected to be exposed to airborne beryllium in accordance with either the performance option in paragraph (d)(2) or the scheduled monitoring option in paragraph (d)(3) of this standard.

(2) *Performance option.* The employer must assess the 8-hour TWA exposure and the 15-minute short-term exposure for each employee on the basis of any combination of air monitoring data and objective data sufficient to accurately characterize airborne exposure to beryllium.

(3) *Scheduled monitoring option.* (i) The employer must perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the airborne

exposure of employees on each shift, for each job classification, and in each work area.

(ii) The employer must perform initial monitoring to assess the short-term exposure from 15-minute personal breathing zone air samples measured in operations that are likely to produce airborne exposure above the STEL for each work shift, for each job classification, and in each work area.

(iii) Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees in order to meet the requirements of this paragraph (d)(3). In representative sampling, the employer must sample the employee(s) expected to have the highest airborne exposure to beryllium.

(iv) If initial monitoring indicates that airborne exposure is below the action level and at or below the STEL, the employer may discontinue monitoring for those employees whose airborne exposure is represented by such monitoring.

(v) Where the most recent exposure monitoring indicates that airborne exposure is at or above the action level but at or below the TWA PEL, the employer must repeat such monitoring within six months of the most recent monitoring.

(vi) Where the most recent exposure monitoring indicates that airborne exposure is above the TWA PEL, the employer must repeat such monitoring within three months of the most recent 8-hour TWA exposure monitoring.

(vii) Where the most recent (non-initial) exposure monitoring indicates that airborne exposure is below the action level, the employer must repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken 7 or more days apart, are below the action level, at which time the employer may discontinue 8-hour TWA exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(viii) Where the most recent exposure monitoring indicates that airborne exposure is above the STEL, the employer must repeat such monitoring within three months of the most recent short-term exposure monitoring until two consecutive measurements, taken 7 or more days apart, are below the STEL, at which time the employer may discontinue short-term exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(4) *Reassessment of exposure.* The employer must reassess airborne exposure whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional airborne exposure at or above the action level or STEL, or when the employer has any reason to believe that new or additional airborne exposure at or above the action level or STEL has occurred.

(5) *Methods of sample analysis.* The employer must ensure that all air monitoring samples used to satisfy the monitoring requirements of paragraph (d) of this standard are evaluated by a laboratory that can measure beryllium to an accuracy of plus or minus 25 percent within a statistical confidence level of 95 percent for airborne concentrations at or above the action level.

(6) *Employee notification of assessment results.* (i) Within 15 working days after completing an exposure assessment in accordance with paragraph (d) of this standard, the employer must notify each employee whose airborne exposure is represented by the assessment of the results of that assessment individually in writing or post the results in an appropriate location that is accessible to each of these employees.

(ii) Whenever an exposure assessment indicates that airborne exposure is above the TWA PEL or STEL, the employer must describe in the written notification the corrective action being taken to reduce airborne exposure to or below the exposure limit(s) exceeded where feasible corrective action exists but had not been implemented when the monitoring was conducted.

(7) *Observation of monitoring.* (i) The employer must provide an opportunity to observe any exposure monitoring required by this standard to each employee whose airborne exposure is measured or represented by the monitoring and each employee's representative(s).

(ii) When observation of monitoring requires entry into an area where the use of personal protective clothing or equipment (which may include respirators) is required, the employer must provide each observer with appropriate personal protective clothing and equipment at no cost to the observer and must ensure that each observer uses such clothing and equipment.

(iii) The employer must ensure that each observer follows all other applicable safety and health procedures.

(e) *Beryllium work areas and regulated areas*—(1) *Establishment.* (i) The employer must establish and maintain a beryllium work area wherever the criteria for a "beryllium work area" set forth in paragraph (b) of this standard are met.

(ii) The employer must establish and maintain a regulated area wherever employees are, or can reasonably be expected to be, exposed to airborne beryllium at levels above the TWA PEL or STEL.

(2) *Demarcation.* (i) The employer must identify each beryllium work area through signs or any other methods that adequately establish and inform each employee of the boundaries of each beryllium work area.

(ii) The employer must identify each regulated area in accordance with paragraph (m)(2) of this standard.

(3) *Access.* The employer must limit access to regulated areas to:

(i) Persons the employer authorizes or requires to be in a regulated area to perform work duties;

(ii) Persons entering a regulated area as designated representatives of employees for the purpose of exercising the right to observe exposure monitoring procedures under paragraph (d)(7) of this standard; and

(iii) Persons authorized by law to be in a regulated area.

(4) *Provision of personal protective clothing and equipment, including respirators.* The employer must provide and ensure that each employee entering a regulated area uses:

(i) Respiratory protection in accordance with paragraph (g) of this standard; and

(ii) Personal protective clothing and equipment in accordance with paragraph (h) of this standard.

(f) *Methods of compliance*—(1) *Written exposure control plan.* (i) The employer must establish, implement, and maintain a written exposure control plan, which must contain:

(A) A list of operations and job titles reasonably expected to involve airborne exposure to or dermal contact with beryllium;

(B) A list of operations and job titles reasonably expected to involve airborne exposure at or above the action level;

(C) A list of operations and job titles reasonably expected to involve airborne exposure above the TWA PEL or STEL;

(D) Procedures for minimizing cross-contamination, including preventing the transfer of beryllium between surfaces, equipment, clothing, materials, and articles within beryllium work areas;

(E) Procedures for keeping surfaces as free as practicable of beryllium;

(F) Procedures for minimizing the migration of beryllium from beryllium work areas to other locations within or outside the workplace;

(G) A list of engineering controls, work practices, and respiratory protection required by paragraph (f)(2) of this standard;

(H) A list of personal protective clothing and equipment required by paragraph (h) of this standard; and

(I) Procedures for removing, laundering, storing, cleaning, repairing, and disposing of beryllium-contaminated personal protective clothing and equipment, including respirators.

(ii) The employer must review and evaluate the effectiveness of each written exposure control plan at least annually and update it, as necessary, when:

(A) Any change in production processes, materials, equipment, personnel, work practices, or control methods results, or can reasonably be expected to result, in new or additional airborne exposure to beryllium;

(B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (l)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium; or

(C) The employer has any reason to believe that new or additional airborne exposure is occurring or will occur.

(iii) The employer must make a copy of the written exposure control plan accessible to each employee who is, or can reasonably be expected to be, exposed to airborne beryllium in accordance with OSHA's Access to Employee Exposure and Medical Records (Records Access) standard (§ 1910.1020(e)).

(2) *Engineering and work practice controls.* (i) For each operation in a beryllium work area that releases airborne beryllium, the employer must ensure that at least one of the following is in place to reduce airborne exposure:

(A) Material and/or process substitution;

(B) Isolation, such as ventilated partial or full enclosures;

(C) Local exhaust ventilation, such as at the points of operation, material handling, and transfer; or

(D) Process control, such as wet methods and automation.

(ii) An employer is exempt from using the controls listed in paragraph (f)(2)(i) of this standard to the extent that:

(A) The employer can establish that such controls are not feasible; or

(B) The employer can demonstrate that airborne exposure is below the action level, using no fewer than two representative personal breathing zone samples taken at least 7 days apart, for each affected operation.

(iii) If airborne exposure exceeds the TWA PEL or STEL after implementing the control(s) required by paragraph (f)(2)(i) of this standard, the employer must implement additional or enhanced engineering and work practice controls to reduce airborne exposure to or below the exposure limit(s) exceeded.

(iv) Wherever the employer demonstrates that it is not feasible to reduce airborne exposure to or below the PELs by the engineering and work practice controls required by paragraphs (f)(2)(i) and (f)(2)(iii) of this standard, the employer must implement and maintain engineering and work practice controls to reduce airborne exposure to the lowest levels feasible and supplement these controls by using respiratory protection in accordance with paragraph (g) of this standard.

(3) *Prohibition of rotation.* The employer must not rotate employees to different jobs to achieve compliance with the PELs.

(g) *Respiratory protection*—(1) *General.* The employer must provide respiratory protection at no cost to the employee and ensure that each employee uses respiratory protection:

(i) During periods necessary to install or implement feasible engineering and work practice controls where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(ii) During operations, including maintenance and repair activities and non-routine tasks, when engineering and work practice controls are not feasible and airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(iii) During operations for which an employer has implemented all feasible engineering and work practice controls when such controls are not sufficient to reduce airborne exposure to or below the TWA PEL or STEL;

(iv) During emergencies; and

(v) When an employee who is eligible for medical removal under paragraph (l)(1) chooses to remain in a job with airborne exposure at or above the action level, as permitted by paragraph (l)(2)(ii) of this standard.

(2) *Respiratory protection program.* Where this standard requires an employer to provide respiratory protection, the selection and use of such respiratory protection must be in accordance with the Respiratory Protection standard (§ 1910.134).

(3) The employer must provide at no cost to the employee a powered air-purifying respirator (PAPR) instead of a negative pressure respirator when

(i) Respiratory protection is required by this standard;

(ii) An employee entitled to such respiratory protection requests a PAPR; and

(iii) The PAPR provides adequate protection to the employee in accordance with paragraph (g)(2) of this standard.

(h) *Personal protective clothing and equipment*—(1) *Provision and use.* The employer must provide at no cost, and ensure that each employee uses, appropriate personal protective clothing and equipment in accordance with the written exposure control plan required under paragraph (f)(1) of this standard and OSHA's Personal Protective Equipment standards (subpart I of this part):

(i) Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; or

(ii) Where there is a reasonable expectation of dermal contact with beryllium.

(2) *Removal and storage.* (i) The employer must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.

(ii) The employer must ensure that each employee removes beryllium-contaminated personal protective clothing and equipment as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that each employee stores and keeps beryllium-contaminated personal protective clothing and equipment separate from street clothing and that storage facilities prevent cross-contamination as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iv) The employer must ensure that no employee removes beryllium-contaminated personal protective clothing or equipment from the workplace, except for employees authorized to do so for the purposes of laundering, cleaning, maintaining or disposing of beryllium-contaminated personal protective clothing and equipment at an appropriate location or facility away from the workplace.

(v) When personal protective clothing or equipment required by this standard is removed from the workplace for laundering, cleaning, maintenance or disposal, the employer must ensure that

personal protective clothing and equipment are stored and transported in sealed bags or other closed containers that are impermeable and are labeled in accordance with paragraph (m)(3) of this standard and the HCS (§ 1910.1200).

(3) *Cleaning and replacement.* (i) The employer must ensure that all reusable personal protective clothing and equipment required by this standard is cleaned, laundered, repaired, and replaced as needed to maintain its effectiveness.

(ii) The employer must ensure that beryllium is not removed from personal protective clothing and equipment by blowing, shaking or any other means that disperses beryllium into the air.

(iii) The employer must inform in writing the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of airborne exposure to and dermal contact with beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.

(i) *Hygiene areas and practices*—(1) *General.* For each employee working in a beryllium work area, the employer must:

(i) Provide readily accessible washing facilities in accordance with this standard and the Sanitation standard (§ 1910.141) to remove beryllium from the hands, face, and neck; and

(ii) Ensure that employees who have dermal contact with beryllium wash any exposed skin at the end of the activity, process, or work shift and prior to eating, drinking, smoking, chewing tobacco or gum, applying cosmetics, or using the toilet.

(2) *Change rooms.* In addition to the requirements of paragraph (i)(1)(i) of this standard, the employer must provide employees who work in a beryllium work area with a designated change room in accordance with this standard and the Sanitation standard (§ 1910.141) where employees are required to remove their personal clothing.

(3) *Showers.* (i) The employer must provide showers in accordance with the Sanitation standard (§ 1910.141) where:

(A) Airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; and

(B) Beryllium can reasonably be expected to contaminate employees' hair or body parts other than hands, face, and neck.

(ii) Employers required to provide showers under paragraph (i)(3)(i) of this standard must ensure that each employee showers at the end of the work shift or work activity if:

(A) The employee reasonably could have had airborne exposure above the TWA PEL or STEL; and

(B) Beryllium could reasonably have contaminated the employee's hair or body parts other than hands, face, and neck.

(4) *Eating and drinking areas.* Wherever the employer allows employees to consume food or beverages at a worksite where beryllium is present, the employer must ensure that:

(i) Surfaces in eating and drinking areas are as free as practicable of beryllium;

(ii) No employees enter any eating or drinking area with personal protective clothing or equipment unless, prior to entry, surface beryllium has been removed from the clothing or equipment by methods that do not disperse beryllium into the air or onto an employee's body; and

(iii) Eating and drinking facilities provided by the employer are in accordance with the Sanitation standard (§ 1910.141).

(5) *Prohibited activities.* The employer must ensure that no employees eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.

(j) *Housekeeping*—(1) *General.* (i) The employer must maintain all surfaces in beryllium work areas as free as practicable of beryllium and in accordance with the written exposure control plan required under paragraph (f)(1) and the cleaning methods required under paragraph (j)(2) of this standard; and

(ii) The employer must ensure that all spills and emergency releases of beryllium are cleaned up promptly and in accordance with the written exposure control plan required under paragraph (f)(1) and the cleaning methods required under paragraph (j)(2) of this standard.

(2) *Cleaning methods.* (i) The employer must ensure that surfaces in beryllium work areas are cleaned by HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure.

(ii) The employer must not allow dry sweeping or brushing for cleaning surfaces in beryllium work areas unless HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure are not safe or effective.

(iii) The employer must not allow the use of compressed air for cleaning beryllium-contaminated surfaces unless the compressed air is used in conjunction with a ventilation system designed to capture the particulates made airborne by the use of compressed air.

(iv) Where employees use dry sweeping, brushing, or compressed air to clean beryllium-contaminated surfaces, the employer must provide, and ensure that each employee uses, respiratory protection and personal protective clothing and equipment in accordance with paragraphs (g) and (h) of this standard.

(v) The employer must ensure that cleaning equipment is handled and maintained in a manner that minimizes the likelihood and level of airborne exposure and the re-entrainment of airborne beryllium in the workplace.

(3) *Disposal.* The employer must ensure that:

(i) Materials designated for disposal that contain or are contaminated with beryllium are disposed of in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with paragraph (m)(3) of this standard; and

(ii) Materials designated for recycling that contain or are contaminated with beryllium are cleaned to be as free as practicable of surface beryllium contamination and labeled in accordance with paragraph (m)(3) of this standard, or placed in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with paragraph (m)(3) of this standard.

(k) *Medical surveillance*—(1) *General.* (i) The employer must make medical surveillance required by this paragraph available at no cost to the employee, and at a reasonable time and place, to each employee:

(A) Who is or is reasonably expected to be exposed at or above the action level for more than 30 days per year;

(B) Who shows signs or symptoms of CBD or other beryllium-related health effects;

(C) Who is exposed to beryllium during an emergency; or

(D) Whose most recent written medical opinion required by paragraph (k)(6) or (k)(7) of this standard recommends periodic medical surveillance.

(ii) The employer must ensure that all medical examinations and procedures required by this standard are performed by, or under the direction of, a licensed physician.

(2) *Frequency.* The employer must provide a medical examination:

(i) Within 30 days after determining that:

(A) An employee meets the criteria of paragraph (k)(1)(i)(A), unless the employee has received a medical examination, provided in accordance

with this standard, within the last two years; or

(B) An employee meets the criteria of paragraph (k)(1)(i)(B) or (C).

(ii) At least every two years thereafter for each employee who continues to meet the criteria of paragraph (k)(1)(i)(A), (B), or (D) of this standard.

(iii) At the termination of employment for each employee who meets any of the criteria of paragraph (k)(1)(i) of this standard at the time the employee's employment terminates, unless an examination has been provided in accordance with this standard during the six months prior to the date of termination.

(3) *Contents of examination.* (i) The employer must ensure that the PLHCP conducting the examination advises the employee of the risks and benefits of participating in the medical surveillance program and the employee's right to opt out of any or all parts of the medical examination.

(ii) The employer must ensure that the employee is offered a medical examination that includes:

(A) A medical and work history, with emphasis on past and present airborne exposure to or dermal contact with beryllium, smoking history, and any history of respiratory system dysfunction;

(B) A physical examination with emphasis on the respiratory system;

(C) A physical examination for skin rashes;

(D) Pulmonary function tests, performed in accordance with the guidelines established by the American Thoracic Society including forced vital capacity (FVC) and forced expiratory volume in one second (FEV_1);

(E) A standardized BeLPT or equivalent test, upon the first examination and at least every two years thereafter, unless the employee is confirmed positive. If the results of the BeLPT are other than normal, a follow-up BeLPT must be offered within 30 days, unless the employee has been confirmed positive. Samples must be analyzed in a laboratory certified under the College of American Pathologists/ Clinical Laboratory Improvement Amendments (CLIA) guidelines to perform the BeLPT.

(F) A low dose computed tomography (LDCT) scan, when recommended by the PLHCP after considering the employee's history of exposure to beryllium along with other risk factors, such as smoking history, family medical history, sex, age, and presence of existing lung disease; and

(G) Any other test deemed appropriate by the PLHCP.

(4) *Information provided to the PLHCP.* The employer must ensure that the examining PLHCP (and the agreed-upon CBD diagnostic center, if an evaluation is required under paragraph (k)(7) of this standard) has a copy of this standard and must provide the following information, if known:

(i) A description of the employee's former and current duties that relate to the employee's airborne exposure to and dermal contact with beryllium;

(ii) The employee's former and current levels of airborne exposure;

(iii) A description of any personal protective clothing and equipment, including respirators, used by the employee, including when and for how long the employee has used that personal protective clothing and equipment; and

(iv) Information from records of employment-related medical examinations previously provided to the employee, currently within the control of the employer, after obtaining written consent from the employee.

(5) *Licensed physician's written medical report for the employee.* The employer must ensure that the employee receives a written medical report from the licensed physician within 45 days of the examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard) and that the PLHCP explains the results of the examination to the employee. The written medical report must contain:

(i) A statement indicating the results of the medical examination, including the licensed physician's opinion as to whether the employee has

(A) Any detected medical condition, such as CBD or beryllium sensitization (*i.e.,* the employee is confirmed positive, as defined in paragraph (b) of this standard), that may place the employee at increased risk from further airborne exposure, and

(B) Any medical conditions related to airborne exposure that require further evaluation or treatment.

(ii) Any recommendations on:

(A) The employee's use of respirators, protective clothing, or equipment; or

(B) Limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, the written report must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l) of this standard.

(6) *Licensed physician's written medical opinion for the employer.* (i) The employer must obtain a written medical opinion from the licensed physician within 45 days of the medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard). The written medical opinion must contain only the following:

(A) The date of the examination;

(B) A statement that the examination has met the requirements of this standard;

(C) Any recommended limitations on the employee's use of respirators, protective clothing, or equipment; and

(D) A statement that the PLHCP has explained the results of the medical examination to the employee, including any tests conducted, any medical conditions related to airborne exposure that require further evaluation or treatment, and any special provisions for use of personal protective clothing or equipment;

(ii) If the employee provides written authorization, the written opinion must also contain any recommended limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, and the employee provides written authorization, the written opinion must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l) of this standard.

(vi) The employer must ensure that each employee receives a copy of the written medical opinion described in paragraph (k)(6) of this standard within 45 days of any medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of

this standard) performed for that employee.

(7) *CBD diagnostic center.* (i) The employer must provide an evaluation at no cost to the employee at a CBD diagnostic center that is mutually agreed upon by the employer and the employee. The examination must be provided within 30 days of:

(A) The employer's receipt of a physician's written medical opinion to the employer that recommends referral to a CBD diagnostic center; or

(B) The employee presenting to the employer a physician's written medical report indicating that the employee has been confirmed positive or diagnosed with CBD, or recommending referral to a CBD diagnostic center.

(ii) The employer must ensure that the employee receives a written medical report from the CBD diagnostic center that contains all the information required in paragraph (k)(5)(i), (ii), (iv), and (v) of this standard and that the PLHCP explains the results of the examination to the employee within 30 days of the examination.

(iii) The employer must obtain a written medical opinion from the CBD diagnostic center within 30 days of the medical examination. The written medical opinion must contain only the information in paragraph (k)(6)(i), as applicable, unless the employee provides written authorization to release additional information. If the employee provides written authorization, the written opinion must also contain the information from paragraphs (k)(6)(ii), (iv), and (v), if applicable.

(iv) The employer must ensure that each employee receives a copy of the written medical opinion from the CBD diagnostic center described in paragraph (k)(7) of this standard within 30 days of any medical examination performed for that employee.

(v) After an employee has received the initial clinical evaluation at a CBD diagnostic center described in paragraph (k)(7)(i) of this standard, the employee may choose to have any subsequent medical examinations for which the employee is eligible under paragraph (k) of this standard performed at a CBD diagnostic center mutually agreed upon by the employer and the employee, and the employer must provide such examinations at no cost to the employee.

(l) *Medical removal.* (1) An employee is eligible for medical removal, if the employee works in a job with airborne exposure at or above the action level and either:

(i) The employee provides the employer with:

(A) A written medical report indicating a confirmed positive finding or CBD diagnosis; or

(B) A written medical report recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(5)(v) or (k)(7)(ii) of this standard; or

(ii) The employer receives a written medical opinion recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(6)(v) or (k)(7)(iii) of this standard.

(2) If an employee is eligible for medical removal, the employer must provide the employee with the employee's choice of:

(i) Removal as described in paragraph (l)(3) of this standard; or

(ii) Remaining in a job with airborne exposure at or above the action level, provided that the employer provides, and ensures that the employee uses, respiratory protection that complies with paragraph (g) of this standard whenever airborne exposures are at or above the action level.

(3) If the employee chooses removal:

(i) If a comparable job is available where airborne exposures to beryllium are below the action level, and the employee is qualified for that job or can be trained within one month, the employer must remove the employee to that job. The employer must maintain for six months from the time of removal the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal.

(ii) If comparable work is not available, the employer must maintain the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal for six months or until such time that comparable work described in paragraph (l)(3)(i) becomes available, whichever comes first.

(4) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from a publicly or employer-funded compensation program, or receives income from another employer made possible by virtue of the employee's removal.

(m) *Communication of hazards*—(1) *General.* (i) Chemical manufacturers, importers, distributors, and employers must comply with all requirements of the HCS (§ 1910.1200) for beryllium.

(ii) In classifying the hazards of beryllium, at least the following hazards must be addressed: Cancer; lung effects (CBD and acute beryllium disease); beryllium sensitization; skin sensitization; and skin, eye, and respiratory tract irritation.

(iii) Employers must include beryllium in the hazard communication program established to comply with the HCS. Employers must ensure that each employee has access to labels on containers of beryllium and to safety data sheets, and is trained in accordance with the requirements of the HCS (§ 1910.1200) and paragraph (m)(4) of this standard.

(2) *Warning signs.* (i) *Posting.* The employer must provide and display warning signs at each approach to a regulated area so that each employee is able to read and understand the signs and take necessary protective steps before entering the area.

(ii) *Sign specification.* (A) The employer must ensure that the warning signs required by paragraph (m)(2)(i) of this standard are legible and readily visible.

(B) The employer must ensure each warning sign required by paragraph (m)(2)(i) of this standard bears the following legend:

DANGER
REGULATED AREA
BERYLLIUM
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORY PROTECTION AND PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT IN THIS AREA

(3) *Warning labels.* Consistent with the HCS (§ 1910.1200), the employer must label each bag and container of clothing, equipment, and materials contaminated with beryllium, and must, at a minimum, include the following on the label:

DANGER
CONTAINS BERYLLIUM
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AVOID CREATING DUST
DO NOT GET ON SKIN

(4) *Employee information and training.* (i) For each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium:

(A) The employer must provide information and training in accordance with the HCS (§ 1910.1200(h));

(B) The employer must provide initial training to each employee by the time of initial assignment; and

(C) The employer must repeat the training required under this standard annually for each employee.

(ii) The employer must ensure that each employee who is, or can reasonably be expected to be, exposed to airborne beryllium can demonstrate

knowledge and understanding of the following:

(A) The health hazards associated with airborne exposure to and contact with beryllium, including the signs and symptoms of CBD;

(B) The written exposure control plan, with emphasis on the location(s) of beryllium work areas, including any regulated areas, and the specific nature of operations that could result in airborne exposure, especially airborne exposure above the TWA PEL or STEL;

(C) The purpose, proper selection, fitting, proper use, and limitations of personal protective clothing and equipment, including respirators;

(D) Applicable emergency procedures;

(E) Measures employees can take to protect themselves from airborne exposure to and contact with beryllium, including personal hygiene practices;

(F) The purpose and a description of the medical surveillance program required by paragraph (k) of this standard including risks and benefits of each test to be offered;

(G) The purpose and a description of the medical removal protection provided under paragraph (l) of this standard;

(H) The contents of the standard; and

(I) The employee's right of access to records under the Records Access standard (§ 1910.1020).

(iii) When a workplace change (such as modification of equipment, tasks, or procedures) results in new or increased airborne exposure that exceeds, or can reasonably be expected to exceed, either the TWA PEL or the STEL, the employer must provide additional training to those employees affected by the change in airborne exposure.

(iv) *Employee information.* The employer must make a copy of this standard and its appendices readily available at no cost to each employee and designated employee representative(s).

(n) *Recordkeeping*—(1) *Air monitoring data.* (i) The employer must make and maintain a record of all exposure measurements taken to assess airborne exposure as prescribed in paragraph (d) of this standard.

(ii) This record must include at least the following information:

(A) The date of measurement for each sample taken;

(B) The task that is being monitored;

(C) The sampling and analytical methods used and evidence of their accuracy;

(D) The number, duration, and results of samples taken;

(E) The type of personal protective clothing and equipment, including respirators, worn by monitored employees at the time of monitoring; and

(F) The name, social security number, and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.

(iii) The employer must ensure that exposure records are maintained and made available in accordance with the Records Access standard (§ 1910.1020).

(2) *Objective data.* (i) Where an employer uses objective data to satisfy the exposure assessment requirements under paragraph (d)(2) of this standard, the employer must make and maintain a record of the objective data relied upon.

(ii) This record must include at least the following information:

(A) The data relied upon;

(B) The beryllium-containing material in question;

(C) The source of the objective data;

(D) A description of the process, task, or activity on which the objective data were based; and

(E) Other data relevant to the process, task, activity, material, or airborne exposure on which the objective data were based.

(iii) The employer must ensure that objective data are maintained and made available in accordance with the Records Access standard (§ 1910.1020).

(3) *Medical surveillance.* (i) The employer must make and maintain a record for each employee covered by medical surveillance under paragraph (k) of this standard.

(ii) The record must include the following information about each employee:

(A) Name, social security number, and job classification;

(B) A copy of all licensed physicians' written medical opinions for each employee; and

(C) A copy of the information provided to the PLHCP as required by paragraph (k)(4) of this standard.

(iii) The employer must ensure that medical records are maintained and made available in accordance with the Records Access standard (§ 1910.1020).

(4) *Training.* (i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name, social security number, and job classification of each employee trained, the date the training was completed, and the topic of the training.

(ii) This record must be maintained for three years after the completion of training.

(5) *Access to records.* Upon request, the employer must make all records maintained as a requirement of this standard available for examination and copying to the Assistant Secretary, the Director, each employee, and each employee's designated representative(s) in accordance the Records Access standard (§ 1910.1020).

(6) *Transfer of records.* The employer must comply with the requirements involving transfer of records set forth in the Records Access standard (§ 1910.1020).

(o) *Dates*—(1) *Effective date.* This standard shall become effective March 10, 2017.

(2) *Compliance dates.* All obligations of this standard commence and become enforceable on March 12, 2018, except:

(i) Change rooms and showers required by paragraph (i) of this standard must be provided by March 11, 2019; and

(ii) Engineering controls required by paragraph (f) of this standard must be implemented by March 10, 2020.

(p) *Appendix.* Appendix A—Control Strategies to Minimize Beryllium Exposure of this standard is non-mandatory.

Appendix A to § 1910.1024—Control Strategies To Minimize Beryllium Exposure (Non-Mandatory)

Paragraph (f)(2)(i) of this standard requires employers to use one or more of the control methods listed in paragraph (f)(2)(i) to minimize worker exposure in each operation in a beryllium work area, unless the operation is exempt under paragraph (f)(2)(ii). This appendix sets forth a non-exhaustive list of control options that employers could use to comply with paragraph (f)(2)(i) for a number of specific beryllium operations.

TABLE A.1—EXPOSURE CONTROL RECOMMENDATIONS

Operation	Minimal control strategy*	Application group
Beryllium Oxide Forming (*e.g.*, pressing, extruding).	For pressing operations: (1) Install local exhaust ventilation (LEV) on oxide press tables, oxide feed drum breaks, press tumblers, powder rollers, and die set disassembly stations; (2) Enclose the oxide presses; and (3) Install mechanical ventilation (make-up air) in processing areas For extruding operations: (1) Install LEV on extruder powder loading hoods, oxide supply bottles, rod breaking operations, centerless grinders, rod laydown tables, dicing operations, surface grinders, discharge end of extrusion presses; (2) Enclose the centerless grinders; and (3) Install mechanical ventilation (make-up air) in processing areas.	Primary Beryllium Production; Beryllium Oxide Ceramics and Composites.
Chemical Processing Operations (*e.g.*, leaching, pickling, degreasing, etching, plating).	For medium and high gassing operations: (1) Perform operation with a hood having a maximum of one open side; and (2) Design process so as to minimize spills; if accidental spills occur, perform immediate cleanup.	Primary Beryllium Production; Beryllium Oxide Ceramics and Composites; Copper Rolling, Drawing and Extruding.
Finishing (*e.g.*, grinding, sanding, polishing, deburring).	(1) Perform portable finishing operations in a ventilated hood. The hood should include both downdraft and backdraft ventilation, and have at least two sides and a top. (2) Perform stationary finishing operations using a ventilated and enclosed hood at the point of operation. The grinding wheel of the stationary unit should be enclosed and ventilated.	Secondary Smelting; Fabrication of Beryllium Alloy Products; Dental Labs.
Furnace Operations (*e.g.*, Melting and Casting).	(1) Use LEV on furnaces, pelletizer; arc furnace ingot machine discharge; pellet sampling; arc furnace bins and conveyors; beryllium hydroxide drum dumper and dryer; furnace rebuilding; furnace tool holders; arc furnace tundish and tundish skimming, tundish preheat hood, and tundish cleaning hoods; dross handling equipment and drums; dross recycling; and tool repair station, charge make-up station, oxide screener, product sampling locations, drum changing stations, and drum cleaning stations (2) Use mechanical ventilation (make-up air) in furnace building	Primary Beryllium Production; Beryllium Oxide Ceramics and Composites; Nonferrous Foundries; Secondary Smelting.
Machining	Use (1) LEV consistent with ACGIH® ventilation guidelines on deburring hoods, wet surface grinder enclosures, belt sanding hoods, and electrical discharge machines (for operations such as polishing, lapping, and buffing); (2) high velocity low volume hoods or ventilated enclosures on lathes, vertical mills, CNC mills, and tool grinding operations; (3) for beryllium oxide ceramics, LEV on lapping, dicing, and laser cutting; and (4) wet methods (*e.g.*, coolants).	Primary Beryllium Production; Beryllium Oxide Ceramics and Composites; Copper Rolling, Drawing, and Extruding; Precision Turned Products.
Mechanical Processing (*e.g.*, material handling (including scrap), sorting, crushing, screening, pulverizing, shredding, pouring, mixing, blending).	(1) Enclose and ventilate sources of emission; (2) Prohibit open handling of materials; and (3) Use mechanical ventilation (make-up air) in processing areas	Primary Beryllium Production; Beryllium Oxide Ceramics and Composites; Aluminum and Copper Foundries; Secondary Smelting.
Metal Forming (*e.g.*, rolling, drawing, straightening, annealing, extruding).	(1) For rolling operations, install LEV on mill stands and reels such that a hood extends the length of the mill; (2) For point and chamfer operations, install LEV hoods at both ends of the rod; (3) For annealing operations, provide an inert atmosphere for annealing furnaces, and LEV hoods at entry and exit points; (4) For swaging operations, install LEV on the cutting head; (5) For drawing, straightening, and extruding operations, install LEV at entry and exit points; and (6) For all metal forming operations, install mechanical ventilation (make-up air) for processing areas.	Primary Beryllium Production; Copper Rolling, Drawing, and Extruding; Fabrication of Beryllium Alloy Products.
Welding	For fixed welding operations: (1) Enclose work locations around the source of fume generation and use local exhaust ventilation; and (2) Install close capture hood enclosure designed so as to minimize fume emission from the enclosure welding operation. For manual operations: (1) Use portable local exhaust and general ventilation	Primary Beryllium Production; Fabrication of Beryllium Alloy Products; Welding.

*All LEV specifications should be in accordance with the ACGIH® Publication No. 2094, "Industrial Ventilation—A Manual of Recommended Practice" wherever applicable.

PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT

■ 4. The authority citation for part 1915 is revised to read as follows:

Authority: 33 U.S.C. 941; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754); 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31160), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912); 29 CFR part 1911; and 5 U.S.C. 553, as applicable.

■ 5. In § 1915.1000 amend Table Z—Shipyards, by revising the entry for "Beryllium and beryllium compounds (as Be)" and adding footnote q.

The revisions read as follows:

* * * * *

§ 1915.1000 Air contaminants.

* * * * *

TABLE Z—SHIPYARDS

Substance	CAS No.[d]	ppm[a*]	mg/m³[b*]	Skin designation
* * * *	*	*	*	*
Beryllium and beryllium compounds (as Be); see 1915.1024[(q)]	7440–41–7		0.002	
* * * *	*	*	*	*

* The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

[a] Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

* * * * * * *

[d] The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.

* * * * * * *

[q] This standard applies to any operations or sectors for which the beryllium standard, 1915.1024, is stayed or otherwise is not in effect.

* * * * *

■ 6. Add § 1915.1024 to read as follows:

§ 1915.1024 Beryllium.

(a) *Scope and application.* (1) This standard applies to occupational exposure to beryllium in all forms, compounds, and mixtures in shipyards, except those articles and materials exempted by paragraphs (a)(2) and (a)(3) of this standard.

(2) This standard does not apply to articles, as defined in the Hazard Communication standard (HCS) (29 CFR 1910.1200(c)), that contain beryllium and that the employer does not process.

(3) This standard does not apply to materials containing less than 0.1% beryllium by weight where the employer has objective data demonstrating that employee exposure to beryllium will remain below the action level as an 8-hour TWA under any foreseeable conditions.

(b) *Definitions.* As used in this standard:

Action level means a concentration of airborne beryllium of 0.1 micrograms per cubic meter of air (μg/m³) calculated as an 8-hour time-weighted average (TWA).

Airborne exposure and *airborne exposure to beryllium* mean the exposure to airborne beryllium that would occur if the employee were not using a respirator.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, United States Department of Labor, or designee.

Beryllium lymphocyte proliferation test (BeLPT) means the measurement of blood lymphocyte proliferation in a laboratory test when lymphocytes are challenged with a soluble beryllium salt.

CBD diagnostic center means a medical diagnostic center that has an on-site pulmonary specialist and on-site facilities to perform a clinical evaluation for the presence of chronic beryllium disease (CBD). This evaluation must include pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. The CBD diagnostic center must also have the capacity to transfer BAL samples to a laboratory for appropriate diagnostic testing within 24 hours. The on-site pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.

Chronic beryllium disease (CBD) means a chronic lung disease associated with airborne exposure to beryllium.

Confirmed positive means the person tested has beryllium sensitization, as indicated by two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Emergency means any uncontrolled release of airborne beryllium.

High-efficiency particulate air (HEPA) filter means a filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.

Objective data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating airborne exposure to beryllium associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher airborne exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (*i.e.*, license, registration, or certification) allows the individual to independently provide or be delegated the responsibility to provide some or all of the health care services required by paragraph (k) of this standard.

Regulated area means an area, including temporary work areas where maintenance or non-routine tasks are performed, where an employee's airborne exposure exceeds, or can reasonably be expected to exceed, either the time-weighted average (TWA) permissible exposure limit (PEL) or short term exposure limit (STEL).

This standard means this beryllium standard, 29 CFR 1915.1024.

(c) *Permissible Exposure Limits (PELs)*—(1) *Time-weighted average (TWA) PEL.* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 0.2 μg/m³ calculated as an 8-hour TWA.

(2) *Short-term exposure limit (STEL).* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 2.0 μg/m³ as determined over a sampling period of 15 minutes.

(d) *Exposure assessment*—(1) *General.* The employer must assess the airborne exposure of each employee who is or may reasonably be expected to be exposed to airborne beryllium in accordance with either the performance option in paragraph (d)(2) or the scheduled monitoring option in paragraph (d)(3) of this standard.

(2) *Performance option.* The employer must assess the 8-hour TWA exposure and the 15-minute short-term exposure for each employee on the basis of any combination of air monitoring data and objective data sufficient to accurately characterize airborne exposure to beryllium.

(3) *Scheduled monitoring option.* (i) The employer must perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the airborne exposure of employees on each shift, for each job classification, and in each work area.

(ii) The employer must perform initial monitoring to assess the short-term exposure from 15-minute personal breathing zone air samples measured in operations that are likely to produce airborne exposure above the STEL for each work shift, for each job classification, and in each work area.

(iii) Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees in order to meet the requirements of paragraph (d)(3) of this standard. In representative sampling, the employer must sample the employee(s) expected to have the highest airborne exposure to beryllium.

(iv) If initial monitoring indicates that airborne exposure is below the action level and at or below the STEL, the employer may discontinue monitoring for those employees whose airborne exposure is represented by such monitoring.

(v) Where the most recent exposure monitoring indicates that airborne exposure is at or above the action level but at or below the TWA PEL, the employer must repeat such monitoring within six months of the most recent monitoring.

(vi) Where the most recent exposure monitoring indicates that airborne exposure is above the TWA PEL, the employer must repeat such monitoring within three months of the most recent 8-hour TWA exposure monitoring.

(vii) Where the most recent (non-initial) exposure monitoring indicates that airborne exposure is below the action level, the employer must repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken 7 or more days apart, are below the action level, at which time the employer may discontinue 8-hour TWA exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(viii) Where the most recent exposure monitoring indicates that airborne exposure is above the STEL, the employer must repeat such monitoring within three months of the most recent short-term exposure monitoring until two consecutive measurements, taken 7 or more days apart, are below the STEL, at which time the employer may discontinue short-term exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(4) *Reassessment of exposure.* The employer must reassess airborne exposure whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional airborne exposure at or above the action level or STEL, or when the employer has any reason to believe that new or additional airborne exposure at or above the action level or STEL has occurred.

(5) *Methods of sample analysis.* The employer must ensure that all air monitoring samples used to satisfy the monitoring requirements of paragraph (d) of this standard are evaluated by a laboratory that can measure beryllium to an accuracy of plus or minus 25 percent within a statistical confidence level of 95 percent for airborne concentrations at or above the action level.

(6) *Employee notification of assessment results.* (i) Within 15 working days after completing an exposure assessment in accordance with paragraph (d) of this standard, the employer must notify each employee whose airborne exposure is represented by the assessment of the results of that assessment individually in writing or post the results in an appropriate location that is accessible to each of these employees.

(ii) Whenever an exposure assessment indicates that airborne exposure is above the TWA PEL or STEL, the employer must describe in the written notification the corrective action being taken to reduce airborne exposure to or below the exposure limit(s) exceeded where feasible corrective action exists but had not been implemented when the monitoring was conducted.

(7) *Observation of monitoring.* (i) The employer must provide an opportunity to observe any exposure monitoring required by this standard to each employee whose airborne exposure is measured or represented by the monitoring and each employee's representative(s).

(ii) When observation of monitoring requires entry into an area where the use of personal protective clothing or equipment (which may include respirators) is required, the employer must provide each observer with appropriate personal protective clothing and equipment at no cost to the observer and must ensure that each observer uses such clothing and equipment.

(iii) The employer must ensure that each observer follows all other applicable safety and health procedures.

(e) *Regulated areas*—(1) *Establishment.* The employer must establish and maintain a regulated area wherever employees are, or can reasonably be expected to be, exposed to airborne beryllium at levels above the TWA PEL or STEL.

(2) *Demarcation.* The employer must identify each regulated area in accordance with paragraph (m)(2) of this standard.

(3) *Access.* The employer must limit access to regulated areas to:

(i) Persons the employer authorizes or requires to be in a regulated area to perform work duties;

(ii) Persons entering a regulated area as designated representatives of employees for the purpose of exercising the right to observe exposure monitoring procedures under paragraph (d)(7) of this standard; and

(iii) Persons authorized by law to be in a regulated area.

(4) *Provision of personal protective clothing and equipment, including respirators.* The employer must provide and ensure that each employee entering a regulated area uses:

(i) Respiratory protection in accordance with paragraph (g) of this standard; and

(ii) Personal protective clothing and equipment in accordance with paragraph (h) of this standard.

(f) *Methods of compliance*—(1) *Written exposure control plan.* (i) The employer must establish, implement, and maintain a written exposure control plan, which must contain:

(A) A list of operations and job titles reasonably expected to involve airborne exposure to or dermal contact with beryllium;

(B) A list of operations and job titles reasonably expected to involve airborne exposure at or above the action level;

(C) A list of operations and job titles reasonably expected to involve airborne exposure above the TWA PEL or STEL;

(D) Procedures for minimizing cross-contamination;

(E) Procedures for minimizing the migration of beryllium within or to locations outside the workplace;

(F) A list of engineering controls, work practices, and respiratory protection required by paragraph (f)(2) of this standard;

(G) A list of personal protective clothing and equipment required by paragraph (h) of this standard; and

(H) Procedures for removing, laundering, storing, cleaning, repairing, and disposing of beryllium-contaminated personal protective clothing and equipment, including respirators.

(ii) The employer must review and evaluate the effectiveness of each written exposure control plan at least annually and update it, as necessary, when:

(A) Any change in production processes, materials, equipment, personnel, work practices, or control methods results, or can reasonably be expected to result, in new or additional airborne exposure to beryllium;

(B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (l)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium; or

(C) The employer has any reason to believe that new or additional airborne exposure is occurring or will occur.

(iii) The employer must make a copy of the written exposure control plan accessible to each employee who is, or can reasonably be expected to be, exposed to airborne beryllium in accordance with OSHA's Access to Employee Exposure and Medical Records (Records Access) standard (29 CFR 1910.1020(e)).

(2) *Engineering and work practice controls.* (i) Where exposures are, or can reasonably be expected to be, at or above the action level, the employer must ensure that at least one of the following is in place to reduce airborne exposure:

(A) Material and/or process substitution;

(B) Isolation, such as ventilated partial or full enclosures;

(C) Local exhaust ventilation, such as at the points of operation, material handling, and transfer; or

(D) Process control, such as wet methods and automation.

(ii) An employer is exempt from using the controls listed in paragraph (f)(2)(i) of this standard to the extent that:

(A) The employer can establish that such controls are not feasible; or

(B) The employer can demonstrate that airborne exposure is below the action level, using no fewer than two representative personal breathing zone samples taken at least 7 days apart, for each affected operation.

(iii) If airborne exposure exceeds the TWA PEL or STEL after implementing the control(s) required by (f)(2)(i), the employer must implement additional or enhanced engineering and work practice controls to reduce airborne exposure to or below the exposure limit(s) exceeded.

(iv) Wherever the employer demonstrates that it is not feasible to reduce airborne exposure to or below the PELs by the engineering and work practice controls required by paragraphs (f)(2)(i) and (f)(2)(iii), the employer must implement and maintain engineering and work practice controls to reduce airborne exposure to the lowest levels feasible and supplement these controls by using respiratory protection in accordance with paragraph (g) of this standard.

(3) *Prohibition of rotation.* The employer must not rotate employees to different jobs to achieve compliance with the PELs.

(g) *Respiratory protection*—(1) *General.* The employer must provide respiratory protection at no cost to the employee and ensure that each employee uses respiratory protection:

(i) During periods necessary to install or implement feasible engineering and work practice controls where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(ii) During operations, including maintenance and repair activities and non-routine tasks, when engineering and work practice controls are not feasible and airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(iii) During operations for which an employer has implemented all feasible engineering and work practice controls when such controls are not sufficient to reduce airborne exposure to or below the TWA PEL or STEL;

(iv) During emergencies; and

(v) When an employee who is eligible for medical removal under paragraph (l)(1) chooses to remain in a job with airborne exposure at or above the action level, as permitted by paragraph (l)(2)(ii).

(2) *Respiratory protection program.* Where this standard requires an employer to provide respiratory protection, the selection and use of such respiratory protection must be in accordance with the Respiratory Protection standard (29 CFR 1910.134).

(3) The employer must provide at no cost to the employee a powered air-purifying respirator (PAPR) instead of a negative pressure respirator when

(i) Respiratory protection is required by this standard;

(ii) An employee entitled to such respiratory protection requests a PAPR; and

(iii) The PAPR provides adequate protection to the employee in accordance with paragraph (g)(2) of this standard.

(h) *Personal protective clothing and equipment*—(1) *Provision and use.* The employer must provide at no cost, and ensure that each employee uses, appropriate personal protective clothing and equipment in accordance with the written exposure control plan required under paragraph (f)(1) of this standard and OSHA's Personal Protective Equipment standards for shipyards (subpart I of this part):

(i) Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; or

(ii) Where there is a reasonable expectation of dermal contact with beryllium.

(2) *Removal and storage.* (i) The employer must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.

(ii) The employer must ensure that each employee removes beryllium-contaminated personal protective clothing and equipment as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that each employee stores and keeps beryllium-contaminated personal

protective clothing and equipment separate from street clothing and that storage facilities prevent cross-contamination as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iv) The employer must ensure that no employee removes beryllium-contaminated personal protective clothing or equipment from the workplace, except for employees authorized to do so for the purposes of laundering, cleaning, maintaining or disposing of beryllium-contaminated personal protective clothing and equipment at an appropriate location or facility away from the workplace.

(v) When personal protective clothing or equipment required by this standard is removed from the workplace for laundering, cleaning, maintenance or disposal, the employer must ensure that personal protective clothing and equipment are stored and transported in sealed bags or other closed containers that are impermeable and are labeled in accordance with paragraph (m)(3) of this standard and the HCS (29 CFR 1910.1200).

(3) *Cleaning and replacement.* (i) The employer must ensure that all reusable personal protective clothing and equipment required by this standard is cleaned, laundered, repaired, and replaced as needed to maintain its effectiveness.

(ii) The employer must ensure that beryllium is not removed from personal protective clothing and equipment by blowing, shaking or any other means that disperses beryllium into the air.

(iii) The employer must inform in writing the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of airborne exposure to and dermal contact with beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.

(i) *Hygiene areas and practices*—(1) *General.* For each employee required to use personal protective clothing or equipment by this standard, the employer must:

(i) Provide readily accessible washing facilities in accordance with this standard and the Sanitation standard (§ 1915.88) to remove beryllium from the hands, face, and neck; and

(ii) Ensure that employees who have dermal contact with beryllium wash any exposed skin at the end of the activity, process, or work shift and prior to eating, drinking, smoking, chewing tobacco or gum, applying cosmetics, or using the toilet.

(2) *Change rooms.* In addition to the requirements of paragraph (i)(1)(i) of this standard, the employer must provide employees required to use personal protective clothing by this standard with a designated change room in accordance with the Sanitation standard (§ 1915.88) where employees are required to remove their personal clothing.

(3) *Eating and drinking areas.* Wherever the employer allows employees to consume food or beverages at a worksite where beryllium is present, the employer must ensure that:

(i) Surfaces in eating and drinking areas are as free as practicable of beryllium;

(ii) No employees enter any eating or drinking area with personal protective clothing or equipment unless, prior to entry, surface beryllium has been removed from the clothing or equipment by methods that do not disperse beryllium into the air or onto an employee's body; and

(iii) Eating and drinking facilities provided by the employer are in accordance with the Sanitation standard (29 CFR 1915.88).

(4) *Prohibited activities.* The employer must ensure that no employees eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.

(j) *Housekeeping*—(1) *General.* (i) When cleaning beryllium-contaminated areas, the employer must follow the written exposure control plan required under paragraph (f)(1) of this standard; and

(ii) The employer must ensure that all spills and emergency releases of beryllium are cleaned up promptly and in accordance with the written exposure control plan required under paragraph (f)(1).

(2) *Cleaning methods.* (i) When cleaning beryllium-contaminated areas, the employer must ensure the use of HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure.

(ii) The employer must not allow dry sweeping or brushing for cleaning in beryllium-contaminated areas unless HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure are not safe or effective.

(iii) The employer must not allow the use of compressed air for cleaning in beryllium-contaminated areas unless the compressed air is used in conjunction with a ventilation system designed to capture the particulates made airborne by the use of compressed air.

(iv) Where employees use dry sweeping, brushing, or compressed air to clean in beryllium-contaminated areas, the employer must provide, and ensure that each employee uses, respiratory protection and personal protective clothing and equipment in accordance with paragraphs (g) and (h) of this standard.

(v) The employer must ensure that cleaning equipment is handled and maintained in a manner that minimizes the likelihood and level of airborne exposure and the re-entrainment of airborne beryllium in the workplace.

(3) *Disposal.* When the employer transfers materials containing beryllium to another party for use or disposal, the employer must provide the recipient with a copy of the warning described in paragraph (m)(3) of this standard.

(k) *Medical surveillance*—(1) *General.* (i) The employer must make medical surveillance required by this paragraph available at no cost to the employee, and at a reasonable time and place, to each employee:

(A) Who is or is reasonably expected to be exposed at or above the action level for more than 30 days per year;

(B) Who shows signs or symptoms of CBD or other beryllium-related health effects;

(C) Who is exposed to beryllium during an emergency; or

(D) Whose most recent written medical opinion required by paragraph (k)(6) or (k)(7) recommends periodic medical surveillance.

(ii) The employer must ensure that all medical examinations and procedures required by this standard are performed by, or under the direction of, a licensed physician.

(2) *Frequency.* The employer must provide a medical examination:

(i) Within 30 days after determining that:

(A) An employee meets the criteria of paragraph (k)(1)(i)(A) of this standard, unless the employee has received a medical examination, provided in accordance with this standard, within the last two years; or

(B) An employee meets the criteria of paragraph (k)(1)(i)(B) or (C) of this standard.

(ii) At least every two years thereafter for each employee who continues to meet the criteria of paragraph (k)(1)(i)(A), (B), or (D) of this standard.

(iii) At the termination of employment for each employee who meets any of the criteria of paragraph (k)(1)(i) of this standard at the time the employee's employment terminates, unless an examination has been provided in accordance with this standard during the six months prior to the date of termination.

(3) *Contents of examination.* (i) The employer must ensure that the PLHCP conducting the examination advises the employee of the risks and benefits of participating in the medical surveillance program and the employee's right to opt out of any or all parts of the medical examination.

(ii) The employer must ensure that the employee is offered a medical examination that includes:

(A) A medical and work history, with emphasis on past and present airborne exposure to or dermal contact with beryllium, smoking history, and any history of respiratory system dysfunction;

(B) A physical examination with emphasis on the respiratory system;

(C) A physical examination for skin rashes;

(D) Pulmonary function tests, performed in accordance with the guidelines established by the American Thoracic Society including forced vital capacity (FVC) and forced expiratory volume in one second (FEV_1);

(E) A standardized BeLPT or equivalent test, upon the first examination and at least every two years thereafter, unless the employee is confirmed positive. If the results of the BeLPT are other than normal, a follow-up BeLPT must be offered within 30 days, unless the employee has been confirmed positive. Samples must be analyzed in a laboratory certified under the College of American Pathologists/ Clinical Laboratory Improvement Amendments (CLIA) guidelines to perform the BeLPT.

(F) A low dose computed tomography (LDCT) scan, when recommended by the PLHCP after considering the employee's history of exposure to beryllium along with other risk factors, such as smoking history, family medical history, sex, age, and presence of existing lung disease; and

(G) Any other test deemed appropriate by the PLHCP.

(4) *Information provided to the PLHCP.* The employer must ensure that the examining PLHCP (and the agreed-upon CBD diagnostic center, if an evaluation is required under paragraph (k)(7) of this standard) has a copy of this standard and must provide the following information, if known:

(i) A description of the employee's former and current duties that relate to the employee's airborne exposure to and dermal contact with beryllium;

(ii) The employee's former and current levels of airborne exposure;

(iii) A description of any personal protective clothing and equipment, including respirators, used by the employee, including when and for how long the employee has used that personal protective clothing and equipment; and

(iv) Information from records of employment-related medical examinations previously provided to the employee, currently within the control of the employer, after obtaining written consent from the employee.

(5) *Licensed physician's written medical report for the employee.* The employer must ensure that the employee receives a written medical report from the licensed physician within 45 days of the examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard) and that the PLHCP explains the results of the examination to the employee. The written medical report must contain:

(i) A statement indicating the results of the medical examination, including the licensed physician's opinion as to whether the employee has

(A) Any detected medical condition, such as CBD or beryllium sensitization (*i.e.*, the employee is confirmed positive, as defined in paragraph (b) of this standard), that may place the employee at increased risk from further airborne exposure, and

(B) Any medical conditions related to airborne exposure that require further evaluation or treatment.

(ii) Any recommendations on:

(A) The employee's use of respirators, protective clothing, or equipment; or

(B) Limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, the written report must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l).

(6) *Licensed physician's written medical opinion for the employer.* (i) The employer must obtain a written medical opinion from the licensed physician within 45 days of the medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard). The written medical opinion must contain only the following:

(A) The date of the examination;

(B) A statement that the examination has met the requirements of this standard;

(C) Any recommended limitations on the employee's use of respirators, protective clothing, or equipment; and

(D) A statement that the PLHCP has explained the results of the medical examination to the employee, including any tests conducted, any medical conditions related to airborne exposure that require further evaluation or treatment, and any special provisions for use of personal protective clothing or equipment;

(ii) If the employee provides written authorization, the written opinion must also contain any recommended limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, and the employee provides written authorization, the written opinion must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l).

(vi) The employer must ensure that each employee receives a copy of the written medical opinion described in paragraph (k)(6) of this standard within 45 days of any medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard) performed for that employee.

(7) *CBD diagnostic center.* (i) The employer must provide an evaluation at no cost to the employee at a CBD diagnostic center that is mutually agreed upon by the employer and the employee. The examination must be provided within 30 days of:

(A) The employer's receipt of a physician's written medical opinion to the employer that recommends referral to a CBD diagnostic center; or

(B) The employee presenting to the employer a physician's written medical report indicating that the employee has been confirmed positive or diagnosed with CBD, or recommending referral to a CBD diagnostic center.

(ii) The employer must ensure that the employee receives a written medical report from the CBD diagnostic center that contains all the information required in paragraph (k)(5)(i), (ii), (iv), and (v) and that the PLHCP explains the results of the examination to the employee within 30 days of the examination.

(iii) The employer must obtain a written medical opinion from the CBD diagnostic center within 30 days of the medical examination. The written medical opinion must contain only the information in paragraphs (k)(6)(i), as applicable, unless the employee provides written authorization to release additional information. If the employee provides written authorization, the written opinion must also contain the information from paragraphs (k)(6)(ii), (iv), and (v), if applicable.

(iv) The employer must ensure that each employee receives a copy of the written medical opinion from the CBD diagnostic center described in paragraph (k)(7) of this standard within 30 days of any medical examination performed for that employee.

(v) After an employee has received the initial clinical evaluation at a CBD diagnostic center described in paragraph (k)(7)(i) of this standard, the employee may choose to have any subsequent medical examinations for which the employee is eligible under paragraph (k) of this standard performed at a CBD diagnostic center mutually agreed upon by the employer and the employee, and the employer must provide such examinations at no cost to the employee.

(l) *Medical removal.* (1) An employee is eligible for medical removal, if the employee works in a job with airborne exposure at or above the action level and either:

(i) The employee provides the employer with:

(A) A written medical report indicating a confirmed positive finding or CBD diagnosis; or

(B) A written medical report recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(5)(v) or (k)(7)(ii) of this standard; or

(ii) The employer receives a written medical opinion recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(6)(v) or (k)(7)(iii) of this standard.

(2) If an employee is eligible for medical removal, the employer must provide the employee with the employee's choice of:

(i) Removal as described in paragraph (l)(3) of this standard; or

(ii) Remaining in a job with airborne exposure at or above the action level, provided that the employer provides, and ensures that the employee uses, respiratory protection that complies with paragraph (g) of this standard whenever airborne exposures are at or above the action level.

(3) If the employee chooses removal:

(i) If a comparable job is available where airborne exposures to beryllium are below the action level, and the employee is qualified for that job or can be trained within one month, the employer must remove the employee to that job. The employer must maintain for six months from the time of removal the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal.

(ii) If comparable work is not available, the employer must maintain the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal for six months or until such time that comparable work described in paragraph (l)(3)(i) becomes available, whichever comes first.

(4) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from a publicly or employer-funded compensation program, or receives income from another employer made possible by virtue of the employee's removal.

(m) *Communication of hazards*—(1) *General.* (i) Chemical manufacturers, importers, distributors, and employers must comply with all requirements of the HCS (29 CFR 1910.1200) for beryllium.

(ii) Employers must include beryllium in the hazard communication program established to comply with the HCS. Employers must ensure that each employee has access to labels on containers of beryllium and to safety data sheets, and is trained in accordance with the requirements of the HCS (29 CFR 1910.1200) and paragraph (m)(4) of this standard.

(2) *Warning signs.* (i) *Posting.* The employer must provide and display warning signs at each approach to a regulated area so that each employee is able to read and understand the signs and take necessary protective steps before entering the area.

(ii) *Sign specification.* (A) The employer must ensure that the warning signs required by paragraph (m)(2)(i) of this standard are legible and readily visible.

(B) The employer must ensure each warning sign required by paragraph (m)(2)(i) of this standard bears the following legend:

DANGER
REGULATED AREA
BERYLLIUM
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORY PROTECTION AND PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT IN THIS AREA

(3) *Warning labels.* Consistent with the HCS (29 CFR 1910.1200), the employer must label each bag and container of clothing, equipment, and materials contaminated with beryllium, and must, at a minimum, include the following on the label:

DANGER
CONTAINS BERYLLIUM
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AVOID CREATING DUST
DO NOT GET ON SKIN

(4) *Employee information and training.* (i) For each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium:

(A) The employer must provide information and training in accordance with the HCS (29 CFR 1910.1200(h));

(B) The employer must provide initial training to each employee by the time of initial assignment; and

(C) The employer must repeat the training required under this standard annually for each employee.

(ii) The employer must ensure that each employee who is, or can reasonably be expected to be, exposed to airborne beryllium can demonstrate knowledge and understanding of the following:

(A) The health hazards associated with airborne exposure to and contact with beryllium, including the signs and symptoms of CBD;

(B) The written exposure control plan, with emphasis on the location(s) of any regulated areas, and the specific nature of operations that could result in airborne exposure, especially airborne exposure above the TWA PEL or STEL;

(C) The purpose, proper selection, fitting, proper use, and limitations of personal protective clothing and equipment, including respirators;

(D) Applicable emergency procedures;

(E) Measures employees can take to protect themselves from airborne exposure to and contact with beryllium, including personal hygiene practices;

(F) The purpose and a description of the medical surveillance program required by paragraph (k) of this

standard including risks and benefits of each test to be offered;

(G) The purpose and a description of the medical removal protection provided under paragraph (l) of this standard;

(H) The contents of the standard; and

(I) The employee's right of access to records under the Records Access standard (29 CFR 1910.1020).

(iii) When a workplace change (such as modification of equipment, tasks, or procedures) results in new or increased airborne exposure that exceeds, or can reasonably be expected to exceed, either the TWA PEL or the STEL, the employer must provide additional training to those employees affected by the change in airborne exposure.

(iv) *Employee information.* The employer must make a copy of this standard and its appendices readily available at no cost to each employee and designated employee representative(s).

(n) *Recordkeeping*—(1) *Air monitoring data.* (i) The employer must make and maintain a record of all exposure measurements taken to assess airborne exposure as prescribed in paragraph (d) of this standard.

(ii) This record must include at least the following information:

(A) The date of measurement for each sample taken;

(B) The task that is being monitored;

(C) The sampling and analytical methods used and evidence of their accuracy;

(D) The number, duration, and results of samples taken;

(E) The type of personal protective clothing and equipment, including respirators, worn by monitored employees at the time of monitoring; and

(F) The name, social security number, and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.

(iii) The employer must ensure that exposure records are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(2) *Objective data.* (i) Where an employer uses objective data to satisfy the exposure assessment requirements under paragraph (d)(2) of this standard, the employer must make and maintain a record of the objective data relied upon.

(ii) This record must include at least the following information:

(A) The data relied upon;

(B) The beryllium-containing material in question;

(C) The source of the objective data;

(D) A description of the process, task, or activity on which the objective data were based; and

(E) Other data relevant to the process, task, activity, material, or airborne exposure on which the objective data were based.

(iii) The employer must ensure that objective data are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(3) *Medical surveillance.* (i) The employer must make and maintain a record for each employee covered by medical surveillance under paragraph (k) of this standard.

(ii) The record must include the following information about each employee:

(A) Name, social security number, and job classification;

(B) A copy of all licensed physicians' written medical opinions for each employee; and

(C) A copy of the information provided to the PLHCP as required by paragraph (k)(4) of this standard.

(iii) The employer must ensure that medical records are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(4) *Training.* (i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name, social security number, and job classification of each employee trained, the date the training was completed, and the topic of the training.

(ii) This record must be maintained for three years after the completion of training.

(5) *Access to records.* Upon request, the employer must make all records maintained as a requirement of this standard available for examination and copying to the Assistant Secretary, the Director, each employee, and each employee's designated representative(s) in accordance the Records Access standard (29 CFR 1910.1020).

(6) *Transfer of records.* The employer must comply with the requirements involving transfer of records set forth in the Records Access standard (29 CFR 1910.1020).

(o) *Dates*—(1) *Effective date.* This standard shall become effective March 10, 2017.

(2) *Compliance dates.* All obligations of this standard commence and become enforceable on March 12, 2018, except:

(i) Change rooms required by paragraph (i) of this standard must be provided by March 11, 2019; and

(ii) Engineering controls required by paragraph (f) of this standard must be implemented by March 10, 2020.

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Subpart D—Occupational Health and Environmental Controls

■ 7. The authority citation for subpart D of part 1926 is revised to read as follows:

Authority: 40 U.S.C. 3704; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31160), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912); 29 CFR part 1911; and 5 U.S.C. 553, as applicable.

Section 1926.61 also issued under 49 U.S.C. 5101 *et seq.*

Section 1926.62 also issued under 42 U.S.C. 4853.

Section 1926.65 also issued under 126 of Public Law 99–499, 100 Stat. 1613.

■ 8. In § 1926.55, amend appendix A by revising the entry for "Beryllium and beryllium compounds (as Be)" and adding footnote q.

The revisions read as follows:

§ 1926.55 Gases, vapors, fumes, dusts, and mists.

* * * * *

Appendix A to § 1926.55—1970 American Conference of Governmental Industrial Hygienists' Threshold Limit Values of Airborne Contaminants

THRESHOLD LIMIT VALUES OF AIRBORNE CONTAMINANTS FOR CONSTRUCTION

Substance	CAS No.[d]	ppm[a]*	mg/m[3][b]	Skin designation
* * * * * * *				
Beryllium and beryllium compounds (as Be); see 1926.1124[(q)]	7440–41–7	.....	0.002	.....

THRESHOLD LIMIT VALUES OF AIRBORNE CONTAMINANTS FOR CONSTRUCTION—Continued

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin designation
* * * * * * *				

[a] Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.
[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.
* * * * * * *
[d] The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.
* * * * * * *
[q] This standard applies to any operations or sectors for which the beryllium standard, 1926.1124, is stayed or otherwise is not in effect.

* * * * *

Subpart Z—Toxic and Hazardous Substances

■ 9. The authority for subpart Z of part 1926 is revised to read as follows:

Authority: 40 U.S.C. 3704; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), 3–2000 (65 FR 50017), 5–2002 (67 FR 65008), 5–2007 (72 FR 31160), 4–2010 (75 FR 55355), or 1–2012 (77 FR 3912); 29 CFR part 1911; and 5 U.S.C. 553, as applicable.

■ 10. Add § 1926.1124 to read as follows:

§ 1926.1124 Beryllium.

(a) *Scope and application.* (1) This standard applies to occupational exposure to beryllium in all forms, compounds, and mixtures in construction, except those articles and materials exempted by paragraphs (a)(2) and (a)(3) of this standard.

(2) This standard does not apply to articles, as defined in the Hazard Communication standard (HCS) (29 CFR 1910.1200(c)), that contain beryllium and that the employer does not process.

(3) This standard does not apply to materials containing less than 0.1% beryllium by weight where the employer has objective data demonstrating that employee exposure to beryllium will remain below the action level as an 8-hour TWA under any foreseeable conditions.

(b) *Definitions.* As used in this standard:

Action level means a concentration of airborne beryllium of 0.1 micrograms per cubic meter of air (μg/m³) calculated as an 8-hour time-weighted average (TWA).

Airborne exposure and *airborne exposure to beryllium* mean the exposure to airborne beryllium that would occur if the employee were not using a respirator.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, United States Department of Labor, or designee.

Beryllium lymphocyte proliferation test (BeLPT) means the measurement of blood lymphocyte proliferation in a laboratory test when lymphocytes are challenged with a soluble beryllium salt.

CBD diagnostic center means a medical diagnostic center that has an on-site pulmonary specialist and on-site facilities to perform a clinical evaluation for the presence of chronic beryllium disease (CBD). This evaluation must include pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. The CBD diagnostic center must also have the capacity to transfer BAL samples to a laboratory for appropriate diagnostic testing within 24 hours. The on-site pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.

Chronic beryllium disease (CBD) means a chronic lung disease associated with airborne exposure to beryllium.

Competent person means an individual who is capable of identifying existing and foreseeable beryllium hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them. The competent person must have the knowledge, ability, and authority necessary to fulfill the responsibilities set forth in paragraph (e) of this standard.

Confirmed positive means the person tested has beryllium sensitization, as indicated by two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Emergency means any uncontrolled release of airborne beryllium.

High-efficiency particulate air (HEPA) filter means a filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.

Objective data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating airborne exposure to beryllium associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher airborne exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (*i.e.,* license, registration, or certification) allows the individual to independently provide or be delegated the responsibility to provide some or all of the health care services required by paragraph (k) of this standard.

This standard means this beryllium standard, 29 CFR 1926.1124.

(c) *Permissible Exposure Limits (PELs)*—(1) *Time-weighted average (TWA) PEL.* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 0.2 μg/m³ calculated as an 8-hour TWA.

(2) *Short-term exposure limit (STEL).* The employer must ensure that no employee is exposed to an airborne concentration of beryllium in excess of 2.0 μg/m³ as determined over a sampling period of 15 minutes.

(d) *Exposure assessment*—(1) *General.* The employer must assess the airborne exposure of each employee who is or may reasonably be expected to be exposed to airborne beryllium in accordance with either the performance option in paragraph (d)(2) or the scheduled monitoring option in paragraph (d)(3) of this standard.

(2) *Performance option.* The employer must assess the 8-hour TWA exposure and the 15-minute short-term exposure for each employee on the basis of any

combination of air monitoring data and objective data sufficient to accurately characterize airborne exposure to beryllium.

(3) *Scheduled monitoring option.* (i) The employer must perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the airborne exposure of employees on each shift, for each job classification, and in each work area.

(ii) The employer must perform initial monitoring to assess the short-term exposure from 15-minute personal breathing zone air samples measured in operations that are likely to produce airborne exposure above the STEL for each work shift, for each job classification, and in each work area.

(iii) Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees in order to meet the requirements of paragraph (d)(3). In representative sampling, the employer must sample the employee(s) expected to have the highest airborne exposure to beryllium.

(iv) If initial monitoring indicates that airborne exposure is below the action level and at or below the STEL, the employer may discontinue monitoring for those employees whose airborne exposure is represented by such monitoring.

(v) Where the most recent exposure monitoring indicates that airborne exposure is at or above the action level but at or below the TWA PEL, the employer must repeat such monitoring within six months of the most recent monitoring.

(vi) Where the most recent exposure monitoring indicates that airborne exposure is above the TWA PEL, the employer must repeat such monitoring within three months of the most recent 8-hour TWA exposure monitoring.

(vii) Where the most recent (non-initial) exposure monitoring indicates that airborne exposure is below the action level, the employer must repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken 7 or more days apart, are below the action level, at which time the employer may discontinue 8-hour TWA exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(viii) Where the most recent exposure monitoring indicates that airborne exposure is above the STEL, the employer must repeat such monitoring within three months of the most recent short-term exposure monitoring until two consecutive measurements, taken 7 or more days apart, are below the STEL, at which time the employer may discontinue short-term exposure monitoring for those employees whose exposure is represented by such monitoring, except as otherwise provided in paragraph (d)(4) of this standard.

(4) *Reassessment of exposure.* The employer must reassess airborne exposure whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional airborne exposure at or above the action level or STEL, or when the employer has any reason to believe that new or additional airborne exposure at or above the action level or STEL has occurred.

(5) *Methods of sample analysis.* The employer must ensure that all air monitoring samples used to satisfy the monitoring requirements of paragraph (d) of this standard are evaluated by a laboratory that can measure beryllium to an accuracy of plus or minus 25 percent within a statistical confidence level of 95 percent for airborne concentrations at or above the action level.

(6) *Employee notification of assessment results.* (i) Within 15 working days after completing an exposure assessment in accordance with paragraph (d) of this standard, the employer must notify each employee whose airborne exposure is represented by the assessment of the results of that assessment individually in writing or post the results in an appropriate location that is accessible to each of these employees.

(ii) Whenever an exposure assessment indicates that airborne exposure is above the TWA PEL or STEL, the employer must describe in the written notification the corrective action being taken to reduce airborne exposure to or below the exposure limit(s) exceeded where feasible corrective action exists but had not been implemented when the monitoring was conducted.

(7) *Observation of monitoring.* (i) The employer must provide an opportunity to observe any exposure monitoring required by this standard to each employee whose airborne exposure is measured or represented by the monitoring and each employee's representative(s).

(ii) When observation of monitoring requires entry into an area where the use of personal protective clothing or equipment (which may include respirators) is required, the employer must provide each observer with appropriate personal protective clothing and equipment at no cost to the observer.

(iii) The employer must ensure that each observer follows all other applicable safety and health procedures.

(e) *Competent person.* Wherever employees are, or can reasonably be expected to be, exposed to airborne beryllium at levels above the TWA PEL or STEL, the employer must designate a competent person to

(1) Make frequent and regular inspections of job sites, materials, and equipment;

(2) Implement the written exposure control plan under paragraph (f) of this standard;

(3) Ensure that all employees use respiratory protection in accordance with paragraph (g) of this standard; and

(4) Ensure that all employees use personal protective clothing and equipment in accordance with paragraph (h) of this standard.

(f) *Methods of compliance*—(1) *Written exposure control plan.* (i) The employer must establish, implement, and maintain a written exposure control plan, which must contain:

(A) A list of operations and job titles reasonably expected to involve airborne exposure to or dermal contact with beryllium;

(B) A list of operations and job titles reasonably expected to involve airborne exposure at or above the action level;

(C) A list of operations and job titles reasonably expected to involve airborne exposure above the TWA PEL or STEL;

(D) Procedures for minimizing cross-contamination;

(E) Procedures for minimizing the migration of beryllium within or to locations outside the workplace;

(F) A list of engineering controls, work practices, and respiratory protection required by paragraph (f)(2) of this standard;

(G) A list of personal protective clothing and equipment required by paragraph (h) of this standard;

(H) Procedures for removing, laundering, storing, cleaning, repairing, and disposing of beryllium-contaminated personal protective clothing and equipment, including respirators; and

(I) Procedures used to restrict access to work areas when airborne exposures are, or can reasonably be expected to be, above the TWA PEL or STEL, to minimize the number of employees exposed to airborne beryllium and their level of exposure, including exposures generated by other employers or sole proprietors.

(ii) The employer must review and evaluate the effectiveness of each

written exposure control plan at least annually and update it, as necessary, when:

(A) Any change in production processes, materials, equipment, personnel, work practices, or control methods results, or can reasonably be expected to result, in new or additional airborne exposure to beryllium;

(B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (l)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium; or

(C) The employer has any reason to believe that new or additional airborne exposure is occurring or will occur.

(iii) The employer must make a copy of the written exposure control plan accessible to each employee who is, or can reasonably be expected to be, exposed to airborne beryllium in accordance with OSHA's Access to Employee Exposure and Medical Records (Records Access) standard (29 CFR 1910.1020(e)).

(2) *Engineering and work practice controls.* (i) Where exposures are, or can reasonably be expected to be, at or above the action level, the employer must ensure that at least one of the following is in place to reduce airborne exposure:

(A) Material and/or process substitution;

(B) Isolation, such as ventilated partial or full enclosures;

(C) Local exhaust ventilation, such as at the points of operation, material handling, and transfer; or

(D) Process control, such as wet methods and automation.

(ii) An employer is exempt from using the controls listed in paragraph (f)(2)(i) of this standard to the extent that:

(A) The employer can establish that such controls are not feasible; or

(B) The employer can demonstrate that airborne exposure is below the action level, using no fewer than two representative personal breathing zone samples taken at least 7 days apart, for each affected operation.

(iii) If airborne exposure exceeds the TWA PEL or STEL after implementing the control(s) required by paragraph (f)(2)(i) of this standard, the employer must implement additional or enhanced engineering and work practice controls to reduce airborne exposure to or below the exposure limit(s) exceeded.

(iv) Wherever the employer demonstrates that it is not feasible to reduce airborne exposure to or below the PELs by the engineering and work practice controls required by paragraphs (f)(2)(i) and (f)(2)(iii), the employer must implement and maintain engineering and work practice controls to reduce airborne exposure to the lowest levels feasible and supplement these controls by using respiratory protection in accordance with paragraph (g) of this standard.

(3) *Prohibition of rotation.* The employer must not rotate employees to different jobs to achieve compliance with the PELs.

(g) *Respiratory protection*—(1) *General.* The employer must provide respiratory protection at no cost to the employee and ensure that each employee uses respiratory protection:

(i) During periods necessary to install or implement feasible engineering and work practice controls where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(ii) During operations, including maintenance and repair activities and non-routine tasks, when engineering and work practice controls are not feasible and airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;

(iii) During operations for which an employer has implemented all feasible engineering and work practice controls when such controls are not sufficient to reduce airborne exposure to or below the TWA PEL or STEL;

(iv) During emergencies; and

(v) When an employee who is eligible for medical removal under paragraph (l)(1) chooses to remain in a job with airborne exposure at or above the action level, as permitted by paragraph (l)(2)(ii) of this standard.

(2) *Respiratory protection program.* Where this standard requires an employer to provide respiratory protection, the selection and use of such respiratory protection must be in accordance with the Respiratory Protection standard (29 CFR 1910.134).

(3) The employer must provide at no cost to the employee a powered air-purifying respirator (PAPR) instead of a negative pressure respirator when

(i) Respiratory protection is required by this standard;

(ii) An employee entitled to such respiratory protection requests a PAPR; and

(iii) The PAPR provides adequate protection to the employee in accordance with paragraph (g)(2) of this standard.

(h) *Personal protective clothing and equipment*—(1) *Provision and use.* The employer must provide at no cost, and ensure that each employee uses, appropriate personal protective clothing and equipment in accordance with the written exposure control plan required under paragraph (f)(1) of this standard and OSHA's Personal Protective and Life Saving Equipment standards for construction (29 CFR part 1926 Subpart E):

(i) Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; or

(ii) Where there is a reasonable expectation of dermal contact with beryllium.

(2) *Removal and storage.* (i) The employer must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.

(ii) The employer must ensure that each employee removes beryllium-contaminated personal protective clothing and equipment as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that each employee stores and keeps beryllium-contaminated personal protective clothing and equipment separate from street clothing and that storage facilities prevent cross-contamination as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iv) The employer must ensure that no employee removes beryllium-contaminated personal protective clothing or equipment from the workplace, except for employees authorized to do so for the purposes of laundering, cleaning, maintaining or disposing of beryllium-contaminated personal protective clothing and equipment at an appropriate location or facility away from the workplace.

(v) When personal protective clothing or equipment required by this standard is removed from the workplace for laundering, cleaning, maintenance or disposal, the employer must ensure that personal protective clothing and equipment are stored and transported in sealed bags or other closed containers that are impermeable and are labeled in accordance with paragraph (m)(2) of this standard and the HCS (29 CFR 1910.1200).

(3) *Cleaning and replacement.* (i) The employer must ensure that all reusable personal protective clothing and equipment required by this standard is cleaned, laundered, repaired, and replaced as needed to maintain its effectiveness.

(ii) The employer must ensure that beryllium is not removed from personal protective clothing and equipment by blowing, shaking or any other means that disperses beryllium into the air.

(iii) The employer must inform in writing the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of airborne exposure to and dermal contact with beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.

(i) *Hygiene areas and practices*—(1) *General.* For each employee required to use personal protective clothing or equipment by this standard, the employer must:

(i) Provide readily accessible washing facilities in accordance with this standard and the Sanitation standard (§ 1926.51) to remove beryllium from the hands, face, and neck; and

(ii) Ensure that employees who have dermal contact with beryllium wash any exposed skin at the end of the activity, process, or work shift and prior to eating, drinking, smoking, chewing tobacco or gum, applying cosmetics, or using the toilet.

(2) *Change rooms.* In addition to the requirements of paragraph (i)(1)(i) of this standard, the employer must provide employees required to use personal protective clothing by this standard with a designated change room in accordance with this standard and the Sanitation standard (§ 1926.51) where employees are required to remove their personal clothing.

(3) *Eating and drinking areas.* Wherever the employer allows employees to consume food or beverages at a worksite where beryllium is present, the employer must ensure that:

(i) Surfaces in eating and drinking areas are as free as practicable of beryllium;

(ii) No employees enter any eating or drinking area with personal protective clothing or equipment unless, prior to entry, surface beryllium has been removed from the clothing or equipment by methods that do not disperse beryllium into the air or onto an employee's body; and

(iii) Eating and drinking facilities provided by the employer are in accordance with the Sanitation standard (§ 1926.51).

(4) *Prohibited activities.* The employer must ensure that no employees eat, drink, smoke, chew tobacco or gum, or apply cosmetics in work areas where there is a reasonable expectation of exposure above the TWA PEL or STEL.

(j) *Housekeeping*—(1) *General.* (i) When cleaning beryllium-contaminated areas, the employer must follow the written exposure control plan required under paragraph (f)(1) of this standard;

(ii) The employer must ensure that all spills and emergency releases of beryllium are cleaned up promptly and in accordance with the written exposure control plan required under paragraph (f)(1) of this standard.

(2) *Cleaning methods.* (i) When cleaning beryllium-contaminated areas, the employer must ensure the use of HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure.

(ii) The employer must not allow dry sweeping or brushing for cleaning in beryllium-contaminated areas unless HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure are not safe or effective.

(iii) The employer must not allow the use of compressed air for cleaning in beryllium-contaminated areas unless the compressed air is used in conjunction with a ventilation system designed to capture the particulates made airborne by the use of compressed air.

(iv) Where employees use dry sweeping, brushing, or compressed air to clean in beryllium-contaminated areas, the employer must provide, and ensure that each employee uses, respiratory protection and personal protective clothing and equipment in accordance with paragraphs (g) and (h) of this standard.

(v) The employer must ensure that cleaning equipment is handled and maintained in a manner that minimizes the likelihood and level of airborne exposure and the re-entrainment of airborne beryllium in the workplace.

(3) *Disposal.* When the employer transfers materials containing beryllium to another party for use or disposal, the employer must provide the recipient with a copy of the warning described in paragraph (m)(2) of this standard.

(k) *Medical surveillance*—(1) *General.* (i) The employer must make medical surveillance required by this paragraph available at no cost to the employee, and at a reasonable time and place, to each employee:

(A) Who is or is reasonably expected to be exposed at or above the action level for more than 30 days per year;

(B) Who shows signs or symptoms of CBD or other beryllium-related health effects;

(C) Who is exposed to beryllium during an emergency; or

(D) Whose most recent written medical opinion required by paragraph (k)(6) or (k)(7) recommends periodic medical surveillance.

(ii) The employer must ensure that all medical examinations and procedures required by this standard are performed by, or under the direction of, a licensed physician.

(2) *Frequency.* The employer must provide a medical examination:

(i) Within 30 days after determining that:

(A) An employee meets the criteria of paragraph (k)(1)(i)(A), unless the employee has received a medical examination, provided in accordance with this standard, within the last two years; or

(B) An employee meets the criteria of paragraph (k)(1)(i)(B) or (C).

(ii) At least every two years thereafter for each employee who continues to meet the criteria of paragraph (k)(1)(i)(A), (B), or (D) of this standard.

(iii) At the termination of employment for each employee who meets any of the criteria of paragraph (k)(1)(i) of this standard at the time the employee's employment terminates, unless an examination has been provided in accordance with this standard during the six months prior to the date of termination.

(3) *Contents of examination.* (i) The employer must ensure that the PLHCP conducting the examination advises the employee of the risks and benefits of participating in the medical surveillance program and the employee's right to opt out of any or all parts of the medical examination.

(ii) The employer must ensure that the employee is offered a medical examination that includes:

(A) A medical and work history, with emphasis on past and present airborne exposure to or dermal contact with beryllium, smoking history, and any history of respiratory system dysfunction;

(B) A physical examination with emphasis on the respiratory system;

(C) A physical examination for skin rashes;

(D) Pulmonary function tests, performed in accordance with the guidelines established by the American Thoracic Society including forced vital capacity (FVC) and forced expiratory volume in one second (FEV_1);

(E) A standardized BeLPT or equivalent test, upon the first examination and at least every two years thereafter, unless the employee is confirmed positive. If the results of the BeLPT are other than normal, a follow-up BeLPT must be offered within 30 days, unless the employee has been

confirmed positive. Samples must be analyzed in a laboratory certified under the College of American Pathologists/ Clinical Laboratory Improvement Amendments (CLIA) guidelines to perform the BeLPT.

(F) A low dose computed tomography (LDCT) scan, when recommended by the PLHCP after considering the employee's history of exposure to beryllium along with other risk factors, such as smoking history, family medical history, sex, age, and presence of existing lung disease; and

(G) Any other test deemed appropriate by the PLHCP.

(4) *Information provided to the PLHCP.* The employer must ensure that the examining PLHCP (and the agreed-upon CBD diagnostic center, if an evaluation is required under paragraph (k)(7) of this standard) has a copy of this standard and must provide the following information, if known:

(i) A description of the employee's former and current duties that relate to the employee's airborne exposure to and dermal contact with beryllium;

(ii) The employee's former and current levels of airborne exposure;

(iii) A description of any personal protective clothing and equipment, including respirators, used by the employee, including when and for how long the employee has used that personal protective clothing and equipment; and

(iv) Information from records of employment-related medical examinations previously provided to the employee, currently within the control of the employer, after obtaining written consent from the employee.

(5) *Licensed physician's written medical report for the employee.* The employer must ensure that the employee receives a written medical report from the licensed physician within 45 days of the examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard) and that the PLHCP explains the results of the examination to the employee. The written medical report must contain:

(i) A statement indicating the results of the medical examination, including the licensed physician's opinion as to whether the employee has

(A) Any detected medical condition, such as CBD or beryllium sensitization (*i.e.,* the employee is confirmed positive, as defined in paragraph (b) of this standard), that may place the employee at increased risk from further airborne exposure, and

(B) Any medical conditions related to airborne exposure that require further evaluation or treatment.

(ii) Any recommendations on:

(A) The employee's use of respirators, protective clothing, or equipment; or

(B) Limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, the written report must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD the written report must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l).

(6) *Licensed physician's written medical opinion for the employer.* (i) The employer must obtain a written medical opinion from the licensed physician within 45 days of the medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard). The written medical opinion must contain only the following:

(A) The date of the examination;

(B) A statement that the examination has met the requirements of this standard;

(C) Any recommended limitations on the employee's use of respirators, protective clothing, or equipment; and

(D) A statement that the PLHCP has explained the results of the medical examination to the employee, including any tests conducted, any medical conditions related to airborne exposure that require further evaluation or treatment, and any special provisions for use of personal protective clothing or equipment;

(ii) If the employee provides written authorization, the written opinion must also contain any recommended limitations on the employee's airborne exposure to beryllium.

(iii) If the employee is confirmed positive or diagnosed with CBD or if the licensed physician otherwise deems it appropriate, and the employee provides written authorization, the written opinion must also contain a referral for an evaluation at a CBD diagnostic center.

(iv) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for continued periodic medical surveillance.

(v) If the employee is confirmed positive or diagnosed with CBD and the employee provides written authorization, the written opinion must also contain a recommendation for medical removal from airborne exposure to beryllium, as described in paragraph (l).

(vi) The employer must ensure that each employee receives a copy of the written medical opinion described in paragraph (k)(6) of this standard within 45 days of any medical examination (including any follow-up BeLPT required under paragraph (k)(3)(ii)(E) of this standard) performed for that employee.

(7) *CBD diagnostic center.* (i) The employer must provide an evaluation at no cost to the employee at a CBD diagnostic center that is mutually agreed upon by the employer and the employee. The examination must be provided within 30 days of:

(A) The employer's receipt of a physician's written medical opinion to the employer that recommends referral to a CBD diagnostic center; or

(B) The employee presenting to the employer a physician's written medical report indicating that the employee has been confirmed positive or diagnosed with CBD, or recommending referral to a CBD diagnostic center.

(ii) The employer must ensure that the employee receives a written medical report from the CBD diagnostic center that contains all the information required in paragraphs (k)(5)(i), (ii), (iv), and (v) of this standard and that the PLHCP explains the results of the examination to the employee within 30 days of the examination.

(iii) The employer must obtain a written medical opinion from the CBD diagnostic center within 30 days of the medical examination. The written medical opinion must contain only the information in paragraph (k)(6)(i) of this standard, as applicable, unless the employee provides written authorization to release additional information. If the employee provides written authorization, the written opinion must also contain the information from paragraphs (k)(6)(ii), (iv), and (v), if applicable.

(iv) The employer must ensure that each employee receives a copy of the written medical opinion from the CBD diagnostic center described in paragraph (k)(7) of this standard within 30 days of any medical examination performed for that employee.

(v) After an employee has received the initial clinical evaluation at a CBD diagnostic center described in paragraph (k)(7)(i) of this standard, the employee may choose to have any subsequent

medical examinations for which the employee is eligible under paragraph (k) of this standard performed at a CBD diagnostic center mutually agreed upon by the employer and the employee, and the employer must provide such examinations at no cost to the employee.

(l) *Medical removal.* (1) An employee is eligible for medical removal, if the employee works in a job with airborne exposure at or above the action level and either:

(i) The employee provides the employer with:

(A) A written medical report indicating a confirmed positive finding or CBD diagnosis; or

(B) A written medical report recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(5)(v) or (k)(7)(ii) of this standard; or

(ii) The employer receives a written medical opinion recommending removal from airborne exposure to beryllium in accordance with paragraph (k)(6)(v) or (k)(7)(iii) of this standard.

(2) If an employee is eligible for medical removal, the employer must provide the employee with the employee's choice of:

(i) Removal as described in paragraph (l)(3) of this standard; or

(ii) Remaining in a job with airborne exposure at or above the action level, provided that the employer provides, and ensures that the employee uses, respiratory protection that complies with paragraph (g) of this standard whenever airborne exposures are at or above the action level.

(3) If the employee chooses removal:

(i) If a comparable job is available where airborne exposures to beryllium are below the action level, and the employee is qualified for that job or can be trained within one month, the employer must remove the employee to that job. The employer must maintain for six months from the time of removal the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal.

(ii) If comparable work is not available, the employer must maintain the employee's base earnings, seniority, and other rights and benefits that existed at the time of removal for six months or until such time that comparable work described in paragraph (l)(3)(i) becomes available, whichever comes first.

(4) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from a publicly or employer-funded compensation program, or receives income from another employer made possible by virtue of the employee's removal.

(m) *Communication of hazards*—(1) *General.* (i) Chemical manufacturers, importers, distributors, and employers must comply with all requirements of the HCS (29 CFR 1910.1200) for beryllium.

(ii) Employers must include beryllium in the hazard communication program established to comply with the HCS. Employers must ensure that each employee has access to labels on containers of beryllium and to safety data sheets, and is trained in accordance with the requirements of the HCS (29 CFR 1910.1200) and paragraph (m)(4) of this standard.

(2) *Warning labels.* Consistent with the HCS (29 CFR 1910.1200), the employer must label each bag and container of clothing, equipment, and materials contaminated with beryllium, and must, at a minimum, include the following on the label:

DANGER
CONTAINS BERYLLIUM
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AVOID CREATING DUST
DO NOT GET ON SKIN

(3) *Employee information and training.* (i) For each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium:

(A) The employer must provide information and training in accordance with the HCS (29 CFR 1910.1200(h));

(B) The employer must provide initial training to each employee by the time of initial assignment; and

(C) The employer must repeat the training required under this standard annually for each employee.

(ii) The employer must ensure that each employee who is, or can reasonably be expected to be, exposed to airborne beryllium can demonstrate knowledge and understanding of the following:

(A) The health hazards associated with airborne exposure to and dermal contact with beryllium, including the signs and symptoms of CBD;

(B) The written exposure control plan, with emphasis on the specific nature of operations that could result in airborne exposure, especially airborne exposure above the TWA PEL or STEL;

(C) The purpose, proper selection, fitting, proper use, and limitations of personal protective clothing and equipment, including respirators;

(D) Applicable emergency procedures;

(E) Measures employees can take to protect themselves from airborne exposure to and dermal contact with beryllium, including personal hygiene practices;

(F) The purpose and a description of the medical surveillance program required by paragraph (k) of this standard including risks and benefits of each test to be offered;

(G) The purpose and a description of the medical removal protection provided under paragraph (l) of this standard;

(H) The contents of the standard; and

(I) The employee's right of access to records under the Records Access standard (29 CFR 1910.1020).

(iii) When a workplace change (such as modification of equipment, tasks, or procedures) results in new or increased airborne exposure that exceeds, or can reasonably be expected to exceed, either the TWA PEL or the STEL, the employer must provide additional training to those employees affected by the change in airborne exposure.

(iv) *Employee information.* The employer must make a copy of this standard and its appendices readily available at no cost to each employee and designated employee representative(s).

(n) *Recordkeeping*—(1) *Air monitoring data.* (i) The employer must make and maintain a record of all exposure measurements taken to assess airborne exposure as prescribed in paragraph (d) of this standard.

(ii) This record must include at least the following information:

(A) The date of measurement for each sample taken;

(B) The task that is being monitored;

(C) The sampling and analytical methods used and evidence of their accuracy;

(D) The number, duration, and results of samples taken;

(E) The type of personal protective clothing and equipment, including respirators, worn by monitored employees at the time of monitoring; and

(F) The name, social security number, and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.

(iii) The employer must ensure that exposure records are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(2) *Objective data.* (i) Where an employer uses objective data to satisfy the exposure assessment requirements under paragraph (d)(2) of this standard, the employer must make and maintain

a record of the objective data relied upon.

(ii) This record must include at least the following information:

(A) The data relied upon;

(B) The beryllium-containing material in question;

(C) The source of the objective data;

(D) A description of the process, task, or activity on which the objective data were based; and

(E) Other data relevant to the process, task, activity, material, or airborne exposure on which the objective data were based.

(iii) The employer must ensure that objective data are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(3) *Medical surveillance.* (i) The employer must make and maintain a record for each employee covered by medical surveillance under paragraph (k) of this standard.

(ii) The record must include the following information about each employee:

(A) Name, social security number, and job classification;

(B) A copy of all licensed physicians' written medical opinions for each employee; and

(C) A copy of the information provided to the PLHCP as required by paragraph (k)(4) of this standard.

(iii) The employer must ensure that medical records are maintained and made available in accordance with the Records Access standard (29 CFR 1910.1020).

(4) *Training.* (i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name, social security number, and job classification of each employee trained, the date the training was completed, and the topic of the training.

(ii) This record must be maintained for three years after the completion of training.

(5) *Access to records.* Upon request, the employer must make all records maintained as a requirement of this standard available for examination and copying to the Assistant Secretary, the Director, each employee, and each employee's designated representative(s) in accordance the Records Access standard (29 CFR 1910.1020).

(6) *Transfer of records.* The employer must comply with the requirements involving transfer of records set forth in the Records Access standard (29 CFR 1910.1020).

(o) *Dates*—(1) *Effective date.* This standard shall become effective March 10, 2017.

(2) *Compliance dates.* All obligations of this standard commence and become enforceable on March 12, 2018, except:

(i) Change rooms required by paragraph (i) of this standard must be provided by March 11, 2019; and

(ii) Engineering controls required by paragraph (f) of this standard must be implemented by March 10, 2020.

[FR Doc. 2016–30409 Filed 1–6–17; 8:45 am]

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

BRIEFING PACKAGE

For February 16, 2017

Occupational Exposure to Respirable Crystalline Silica, Parts 1910, 1915, and 1926; Correcting Amendment

I. Action Requested

The Virginia Occupational Safety and Health (VOSH) Program requests the Safety and Health Codes Board to consider for adoption federal OSHA's Correcting Amendment to the Final Rule for the Occupational Exposure to Respirable Silica, Parts 1910, 1915, and 1926, as published on September 1, 2016, in 81 FR 69272.

The proposed effective date is May 15, 2017.

II. Summary of the Correcting Amendment

When federal OSHA published its Final Rule for the Occupational Exposure to Respirable Crystalline Silica on March 25, 2016 (81 FR 69272), the final rule contained typographical errors in the formulas for the permissible exposure limits (PELs) in the pre-2016 final rule, for example: in General Industry, §1910.1000, Air Contaminants, Table Z-3, Mineral Dusts; in Shipyards- §1915, Air Contaminants, Table Z- Shipyards, Mineral Dusts table; and in Construction- Appendix A of §1926.55, Gases, Vapors, Fumes, Dusts, and Mists, Mineral Dusts table, the division symbol was omitted from the formulas, and the entries for "Silica: Crystalline Quartz" in the headings of the above-mentioned tables were revised.

The final rule retained the pre-2016 PELs for respirable crystalline silica in §1910.1000, Table Z-3; §1915.1000, Table Z, and in §1926.55, Appendix A, and added footnotes to clarify that these

PELs apply to any sectors or operations where the new PEL of 50 µg/m^3 is not in effect. The pre-2016 PELs apply to operations that are not covered by the new standards, such as the processing of sorptive clays. The pre-2016 PELs are also applicable during the time between publication of the silica rule and the dates established for compliance with the rule, as well as in the event of regulatory delay, a stay, or partial or full invalidation by the Court.

III. Basis, Purpose and Impact of the Correcting Amendment

A. Basis

On March 25, 2016, federal OSHA published a final rule for the Occupational Exposure to Respirable Crystalline Silica (81 FR 16285). The final rule contained typographical errors in the formulas which are addressed in this correcting amendment.

B. Purpose

This amendment corrects typographical errors in the formulas for the preceding PELs so that they will appear as they did prior to publication of the March 25, 2016 final rule.

C. Impact on Employers

No impact is anticipated on employers from the adoption of the correcting amendment.

D. Impact on Employees

No impact is anticipated on employees from the adoption of the correcting amendment.

E. Impact on the Department of Labor and Industry

No impact is anticipated on the Department from the adoption of the correcting amendment.

Federal regulations 29 CFR 1953.23(a) and (b) require that Virginia, within six months of the occurrence of a federal program change, to adopt identical changes or promulgate equivalent changes which are at least as effective as the federal change. The Virginia Code reiterates this requirement in § 40.1-22(5). Adopting these revisions will allow Virginia to conform to the federal program change.

Contact Person:

Mr. Ron Graham
Director, VOSH Occupational Health Compliance
804.786.0574
ron.graham@doli.virginia.gov

RECOMMENDED ACTION

Staff of the Department of Labor and Industry recommends that the Safety and Health Codes Board adopt federal OSHA's Correcting Amendment to the Final Rule for the Occupational Exposure to Respirable Silica, as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of May 15, 2017.

The Department also recommends that the Board state in any motion it may make to amend this regulation that it will receive, consider and respond to petitions by any interested person with respect to reconsideration or revision of this or any other regulation which has been adopted in accordance with the above-cited subsection A.4(c) of the Administrative Process Act.

Occupational Exposure to Respirable Crystalline Silica, Parts 1910, 1915 and 1926; Correcting Amendment

As Adopted by the

Safety and Health Codes Board

Date: _____

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: _____

16VAC25-90-1910.1053, Occupational Exposure to Respirable Crystalline Silica, 1910.1053;
16VAC25-120-1915.1053, Occupational Exposure to Respirable Crystalline Silica, 1915.1053;
16VAC25-175-1926.1153, Occupational Exposure to Respirable Crystalline Silica, 1926.1153;
16VAC25-90-1910.1000, Air Contaminants, 1910.1000
16VAC25-175-1926.55, Gases, Vapors, Fumes, Dusts, and Mists, 1926.55

When the regulations, as set forth in federal OSHA's Correcting Amendment to the Final Rule for the Occupational Exposure to Respirable Silica, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
September 1, 2016	May 15, 2017

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910, 1915, and 1926

[Docket No. OSHA–2010–0034]

RIN 1218–AB70

Occupational Exposure to Respirable Crystalline Silica; Correction

AGENCY: Occupational Safety and Health Administration, Department of Labor.

ACTION: Final rule; correcting amendment.

■ 2. In § 1910.1000, in Table Z–3, revise the entries for "Silica: Crystalline Quartz (Respirable)", "Silica: Crystalline Cristobalite", and "Silica: Crystalline Tridymite" to read as follows:

§ 1910.1000 Air contaminants.

* * * * *

TABLE Z–3—MINERAL DUSTS

Substance	mppcf[a]	mg/m^3
Silica:		
Crystalline		
Quartz (Respirable)[f]	250[b] / % SiO_2 + 5	10 mg/m^3 [e] / % SiO_2 + 2
Cristobalite: Use ½ the value calculated from the count or mass formulae for quartz.[f]		
Tridymite: Use ½ the value calculated from the formulae for quartz.[f]		
* * * * *	*	*

* * * * *

[a] Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.

[b] The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

* * * * *

[e] Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic diameter (unit density sphere)	Percent passing selector
2	90
2.5	75
3.5	50
5.0	25
10	0

The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE: the figure corresponding to that of 2.4 mg/m³ in the table for coal dust is 4.5 mg/m³[K].

[f] This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.

PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT

■ 4. In § 1915.1000, amend Table Z by:
■ a. Revising the entries for "Silica, crystalline, respirable dust, cristobalite", "Silica, crystalline, respirable dust, quartz", "Silica, crystalline, respirable dust, tripoli (as quartz)", and "Silica, crystalline, respirable dust, tridymite"; and
■ b. Under the "MINERAL DUSTS" heading of the table, revising the entry for "Silica: Crystalline Quartz".

The revisions read as follows:

§ 1915.1000 Air contaminants.

* * * * *

TABLE Z—SHIPYARDS

Substance	CAS No.[c]	ppm[a]	mg/m³[b]	Skin designation
* * * *	*	*	*	*
Silica, crystalline, respirable dust				
Cristobalite; see 1915.1053	14464–46–1			
Quartz; see 1915.1053[5]	14808–60–7			
Tripoli (as quartz); see 1915.1053[5]	1317–95–9			
Tridymite; see 1915.1053	15468–32–3			
* * * *	*	*	*	*

MINERAL DUSTS

Substance	mppcf[f]
SILICA:	
Crystalline	250[g]
Quartz. Threshold Limit calculated from the formula[p]	% SiO_2 + 5
* * * * *	

* * * * *

[5] See Mineral Dusts table for the exposure limit for any operations or sectors where the exposure limit in § 1915.1053 is stayed or is otherwise not in effect.

[*] The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

[a] Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

* * * * *

[c] The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.

* * * * *

[p] This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1915.1053, is stayed or otherwise is not in effect.

* * * * *

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Subpart D—Occupational Health and Environmental Controls

■ 6. In § 1926.55, in appendix A, in the table titled "Threshold Limit Values of Airborne Contaminants for Construction":
■ a. Revise the entries for "Silica, crystalline, respirable dust, cristobalite", "Silica, crystalline, respirable dust, quartz", "Silica, crystalline, respirable dust, tripoli (as quartz)", and "Silica, crystalline, respirable dust, tridymite";
■ b. Under the "MINERAL DUSTS" heading of the table, revise the entry for "Silica: Crystalline Quartz"

The revisions read as follows:

§ 1926.55 Gases, vapors, fumes, dusts, and mists.

* * * * *

Appendix A to § 1926.55—1970 American Conference of Governmental Industrial Hygienists' Threshold Limit Values of Airborne Contaminants

THRESHOLD LIMIT VALUES OF AIRBORNE CONTAMINANTS FOR CONSTRUCTION

Substance	CAS No.[d]	ppm[a,*]	mg/m³[b]	Skin designation
* * * *	*	*		*
Silica, crystalline, respirable dust				
Cristobalite; see 1926.1153	14464–46–1			
Quartz; see 1926.1153[5]	14808–60–7			
Tripoli (as quartz); see 1926.1153[5]	1317–95–9			
Tridymite; see 1926.1153	15468–32–3			
* * * *	*	*		*

MINERAL DUSTS

SILICA:	
Crystalline	250[(k)]
Quartz. Threshold Limit calculated from the formula (P)	% SiO_2 + 5
* * * * *	

* * * * *

[5] See Mineral Dusts table for the exposure limit for any operations or sectors where the exposure limit in § 1926.1153 is stayed or is otherwise not in effect.

[*] The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit.

* * * * *

[a] Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

* * * * *

[d] The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.

* * * * *

[P] This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1926.1153, is stayed or otherwise is not in effect.

* * * * *

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

C. Ray Davenport
COMMISSIONER

Main Street Centre
600 East Main Street, Suite 207
Richmond, Virginia 23219
PHONE (804) 371-2327
FAX (804) 371-6524

VIRGINIA SAFETY AND HEALTH CODES BOARD

BRIEFING PACKAGE

For February 16, 2017

Notice of Periodic Review of Certain Existing Regulations

I. Action Requested

The Department of Labor and Industry (the Department) requests authorization by the Virginia Safety and Health Codes Board (the Board) to proceed with the periodic review process of five regulations listed below.

II. Background and Basis

The periodic review of existing regulations is governed by the Administrative Process Act (§2.2-4017 of the *Code of Virginia*) and Executive Order 17 (2014), "Development and Review of State Agency Regulations". This Executive Order requires that state agencies conduct a periodic review of regulations every four years. Five regulations of the Safety and Health Codes Board have been identified for review in 2017.

1. 16VAC25-20, Regulation Concerning Licensed Asbestos Contractor Notification, Asbestos Project Permits, and Permit Fees.

2. 16VAC25-30, Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos-Containing Construction Waste – Incorporation By Reference, 40 CFR 61.140 through 61.156.

3. 16VAC25-40, Standard for Boiler and Pressure Vessel Operator Certification.

4. 16VAC25-70, Virginia Confined Space Standard for the Telecommunications Industry.

5. 16VAC25-97, Reverse Signal Procedures – General Industry – Vehicles/Equipment Not Covered by Existing Standards.

III. Current Status and Process

Once approval to proceed is granted by the Board, the process of periodic review begins with publication of a Notice of Periodic Review in the *Virginia Register*. The publication of the Notice of Periodic Review begins a public comment period of at least 21 days, but not longer than 90 days. Subsequently, the Department will review these regulations and related public comments, then prepare a brief with recommendations to be presented for the Board's consideration at the next meeting. Based on the decision of the Board, the Department of Labor and Industry will post a report on the Virginia Regulatory Town Hall website indicating for each regulation that the Board will either retain the regulation as is, or will begin a regulatory action to amend or repeal the regulation.

Contact Person:

Ms. Holly Raney
Regulatory Coordinator
Virginia Department of Labor and Industry
804.371.2631
holly.raney@doli.virginia.gov

RECOMMENDED ACTION

The Department of Labor and Industry recommends that the Safety and Health Codes Board approve the publication of a Notice of Periodic Review in the Virginia Register for 16VAC25-20, Regulation Concerning Licensed Asbestos Contractor Notification, Asbestos Project Permits, and Permit Fees; 16VAC25-30, Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos-Containing Construction Waste – Incorporation By Reference, 40 CFR 61.140 through 61.156; 16VAC25-40, Standard for Boiler and Pressure Vessel Operator Certification; 16VAC25-70, Virginia Confined Space Standard for the Telecommunications Industry; and 16VAC25-97, Reverse Signal Procedures – General Industry – Vehicles/Equipment Not Covered by Existing Standards.

The Department also recommends that the Board state in any motion it may make regarding the periodic review of these regulations that it will receive, consider and respond to petitions by any interested person with respect to the periodic review which will be conducted in accordance with the above-cited § 2.2-4017 of the Administrative Process Act and Executive Order 17 (2014), "Development and Review of State Agency Regulations".