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## Exempt Action: Final Regulation Agency Background Document

<b>Agency name</b>	Department of Labor and Industry
<b>Virginia Administrative Code (VAC) Chapter citation(s)</b>	16 VAC25-175-1926.1024 16VAC25-100-1915.1024
<b>VAC Chapter title(s)</b>	Federal Identical Construction Industry Standards; Federal Identical Shipyard Employment Standards
<b>Action title</b>	Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors
<b>Final agency action date</b>	November 12, 2020
<b>Date this document prepared</b>	November 12, 2020

Although a regulatory action may be exempt from executive branch review pursuant to § 2.2-4002 or § 2.2-4006 of the *Code of Virginia*, the agency is still encouraged to provide information to the public on the Regulatory Town Hall using this form. However, the agency may still be required to comply with the Virginia Register Act, Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1VAC7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code*.

### Brief Summary

*Provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.*

This action is necessary to meet the requirements of federal law and is therefore exempt from the requirements of the Administrative Process Act (APA) under §2.2-4006.A.4(c).

Federal OSHA has determined that, taken together, the limited exposures in the construction and shipyards industries and the partial overlap between the beryllium standards and other Federal OSHA standards make revisions to both the construction and shipyards beryllium standards appropriate.

The rationales for these revisions fall into three categories. First, OSHA is removing or modifying some provisions which— although appropriate in the general industry context—may be unnecessary or require revision to appropriately protect employees in the construction and shipyards industries. Operations with

beryllium exposure in the construction and shipyards industries are significantly less varied and employees are exposed to materials with significantly lower content beryllium than in the general industry sector.

Second, Federal OSHA is revising some provisions of the construction and shipyard standards to avoid inconsistencies with the clarifying changes the agency has made in the (July 14, 2020) general industry final rule.

Third, Federal OSHA is revising certain paragraphs of the construction and shipyard standards to address the application of provisions related to dermal contact to materials containing beryllium in trace quantities.

This final rule makes revisions to the following paragraphs of the beryllium standards for construction and shipyards: Paragraph (b), definitions; paragraph (f), methods of compliance; paragraph (g), respiratory protection; paragraph (h), personal protective clothing and equipment; paragraph (i), hygiene areas and practices; paragraph (j), housekeeping; paragraph (k), medical surveillance; paragraph (m), communication of hazards; and paragraph (n), recordkeeping.

#### A. Definitions; Paragraph (b)

The final rule mirrors many of the additions and clarifications to terms revised in the final rule for occupational exposure to beryllium in general industry. The terms that are changing or are being added are “beryllium sensitization,” “CBD diagnostic center,” “chronic beryllium disease,” and “confirmed positive.”

This final rule also eliminates the definitions “emergency” and “High efficiency particulate air (HEPA) filter” which is discussed below.

1. **Beryllium sensitization** — “a response in the immune system of a specific individual who has been exposed to beryllium. There are no associated physical or clinical symptoms and no illness or disability with beryllium sensitization alone, but the response that occurs through beryllium sensitization can enable the immune system to recognize and react to beryllium. While not every beryllium sensitized person will develop chronic beryllium disease (CBD), beryllium sensitization is essential for development of CBD.”
2. **CBD diagnostic center** — The final rule clarifies this term. Federal OSHA is defining *CBD diagnostic center* to mean a medical diagnostic center that has a pulmonologist or pulmonary specialist on staff and on-site facilities to perform a clinical evaluation for the presence of CBD.
3. **Chronic beryllium disease (CBD)** — For the purposes of this standard, the term chronic beryllium disease means a “chronic granulomatous lung disease caused by inhalation of airborne beryllium by an individual who is beryllium sensitized.” The revisions serve to differentiate CBD from other respiratory diseases associated with beryllium exposure (e.g., lung cancer) and to make clear that beryllium sensitization and the presence of beryllium in the lung are essential in the development of CBD (see 82 FR at 2492).
4. **Confirmed positive** — Federal OSHA is amending the definition of confirmed positive to mean (1) the person tested has had two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results, obtained from tests conducted within a three-year period; or (2) the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

5. **Emergency** — The final rule removes references to the term emergency throughout the construction and shipyards standards, including the definition in paragraph (b). Federal OSHA explained that, unlike in general industry, the construction and shipyards industries—where exposure to beryllium is almost exclusively limited to trace quantities from abrasive blasting and welding operations—do not have emergencies in which exposures to beryllium will differ from the normal conditions of work.

Specifically, Federal OSHA reasoned that an uncontrolled release of airborne beryllium in these industries (such as a release resulting from a failure of the blasting control equipment, a spill of the abrasive blasting media, or failure of the ventilation system for welding operations) would occur only during the performance of routine tasks already associated with the airborne release of beryllium; that is, during abrasive blasting or welding processes.

The agency explained that it anticipates employees working in the immediate vicinity of an uncontrolled release of airborne beryllium in these contexts would already be protected from exposure by the standards' existing requirements for respiratory protection (paragraph (g)), medical surveillance (paragraph (k)), and hazard communication (paragraph (m)) due to their existing exposure to airborne beryllium (84 FR at 53909; see also *id.* at 53912, 53918–20).

6. **High efficiency particulate air (HEPA) filter** — Federal OSHA is removing the reference to HEPA-filtered vacuuming in the housekeeping requirements of revised paragraphs (j)(1) and (2). In the NPRM, OSHA neglected to remove the definition for high-efficiency particulate air (HEPA) filter in paragraph (b), despite the fact that there are no longer any provisions in either standard that reference HEPA-filters. This final rule removes the definition. This change has no substantive effect on any requirements in the standards and Federal OSHA considers this a technical correction.

## B. Methods of Compliance; Paragraph (f)

Paragraph (f) of the beryllium standards for construction and shipyards requires employers to implement methods for reducing employee exposure to beryllium through a detailed written exposure control plan, engineering and work practice controls, and a prohibition on rotating employees to achieve compliance with the PEL. In the 2017 final rule, Federal OSHA determined that written plans would “be instrumental in ensuring that employers comprehensively and consistently protect their employees” (82 FR at 2668). Federal OSHA also concluded that requiring reliance on engineering and work practice controls, rather than on respirator use, is consistent with good industrial hygiene practice and with OSHA’s traditional approach to health standards (82 FR at 2672).

While extending these provisions to the construction and shipyards industry in the 2017 final rule, Federal OSHA acknowledged that exposures to beryllium in these industries are limited primarily to a few operations, abrasive blasting in construction and shipyards and some welding operations in shipyards (82 FR at 2637–38).

In the 2019 NPRM, Federal OSHA proposed to revise the requirements in paragraph (f) in light of the very narrow set of affected operations and the limited extent of beryllium exposure in the construction and shipyards industries. Federal OSHA explained that some provisions in paragraph (f)—although appropriate in the general industry context—may be unnecessary to protect employees in the construction and shipyards industries (84 FR at 53909–10).

Likewise, OSHA preliminarily determined that provisions relating solely to dermal contact with beryllium should not apply in the construction and shipyards industries, where exposures primarily involve materials containing only trace amounts of beryllium (84 FR at 53909) or, in the case of welding, where OSHA believes the process and materials do not present a dermal contact risk (see 84 FR at 53906).

Accordingly, the final rule makes several revisions to both paragraph (f)(1) (Written exposure control plan) and (2) (Engineering and work practice controls) in the construction and shipyards standards.

The final rule makes the following changes to paragraph (f)(1):

1. The final rule revises paragraph (f)(1)(i)(A) by removing the words “airborne” and “or dermal contact with” as qualifiers for exposure to beryllium, so as to require simply a list of operations and job titles reasonably expected to involve exposure to beryllium.
2. Second, the final rule revoke paragraphs (f)(1)(i)(B) and (C) which required additional lists of operations and job titles involving exposure at or above the action level and above the TWA PEL or STEL, respectively. Federal OSHA reasoned that, given the small number of operations with beryllium exposure in construction and shipyards, the list of operations and job titles in these categories would be the same as those required by paragraph (f)(1)(i)(A). As such, any additional lists would be unnecessary and redundant (84 FR at 53910–11).
3. The final rule revokes the requirements that the employer include in the written exposure control plan procedures for minimizing cross contamination (paragraph (f)(1)(i)(D)) and procedures for minimizing the migration of beryllium within or to locations outside the workplace (paragraph (f)(1)(i)(E)) (84 FR at 53910).

With respect to the construction standard, Federal OSHA reasoned that the requirement to include procedures in the written exposure control plan to restrict access to work areas where exposures to beryllium could reasonably be expected to exceed the TWA PEL or STEL (formerly paragraph (f)(i)(E), renumbered as (f)(i)(D)), along with the requirement that these procedures be implemented by a competent person (paragraph (e)(2)), would be sufficient to control cross-contamination and migration of beryllium from abrasive blasting operations.

For the shipyard standard, OSHA retained requirements for regulated areas (paragraph (e)), which require that employers designate areas where exposures to beryllium could exceed the PELs and limit access to authorized employees.

4. To further limit cross-contamination and migration, the final rule adds a new paragraph in both the construction ((f)(1)(i)(E)) and shipyards ((f)(1)(i)(D)) standards to require that the written exposure control plan include procedures to ensure the integrity of each containment used to minimize exposures to employees outside the containment (such as tarps or structures used to keep sandblasting debris within an enclosed area during abrasive blasting operations).
5. The final rule removes the requirement that the employer include in the written exposure control plan procedures for removing, laundering, storing, cleaning, repairing, and disposing of beryllium-contaminated personal protective clothing and equipment, including respirators (paragraph (f)(1)(i)(H)).
6. Finally, as with paragraph (f)(1)(i)(A), the final rule revises paragraph (f)(1)(ii)(B) to refer simply to “exposure to” rather than “airborne exposure to or dermal contact with” beryllium (84 FR at 53911).

The revision to this paragraph, which previously required the employer to review, evaluate, and update the written exposure control plan, as necessary, when notified that an employee shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium, is consistent with other paragraphs where the agency is simplifying the language in a similar manner (e.g., paragraphs (k)(3)(ii)(A) and (k)(4)(i), Medical surveillance) and is not intended to alter the meaning of the provision.

As for paragraph (f)(2), Federal OSHA reconsidered this approach to engineering and work practice controls in the construction and shipyards contexts. Because exposure to beryllium in construction and shipyards is almost exclusively limited to abrasive blasting and welding, Federal OSHA preliminarily determined in the 2019 NPRM that requiring engineering controls where exposures are between the action level and the PEL is not reasonably appropriate for these industries. As such, the final rule revises paragraph (f)(2) to remove the requirement that employers implement engineering and work practice controls wherever exposures are between the action level and PEL.

### **C. Paragraph (g) Respiratory Protection**

Paragraph (g) of this final rule requires the provision and use of respiratory protection under several conditions to protect against exposure to beryllium. Paragraph (g)(1) requires employers provide respiratory protection at no cost to employees and to ensure that employees utilize such protection in certain circumstances.

Under subsection (g)(1)(iv), employers were previously required to use respiratory protection during emergencies, from both the construction and shipyards standards. Federal OSHA has determined that it is unnecessary to trigger respiratory protection requirements on the occurrence of an emergency. Any uncontrolled release of beryllium in these operations will not create exposures that differ from the normal conditions of work and workers should already be protected by the other provisions of paragraph (g).

This final rule eliminates the emergency provision from paragraph (g) and Federal OSHA removes paragraph (g)(1)(iv) from the beryllium standards for construction and shipyards.

### **D. Personal Protective Clothing and Equipment; Paragraph (h)**

Paragraph (h) of the beryllium standards for the construction and shipyards industries (29 CFR 1926.1124(h) and 1915.1024(h), respectively) provides requirements relating to personal protective clothing and equipment (PPE).

Paragraph (h) is revised in both standards to reflect the fact that Federal OSHA did not intend for the standards' provisions aimed at protecting workers from the effects of dermal contact with beryllium to apply to operations that involve materials containing only trace amounts of beryllium absent significant airborne exposures.

The final rule revises paragraphs (h) in the following ways:

1. Revises paragraph (h)(1) to state "where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL, 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). "
2. Revises paragraph (h)(2) to state:
  - (i) The employer must ensure that each employee removes all personal protective clothing and equipment required by this standard at the end of the work shift or at the completion of all tasks involving beryllium, whichever comes first.
  - (ii) The employer must ensure that personal protective clothing and equipment required by this standard is not removed in a manner that disperses beryllium into the air, and is removed as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that no employee with reasonably expected exposure above the TWA PEL or STEL removes personal protective clothing and equipment required by this standard from the workplace unless it has been cleaned in accordance with paragraph (h)(3)(ii) of this standard.

3. Revises paragraph (h)(3)(ii) to state “the employer must ensure that beryllium is not removed from personal protective clothing and equipment required by this standard by blowing, shaking, or any other means that disperses beryllium into the air.”
4. Removes paragraph (h)(3)(iii).

#### **E. Hygiene Areas and Practices; Former Paragraph (i)**

Paragraph (i) requires that the employer provide employees with readily accessible washing facilities, change rooms, and showers when certain conditions are met; requires the employer to take certain steps to minimize exposure in eating and drinking areas; and prohibits certain practices that may contribute to beryllium exposure.

The final rule removes paragraph (i), hygiene areas and practices, from the beryllium standards as Federal OSHA determined that the sanitation standards for construction (29 CFR 1926.51) and shipyards (29 CFR 1915.88) provide protections comparable to those in paragraph (i) of the beryllium standards for construction and shipyards and that additional requirements will not materially increase protections in these sectors. Accordingly, Federal OSHA is removing paragraph (i) from the beryllium standards for construction and shipyards.

#### **F. Housekeeping; Paragraph (j)**

The final rule revises paragraph (j) to further tailor certain provisions of the beryllium standards for construction and shipyards—including those housekeeping requirements—to those operations for which Federal OSHA has data; that is, abrasive blasting operations with material containing trace amounts of beryllium and limited welding operations where dermal contact is not an exposure source of concern.

In addition, Federal OSHA found other Federal OSHA standards that were duplicative of those found in paragraph (j) of the beryllium standards.

To that end, the final rule makes the following changes to paragraph (j)

1. Remove existing paragraph (j)(1) which required employers to follow the written exposure control plan in paragraph (f) when cleaning beryllium-contaminated areas and to ensure that spills and emergency releases of beryllium are cleaned up promptly and in accordance with the written exposure control plan (84 FR at 53917). Federal OSHA explained that routine general housekeeping and housekeeping related to spills are adequately covered by the existing ventilation standard for construction (29 CFR 1926.57(f)(7)) and OSHA’s general ventilation standard (29 CFR 1910.94(a)) applicable to shipyards (84 FR at 53917).
2. Paragraph (j)(2) is renumbered as (j)(1) and revised as follows:
  - a. paragraph (j)(2)(i) is renumbered as (j)(1)
  - b. paragraph (j)(2)(ii) is renumbered as (j)(2)
  - c. both revised and renumbered paragraphs replace the phrase “cleaning in beryllium-contaminated area” with “cleaning up dust resulting from operations that cause, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL”

- d. both revised and renumbered paragraphs remove references to “HEPA-filtered vacuuming” in renumbered paragraphs (j)(1) and (2) and instead to refer to methods that minimize the likelihood and level of airborne exposure. Federal OSHA explained that in abrasive blasting operations, where large amounts of dust are generated, the use of such vacuums may be problematic due to filter overload and clogging which may cause additional exposures (84 FR at 53917).
3. Paragraph (j)(2)(iii) is renumbered as (j)(3) and removed the phrase “beryllium contaminated areas” and adds a provision that limits the use of compressed air to circumstances in which there is a limited quantity of dust, which, if reentrained, would not result in exposures above the TWA PEL or STEL.
4. Paragraph (j)(2)(iv) is renumbered as (j)(4) and removes the reference to “beryllium-contaminated areas” and instead requires the use of respiratory protection and PPE “in accordance with paragraphs (g) and (h)” when dry sweeping, brushing, or compressed air is used (84 FR at 53918).
  - a. Newly renumbered (j)(4) also removes the disposal provision, which had required that, when transferring beryllium-containing materials to another party for use or disposal, employers must provide the recipient a copy of the warning label required by paragraph (m).

#### **G. Medical Surveillance; Paragraph (k)**

Paragraph (k) of the beryllium standard for construction and shipyards addresses medical surveillance requirements. The paragraph specifies which employees must be offered medical surveillance, as well as the frequency and content of medical examinations. It also sets forth the information that must be provided to the employee and employer. The purposes of medical surveillance for beryllium are (1) to identify beryllium related adverse health effects so that appropriate intervention measures can be taken; (2) to determine if an employee has any condition that might make him or her more sensitive to beryllium exposure; and (3) to determine the employee’s fitness to use personal protective equipment such as respirators.

The final rule makes several revisions to paragraph (k) which are listed below.

1. Under subsection (k)(1)(i)(C), employers were previously required to perform medical surveillance after exposure to beryllium during an emergency from both the construction and shipyards standards. Federal OSHA has determined that it is unnecessary to trigger medical surveillance requirements on the occurrence of an emergency. Any uncontrolled release of beryllium in these operations will not create exposures that differ from the normal conditions of work; thus, the other provisions of paragraph (k) should already protect workers.

This final rule eliminates the emergency provision from paragraph (k) and removes paragraph (k)(1)(i)(C) from the beryllium standards for construction and shipyards.

2. Paragraph (k)(3)(ii)(A) previously required the employer to ensure that the employee is offered a medical examination that includes a medical and work history, with an emphasis on, among other things, past and present airborne exposure to or dermal contact with beryllium. Paragraph (k)(4)(i) previously required the employer to ensure that the examining PLHCP (and the agreed upon CBD diagnostic center, if an evaluation is required under paragraph (k)(7) of this standard) had certain information, including a description of the employee’s former and current duties that relate to the employee’s airborne exposure to and dermal contact with beryllium.

In this final rule, Federal OSHA revised paragraphs (k)(3)(ii)(A) and (k)(4)(i) to replace the phrase “airborne exposure to and dermal contact with beryllium” with the similar phrase “exposure to beryllium” to alleviate unnecessary confusion created by the use of the term “dermal contact”.

3. Paragraph (k)(7) contains the requirements for an evaluation at a CBD diagnostic center. Federal OSHA made two substantive revisions to (k)(7)(i) to make it consistent with recent changes to the beryllium general industry standard. (84 FR at 53919)
  - a. Paragraph (k)(7)(i) previously required employers to provide the examination within 30 days of the employer receiving one of the types of documentation listed in paragraph (k)(7)(i)(A) or (B). It was determined that it is not always possible to schedule and complete the examination and required tests within 30 days. Therefore, Federal OSHA is revising paragraph (k)(7)(i) to require that the evaluation be scheduled within 30 days, and occur within a reasonable time of the employer receiving one of the types of documentation listed in paragraph (k)(7)(i)(A) or (B).
  - b. Paragraph (k)(7)(ii) is being added by Federal OSHA to clarify that as part of the evaluation at the CBD diagnostic center, the employer must ensure that the employee is offered any tests deemed appropriate by the examining physician at the CBD diagnostic center. This final rule (k)(7)(ii) requires that the evaluation include any tests deemed appropriate by the examining physician at the CBD diagnostic center, such as pulmonary function testing (as outlined by the ATS criteria), BAL, and transbronchial biopsy. Paragraph (k)(7)(ii) further requires that if any of the tests deemed appropriate by the examining physician are not available at the CBD diagnostic center, they may be performed at another location that is agreed upon by the employer and employee and at no cost to the employee.
4. Federal OSHA made a number of minor, nonsubstantive revisions to the numbering and cross-references in paragraph (k)(7) to account for the addition of new paragraph (k)(7)(ii).

#### **H. Communication of Hazards; Paragraph (m)**

Paragraph (m) of the beryllium standards for construction and shipyards sets forth the employer’s obligations to comply with Federal OSHA’s Hazard Communication Standard (HCS) (29 CFR 1910.1200) relative to beryllium, and to take additional steps to warn and train employees about the hazards of beryllium.

The final rule makes three revisions to paragraph (m).

1. The first change was to remove paragraph (m), which previously required employers to use specific language for warning labels applied to bags and containers of clothing, equipment, and materials contaminated with beryllium (paragraph (m)(2) in construction and paragraph (m)(3) in shipyards).
  - a. These changes to reflect Federal OSHA’s intent that provisions aimed at protecting workers from the effects of dermal contact need not apply to materials containing only trace amounts of beryllium—like all beryllium containing material used in abrasive blasting in the construction and shipyards industries—in the absence of significant airborne exposure. Federal OSHA applied the same rationale to the limited welding operations in shipyards, where the agency had evidence that at most only trace amounts of particulate beryllium will form (84 FR at 53906).



- b. Accordingly, OSHA has determined that the previous labeling provisions in paragraph (m) (paragraph (m)(2) in construction and (m)(3) in shipyards) are not necessary in the construction and shipyards contexts and has removed these provisions.
  2. The second change revises paragraph (m) for employee information and training to remove requirements related to emergency procedures ((m)(3)(ii)(D) in construction and (m)(4)(ii)(D) in shipyards) and personal hygiene practices ((m)(3)(ii)(E) in construction and (m)(4)(ii)(E) in shipyards).
    - a. These references to emergencies in the shipyards and construction standards are being removed because Federal OSHA expects that any emergency in these industries (such as a release resulting from a failure of the blasting control equipment, a spill of the abrasive blasting media, or the failure of the ventilation system for welding operations in shipyards) would occur only during the performance of routine tasks already associated with the airborne release of beryllium; i.e., during the abrasive blasting or welding process (84 FR at 53917; see also the Summary and Explanation for paragraph (g)). As such, any uncontrolled release of beryllium in these operations would not create exposures that differ from the normal conditions of work and workers will already be protected by the other provisions of paragraph (g).
    - b. The final rule also removes the hygiene provisions of the construction and shipyard standards due to overlap with existing OSHA standards, the limited operations where beryllium exposure may occur in construction and shipyards, and the trace quantities of beryllium present in these operations (84 FR at 53920; see also the Summary and Explanation for paragraph (i)). As with the previously discussed labeling requirement, Federal OSHA reasoned that the removal of these provisions would render the correlating training requirements unnecessary.
  3. The third change, revises paragraphs (m)(3)(i) in construction and (m)(4)(i) in shipyards—renumbered in the final standards as (m)(2)(i) and (m)(3)(i), respectively—to remove dermal contact as a trigger for training. Federal OSHA determined for construction and shipyards, that training in accordance with the HCS should be provided to each employee who has, or can reasonably be expected to have, airborne exposure to beryllium, without regard to dermal contact. HCS training requirements in proposed paragraph (m)(2) for construction and proposed paragraph (m)(3) for shipyards would continue to apply to all workers that are covered under these standards, regardless of the potential for dermal contact (84 FR at 53920–21).
    - a. The final rule revises renumbered paragraphs (m)(2)(ii)(A) in the construction standard and (m)(3)(ii)(A) in the shipyards standard to remove references to “airborne exposure” and “dermal contact” and instead to require training on the health hazards associated with “exposure to beryllium.”
    - b. The final rule revises renumbered paragraphs (m)(2)(ii)(D) in the construction standard and (m)(3)(ii)(D) in the shipyards standard to require training on measures employees can take to protect themselves from “exposure to beryllium.”

These revisions, OSHA explained, would maintain OSHA’s intent that training must cover both airborne and skin exposure while both resolving an inconsistency between the shipyards and construction standards with respect to references to dermal contact and simplifying the provisions (84 FR at 53921).

**I. Recordkeeping; Paragraph (n)**

Paragraph (n) of the beryllium standards for construction and shipyards requires employers to make and maintain records of air monitoring data, objective data, medical surveillance, and training. The final rule revises paragraphs (n)(1)(ii)(F), (n)(3)(ii)(A), and (n)(4)(i) of both the construction and shipyards standards to remove the requirements to include employee SSNs in monitoring data, medical surveillance, and training records.

**Mandate and Impetus**

*Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, internal staff review, petition for rulemaking, periodic review, or board decision). "Mandate" is defined as "a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part."*

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Under 29 CFR 1953.5(a), where a Federal program change is a new permanent standard, or a more stringent amendment to an existing permanent standard, the State shall promulgate a State standard adopting such new Federal standard, or more stringent amendment to an existing Federal standard, or an at least as effective equivalent thereof, within six months of the date of promulgation of the new Federal standard or more stringent amendment.

**Statement of Final Agency Action**

*Provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.*

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On November 12, 2020, the Safety and Health Codes Board adopted the final rule for Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors as authorized by Virginia Code §§ 40.1-22(5) and 2.2-4006.A.4(c), with an effective date of January 7, 2021.

To access the Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors, Final Rule, please click on the link below:

<https://www.govinfo.gov/content/pkg/FR-2020-08-31/pdf/2020-18017.pdf>

**Occupational Exposure to Beryllium in Construction and Shipyards, §§1915.1024 and 1926.1024  
Final Rule**

As Adopted by the  
Safety and Health Codes Board

Date: November 12, 2020



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: January 7, 2021

16VAC25-100-1915.1024; 16 VAC25-175-1926.1024

When the regulations as set forth in federal OSHA’s Final Rule for the Occupational Exposure to Beryllium, Parts 1915 and 1926 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

August 31, 2020

January 7, 2020

The agency issues the sections under the following authorities: 29 U.S.C. 653, 655, 657; 40 U.S.C. 3704; 33 U.S.C. 941; Secretary of Labor's Order 1-2012 (77 FR 3912 (January 25, 2012)); and 29 CFR part 1911.

Signed at Washington, DC, on August 13, 2020.

Loren Sweatt,

Principal Deputy Assistant Secretary of Labor for Occupational Safety and Health.

Amendments to Standards

For the reasons set forth in the preamble, chapter XVII of title 29, parts 1915 and 1926, of the Code of Federal Regulations is amended as follows:

PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT

1. The authority citation for part 1915 continues 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.

2. Amend § 1915.1024 by:

- a. In paragraph (b), add a definition for "Beryllium sensitization" in alphabetical order, revise the definitions for "CBD diagnostic center," "Chronic beryllium disease (CBD)," and "Confirmed positive," and remove the definitions of "Emergency" and "High-efficiency particulate air (HEPA) filter."
b. Revise paragraph (f)(1)(i)(A).
c. Remove paragraphs (f)(1)(i)(B), (C), (D), (E), and (H).
d. Redesignate paragraphs (f)(1)(i)(F) and (G) as paragraphs (f)(1)(i)(B) and (C).
e. In newly redesignated paragraph (f)(1)(i)(C), remove the word "and" at the end of the paragraph;
f. Add new paragraphs (f)(1)(i)(D) and (E).
g. Revise paragraphs (f)(1)(ii)(B), (f)(2), and (g)(1)(iii).
h. Remove paragraph (g)(1)(iv).
i. Redesignate paragraph (g)(1)(v) as paragraph (g)(1)(iv).
j. Revise paragraphs (h)(1) and (2) and (h)(3)(ii).
k. Remove paragraph (h)(3)(iii).
l. Remove and reserve paragraph (i).
m. Revise paragraphs (j) and (k)(1)(i)(B).
n. Remove paragraph (k)(1)(i)(C).
o. Redesignate paragraph (k)(1)(i)(D) as paragraph (k)(1)(i)(C).
p. Revise paragraphs (k)(2)(i)(B), (k)(2)(ii), (k)(3)(ii)(A), (k)(4)(i), and (k)(7)(i) introductory text.

- q. Redesignate paragraphs (k)(7)(ii) through (v) as paragraphs (k)(7)(iii) through (vi).
r. Add a new paragraph (k)(7)(ii).
s. Revise paragraph (m)(1)(ii).
t. Remove paragraph (m)(3).
u. Redesignate paragraph (m)(4) as paragraph (m)(3).
v. Revise newly redesignated paragraphs (m)(3)(i) introductory text and (m)(3)(ii)(A).
w. Remove newly redesignated paragraph (m)(3)(ii)(D).
x. Further redesignate newly redesignated paragraphs (m)(3)(ii)(E) through (I) as paragraphs (m)(3)(ii)(D) through (H).
z. Revise newly redesignated paragraphs (m)(3)(ii)(D) and (m)(3)(iv) and paragraphs (n)(1)(ii)(F), (n)(3)(ii)(A), and (n)(4)(i).

The revisions and additions read as follows:

§ 1915.1024 Beryllium.

(b) Beryllium sensitization means a response in the immune system of a specific individual who has been exposed to beryllium. There are no associated physical or clinical symptoms and no illness or disability with beryllium sensitization alone, but the response that occurs through beryllium sensitization can enable the immune system to recognize and react to beryllium. While not every beryllium-sensitized person will develop chronic beryllium disease (CBD), beryllium sensitization is essential for development of CBD.

CBD diagnostic center means a medical diagnostic center that has a pulmonologist or pulmonary specialist on staff and on-site facilities to perform a clinical evaluation for the presence of chronic beryllium disease (CBD). The CBD diagnostic center must have the capacity to perform 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 pulmonologist or pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.

Chronic beryllium disease (CBD) means a chronic granulomatous lung disease caused by inhalation of airborne beryllium by an individual who is beryllium-sensitized.

Confirmed positive means the person tested has had two abnormal BeLPT test

results, an abnormal and a borderline test result, or three borderline test results from tests conducted within a 3-year period. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

(f) (1) (i) (A) A list of operations and job titles reasonably expected to involve exposure to beryllium;

(D) Procedures used to ensure the integrity of each containment used to minimize exposures to employees outside of the containment; and

(E) Procedures for removing, cleaning, and maintaining personal protective clothing and equipment in accordance with paragraph (h) of this standard.

(ii) (B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (I)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with exposure to beryllium; or

(2) Engineering and work practice controls. The employer must use engineering and work practice controls to reduce and maintain employee airborne exposure to beryllium to or below the TWA PEL and STEL, unless the employer can demonstrate that such controls are not feasible. Wherever the employer demonstrates that it is not feasible to reduce airborne exposure to or below the PELs with engineering and work practice controls, 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.

(g) (1) (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; and

(h) (1) Provision and use. Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL, 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).

(2) *Removal of personal protective clothing and equipment.* (i) The employer must ensure that each employee removes all personal protective clothing and equipment required by this standard at the end of the work shift or at the completion of all tasks involving beryllium, whichever comes first.

(ii) The employer must ensure that personal protective clothing and equipment required by this standard is not removed in a manner that disperses beryllium into the air, and is removed as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that no employee with reasonably expected exposure above the TWA PEL or STEL removes personal protective clothing and equipment required by this standard from the workplace unless it has been cleaned in accordance with paragraph (h)(3)(ii) of this standard.

(3) \* \* \* (ii) The employer must ensure that beryllium is not removed from personal protective clothing and equipment required by this standard by blowing, shaking, or any other means that disperses beryllium into the air.

(j) *Housekeeping.* (1) When cleaning dust resulting from operations that cause, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL, the employer must ensure the use of methods that minimize the likelihood and level of airborne exposure.

(2) The employer must not allow dry sweeping or brushing for cleaning up dust resulting from operations that cause, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL unless methods that minimize the likelihood and level of airborne exposure are not safe or effective.

(3) The employer must not allow the use of compressed air for cleaning where the use of compressed air causes, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL.

(4) Where employees use dry sweeping, brushing, or compressed air to clean, 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.

(5) 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.

(k) \* \* \* (1) \* \* \* (i) \* \* \* (B) Who shows signs or symptoms of CBD or other beryllium-related health effects; or

(2) \* \* \* (i) \* \* \* (B) An employee meets the criteria of paragraph (k)(1)(i)(B) 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 (C) of this standard.

(3) \* \* \* (ii) \* \* \*

(A) A medical and work history, with emphasis on past and present exposure to beryllium, smoking history, and any history of respiratory system dysfunction;

(4) \* \* \* (i) A description of the employee's former and current duties that relate to the employee's exposure to beryllium;

(7) \* \* \* (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 evaluation at the CBD diagnostic center must be scheduled within 30 days, and must occur within a reasonable time, of:

(ii) The evaluation must include any tests deemed appropriate by the examining physician at the CBD diagnostic center, such as pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. If any of the tests deemed appropriate by the examining physician are not available at the CBD diagnostic center, they may be performed at another location that is mutually agreed upon by the employer and the employee.

(m) \* \* \* (1) \* \* \* (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)(3) of this standard.

(3) \* \* \* (i) For each employee who has, or can reasonably be expected to have, airborne exposure to beryllium;

(ii) \* \* \* (A) The health hazards associated with exposure to beryllium, including the signs and symptoms of CBD;

(D) Measures employees can take to protect themselves from exposure to beryllium;

(iv) 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) \* \* \* (1) \* \* \* (ii) \* \* \*

(F) The name and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.

(3) \* \* \* (ii) \* \* \* (A) Name and job classification;

(4) \* \* \* (i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name and job classification of each employee trained, the date the training was completed, and the topic of the training.

**PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION**

**Subpart Z—Toxic and Hazardous Substances**

■ 3. The authority citation for part 1926, subpart Z, continues to read as follows:

**Authority:** 40 U.S.C. 3704; 29 U.S.C. 653, 655, 657; and 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) as applicable; and 29 CFR part 1911.

Section 1926.1102 not issued under 29 U.S.C. 655 or 29 CFR part 1911; also issued under 5 U.S.C. 553.

■ 4. Amend § 1926.1124 by:

- a. In paragraph (b), add a definition for "Beryllium sensitization" in alphabetical order, revise the definitions for "CBD diagnostic center," "Chronic beryllium disease (CBD)," and "Confirmed positive," and remove the definitions of "Emergency" and "High-efficiency particulate air (HEPA) filter."
- b. Revise paragraph (f)(1)(i)(A).
- c. Remove paragraphs (f)(1)(i)(B), (C), (D), (E), and (H).
- d. Redesignate paragraphs (f)(1)(i)(F), (G), and (I) as paragraphs (f)(1)(i)(B), (C), and (D).
- e. Remove the period at the end of newly redesignated paragraph (f)(1)(i)(D) and add a semicolon in its place.
- f. Add new paragraphs (f)(1)(i)(E) and (F).
- g. Revise paragraphs (f)(1)(ii)(B), (f)(2), and (g)(1)(iii).
- h. Remove paragraph (g)(1)(iv).
- i. Redesignate paragraph (g)(1)(v) as paragraph (g)(1)(iv).
- j. Revise paragraphs (h)(1) and (2) and (h)(3)(ii).
- k. Remove paragraph (h)(3)(iii).
- l. Remove and reserve paragraph (i).
- m. Revise paragraphs (j) and (k)(1)(i)(B).
- n. Remove paragraph (k)(1)(i)(C).
- o. Redesignate paragraph (k)(1)(i)(D) as paragraph (k)(1)(i)(C).
- p. Revise paragraphs (k)(2)(i)(B), (k)(2)(ii), (k)(3)(ii)(A), (k)(4)(i), and (k)(7)(i) introductory text.
- q. Redesignate paragraphs (k)(7)(ii) through (v) as paragraphs (k)(7)(iii) through (vi).
- r. Add a new paragraph (k)(7)(ii).
- s. Remove paragraph (m)(2).
- t. Redesignate paragraph (m)(3) as paragraph (m)(2).
- u. Revise newly redesignated paragraphs (m)(2)(i) introductory text and (m)(2)(ii)(A).
- v. Remove newly redesignated paragraph (m)(2)(ii)(D).
- w. Further redesignate newly redesignated paragraphs (m)(2)(ii)(E) through (I) as paragraphs (m)(2)(ii)(D) through (H).
- x. Revise newly redesignated paragraphs (m)(2)(ii)(D) and (m)(2)(iv) and paragraphs (n)(1)(ii)(F), (n)(3)(ii)(A), and (n)(4)(i).

The revisions and additions read as follows:

§ 1926.1124 Beryllium.

\* \* \* \* \*

(b) \* \* \*

*Beryllium sensitization* means a response in the immune system of a specific individual who has been exposed to beryllium. There are no associated physical or clinical symptoms and no illness or disability

with beryllium sensitization alone, but the response that occurs through beryllium sensitization can enable the immune system to recognize and react to beryllium. While not every beryllium-sensitized person will develop chronic beryllium disease (CBD), beryllium sensitization is essential for development of CBD.

*CBD diagnostic center* means a medical diagnostic center that has a pulmonologist or pulmonary specialist on staff and on-site facilities to perform a clinical evaluation for the presence of chronic beryllium disease (CBD). The CBD diagnostic center must have the capacity to perform 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 pulmonologist or pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.

*Chronic beryllium disease (CBD)* means a chronic granulomatous lung disease caused by inhalation of airborne beryllium by an individual who is beryllium-sensitized.

\* \* \* \* \*

*Confirmed positive* means the person tested has had two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results from tests conducted within a 3-year period. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

\* \* \* \* \*

(f) \* \* \*

(1) \* \* \*

(i) \* \* \*

(A) A list of operations and job titles reasonably expected to involve exposure to beryllium;

\* \* \* \* \*

(E) Procedures used to ensure the integrity of each containment used to minimize exposures to employees outside the containment; and

(F) Procedures for removing, cleaning, and maintaining personal protective clothing and equipment in accordance with paragraph (h) of this standard.

(ii) \* \* \*

(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 exposure to beryllium; or

\* \* \* \* \*

(2) *Engineering and work practice controls.* The employer must use engineering and work practice controls to reduce and maintain employee airborne exposure to beryllium to or below the TWA PEL and STEL, unless the employer can demonstrate that such controls are not feasible. Wherever the employer demonstrates that it is not feasible to reduce airborne exposure to or below the PELs with engineering and work practice controls, 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.

\* \* \* \* \*

(g) \* \* \*

(1) \* \* \*

(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; and

\* \* \* \* \*

(h) \* \* \*

(1) *Provision and use.* Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL, 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 (subpart E of this part).

(2) *Removal of personal protective clothing and equipment.* (i) The employer must ensure that each employee removes all personal protective clothing and equipment required by this standard at the end of the work shift or at the completion of all tasks involving beryllium, whichever comes first.

(ii) The employer must ensure that personal protective clothing and equipment required by this standard is not removed in a manner that disperses beryllium into the air, and is removed as specified in the written exposure control plan required by paragraph (f)(1) of this standard.

(iii) The employer must ensure that no employee with reasonably expected exposure above the TWA PEL or STEL removes personal protective clothing and equipment required by this

standard from the workplace unless it has been cleaned in accordance with paragraph (h)(3)(ii) of this standard.

(3) \* \* \*

(ii) The employer must ensure that beryllium is not removed from personal protective clothing and equipment required by this standard by blowing, shaking, or any other means that disperses beryllium into the air.

\* \* \* \* \*

(j) *Housekeeping.* (1) When cleaning up dust resulting from operations that cause, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL, the employer must ensure the use of methods that minimize the likelihood and level of airborne exposure.

(2) The employer must not allow dry sweeping or brushing for cleaning up dust resulting from operations that cause, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL unless methods that minimize the likelihood and level of airborne exposure are not safe or effective.

(3) The employer must not allow the use of compressed air for cleaning where the use of compressed air causes, or can reasonably be expected to cause, airborne exposure above the TWA PEL or STEL.

(4) Where employees use dry sweeping, brushing, or compressed air to clean, 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.

(5) 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.

(k) \* \* \*

(1) \* \* \*

(i) \* \* \*

(B) Who shows signs or symptoms of CBD or other beryllium-related health effects; or

\* \* \* \* \*

(2) \* \* \*

(i) \* \* \*

(B) An employee meets the criteria of paragraph (k)(1)(i)(B) 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 (C) of this standard.

\* \* \* \* \*

(3) \* \* \*

(ii) \* \* \*

(A) A medical and work history, with emphasis on past and present exposure to beryllium, smoking history, and any history of respiratory system dysfunction;

\* \* \* \* \*

(4) \* \* \*

(i) A description of the employee's former and current duties that relate to the employee's exposure to beryllium;

\* \* \* \* \*

(7) \* \* \*

(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 evaluation at the CBD diagnostic center must be scheduled within 30 days, and must occur within a reasonable time, of:

\* \* \* \* \*

(ii) The evaluation must include any tests deemed appropriate by the examining physician at the CBD diagnostic center, such as pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. If any of the tests deemed appropriate by the examining physician are not available at the CBD diagnostic center, they may be

performed at another location that is mutually agreed upon by the employer and the employee.

\* \* \* \* \*

(m) \* \* \*

(2) \* \* \*

(i) For each employee who has, or can reasonably be expected to have, airborne exposure to beryllium:

\* \* \* \* \*

(ii) \* \* \*

(A) The health hazards associated with exposure to beryllium, including the signs and symptoms of CBD;

\* \* \* \* \*

(D) Measures employees can take to protect themselves from exposure to beryllium;

\* \* \* \* \*

(iv) 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) \* \* \*

(1) \* \* \*

(ii) \* \* \*

(F) The name and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.

\* \* \* \* \*

(3) \* \* \*

(ii) \* \* \*

(A) Name and job classification;

\* \* \* \* \*

(4) \* \* \*

(i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name and job classification of each employee trained, the date the training was completed, and the topic of the training.

\* \* \* \* \*

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