

**VOSH PROGRAM DIRECTIVE:** 02-442

**ISSUED:** 15 September 2018

**SUBJECT:** **Inspection Procedures for Occupational Exposure to Beryllium in General Industry, Construction and Public Sector Maritime**

**Purpose:** This Directive transmits to field personnel inspection procedures for the standards for Occupational Exposure to Beryllium in General Industry, Construction and Public Sector Maritime.

*This Program Directive is an internal guideline, not a statutory or regulatory rule, and is intended to provide instructions to VOSH personnel regarding internal operation of the Virginia Occupational Safety and Health Program and is solely for the benefit of the program. This document is not subject to the Virginia Register Act or the Administrative Process Act; it does not have general application; and it is not being enforced as having the force of law.*

**Scope:** This Directive applies VOSH-wide.

**Reference:** OSHA May 9, 2018 Interim Enforcement Memorandum and Notice of Delay in Enforcement for Certain Provisions of the Beryllium Standards; Thomas Galassi, Director, Directorate of Enforcement Programs

VOSH Program Directive 12-427, Occupational Exposure to Beryllium, General Industry, §1910.1024

VOSH Program Directive 12-432, Occupational Exposure to Beryllium, Construction Industry, §1926.1124

VOSH Program Directive 12-810, Occupational Exposure to Public Sector Shipyard Employment Industry, §1915.1024

**Cancellation:** Not Applicable

**Effective Date:** 15 September 2018

**Expiration Date:** Not Applicable – remains in effect until cancelled or superseded.

**Action:** Directors and Managers shall ensure that policies and procedures established in this Directive are uniformly enforced and field personnel understand and comply with the requirements included in this Directive.

C. Ray Davenport  
Commissioner

Distribution:	Commissioner of Labor and Industry Assistant Commissioner VOSH Directors and Managers OSHA Region III & OSHA Norfolk Area Offices	Director of Cooperative Programs OSH Compliance & Cooperative Programs Staffs VOSH Legal Support & OIS Staffs
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When the guidelines, as set forth in this Program Directive, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms if, and where they are used, shall be considered to read as below:

<u>Federal Terms</u>	<u>VOSH Equivalent</u>
OSHA	VOSH
Federal Agency	State Agency
Agency	Department
Regional Administrator	Assistant Commissioner
Area Director	Regional Director VOSH Program Director
Regional Solicitor	Attorney General or VOSH Division of Legal Support (DLS)
Office of Statistics	VOSH Research and Analysis
29 CFR	VOSH Standard
Compliance Safety and Health Officer (CSHO)	CSHO
OSHA Directives	VOSH Program Directives

## I. Background - OSHA

On January 9, 2017, OSHA published its final rule, *Occupational Exposure to Beryllium*, in the Federal Register (82 FR 2470-2757). The rule contained expanded standards for general industry, construction, and shipyards, and included a lower 8-hour time weighted average (TWA) and permissible exposure limit (PEL), a new short term exposure limit (STEL), and an action level at half of the 8-hour TWA PEL.

Subsequently, in accordance with the January 20, 2017, Presidential directive entitled "Regulatory Freeze Pending Review", federal agencies were directed to consider for delay, beyond the initial 60-day period, the effective date for regulations that had not yet taken effect. OSHA reviewed the Beryllium standards, which were scheduled to become effective on March 10, 2017 (see 82 FR 8346, January 24, 2017).

In compliance with the Presidential directive, on February 1, 2017, OSHA published a final rule in the Federal Register, which temporarily stayed the effective date for the Beryllium Standards for the Construction and Shipyards industries until March 21, 2017. The Beryllium Standard for General Industry was not included in the stay of the effective date. This stay gave OSHA the opportunity for review and consideration of new regulations, as required by the Presidential directive (see 82 FR 8901).

Additionally, on June 27, 2017, OSHA issued a Notice of Proposed Rulemaking, *Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors*, to revoke the ancillary provisions of the construction and shipyard standards, but retain the PELs (see 82 FR 29182).

All obligations, besides the ancillary provisions of the construction and shipyard standards, were to begin on March 12, 2018; except for the general industry requirements for change rooms and showers in paragraphs (i)(2) and (i)(3) that will not start until March 11, 2019; and the requirements for engineering controls in paragraph (f) that will not begin until March 10, 2020.

Previously, in a memorandum dated March 2, 2018, OSHA delayed enforcing the general industry standard, and construction and shipyard PELs, until May 11, 2018. However, under the terms of settlement agreements reached with petitioners challenging the rule, the Agency has proposed to extend the compliance dates of certain requirements until December 12, 2018.

On May 2, 2018, by memorandum from Director Thomas Galassi of the OSHA Directorate of Enforcement Programs (See Attachment A), the compliance date for all sections of the Beryllium Standard for General Industry, §1910.1024, except for the following paragraphs was stayed until June 25, 2018:

- 1910.1024(c), permissible exposure limits
- 1910.1024(d), exposure assessment
- 1910.1024(g), respiratory protection
- 1910.1024(k), medical surveillance
- 1910.1024(l), medical removal

To allow time to complete that and other ongoing rulemaking proceedings, on May 11, 2018 OSHA will begin enforcing only the:

- PELs in the general industry, construction, and shipyard standards at §1910.1024(c), §1926.1124(c), and §1915.1024(c), respectively;
- General industry exposure assessment at §1910.1024(d);
- General industry respiratory protection §1910.1024(g);
- General industry medical surveillance §1910.1024(k); and
- General industry medical removal at §1910.1024(1).

On July 3, 2018, OSHA announced that its direct final rule (DFR) issued on May 7, 2018 adopting several clarifying amendments to its general industry beryllium standard will become effective on July 6, 2018. OSHA did not receive any significant adverse comments on the DRF and companion Notice of Proposed Rulemaking (NPRM), and therefore has confirmed that the DFR will go into effect on July 6.

The DFR addresses the application of the standard to materials containing trace amounts of beryllium. It clarifies the definitions of Beryllium Work Area, emergency, dermal contact, and beryllium contamination. It also clarifies provisions for disposal and recycling, and provisions that OSHA intends to apply only where skin can be exposed to materials containing at least 0.1% beryllium by weight.

On August 9, 2018, OSHA issued a final rule to extend the compliance date for specific ancillary requirements of the general industry beryllium standard to December 12, 2018.

The extension affects provisions for methods of compliance, beryllium work areas, regulated areas, personal protective clothing and equipment, hygiene facilities and practices, housekeeping, hazard communication, and recordkeeping.

OSHA began enforcing the new permissible exposure limits for general industry, construction, and shipyards, and the general industry provisions for exposure assessment, respiratory protection, medical surveillance, and medical removal on May 11, 2018. Those requirements are unaffected by this rule. Any provisions for which the standard already establishes compliance dates in 2019 (change rooms and showers) or 2020 (engineering controls) are also unaffected by this rule.

## **II. Background – Virginia Safety and Health Codes Board**

### **A. General**

On February 16, 2017, the Safety and Health Codes Board adopted federal OSHA's final rule on the Occupational Exposure to Beryllium for Parts 1910, 1915, and 1926, with an effective date of May 15, 2017, and compliance dates identical to federal OSHA's. Commencement of all obligations of these standards were scheduled for March 12, 2018, except for requirements to provide change rooms and showers which would be March 11, 2019, and engineering controls which would be March 10, 2020.

On March 21, 2017, after considering all comments received, OSHA finalized a stay of the effective date for the final rule on Beryllium in the Federal Register (82 FR 14439) for the Construction and Shipyard industries only. The General Industry Standard effective date was not included and remained the same until OSHA's recent actions discussed above.

- B. On June 14, 2018, the Safety and Health Codes Board adopted federal OSHA's a compliance date of September 15, 2018 for the General Industry Beryllium Standard:

1910.1024(c), Permissible exposure limit  
1910.1024(d), Exposure assessment  
1910.1024(g), Respiratory protection  
1910.1024(k), Medical surveillance  
1910.1024(l), Medical removal

The Board also adopted, beginning on September 15, 2018, a stay of 60 days of these sections of the General Industry Beryllium Standard for:

1910.1024(e), Beryllium work areas and regulated areas  
1910.1024(f), Methods of compliance  
1910.1024(h), Personal protective equipment and clothing  
1910.1024(i), Hygiene facilities and practices  
1910.1024(j), Housekeeping  
1910.1024(m), Communication of hazards  
1910.1024(n), Recordkeeping

- C. On June 14, 2018, the Safety and Health Codes Board adopted federal OSHA's a compliance date of September 15, 2018 for the following Construction and Public Sector Shipyards Beryllium Standard sections:

§1926.1124(c), Permissible exposure limit  
§1915.1024(c), Permissible exposure limit

The Board also adopted an effective date of August 1, 2018 for the indefinite stay of the remaining "ancillary" provisions of §§1915.1024 and 1926.1124:

- exposure monitoring;
- regulated areas (and competent person in construction);
- a written exposure plan;
- protective equipment and work clothing;
- hygiene areas and practices;
- housekeeping;
- medical surveillance;
- medical removal; and
- worker training

### III. General Information

§1910.1024; §1926.1124; §1915.1024. Applies to occupational exposure to beryllium (Be) in all forms, compounds, and mixtures in general industry, construction, and shipyards, respectively, except those articles and materials exempted by paragraphs (a)(2) and (a)(3) of their respective standard.

- A. §1910.1024(b) *Action level* means a concentration of airborne beryllium of 0.1micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) calculated as an 8-hour time-weighted average (TWA).
- B. §1910.1024(c)(1); §1926.1124(c)(1); §1915.1024(c)(1) establishes an 8-hour TWA PEL of 0.2  $\mu\text{g}/\text{m}^3$ .
- C. §1910.1024(c)(2); §1926.1124(c)(2); §1915.1024(c)(2) establishes a STEL of 2.0  $\mu\text{g}/\text{m}^3$  over a 15-minute sampling period.
- D. §1910.1024:
  - Contains several other ancillary provisions;
  - The compliance date for change rooms and showers [§1910.1024(0)(2) and (0)(3)] is March 11, 2019; and
  - The compliance date for engineering control requirements [§1910.1024(0)] is March 10, 2020.
- E. §1926.1124; §1915.1024:
  - Current rulemaking (82 FR 29183) proposes to rescind the ancillary provisions but retain the PEL and STEL.

Paragraph (a)(3). The standards do not apply to materials containing less than 0.1% beryllium by weight where employers have objective data demonstrating that employee exposures will remain below the action level (AL) as an 8-hour TWA under any foreseeable conditions.

NOTE: The exception does not apply where exposures below 0.14 $\text{m}^3$  as an 8-hour TWA PEL are expected or achieved only because engineering or other controls are being used to limit exposures. When using the phrase "any foreseeable conditions," OSHA is referring to situations that can reasonably be anticipated. For example, annual maintenance of equipment during which exposures could exceed the action level would be a situation that is generally foreseeable. [See also 82 FR 2643-2644].

### IV. Inspection Guidance: Obligations for Compliance by September 15, 2018.

#### A. Permissible Exposure Limits

*Applies to §1910.1024(c), §1926.1124(c), and §1915.1024(c)*

##### 1. General

- Reduces the PEL for beryllium to 0.2  $\mu\text{g}/\text{m}^3$ , averaged over 8-hours.
- Establishes a new STEL for beryllium of 2.0 $\text{m}/\text{m}^3$ , over a 15-minute sampling period.
- NOTE: Until May 11, 2018, if an employer fails to meet the new PEL, but meets the old PEL, then OSHA will inform the employer of the exposure levels and offer

assistance to assure that the employer understands the findings and compliance requirements.

## 2. Inspection Guidance

- NOTE: A new analytical method for beryllium is under development. The personal breathing zone sampling media and procedures for the new method are identical to those for OSHA Method ID 125G, and the previous method can be consulted for guidance. However, wipe samples for beryllium should only be collected using smear tabs. If additional guidance is needed contact the Salt Lake Technical Center (SLTC), through the regional office (if required), and request guidance specific to beryllium.
- Be prepared to collect one or more personal breathing zone samples on the first day of the inspection, in accordance with the OSHA Technical Manual (OTM), Section II, [Chapter 1](#), and using required methods for beryllium sampling as found on the OSHA [Chemical Sampling Information](#) (CSI) Web page.
- When placing a sampling cassette for monitoring abrasive blasting exposures where an employee is wearing an abrasive blast respirator with hood/helmet, place the cassette outside of the helmet/hood, i.e., outside the abrasive blasting shroud, but as near as practicable to the employee's breathing zone.
- When collecting an air sample on a welder wearing a protective helmet, position the sampling cassette inside the helmet. If the free space inside the helmet precludes the use of a 37-mm diameter cassette and filter, 25-mm diameter sampling filters and cassettes can be used instead. In some cases, a welder's helmet may be integrated into a respirator, such as a hooded, powered air purifying respirator (PAPR). If this is the case, position the sampling cassette outside the helmet and respirator assembly.

## 3. Citation Guidance

- Overexposures will be characterized as serious violations.
  - Until the compliance date for engineering controls becomes effective in the general industry standard, if overexposure is measured, VOSH will consider employers to be in compliance with the PELs as long as employers are in compliance with §1910.134 and employees are being provided with, and use, appropriate respiratory protection, without first attempting to use engineering controls. When employees are overexposed to both Be and any other air contaminant(s) generated from the same process or operation, cite each PEL violation as serious and propose separate penalties.

## B. Exposure Assessments under §1910.1024(d)

*[DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS]*

### 1. General

- General industry employers 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 or the scheduled monitoring option.
- All air monitoring samples must be evaluated by a laboratory that can measure beryllium to an accuracy of plus or minus 25% within a 95% statistical confidence level for airborne concentration levels at or above the AL.

- 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 AL or STEL, or when the employer has any reason to believe that new or additional airborne exposure at or above the AL or STEL has occurred.
- Within 15 working days after completing an exposure assessment, the employer must notify each employee of the results in writing or post the results in an accessible location. Whenever the 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.

## 2. Performance Option

- Provides some flexibility; the burden is on the employer to demonstrate the data fully complies with the requirements.
- Allows employers to assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data (i.e., historical data) or objective data sufficient to accurately characterize employee exposures to beryllium:
  - Data must reflect worker exposure on each shift, each job classification, and in each work area.
- Objective data relied upon must be recorded and maintained by the employer, as well as made available in accordance with OSHA's Access to Employee Exposure and Medical Records Standard (§1910.1020), including the following information:
  - The data relied upon;
  - The beryllium-containing material in question;
  - The source of the objective data;
  - A description of the process, task, or activity on which the objective data were based;
  - Other data relevant to the process, task, activity, material, or airborne exposure on which the objective data were based.

NOTE: Under the performance option, objective data meeting the PEL may rely solely on control by an effective ventilation system. Such data can be used to satisfy the employer's responsibility for an exposure assessment. However, this data is not appropriate as objective data for determining coverage under the scope provision, (a)(3). Coverage under the standard is determined without regard to the use of engineering controls. [See note, above, under General Information].

## 3. Scheduled Monitoring Option

- Requires both initial and periodic monitoring:
  - Employers must perform initial monitoring as soon as work begins to determine exposure levels and where to implement control measures;
  - Employers must conduct periodic monitoring at specified intervals based on most recent monitoring results;
  - Employees must be notified (in writing or results may be posted) within 15 working days after completing an exposure assessment; and
  - For airborne concentration exposures above the TWA PEL or STEL, employers must describe (in the written notification) the corrective action being taken to

reduce exposure to or below the exceeded exposure limits where feasible corrective actions exist but had not yet been implemented when the monitoring occurred.

- Monitoring must assess exposures for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures on each shift, each job classification, and work area:
- Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative group of employees to meet this requirement. Representative sampling must be of the employee(s) who are expected to have the highest exposure to beryllium.
- Employers must perform periodic monitoring in accordance with §1910.1024(d)(3)(iv)-(viii).
- Employers must reassess airborne exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the AL or STEL, or when employers have any reason to believe that new or additional airborne exposures at or above the AL or STEL has occurred in accordance with §1910.1024(d)(4).

#### 4. Observation of Monitoring

- Employers must provide an opportunity for each affected employee, and their employee representative, a chance to observe the monitoring if their airborne exposure is measured or represented by the monitoring.
- When observation requires entry into an area where the use of personal protective clothing or equipment (including respirators) is required, the employer must provide to each observer at no cost, and ensure that each observer uses such clothing or equipment.
- Employers will ensure all observers follow all other applicable safety and health procedures.

#### 5. Inspection Guidance

- If the employer has conducted an exposure assessment, review the assessment to determine what levels might be expected before entering the work area.
- Determine whether employers have accurately characterized the exposure of each employee to Be.
- Review the employer's sampling data, and interview employees to determine whether the sample times were representative of the work hours, whether samples were collected in the employee's breathing zone, and whether employees were notified of the results.
- Whether an employer used the scheduled monitoring option or the performance option, verify that the employer has performed a new exposure assessment required by §1910.1024(d)(4) whenever a change in the production, process, control equipment, personnel, or work practices may have resulted in or a have a reasonable expectation of new or additional exposure at or above the AL or STEL.

## 6. Citation Guidance

- If no monitoring records exist and the employer does not have objective data, and employees are exposed to Be, cite §1910.1024(d)(1).
- If it is determined that the employer's assessment of an employee's full shift exposure is inadequate because of insufficient sampling time and/or insufficient documentation, or inaccurate analysis, cite a violation of the corresponding exposure determination provision.
- If the employer is using the performance option and it is determined that significant differences exist between the objective data and current conditions which could cause the employee(s) exposure(s) to be underestimated, cite a violation of §1910.1024(d)(2).
- If there has been a change in the workplace that could result in new or additional Be exposures, and the employer has not performed additional exposure determinations, cite §1910.1024(d)(4).
- If employees have not seen their exposure determination results within 15 working days, and the employer does not have a dated copy of the letter or posting of the results, cite §1910.1024(d)(6)(i). If the employer's written notification of exposures exceeding a PEL did not explain corrective action being taken, cite §1910.1024(d)(6)(ii).

## C. Respiratory Protection under §1910.1024(g)

*[DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS]*

### 1. General

- Employers must provide respiratory protection at no cost to the employee, and ensure that each employee uses respiratory protection in accordance with the written respiratory protection program:
  - 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;
  - 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;

NOTE: Employer obligations for engineering controls in §1910.1024(f) do not become enforceable until March 10, 2020.

- During emergencies; and
- When an employee who is eligible for medical removal under paragraph [§1910.1024(1)(1)] chooses to remain in a job with airborne exposure at or above the AL, as permitted by §1910.1024(1)(2)(ii).

## 2. Respiratory Protection Program

- When the use of respiratory protection is required under §1910.1024(g), then employer must ensure the selection and use of such respiratory protection is in accordance with the Respiratory Protection Standard (§1910.134).
- Employers must provide (at no cost) a powered air-purifying respirator (PAPR) instead of a negative pressure respirator when all of the following conditions are met:
  - Respiratory protection is required by this standard;
  - An employee entitled to such respiratory protection requests a PAPR; and
  - The PAPR provides adequate protection to the employee in accordance with §1910.1024(g)(2).

## 3. Inspection Guidance

- If the employer has determined that respirator use is required, verify that the employer has established and implemented an appropriate respiratory protection program, in accordance with OSHA's Respiratory Protection Standard §1910.134, that contains all of the required elements. Verify compliance with the program through a review of the written program, visual observation(s) during a walk-around, and employee interviews.
- Evaluate the adequacy of respiratory protection when the employer requires respirator use and when the employer has made an exposure determination (or the compliance officer has measured an exposure) exceeding the PEL or STEL. The assigned protection factor of the respirator must be high enough to maintain the employee's exposure to beryllium at or below the maximum use concentration (i.e., the product of multiplying the APF of the respirator by the PEL for Be). [See §1910.134(d)(3)(i)(B)(1)].
- Review medical examination results that are authorized under the Respiratory Protection Standard, §1910.134, and conduct interviews to determine whether there are any employees wearing respirators who should not be. For guidance on inspection procedures for §1910.134, refer to the *Inspection Procedures for the Respiratory Protection Standard*, Enforcement and Compliance Directive ([CPL 0200-158](#)).

Although the Beryllium Standard does not address the voluntary use of respirators, if employees are voluntarily using respirators to protect themselves from Be exposures, cite the applicable provisions of §1910.134 after evaluating in accordance with CPL 02-00-158.

## 4. Citation Guidance

- If the employer does not provide appropriate respiratory protection for employees in the above situations, cite the applicable subparagraph of §1910.1024(g) for general industry and group with the appropriate PEL violation, §1910.1024(c), as applicable.
- If the employer does not provide an adequate respiratory protection at no cost, cite the applicable subparagraph of §1910.1024(g) for general industry.
- If employees are required to wear respirators, then the employer must have a respiratory protection program. If the employer has not implemented the program or elements of it are deficient or missing, cite §1910.1024(g)(2). Additionally, if

elements are deficient or missing, violations should be grouped where appropriate and cite the applicable subparagraphs under §1910.134. For example, when the employer has provided a respirator with an APF that does not maintain an employee's exposure to Be at or below the maximum use concentration, cite §1910.1024(g)(2) and group with a violation of §1910.134(d)(3)(i)(B)(1).

- If there is a discrepancy between the written program and implemented work practices at the worksite, cite §1910.1024(g)(2) and group with a violation of the paragraph under §1910.134 that requires the work practice.
- If violations are found with employees voluntarily using respirators to protect themselves from Be exposures, cite the applicable voluntary use provisions of §1910.134.

D. Respiratory Protection under §1910.134 As related to §1926.1124(c) and §1915.1024(c) Only

1. General

- OSHA will continue to enforce the Respiratory Protection Standard (§1910.134) where the PEL is exceeded in the construction and shipyard industries.

2. Inspection Guidance

- Verify that the employer has established and implemented an appropriate respiratory protection program, in accordance with OSHA's Respiratory Protection Standard §1910.134, that contains all of the required elements. Verify compliance with the program through a review of the written program, visual observation(s) during a walk-around, and employee interviews.

3. Citation Guidance

- If the employer does not provide appropriate respiratory protection, or has not established and implemented an appropriate respiratory protection program, cite the applicable subparagraph of §1910.134, for overexposures, group with the appropriate PEL violation, §1926.1124(c) or §1915.1024(c), as applicable.

E. Medical Surveillance under §1910.1024(k)

*[DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS]*

1. General

- Employers must make medical surveillance required by §1910.1024(k) available at no cost to the employee, and at a reasonable time and place for each employee:
  - Who is, or is reasonably expected to be, exposed at or above the AL for more than 30 days per year;
  - Who shows signs or symptoms of chronic beryllium disease (CBD) or other beryllium-related health effects;
  - Who is exposed to beryllium during an emergency; and

- Whose most recent written medical opinion required by §1910.1024(k)(6)-(7) recommends periodic medical surveillance.
  - Employers must ensure that all medical examinations and procedures required by §1910.1024(k) are performed by, or under the direction of, a licensed physician.
  - NOTE: Employers may rely on the following definitions that OSHA plans to propose in an upcoming rulemaking:
    - 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; and
    - Confirmed positive means the person tested has two abnormal [beryllium lymphocyte proliferation] BeLPT test results, an abnormal and a borderline test result, or three borderline test results obtained within the 30-day follow-up test period required after a first abnormal or borderline BeLPT test result. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.

5. Frequency

- Employers must provide medical exams:
  - Within 30 days if;
    - An employee meets the criteria of paragraph §1910.1024(k)(1)(i)(A), unless the employee has received a medical examination (in accordance §1910.1024) within the last two years, or
    - An employee meets the criteria of §1910.1024(k)(1)(i)(B) or (C).
    - NOTE: OSHA plans to propose a change to this provision so that an employee who meets the criteria of §1910.1024(k)(1)(i)(C), i.e., exposed to beryllium in an emergency, must be provided a medical exam within at least one year but no more than two years. Employers complying with the expected revision should be considered to be making a good faith effort to comply with the current provision.

- At least every two years thereafter for each employee who continues to meet the criteria of §1910.1024(k)(1)(i)(A), (B), or (D); and
- At the termination of employment for each employee who meets any of the criteria of §1910.1024(k)(1)(i) at the time the employee's employment is terminated, unless an examination has been provided in accordance with this standard during the six months prior to the date of termination.

6. Contents of Examination

- Employers must ensure that the physician or other licensed health care professional (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.
- Employers must ensure that the employee is offered a medical examination that includes the contents at §1910.1024(k)(3)(ii)(A)-(G).

7. Information provided to the PLHCP

- Employers must ensure that the examining PLHCP and the agreed-upon CBD diagnostic center, if an evaluation is required under §1910.1024(k)(7), has a copy of this standard and must provide information under §1910.1024(k)(4)(i)-(iv), if known.

8. Licensed physician's written medical report for the employee

- Employers 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 §1910.1024(k)(3)(ii)(E), and that the PLHCP explains the results of the examination to the employee. The written medical report must contain the requirements under §1910.1024(k)(5)(i)-(v).
- The employer must ensure compliance with other provisions specified at §1910.1024(k)(5).

9. Licensed physician's written medical opinion for the employer

- Employers must obtain a written medical opinion from the licensed physician within 45 days of the medical examination, including any follow-up BeLPT required under §1910.1024(k)(3)(ii)(E). The written medical opinion must contain only the information specified at §1910.1024(k)(6)(i)(A)-(D), unless the employee provides written authorization to include information at §1910.1024(k)(6)(ii)-(v).
- The employer must ensure compliance with other provisions specified at §1910.1024(k)(6).

10. CBD diagnostic center

- 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:

- The employer's receipt of a physician's written medical opinion to the employer that recommends referral to a CBD diagnostic center; or
  - 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.
- o The employer must ensure compliance with other provisions specified at §1910.1024(k)(7).
  - o NOTE: OSHA plans to propose a change to this provision so that the employer must provide a consultation with a CBD diagnostic center within 30 days but may provide the examination within a reasonable time thereafter. Employers complying with the expected revision should be considered to be making a good faith effort to comply with the provision.

#### 8. Inspection Guidance

- o If the employer has determined that medical surveillance is needed for employees, verify compliance with the program through a review of the written program, visual observation(s) during a walk-around, and employee interviews to ensure that the employer has included the appropriate employees. For example, review the employer's exposure assessment and interview employees to determine whether the employer provided a medical exam and required tests (Note: this is also a good time to inquire about respirator use and selection):
  - Ask employees when their examinations took place and if it was prior to or within 30 days of beginning their Be work assignments;
  - Ask employees if examinations, including CBD diagnostic centers (if necessary) are offered at no cost, if employees are paid for time spent taking examinations, if the employer pays the cost of travel (if any), and if medical testing is offered at reasonable times and places; and
  - Ask employees if the PLHCP explained the results of their examination and if they were provided with a written medical report either from the employer or from the PLHCP within 45 days.
- o Employers have to make and maintain records for each employee covered by medical surveillance - these records must include a copy of the licensed physician's written medical opinion as required by §1910.1024(k)(6). These records should include any exposure limitations and referrals for follow-up testing, including to a CBD diagnostic center, if necessary. If an employee was referred to a CBD diagnostic center, verify the employee exam was conducted within 30 days of the PLHCP's referral and that the CBD's diagnostic center written medical opinion was received by the employer within 30 days of the exam and is compliant with all provisions under §1910.1024(k)(7). Request copies of the medical surveillance records including the medical opinions.

- Whenever reviewing medical reports or opinions, follow OSHA Instruction CPL 02-02-072, Rules of Agency Practice and Procedure Concerning OSHA Access to Employee Medical Records.
- For assistance with obtaining a medical access order (MAO), contact the Office of Occupational Medicine and Nursing in the National Office. Consider issuing a subpoena for those records, if necessary.

#### 9. Citation Guidance

- If medical surveillance was not made available at no cost to the employee(s) or at a reasonable time and place, cite appropriate subparagraph(s) under §1910.1024(k)(1). NOTE: Cite §1910.1024(k)(7) if an eligible employee is not provided an evaluation at a CBD diagnostic center at no cost to the employee(s) or at a reasonable time and place. Do not cite if the employer has made a reasonable attempt to provide a consultation with the CBD diagnostic center within 30 days of meeting the criteria in §1910.1024(k)(7)(i) and provided a medical examination within a reasonable time thereafter.
- Cite §1910.1024(k)(1)(i)(A) if no medical surveillance was provided when employees were exposed at or above the action level for 30 or more days a year beginning May 11, 2018 (unless the employee was provided an exam within the last two years).
- Cite the appropriate paragraph §1910.1024(k)(2) if initial medical examinations were not provided within 30 days after determining eligibility, unless the employer made a reasonable attempt to provide a medical examination by the 30th day of eligibility. Cite paragraph §1910.1024(k)(2)(ii) if the employer did not make periodic examinations available at least every two years, or more frequently if recommended by a PLHCP.
- Cite the appropriate paragraphs §1910.1024(k)(3) if the employer did not ensure the PLHCP provided the appropriate procedures and tests as part of the employee's periodic examination.
- Cite the appropriate paragraph under §1910.1024(k)(4) if the examining PLHCP was not provided the required information by the employer.
- Cite paragraph §1910.1024(k)(5) if employees were not given a written medical report from the PLHCP within 45 days of an examination or if the employer did not ensure the PLHCP explained the results to the employee with the required elements.
- Cite the employer under the appropriate paragraph of §1910.1024(k)(6) for failing to obtain a written medical opinion which contained only the specified information from the PLHCP or if the opinion was not received within 45 days of an examination.
- If any information is missing from the PLHCP reports or opinions, cite the appropriate paragraphs under §1910.1024(k)(5) for reports provided to the employee, or §1910.1024(k)(6) for reports provided to the employer.

F. Medical Removal under §1910.1024(l)  
*[DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS]*

1. General

- o An employee is eligible for medical removal if the employee works in a job with airborne exposure at or above the AL and either:
  - The employee provided the employer with:
    - A written medical report indicating a confirmed positive finding or CBD diagnosis, or
    - A written medical report recommending removal from airborne exposure to beryllium in accordance with §1910.1024(k)(5)(v) or (k)(7)(ii).
  - The employer receives a written medical opinion recommending removal from airborne exposure to beryllium in accordance §1910.1024(k)(6)(v) or (k)(7)(iii).
- o If an employee is eligible for medical removal, the employer must provide the employee with the employee's choice of:
  - Removal as described in §1910.1024(1)(3); and
  - Remaining in a job with airborne exposure at or above the AL, provided that the employer provides, and ensures that the employee uses, respiratory protection that complies with §1910.1024(g) of this standard whenever airborne exposures are at or above the AL.
- o If the employee chooses removal:
  - If a comparable job is available where airborne exposures to beryllium are below the AL, 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;
  - 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 §1910.1024(1)(3)(i) becomes available, whichever comes first.
- o The employer's obligation to provide medical removal protection benefits to a removed employee must 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.

2. Inspection Guidance

- o If an employee is determined to be eligible for medical removal, document each instance where an employee should have been removed. Verify the employee was removed by reviewing the employer's medical records (document any PLHCP recommendations or confirmed positive or CBD diagnosis), employer's removal records (in

accordance with §1910.1024(1)(1), air sampling data (at or above the action level) for the area(s) where the employee(s) were removed, and conduct employee interviews.

- If an employee was eligible for removal, verify that the employee was provided with a choice of his or her preference in accordance with §1910.1024(1)(2)(ii).
- If the employee chose to remain in the job with Be exposures at or above the AL, verify and document that the employer provided, and that the employee uses, respiratory protection.
- Ensure records and recordkeeping are compliant CPL 02 00-135, OSHA Recordkeeping Policies and Procedures Manual.

### 3. Citation Guidance

- If an employee was determined to be eligible for medical removal, but was not given a choice to be either removed, re-assigned/trained, or remain in existing job, cite the appropriate paragraph under cite §1910.1024(1)(2).
- If an employee was eligible for medical removal, but remained in the current job at or above the AL, and the appropriate respiratory protection was not provided to and used by the employee, cite the applicable subparagraph of §1910.1024(0)(2) and group with the appropriate Respiratory Protection violation, §1910.134, as applicable.
- If an employee chooses removal, cite the appropriate paragraph under §1910.1024(1)(3) if the employer failed to provide or maintain earning, seniority or other pay and benefits for a period of at least 6 months.

## **V. Ancillary Provisions of Beryllium Construction and Public Sector Shipyards Standards**

- A. The compliance date for the permissible exposure limits for the Beryllium Standards for Construction and Public Sector Shipyards, §§1926.1124(c) and 1915.1024(c), is September 15, 2018.
- B. As previously mentioned, the Safety and Health Codes Board adopted an effective date of August 1, 2018 for the indefinite stay of the remaining “ancillary” provisions of §§1915.1024 and 1926.1124:
  - exposure monitoring;
  - regulated areas (and competent person in construction);
  - a written exposure plan;
  - protective equipment and work clothing;
  - hygiene areas and practices;
  - housekeeping;
  - medical surveillance;
  - medical removal; and
  - worker training

C. In lieu of the above, OSHA and VOSH have identified other construction and public sector shipyards standards applicable to these operations which can be used to provide comparable protections to employees. The following provisions can be considered for citation purposes effective September 15, 2018:

1. Construction

- Ventilation standard (§1926.57)
- Criteria for personal protective equipment (PPE) standard (§§1926.95 and 1926.28)
- Respiratory Protection standard in general industry, applicable to construction industry (§1910.134)
- Hazard Communication standard in general industry, applicable to construction industry (§1910.1200)
- Food handling, washing facilities, eating and drinking areas and change rooms (§1926.51(d), (f), (g) and (i))
- Housekeeping (§1926.25(c))
- Accident prevention and competent person inspections (§1926.20)
- Worker training (§1926.21)

2. Public Sector Shipyards

- Respiratory Protection standard in general industry, applicable to shipyards (§1910.134)
- Hazard Communication standard in general industry, applicable to shipyards (§1910.1200)
- Mechanical paint removers standard in shipyards (§1915.34)
- Ventilation and protection in welding, cutting and heating in shipyards (§1915.51)
- Hand and body protection standard in shipyards (§1915.157)
- Confined and enclosed spaces standards in shipyards (Part 1915 Subpart B)
- Ventilation standard in general industry for exhaust ventilation and housekeeping, applicable to shipyards (§1910.94(a)(4), (a)(7))

**VI. CSHO Issues**

A. Medical Exams for OSHA Personnel

Regional Administrators and Area Directors are responsible for implementing the OSHA medical examination programs in accordance with all OSHA Instructions and policies. These medical evaluations may be more stringent than what is required by the Beryllium or Respiratory Protection Standards. If you have a question regarding medical exams, please contact the Directorate of Technical Support and Emergency Management — Office of Occupational Medicine and Nursing.

B. CSHO Protection

CSHOs who are required to wear any respiratory protection must be medically cleared via the medical eligibility examination procedures as described in CPL 02-02-054, Respiratory Protection Program Guidelines. They must also wear other appropriate personal protective equipment (PPE) for potential hazardous dermal exposures (e.g., gloves, disposable coveralls, booties) as required. CSHOs must not enter a beryllium regulated area, or other area where exposures are likely to exceed the PEL or STEL, unless it is absolutely necessary and then only if using appropriate PPE. For inspection and air sampling activities, use remote operations when practical. Be conservative about time spent in areas where high concentrations of beryllium exist or are suspected.