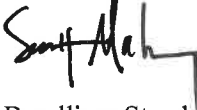




**CHERIE K. BERRY**  
COMMISSIONER

**SCOTT MABRY**  
ASSISTANT DEPUTY COMMISSIONER  
OCCUPATIONAL SAFETY AND HEALTH DIVISION

**MEMO**

**To:** OSH Division  
**From:** Scott Mabry, Assistant Deputy Commissioner   
**Date:** May 10, 2019  
**Re:** Updated Interim Enforcement Guidance for the Beryllium Standards

On December 11, 2018 the Occupational Safety and Health Administration (OSHA) issued a memorandum on the interim enforcement guidance for the Occupational Exposure to Beryllium standards in general industry, maritime and construction under 29 CFR 1910.1024, 29 CFR 1915.1024, and 29 CFR 1926.1124. This memorandum continues previous interim guidance for those provisions of the Beryllium standards, 29 CFR 1910.1024, 29 CFR 1926.1124, and 29 CFR 1915.1024, that OSHA began enforcing on May 11, 2018. It also adds interim guidance for certain provisions of 29 CFR 1910.1024, with a compliance date of December 12, 2018. The memorandum also contains side-by-side changes proposed for the general industry Beryllium standard.

On May 11, 2018, OSHA began enforcing the permissible exposure limits (PELs) in the general industry, construction, and shipyard standards, as well as the general industry standard's provisions for exposure assessment, respiratory protection, medical surveillance, and medical removal. On December 12, 2018, OSHA began enforcing the general industry standard's provisions for beryllium work areas and regulated areas, written exposure control plan, personal protective clothing and equipment, hygiene areas and practices, housekeeping, communication of hazards, and recordkeeping. OSHA will begin enforcing the general industry requirements for change rooms and showers on March 11, 2019, and general industry requirements for engineering controls on March 10, 2020. Additionally, as stated above, unless it provides notice otherwise, OSHA will only enforce the PELs in the construction and shipyard standards.

Per this memorandum, the Occupational Safety and Health (OSH) Division of the North Carolina Department of Labor adopts the above-mentioned OSHA enforcement procedure for use in North Carolina. The referenced memorandum is attached.

December 11, 2018

**MEMORANDUM FOR:** REGIONAL ADMINISTRATORS  
STATE PLAN DESIGNEES

**FROM:** KIMBERLY STILLE, Acting Director  
Directorate of Enforcement Programs

**SUBJECT:** Updated Interim Enforcement Guidance for the Beryllium Standards

This memorandum supersedes the previous OSHA Memorandum, Interim Enforcement Memorandum and Notice of Delay in Enforcement for Certain Provisions of the Beryllium Standards, dated May 9, 2018. This memorandum continues previous interim guidance for those provisions of the Beryllium standards, 29 CFR 1910.1024, 29 CFR 1926.1124, and 29 CFR 1915.1024, that OSHA began enforcing on May 11, 2018, and adds interim guidance for certain provisions of 29 CFR 1910.1024 with a compliance date of December 12, 2018. An attachment provides specific enforcement guidance for the current Beryllium standards. This memorandum will expire when superseded or when the compliance directive is issued.

On January 9, 2017, OSHA published the 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, included lower permissible exposure limits (PELs) for the 8-hour time weighted average (TWA) PEL and a short-term exposure limit (STEL), and established an action level (AL) at half of the 8-hour TWA PEL. Subsequently, on June 27, 2017, OSHA issued an NPRM, 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 (82 FR 29182-29224), and the agency announced that it would not enforce the ancillary provisions of the shipyard and construction standards without further notice.

Additionally, OSHA issued a new notice of proposed rulemaking (new NPRM) on December 11, 2018, to clarify or simplify certain provisions of the general industry standard. While this rulemaking is pending (after December 12, 2018, and before a final rule is published), compliance with the standard as modified by the proposed rule will be accepted as compliance with the standard. These proposed changes to the general industry standard are summarized in Attachment 2. Federal OSHA strongly encourages State Plans that cover the private sector to implement a similar enforcement policy.

In summary, on May 11, 2018, OSHA began enforcing the PELs in the general industry, construction, and shipyard standards, and the general industry standard's provisions for exposure assessment, respiratory protection, medical surveillance, and medical removal. On December 12, 2018, OSHA will begin enforcing the general industry standard's provisions for beryllium work areas and regulated areas, written exposure control plan, personal protective clothing and equipment, hygiene areas and practices, housekeeping, communication of hazards, and recordkeeping. OSHA will begin enforcing the general industry requirements for change rooms and showers on March 11, 2019, and general industry requirements for engineering controls on March 10, 2020. Additionally, as stated above, unless it provides notice otherwise, OSHA will only enforce the PELs in the construction and shipyard standards.

Attached are 1) procedures with specific interim enforcement guidance for the current beryllium standards, and 2) a chart showing a side-by-side comparison of the current general industry standard text and the latest changes proposed for the general industry standard. For more information, visit OSHA's Beryllium Rulemaking webpage and OSHA's Frequently Asked Questions: Beryllium and Beryllium

Compounds webpage. If you have any questions, please contact Larry McGowan or Bill Matarazzo in the Office of Health Enforcement, (202) 693-2190.

Attachments

**Attachment 1: Interim Enforcement Guidance for the Beryllium Standards  
(Includes 2018 direct final rule changes to the general industry standard)**

**I. General Information and Scope:**

§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, except those articles and materials exempted by paragraphs (a)(2) and (a)(3) of their respective standard.

- §1910.1024(b) Action level means a concentration of airborne beryllium of 0.1 micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) calculated as an 8-hour time-weighted average (TWA).  
NOTE: The new NPRM for general industry proposes to add one new definition for Beryllium sensitization, and revise five current definitions - Beryllium work area, Chronic beryllium disease (CBD), CBD diagnostic center, Confirmed positive, and Dermal contact with beryllium. See these proposed changes in Attachment 2.
- §1910.1024(c)(1); §1926.1124(c)(1); §1915.1024(c)(1) establishes an 8-hour TWA PEL of 0.2  $\mu\text{g}/\text{m}^3$ .
- §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.
- §1910.1024:
  - Contains ancillary provisions, as typical for an expanded health standard;
  - The compliance date for change rooms and showers [§1910.1024(i)(2) and (i)(3)] is March 11, 2019; and
  - The compliance date for engineering control requirements [§1910.1024(f)] is March 10, 2020.
- §1915.1024; §1926.1124:
  - Pending rulemaking (82 FR 29182, 6/27/17) proposes to rescind the ancillary provisions but retain the TWA PEL and STEL. OSHA will not enforce any provisions of the construction or shipyards standards other than the TWA PEL and STEL without further notice.

§1910.1024(a)(2). This standard does not apply to articles, as defined in the Hazard Communication standard (HCS) (§1910.1200(c)), that contain beryllium and that the employer does not process.

§1910.1024(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 AL as an 8-hour TWA under any foreseeable conditions.

NOTE: The exception does not apply where exposures below 0.1  $\mu\text{g}/\text{m}^3$  as an 8-hour TWA 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 AL would be a situation that is generally foreseeable. [See also 82 FR 2643-2644].

**II. Specific Enforcement Guidance:**

**Permissible Exposure Limits §1910.1024(c), §1926.1124(c), and §1915.1024(c)**

- *General.*
  - Reduces the TWA 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  $\mu\text{g}/\text{m}^3$ , over a 15-minute sampling period.

*INSPECTION GUIDANCE*

- NOTE: A new sampling and analytical method for beryllium has been developed, OSHA Method 1023. The OSHA Information System (OIS) substance code for beryllium and compounds (as Be) is 0365. This method is to be used for air, wipe, or bulk samples.
- 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, Personal Sampling for Air Contaminants.
- 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 sampling welding fumes using OSHA Method 125G, beryllium is one of the metals included. If beryllium is found, the corresponding results will be reported. However, OSHA Method ID-125G is not adequately sensitive to assess beryllium exposure at the current OSHA PEL requirements. If beryllium is the primary sampling target, analysis using OSHA Method 1023 should be requested.
- 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.
- See also, Section IV, below, CSHO Protection.

#### *CITATION GUIDANCE*

- Overexposures will be characterized as serious violations pursuant to the guidance in the Field Operations Manual (FOM). Until March 10, 2020, when requirements for engineering controls become effective in the general industry standard, if an overexposure is measured, OSHA 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.

#### **Exposure Assessments §1910.1024(d) (DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *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.

- *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 separate 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 information relevant to the process, task, activity, material, or airborne exposure on which the objective data was 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 Section I, General Information and Scope].
- *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;
  - 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.
- *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 the equipment 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 requirements.

#### *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 actual 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.

*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 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 significant differences exist between the objective data and current conditions which have caused 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).

**Beryllium Work Areas and Regulated Areas §1910.1024(e)  
(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*  
NOTE: The new NPRM for general industry proposes to modify the current standard’s definitions for Beryllium work area and Dermal contact with beryllium, and replace Appendix A of the standard with a list of known operations that would qualify as beryllium work areas. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
- *Establishment.*
  - Employers must establish and maintain a beryllium work area wherever the criteria are met for a “beryllium work area,” as set forth in its definition at §1910.1024(b). This includes any work area containing a process or operation that can release beryllium and that involves materials that contain at least 0.1 percent beryllium by weight; and where employees are, or can reasonably be expected to be, exposed to airborne beryllium at any level or where there is the potential for dermal contact with beryllium.
  - Employers must establish and maintain a regulated area wherever employees are, or can reasonably be expected to be, exposed to airborne beryllium at levels above the TWA PEL or STEL.  
NOTE: For more information visit OSHA’s Beryllium Rulemaking webpage and OSHA’s Frequently Asked Questions: Beryllium and Beryllium Compounds webpage.
- *Demarcation.*
  - Employers must identify each beryllium work area through signs or any other methods that adequately establish and inform each employee of the boundaries of each beryllium work area.
  - Employers must identify each regulated area in accordance with §1910.1024(m)(2).
- *Access.*

- Employers must limit access to regulated areas to:
  - Persons the employer authorizes or requires to be in a regulated area to perform work duties;
  - Persons entering a regulated area as designated representatives of employees for the purpose of exercising the right to observe exposure monitoring procedures under §1910.1024(d)(7); and
  - Persons authorized by law to be in a regulated area.
- *Provision of personal protective clothing and equipment, including respirators.*
  - Employers must provide and ensure that each employee entering a regulated area uses:
    - Respiratory protection in accordance with §1910.1024(g); and
    - Personal protective clothing and equipment in accordance with §1910.1024(h).

NOTE: In addition to establishing, maintaining, and demarcating a beryllium work area wherever the definition is met, the presence of a beryllium work area also triggers several other requirements in the standard: Paragraphs (f)(1)(i)(D) and (f)(1)(i)(F) (written exposure control plan requirements); paragraph (f)(2) (required exposure controls; enforceable March 10, 2020); paragraphs (i)(1) (general hygiene practices) and (i)(2) (change rooms; enforceable March 11, 2019); paragraphs (j)(1)(i) and (j)(2) (housekeeping requirements); and paragraph (m)(4)(ii)(B) (employee training).

#### *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. CSHOs must not enter a beryllium regulated area, or other area where exposures are likely to exceed the TWA PEL or STEL, unless it is absolutely necessary and then only if using appropriate PPE. [See also, Section IV, below, CSHO Protection].
- Determine whether employers have accurately established, maintained, and identified each beryllium work area or regulated area.  
NOTE: A useful reference for CSHOs is the new NPRM's proposed Appendix A listing known operations that would create beryllium work areas.
- Review the employer's sampling or objective data, as well as safety data sheets, to initially determine whether materials contain beryllium in concentrations greater than or equal to 0.1 percent.
- Interview employees to determine whether they were properly trained on the signage and boundaries of each beryllium work area or regulated area.
- Interview employees to determine what respiratory protection and other personal protective clothing and equipment is being provided and utilized by individuals with access to regulated areas.

#### *CITATION GUIDANCE*

- If the employer did not establish or maintain a beryllium work area where required, cite §1910.1024(e)(1)(i) for each instance as a serious violation.
- If the employer did not establish or maintain a regulated area wherever employees were, or could reasonably be expected to be, exposed to airborne beryllium at levels above the TWA PEL or STEL, cite §1910.1024(e)(1)(ii) for each instance as a serious violation. Consider grouping with §1910.1024(m)(2) as appropriate.
- If personnel within a regulated area were not provided or using appropriate respiratory protection, cite §1910.1024(g) as appropriate and group §1910.1024(e)(4)(i).
- If personnel within a regulated area were not provided or using appropriate personal protective clothing and equipment, cite §1910.1024(h) as appropriate and group §1910.1024(e)(4)(ii).

#### **Methods of Compliance §1910.1024(f) (DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**



- *General.*  
NOTE: The new NPRM for general industry proposes to modify the current standard's definition for Dermal contact with beryllium, and proposes to clarify two of the current standard's requirements for the Written exposure control plan under paragraph (f), Methods of compliance. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
- Written Exposure Control Plan.
  - Employers must establish, implement, and maintain a written exposure control plan, which must contain:
    - A list of operations and job titles reasonably expected to involve airborne exposure to or dermal contact with beryllium;
    - A list of operations and job titles reasonably expected to involve airborne exposure at or above the AL;
    - A list of operations and job titles reasonably expected to involve airborne exposure above the TWA PEL or STEL;
    - Procedures for minimizing cross-contamination, including preventing the transfer of beryllium between surfaces, equipment, clothing, materials, and articles within beryllium work areas;
    - Procedures for keeping surfaces as free as practicable of beryllium;
    - Procedures for minimizing the migration of beryllium from beryllium work areas to other locations within or outside the workplace;
    - A list of engineering controls, work practices, and respiratory protection required by §1910.1024(f)(2);
    - A list of personal protective clothing and equipment required by §1910.1024(h); and
    - Procedures for removing, laundering, storing, cleaning, repairing, and disposing of beryllium-contaminated personal protective clothing and equipment, including respirators.
  - Employers must review and evaluate the effectiveness of each written exposure control plan at least annually and update it, as necessary, when:
    - Any change in production processes, materials, equipment, personnel, work practices, or control methods results, or can reasonably be expected to result, in new or additional airborne exposure to beryllium;
    - The employer is notified that an employee is eligible for medical removal in accordance with §1910.1024(l)(1), referred for evaluation at a chronic beryllium disease (CBD) diagnostic center, or shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium; or
    - The employer has any reason to believe that new or additional airborne exposure is occurring or will occur.
  - The employer must make a copy of the written exposure control plan accessible to each employee who is, or can reasonably be expected to be, exposed to airborne beryllium in accordance with OSHA's Access to Employee Exposure and Medical Records (Records Access) standard (§1910.1020(e)).
- *Engineering and work practice controls.*  
(Engineering controls enforceable March 10, 2020)
  - Employers 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 §1910.1024(g).

- For each operation in a beryllium work area that releases airborne beryllium, employers must ensure that at least one of the following is in place to reduce airborne exposure:
  - Material and/or process substitution;
  - Isolation, such as ventilated partial or full enclosures;
  - Local exhaust ventilation, such as at the points of operation, material handling, and transfer; or
  - Process control, such as wet methods and automation.
- Employers are exempt from using the controls listed in §1910.1024(f)(2)(ii) to the extent that:
  - The employer can establish that such controls are not feasible; or
  - The employer can demonstrate that airborne exposure is below the AL, using no fewer than two representative personal breathing zone samples taken at least 7 days apart, for each affected operation.
- *Prohibition of Rotation.*
  - Employers must not rotate employees to different jobs to achieve compliance with the PELs.

#### *INSPECTION GUIDANCE*

- Review the employer's written exposure control plan.
- Interview employees to determine what engineering and work practice controls were implemented and when they were implemented.  
NOTE: Until March 10, 2020, for engineering controls OSHA personnel will provide compliance assistance to employers to ensure they are familiar with the provisions for engineering controls to meet the PELs.
- Evaluate the effectiveness of the engineering and work practice controls implemented and any pre- and post- sampling data available (See NOTE above).
- Identify and evaluate additional/alternate methods of engineering and work practice controls that may be feasible which would lower the airborne exposure to beryllium below the PELs. ((See NOTE above)).
- Evaluate the appropriateness of the respiratory protection selected.
- Evaluate any employer's claims that they are exempt from implementing controls due to feasibility or airborne exposure of beryllium below the AL. If the latter, review sampling data for each affected operation. Conduct sampling if the employer's sampling did not comply with requirements at §1910.1024(f)(2)(iii)(B).

#### *CITATION GUIDANCE*

- If an employer did not establish, implement, or maintain a complete written exposure control plan, cite §1910.1024(f)(1) and group with any specific deficiency under §1910.1024(f)(1)(i)(A)-(F) as appropriate.
- Requirements for engineering controls become enforceable on March 10, 2020. Until then, if overexposure is measured, OSHA 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, regardless of whether the employer first uses engineering controls. In the interim, observations regarding engineering control deficiencies should be used as a basis for recommendations to achieve compliance with paragraph §1910.1024(f)(2).

#### **Respiratory Protection §1910.1024(g) (DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*

- Employers must provide respiratory protection at no cost to the employee, and ensure that each employee uses respiratory protection:
  - 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, including maintenance and repair activities and non-routine tasks, when engineering and work practice controls are not feasible and airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL;
  - 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;
  - During emergencies; and
  - When an employee who is eligible for medical removal under paragraph §1910.1024(l)(1) chooses to remain in a job with airborne exposure at or above the AL, as permitted by §1910.1024(l)(2)(ii).
- *Respiratory Protection Program.*
    - When the use of respiratory protection is required under §1910.1024(g), the 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).

#### *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 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 TWA PEL or STEL. Determine whether the assigned protection factor (APF) of the respirator is 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 TWA 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 02-00-158).
- Although the Beryllium standard does not address the voluntary use of respirators, if employees are voluntarily using respirators to protect themselves from Be exposures, evaluate in accordance with CPL 02-00-158.

#### *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 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, cite the applicable subparagraphs under §1910.134 and group violations where appropriate and. 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 violations are found with employees voluntarily using respirators to protect themselves from Be exposures, cite the applicable voluntary use provisions of §1910.134.

### **Respiratory Protection §1910.134**

#### **As related to §1926.1124(c) and §1915.1024(c) only**

##### *General.*

OSHA will continue to enforce the Respiratory Protection standard (§1910.134) where the PEL is exceeded in the construction and shipyard industries. Until further notice, OSHA will only enforce §1910.134(a)(1), which requires feasible engineering control measures to be implemented before using respiratory protection, for beryllium exposures exceeding the former PEL of 2.0 µg/m<sup>3</sup>.

##### *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 during a walk-around, and employee interviews.

##### *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.

### **Personal Protective Clothing and Equipment §1910.1024(h)**

#### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*  
NOTE: The new NPRM for general industry proposes to modify the current standard's definition for Dermal contact with beryllium, and proposes to clarify two of the current standard's requirements for PPE: Removal and storage and Cleaning and replacement under paragraph (h), Personal protective clothing and equipment. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
- *Provision and Use.*
  - Employers 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 §1910.1024(h) of this standard and OSHA's Personal Protective Equipment standards (§1910 Subpart I):

- Where airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; or
  - Where there is a reasonable expectation of dermal contact with beryllium (in concentrations greater than or equal to 0.1 percent by weight).
- *Removal and Storage.*
    - Employers must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.
    - Employers must ensure that each employee removes beryllium-contaminated personal protective clothing and equipment as specified in the written exposure control plan required by §1910.1024(f)(1).
    - Employers must ensure that each employee stores and keeps beryllium contaminated personal protective clothing and equipment separate from street clothing and that storage facilities prevent cross-contamination as specified in the written exposure control plan required by §1910.1024(f)(1).
    - Employers must ensure that no employee removes beryllium-contaminated personal protective clothing or equipment from the workplace, except for employees authorized to do so for the purposes of laundering, cleaning, maintaining or disposing of beryllium contaminated personal protective clothing and equipment at an appropriate location or facility away from the workplace.
    - When personal protective clothing or equipment required by this standard is removed from the workplace for laundering, cleaning, maintenance or disposal, the employer must ensure that personal protective clothing and equipment are stored and transported in sealed bags or other closed containers that are impermeable and are labeled in accordance with §1910.1024(m)(3) and §1910.1200.
  - *Cleaning and Replacement.*
    - Employers must ensure that all reusable personal protective clothing and equipment required by this standard is cleaned, laundered, repaired, and replaced as needed to maintain its effectiveness.
    - Employers must ensure that beryllium is not removed from beryllium-contaminated personal protective clothing and equipment by blowing, shaking or any other means that disperses beryllium into the air.
    - Employers must inform, in writing, the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of airborne exposure to and dermal contact with beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.

#### *INSPECTION GUIDANCE*

- If the employer has determined that personal protective clothing or equipment use is required, verify that the employer has established and implemented a written exposure control plan, and that, in accordance with §1910.1024(h), the employer has provided personal protective clothing and equipment at no cost to the employees. Verify compliance with the program through a review of the written program, visual observation during a walk-around, and employee interviews.
- Review each operation covered by the written exposure control plan and any available sampling data available to determine expected airborne exposure levels and the potential for dermal contact.
- Interview employees to determine whether they were properly trained on the written exposure control plan for removal and storage of beryllium-contaminated personal protective clothing and equipment.

- Observe how personal protective clothing or equipment that is required to be used is removed and transported from the workplace for laundering, cleaning, maintenance or disposal, wherever possible.
- Review how business entities who launder, clean or repair beryllium-contaminated personal protective clothing and equipment are notified of harmful health effects of exposure to beryllium, such as by properly labeling laundry bags, and by providing a copy of the standard or other written information.

#### *CITATION GUIDANCE*

- If the employer did not provide employees appropriate personal protective clothing and equipment, cite §1910.1024(h)(1).
- If the employer did not provide appropriate personal protective clothing and equipment in an area where airborne exposure exceeded, or could reasonably be expected to exceed, the TWA PEL or STEL, cite §1910.1024(h)(1)(i).
- If the employer did not provide appropriate personal protective clothing and equipment in an area where there was a reasonable expectation of dermal contact, cite §1910.1024(h)(1)(ii).
- If employer does not ensure that employees are appropriately discarding, storing, or removing beryllium-contaminated personal protective clothing and equipment, cite the appropriate paragraph under §1910.1024(h)(2) and group (if appropriate) with §1910.1024(f)(1).
- If the employer is not properly storing or transporting beryllium-contaminated clothing or equipment to be laundered, cleaned, maintained, or disposed, cite §1910.1024(h)(2).
- If the employer is sending out their personal protective clothing and equipment to be laundered, cleaned, or repaired and not properly conveying the potential harmful effects of beryllium exposure or the requirement that protective clothing be handled in accordance with §1910.1024 in writing, cite §1910.1024(h)(3)(iii).

#### **Hygiene Areas and Practices §1910.1024(i)**

##### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*  
NOTE: The new NPRM for general industry proposes to modify the current standard's definition for Dermal contact with beryllium, and proposes to clarify three of the current standard's requirements for hygiene, including General, Change rooms, and Eating and drinking areas, under paragraph (i), Hygiene areas and practices. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
  - Employers must provide readily accessible washing facilities in accordance with this standard and the Sanitation standard (§1910.141) to remove beryllium from the hands, face, and neck for each employee working in a beryllium work area.
  - Employers must ensure that for each employee working in a beryllium work area, employees who have dermal contact with beryllium (0.1 percent or greater) wash any exposed skin at the end of the activity, process, or work shift and prior to eating, drinking, smoking, chewing tobacco or gum, applying cosmetics, or using the toilet.
- *Change Rooms.*  
(Enforceable March 11, 2019)
  - In addition to the requirements of §1910.1024(i)(1)(i), employers must provide employees who work in a beryllium work area with a designated change room in accordance with this standard and §1910.141 where employees are required to remove their personal clothing.
- *Showers.*  
(Enforceable March 11, 2019)

- Employers must provide showers in accordance with §1910.141 where:
  - The employees' hair or body parts other than hands, face, and neck can reasonably be expected to become contaminated with beryllium.
  - Airborne exposure exceeds, or can reasonably be expected to exceed, the TWA PEL or STEL; and
- Employers required to provide showers under §1910.1024(i)(3)(i) must ensure that each employee showers at the end of the work shift or work activity if:
  - The employee reasonably could have had airborne exposure above the TWA PEL or STEL; and
  - The employee's hair or body parts other than hands, face, and neck could reasonably have become contaminated with beryllium.
- *Eating and Drinking Areas.*
  - Wherever the employer allows employees to consume food or beverages at a worksite where beryllium is present, employers must ensure that:
    - Beryllium-contaminated surfaces in eating and drinking areas are as free as practicable of beryllium;
    - No employees enter any eating or drinking area with beryllium-contaminated personal protective clothing or equipment unless, prior to entry, surface beryllium has been removed from the clothing or equipment by methods that do not disperse beryllium into the air or onto an employee's body; and
    - Eating and drinking facilities provided by the employer are in accordance with §1910.141.
- *Prohibited Activities.*
  - Employers must ensure that no employees eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.

#### *INSPECTION GUIDANCE*

- Verify washing facilities are readily available to beryllium-exposed employees who work in beryllium work areas and that the facilities are compliant with §1910.141, as well as this standard.
- Interview employees in beryllium work areas who have or are reasonably expected to have dermal contact with beryllium and verify they are following appropriate procedures to wash any exposed skin at the end of the activity, process, or work shift.
- Interview employees to verify that change rooms are available and being used by employees required to change out of street clothes and into personal protective clothing and equipment. Also, ensure change rooms are compliant with §1910.141.
- Identify employees who are or are reasonably expected to be exposed to airborne beryllium above the TWA PEL or STEL and whose hair or body parts other than hands, face, and neck may reasonably be expected to become contaminated with beryllium. Verify those employees are provided showers in accordance with §1910.141.
- Observe employee eating and drinking areas to ensure that surfaces in those areas are as free as practicable of beryllium. Observe procedures that are followed by employees regarding beryllium-contaminated personal protective clothing or equipment prior to entry of eating and drinking areas.
- Conduct sampling, if appropriate, such as wipe sampling when employers do not appear to be following their written procedures for keeping surfaces as free as practicable of beryllium.
- If observing any prohibited activities, interview employees to determine if they were trained to understand what activities are prohibited in regulated areas.

## CITATION GUIDANCE

- If an employer has not provided readily accessible washing facilities for employees working in a beryllium work area, cite §1910.1024(i)(1)(i) and group with §1910.141(d)(2).
- After March 11, 2019, if a change room is required and the employer has not provided one, cite §1910.1024(i)(2) and group with §1910.141(e).
- After March 11, 2019, if a shower is required and the employer has not provided one, or if the employer did not ensure employees shower when required, cite §1910.1024(i)(3) and group with §1910.141(d)(3).
- If surfaces in an eating and drinking area are not maintained as free as practicable of beryllium, cite §1910.1024(i)(4)(i). If employees are observed entering areas for eating and drinking with protective clothing and equipment, ensure they have removed surface beryllium from their protective clothing and equipment by means that do not disperse beryllium into the air or onto an employee's body. If surface beryllium has not been removed, cite §1910.1024(i)(4)(ii).

### **Housekeeping §1910.1024(j)**

#### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*

NOTE: The new NPRM for general industry proposes to clarify the current standard's requirements for Disposal and recycling, under paragraph (j), Housekeeping. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.

  - Employers must maintain all surfaces in beryllium work areas and regulated areas as free as practicable of beryllium and in accordance with the written exposure control plan required under §1910.1024(f)(1) and the cleaning methods required under §1910.1024(j)(2).
  - Employers must ensure that all spills and emergency releases of beryllium are cleaned up promptly and in accordance with the written exposure control plan required under §1910.1024(f)(1) and the cleaning methods required under §1910.1024(j)(2).
- *Cleaning Methods.*
  - Employers must ensure that surfaces in beryllium work areas and regulated areas are cleaned by HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure.
  - Employers must not allow dry sweeping or brushing for cleaning surfaces in beryllium work areas and regulated areas unless HEPA-filtered vacuuming or other methods that minimize the likelihood and level of airborne exposure are not safe or effective.
  - Employers must not allow the use of compressed air for cleaning beryllium-contaminated surfaces unless the compressed air is used in conjunction with a ventilation system designed to capture the particulates made airborne by the use of compressed air.
  - Employers must provide, and ensure that each employee uses, respiratory protection and personal protective clothing and equipment in accordance with §1910.1024(g) and §1910.1024(h) where employees use dry sweeping, brushing, or compressed air to clean beryllium-contaminated surfaces.
  - Employers 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.
- *Disposal and Recycling.*



- For materials that contain at least 0.1% beryllium by weight or are contaminated with beryllium, the employer must ensure that:
- Materials designated for disposal are disposed of in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with §1910.1024(m)(3); and
- Materials designated for recycling are cleaned to be as free as practicable of surface beryllium contamination and labeled in accordance with §1910.1024(m)(3), or placed in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with §1910.1024(m)(3).

#### *INSPECTION GUIDANCE*

- During walk around, observe surfaces in beryllium work areas to determine if they are as free as practicable of beryllium.
- Conduct sampling, if appropriate, such as wipe sampling when employers do not appear to be following their written procedures for keeping surfaces as free as practicable of beryllium.
- Interview employees in beryllium work areas and regulated areas and identify processes used to clean any spills or emergency releases of beryllium as well as any respiratory protection and personal protective clothing and equipment used by employees.
- Interview employees to determine the process by which materials that are to be disposed or recycled are cleaned to be as free as practicable and transported.
- Observe the type of sealed container or bag being used, and observe any labeling used to determine compliance with §1910.1024(j)(3)(ii).

#### *CITATION GUIDANCE*

- If the employer is not keeping surfaces in beryllium work areas and regulated areas as free as practicable of beryllium, cite §1910.1024(j)(1).
- If the employer is not using HEPA-filtered vacuuming or other methods to minimize the likelihood and level of airborne exposure to beryllium, cite the appropriate paragraph under §1910.1024(j)(2). Consider grouping with §1910.1024(g)(1) or §1910.1024(h)(1), if it was determined the exposed employees were not using appropriate respiratory protection or personal protective clothing or equipment .
- If a sealed container or bag has deficient labeling, cite the appropriate paragraph under §1910.1024(j)(3) and group with §1910.1024(m)(3).
- If the employer is not properly storing or transporting beryllium-contaminated materials that contain at least 0.1% beryllium by weight that are designated to be disposed or recycled, cite the appropriate paragraph under §1910.1024(j)(3).

#### **Medical Surveillance §1910.1024(k)**

##### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*  
NOTE: The new NPRM for general industry proposes to add one new definition for Beryllium sensitization, revise three current definitions related to medical surveillance - Chronic beryllium disease (CBD), CBD diagnostic center, and Confirmed positive, and modify three of the current standard's requirements for medical surveillance Frequency and CBD diagnostic center under paragraph (k), Medical surveillance. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
  - 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.
- *Frequency.*
  - Employers must provide medical exams:
    - Within 30 days after determining that:
      - An employee meets the criteria of paragraph §1910.1024(k)(1)(i)(A), unless the employee has received a medical examination (provided in accordance with §1910.1024) within the last two years, or
      - An employee meets the criteria of §1910.1024(k)(1)(i)(B) or (C).
    - 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.
- *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).
- *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), have a copy of this standard and must provide information under §1910.1024(k)(4)(i)-(iv), if known.
- *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 beryllium lymphocyte proliferation test (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 information described at §1910.1024(k)(5)(i)-(v).
- *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 that each employee receives a copy of the written medical opinion within 45 days of any medical examination, including any follow-up BeLPT required under §1910.1024(k)(3)(ii)(E).
- *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.
  - The employer must ensure compliance with provisions specified at §1910.1024(k)(7)(ii) – (v).

### *INSPECTION GUIDANCE*

- If medical surveillance is required for employees, verify compliance with the program through a review of the employer's records, visual observation during a walk-around, and employee interviews to ensure that the employer has included the appropriate employees. Review the employer's exposure assessment and interview employees to determine whether the employer provided a medical exam with the 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 referrals to CBD diagnostic centers (if necessary) were offered at no cost, if employees were paid for time spent taking examinations, if the employer paid travel costs (if any), and if medical testing was offered at a reasonable time and place; 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.
- Employers are required to create 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 other requirements of §1910.1024(k)(7)(iii). 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 medical records if necessary to compel production of the records by employers.

### *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 AL for 30 or more days a year beginning May 11, 2018 (unless the employee was provided an exam in accordance with §1910.1024 within the last two years).
- Cite the appropriate paragraph of §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.
- Cite the appropriate paragraph of §1910.1024(k)(3) if the employer did not ensure the PLHCP provided the appropriate procedures and tests as part of the employee's examination.
- Cite the appropriate paragraph under §1910.1024(k)(4) if the employer did not provide the examining PLHCP with the required information.
- 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 (those released by the employee to the employer) or opinions, cite the appropriate paragraphs under §1910.1024(k)(5) or §1910.1024(k)(6), respectively.

#### **Medical Removal §1910.1024(l)**

##### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*
  - 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 §1910.1024(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 §1910.1024(k)(7)(iii).
  - 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(l)(3); and
    - Remaining in a job with airborne exposure at or above the AL, provided that the employer supplies, and ensures that the employee uses, respiratory protection that complies with §1910.1024(g) whenever airborne exposures are at or above the AL.
  - 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 move 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(l)(3)(i) becomes available, whichever comes first.
- 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.

#### *INSPECTION GUIDANCE*

- If an employee is eligible for medical removal, document each instance by reviewing the employer's medical records (documenting PLHCP recommendations, confirmed positives, and CBD diagnoses), air sampling data (at or above the AL) for the area(s) where the employee(s) were removed, air sampling data (below the AL) in new area(s) following medical removal, and conduct interviews.
- Verify that the employee was provided with a choice of his or her preference in accordance with §1910.1024(l)(2) and (3).
- If the employee chose to remain in the job with Be exposures at or above the AL, verify and document whether the employer provided, and the employee uses, respiratory protection.
- Ensure records and recordkeeping are compliant CPL 02 00-135, OSHA Recordkeeping Policies and Procedures Manual.

#### *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(l)(2).
- If an employee was eligible for medical removal, but chose to remain in the job with airborne exposures at or above the AL, and the appropriate respiratory protection was not provided to and used by the employee, cite §1910.1024(l)(2)(ii) and group with the appropriate Respiratory Protection standard (§1910.134) violation, as applicable.
- If an employee chooses removal, cite the appropriate paragraph under §1910.1024(l)(3) if the employer failed to provide or maintain earning, seniority or other pay and benefits for a period of at least 6 months.

#### **Communication of Hazards §1910.1024(m) (DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- General.  
NOTE: The new NPRM for general industry proposes to clarify two of the current standard's requirements for hazard communication Warning labels and Employee information and training under paragraph (m), Communication of hazards. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
  - Chemical manufacturers, importers, distributors, and employers must comply with all requirements of the Hazard Communication standard (HCS) at §1910.1200 for beryllium.
  - In classifying the hazards of beryllium, at least the following hazards must be addressed: Cancer; lung effects (CBD and acute beryllium disease); beryllium sensitization; skin sensitization; and skin, eye, and respiratory tract irritation.

- Employers must include beryllium in their hazard communication program. Employers must ensure that each employee has access to labels on containers and to safety data sheets (SDS) for beryllium, and is trained in accordance with the requirements of the HCS and §1910.1024(m)(4).
- *Warning Signs.*
  - Employers must provide and display warning signs at each approach to a regulated area so that each employee is able to read and understand the signs and take necessary protective steps before entering the area. The signs must include the following language:

DANGER  
 REGULATED AREA  
 BERYLLIUM  
 MAY CAUSE CANCER  
 CAUSES DAMAGE TO LUNGS  
 AUTHORIZED PERSONNEL ONLY  
 WEAR RESPIRATORY PROTECTION AND PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT IN THIS AREA

- *Warning Labels.*
  - Employers must label (consistent with HCS) each bag and container of clothing, equipment, and materials contaminated with beryllium. The label must, at a minimum, include the following on the label:

DANGER  
 CONTAINS BERYLLIUM  
 MAY CAUSE CANCER  
 CAUSES DAMAGE TO LUNGS  
 AVOID CREATING DUST  
 DO NOT GET ON SKIN

- *Employee Information and Training.*
  - Employers must provide information and training, in accordance with §1910.1200(h) to each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium.
  - Initial training must occur at the time of the employee's initial assignment, and be repeated annually thereafter.
  - Employers must ensure that each employee covered by the standard can demonstrate knowledge and understanding of: (1) beryllium-related health hazards resulting from airborne exposure and contact with beryllium, including the signs and symptoms of CBD; (2) the written exposure control plan, with emphasis on the location(s) of beryllium work areas, including any regulated areas, and the specific nature of operations that could result in airborne exposure, especially airborne exposure above the TWA PEL or STEL; (3) the purpose, proper selection, fitting, proper use, and limitations of personal protective clothing and equipment, including respirators; (4) emergency procedures; (5) measures the employer has implemented to protect employees from exposure including personal hygiene practices; (6) the purpose and a description of the medical surveillance program provided under §1910.1024(k) including risks and benefits of each test to be offered; (7) the purpose and description of the employer's beryllium medical removal protection 1910.1024(l); and (8) the contents of the standard, as well as the employee's right to of access to records under the Records Access standard (§1910.1020).
  - When a workplace change (such as a modification of equipment, tasks, or procedures) results in new or increased airborne exposure that exceeds, or can reasonably be expected to exceed, either

the TWA PEL or the STEL, the employer must provide additional training to those employees affected by the change in airborne exposure.

- It also requires employers to make a copy of the standard readily available to employees free of charge.

#### *INSPECTION GUIDANCE*

- Review employers written hazard communication program to ensure beryllium is included, and if a manufacturer or importer, that the product is classified correctly. Request a copy of the SDS.
- During walk-around, observe beryllium warning labels for accuracy and compliance with §1910.1024(m)(2)(i) and §1910.1200, and the location of beryllium warning signs.
- Interview employees to ensure they have been trained on the health hazards associated with beryllium; knowledge of the written exposure control plan; how they would access an SDS; and what warning signs and regulated areas mean; their understanding of medical surveillance and medical removal protections; and if they have ever requested or was refused a copy of the standard (§1910.1024) or their exposure records.

#### *CITATION GUIDANCE*

- If an employer did not address the required hazard class when classifying beryllium as part of their hazard communication program, cite §1910.1024(m)(1)(ii) and group with §1910.1200(d)(1), or if in a mixture, 1910.1200(d)(3)(i).
- If the employer did not include beryllium in their written hazard communication program or failed to provide employees access to labels, safety data sheets, or required training, cite §1910.1024(m)(1)(iii) and group §1910.1200(h)(1) or §1910.1024(m)(4) as appropriate.
- If the employer did not provide or post a warning sign at each approach to a regulated area so that each employee was able to read and understand the sign and take necessary protective steps before entering the area, cite §1910.1024(m)(2)(i).
- If the employer posted a warning sign in a regulated area that was not legible or readily visible, cite §1910.1024(m)(2)(ii)(A).
- If the employer posted a warning sign in a regulated area that did not contain the required legend, cite §1910.1024(m)(2)(ii)(B).
- If the employer did not label each bag and container of clothing, equipment, and materials contaminated with beryllium and did not include the required minimum language, cite §1910.1024(m)(3) and group with §1910.1200(f)(1) as appropriate for shipped items.
- If an employer did not provide information and training, or that training did not include all required elements under §1910.1024(m)(4)(ii), to each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium, cite §1910.1024(m)(4)(i)(A) and group with §1910.1200(h) and any subparagraphs, as appropriate.
- If an employer did not provide initial or annual training to each employee who has, or can reasonably be expected to have, airborne exposure to or dermal contact with beryllium, cite §1910.1024(m)(4)(i)(B) or (C) as appropriate.
- If an employee who is, or can reasonably be expected to be, exposed to airborne beryllium is unable to demonstrate or understand the:
  - Health hazards associated with airborne exposure to and contact with beryllium, including signs and symptoms of CBD, cite §1910.1024(m)(4)(ii)(A) and group with §1910.1200(h)(3)(iii);
  - Written exposure control plan, cite §1910.1024(m)(4)(ii)(B) and group with §1910.1200(h)(2)(ii) or any other HCS training subparagraph, as appropriate.

**Recordkeeping §1910.1024(n)**  
**(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *General.*  
NOTE: The new NPRM for general industry proposes to simplify three of the current standard's requirements for recordkeeping: Air monitoring data, Medical surveillance, and Training under paragraph (n), Recordkeeping. See these changes in Attachment 2, and employers following these proposed changes will be in compliance.
- *Air Monitoring Data.*
  - Employers must create and maintain a record of all exposure measurements taken to assess airborne exposure as prescribed in §1910.1024(d).
  - This record must include all the criteria in §1910.1024(n)(1)(ii)(A) – (F).
  - Employers must ensure that all exposure records (air monitoring data, objective data, medical surveillance), are maintained and made available in accordance with §1910.1020.
- *Objective Data.*
  - Where an employer uses objective data to satisfy the exposure assessment requirements under §1910.1024(d)(2), the employer must create and maintain a record of the objective data relied upon.
  - This record must include at least the criteria mentioned §1910.1024(n)(2)(ii)(A) – (E).
- *Medical Surveillance.*
  - Employers must create and maintain a record for each employee covered by medical surveillance under §1910.1024(k).
  - This record must include at least the criteria mentioned §1910.1024(n)(3)(ii)(A) – (C).
  - The employer must ensure that medical records are maintained and made available in accordance with Records Access standard §1910.1020.
- *Training.*
  - Employers must prepare a record that indicates the name, the job classification of each employee trained, the date training was completed, and the topic of the training at the completion of any training required by §1910.1024. This record must be maintained for a three years after the completion of the training.
- *Access to Records.*
  - Employers, upon request, must make all records maintained as a requirement of this standard available for examination and copying to the Assistant Secretary, the Director, each employee, and each employee's designated representative(s) in accordance with Records Access standard §1910.1020.
- *Transfer of Records.*
  - Employers must comply with the requirements involving transfer of record set forth in Records Access standard §1910.1020.

**INSPECTION GUIDANCE**

- Review and familiarize yourself with CPL 02-02-072, Rules of agency practice and procedure concerning OSHA access to employee medical records.
- Request a copy of air monitoring records that were used in determining exposure. Evaluate records to ensure they contains criteria under §1910.1024(n)(1)(ii)(A) – (F).



- Request a copy of records of objective data that were used in an exposure assessment. Evaluate records to ensure they contains criteria under §1910.1024(n)(2)(ii)(A) – (E).
- For those employees who required medical surveillance, inquire if they have ever requested or were refused a copy of their medical surveillance records.
- Review medical records to ensure they contain the criteria required under 1910.1024(n)(3)(ii)(A) – (C).
- Request a copy of the training records from the employer. Ensure the training logs contain the required information.
- Ensure records and recordkeeping are compliant CPL 02-00-135, OSHA Recordkeeping Policies and Procedures Manual.

#### *CITATION GUIDANCE*

- Cite the appropriate section of paragraph (n) if recordkeeping deficiencies are observed. Also, refer to CPL 02-02-072 for additional recordkeeping guidance.

#### **Dates §1910.1024(o)**

##### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

- *Effective date.*
  - May 20, 2017 - This standard became effective.
- *Compliance dates.*
  - March 12, 2018 – All obligations, besides the ancillary provisions of the construction and shipyard standards, were to begin.
  - May 11, 2018 – OSHA began enforcing 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); respiratory protection at §1910.1024(g); medical surveillance at §1910.1024(k); and medical removal at §1910.1024(l).
  - December 12, 2018 – OSHA will begin enforcing: general industry beryllium work areas and regulated areas at §1910.1024(e); methods of compliance at §1910.1024(f) (NOTE: except for (f)(2), engineering controls, which become enforceable March 10, 2020); personal protective clothing and equipment at §1910.1024(h); hygiene areas and practices at §1910.1024(i) (NOTE: except for (i)(2), change rooms, and (i)(3), showers, which become enforceable March 11, 2019); housekeeping at §1910.1024(j); communication of hazards at §1910.1024(m); and recordkeeping at §1910.1024(n).
  - March 11, 2019 - Change rooms and showers required by §1910.1024(i) must be provided.
  - March 10, 2020 - Engineering controls required by §1910.1024(f) must be implemented.

#### **Appendix §1910.1024(p)**

##### **(DOES NOT APPLY TO CONSTRUCTION OR SHIPYARDS)**

Appendix A to §1910.1024— *Control Strategies To Minimize Beryllium Exposure (Non-Mandatory)*.  
[See current appendix, here].

NOTE: The new NPRM for general industry proposes to replace Appendix A of the standard with a list of known operations that would require the establishment of beryllium work areas. See this change in Attachment 2, and employers following this proposed change will be in compliance.

### **III. 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.

#### **IV. 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 potentially hazardous dermal exposures (e.g., gloves, disposable coveralls, booties) as required by the Beryllium standard for general industry, or general PPE standards for construction or shipyards, as applicable. CSHOs must not enter a beryllium regulated area, or other area where exposures are likely to exceed the TWA 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.

**Attachment 2: Side-by-Side Changes Proposed for the General Industry  
Beryllium Standard, 29 CFR 1910.1024**

In the table below, the first column provides the affected paragraph, whereas the second and third columns provide a side-by-side comparison of the December 2018 proposed changes to the Beryllium standard for general industry (new NPRM). Since employers may rely on the proposed changes, compliance with the standard as modified by the proposed rule will be accepted as compliance with the standard. The OSHA Information System (OIS) will have the current standard texts for reference by compliance officers, with corresponding standard alleged violation elements (SAVEs). Where an employer is in violation of both a current requirement and the proposed requirement, Area Offices may develop, from the texts below, a corresponding SAVE for the alleged violation description (AVD).

<b>Affected Paragraph and Issue</b>	<b>Current Text of Standard</b>	<b>Proposed Rule Text</b>
(b) <i>Definitions</i> <i>Beryllium sensitization</i> New definition	(Not defined in current standard)	<i>Beryllium sensitization</i> 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 CBD, beryllium sensitization is essential for development of CBD.
(b) <i>Definitions</i> <i>Beryllium work area</i> Revised definition	<i>Beryllium work area</i> means any work area:  (i) Containing a process or operation that can release beryllium and that involves material that contains at least 0.1 percent beryllium by weight; and  (ii) Where employees are, or can reasonably be expected to be, exposed to airborne beryllium at any level or where there is the potential for dermal contact with beryllium.	<i>Beryllium work area</i> means any work area where materials that contain at least 0.1 percent beryllium by weight; and are processed either:  (1) during any of the operations listed in Appendix A of this standard; or  (2) where employees are, or can reasonably be expected to be, exposed to airborne beryllium at or above the action level.
(b) <i>Definitions</i> <i>CBD diagnostic center</i>	<i>CBD diagnostic center</i> means a medical diagnostic center that has an on-site pulmonary specialist and on-site facilities to perform a clinical	<i>CBD diagnostic center</i> means a medical diagnostic center that has a pulmonologist or pulmonary specialist on staff and on-site facilities to

Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
Revised definition	evaluation for the presence of chronic beryllium disease (CBD). This evaluation must include pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. The CBD diagnostic center must also have the capacity to transfer BAL samples to a laboratory for appropriate diagnostic testing within 24 hours. The on-site pulmonary specialist must be able to interpret the biopsy pathology and the BAL diagnostic test results.	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.
(b) <i>Definitions</i> <i>Chronic beryllium disease (CBD)</i> Revised definition	<i>Chronic beryllium disease (CBD)</i> means a chronic lung disease associated with airborne exposure to beryllium.	<i>Chronic beryllium disease (CBD)</i> means a chronic granulomatous lung disease caused by inhalation of airborne beryllium by an individual who is beryllium-sensitized.
(b) <i>Definitions</i> <i>Confirmed positive</i> Revised definition	<i>Confirmed positive</i> means the person tested has beryllium sensitization, as indicated by two abnormal BeLPT test results, an abnormal and a borderline test result, or three borderline test results. It also means the result of a more reliable and accurate test indicating a person has been identified as having beryllium sensitization.	<i>Confirmed positive</i> means the person tested has had two abnormal 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.
(b) <i>Definitions</i> <i>Dermal contact with beryllium</i> Revised definition	<i>Dermal contact with beryllium</i> means skin exposure to:  (i) Soluble beryllium compounds containing beryllium in concentrations greater than or equal to 0.1 percent by weight;	<i>Dermal contact with beryllium</i> means skin exposure to:  (1) soluble beryllium compounds containing beryllium in concentrations greater than or equal to 0.1 percent by weight;

<b>Affected Paragraph and Issue</b>	<b>Current Text of Standard</b>	<b>Proposed Rule Text</b>
	<p>(ii) Solutions containing beryllium in concentrations greater than or equal to 0.1 percent by weight; or</p> <p>(iii) Dust, fumes, or mists containing beryllium in concentrations greater than or equal to 0.1 percent by weight.</p>	<p>(2) solutions containing beryllium in concentrations greater than or equal to 0.1 percent by weight; or</p> <p>(3) visible dust, fumes, or mists containing beryllium in concentrations greater than or equal to 0.1 percent by weight. The handling of beryllium materials in non-particulate solid form that are free from visible dust containing beryllium in concentrations greater than or equal to 0.1 percent by weight is not considered dermal contact under the standard.</p>
<p>(f) <i>Methods of compliance</i> – (1) <i>Written exposure control plan.</i> (i) The employer must establish, implement, and maintain a written exposure control plan, which must contain:  Revised subparagraph (D)</p>	<p>(f)(1)(i)(D) Procedures for minimizing cross-contamination, including preventing the transfer of beryllium between surfaces, equipment, clothing, materials, and articles within beryllium work areas;</p>	<p>(f)(1)(i)(D) Procedures for minimizing cross-contamination, including the transfer of beryllium between surfaces, equipment, clothing, materials, and articles within beryllium work areas;</p>
<p>(f) <i>Methods of compliance</i> – (1) <i>Written exposure control plan.</i> (ii) The employer must review and evaluate the effectiveness of each written exposure control plan at least annually and update it, as necessary, when:  Revised subparagraph (B)</p>	<p>(f)(1)(ii)(B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (1)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with airborne exposure to or dermal contact with beryllium; or</p>	<p>(f)(1)(ii)(B) The employer is notified that an employee is eligible for medical removal in accordance with paragraph (1)(1) of this standard, referred for evaluation at a CBD diagnostic center, or shows signs or symptoms associated with exposure to beryllium; or</p>

Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
<p>(h) <i>Personal protective clothing and equipment –</i> (2) <i>Removal and storage.</i> Revised subparagraph (i)</p>	<p>(h)(2)(i) The employer must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.</p>	<p>(h)(2)(i) The employer must ensure that each employee removes all beryllium-contaminated personal protective clothing and equipment at the end of the work shift, at the completion of all tasks involving beryllium, or when personal protective clothing or equipment becomes visibly contaminated with beryllium, whichever comes first.</p>
<p>(h) <i>Personal protective clothing and equipment –</i> (3) <i>Cleaning and replacement.</i> Revised subparagraph (iii)</p>	<p>(h)(3)(iii) The employer must inform in writing the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of airborne exposure to and dermal contact with beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.</p>	<p>(h)(3)(iii) The employer must inform in writing the persons or the business entities who launder, clean or repair the personal protective clothing or equipment required by this standard of the potentially harmful effects of exposure to beryllium and that the personal protective clothing and equipment must be handled in accordance with this standard.</p>
<p>(i) <i>Hygiene areas and practices –</i> Revised subparagraph (1)</p>	<p>(i)(1) <i>General.</i> For each employee working in a beryllium work area, the employer must:</p>	<p>(i)(1) <i>General.</i> For each employee working in a beryllium work area or who can reasonably be expected to have dermal contact with beryllium, the employer must:</p>
<p>(i) <i>Hygiene areas and practices –</i> Revised subparagraph (2)</p>	<p>(i)(2) <i>Change rooms.</i> In addition to the requirements of paragraph (i)(1)(i) of this standard, the employer must provide employees who work in a beryllium work area with a designated change room in accordance with this standard and the Sanitation standard (§1910.141) where employees are required to remove their personal clothing.</p>	<p>(i)(2) <i>Change rooms.</i> In addition to the requirements of paragraph (i)(1)(i) of this standard, the employer must provide employees who are required to use personal protective clothing or equipment under paragraph (h)(1)(ii) of this standard with a designated change room in accordance with this standard and the Sanitation standard (§1910.141) where employees are required to remove their personal clothing.</p>

Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
<p>(i) <i>Hygiene areas and practices</i> –</p> <p>(4) <i>Eating and drinking areas.</i></p> <p>Revised subparagraph (ii)</p>	<p>(i)(4)(ii) No employees enter any eating or drinking area with beryllium-contaminated personal protective clothing or equipment unless, prior to entry, surface beryllium has been removed from the clothing or equipment by methods that do not disperse beryllium into the air or onto an employee's body; and</p>	<p>(i)(4)(ii) No employees enter any eating or drinking area with beryllium-contaminated personal protective clothing or equipment unless, prior to entry, it is cleaned, as necessary, to be as free as practicable of beryllium by methods that do not disperse beryllium into the air or onto an employee's body; and</p>
<p>(j) <i>Housekeeping</i> -</p> <p>Revised and reorganized subparagraph (3).</p>	<p>(j)(3) <i>Disposal and recycling.</i> For materials that contain beryllium in concentrations of 0.1 percent by weight or more or are contaminated with beryllium, the employer must ensure that:</p> <p>(i) Materials designated for disposal are disposed of in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with paragraph (m)(3) of this standard; and</p> <p>(ii) Materials designated for recycling are cleaned to be as free as practicable of surface beryllium contamination and labeled in accordance with paragraph (m)(3) of this standard, or place in sealed, impermeable enclosures, such as bags or containers, that are labeled in accordance with paragraph (m)(3) of this standard.</p>	<p>(j)(3) <i>Disposal, recycling, and reuse.</i></p> <p>(i) When the employer transfers materials that contain at least 0.1% beryllium in by weight or more or are contaminated with beryllium to another party for disposal, recycling, or reuse, the employer must label the materials in accordance with paragraph (m)(3) of this standard;</p> <p>(ii) Except for intra-plant transfers, materials designated for disposal that contain at least 0.1% beryllium by weight or are contaminated with beryllium must be cleaned to be as free as practicable of beryllium or placed in enclosures that prevent the release of beryllium-containing particulate or solutions under normal conditions of use, storage, or transport, such as bags or containers; and</p> <p>(iii) Except for intra-plant transfers, materials designated for recycling or reuse that contain at least 0.1% beryllium by weight or are contaminated with beryllium must be cleaned to be as free as practicable of beryllium or placed in enclosures that prevent the release of beryllium-containing particulate or solutions under normal conditions of use,</p>

Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
		storage, or transport, such as bags or containers.
<p>(k) <i>Medical surveillance</i> –</p> <p>(2) <i>Frequency</i>. The employer must provide a medical examination:</p> <p>Revised subparagraph (2)(i)(B) and added new subparagraph (2)(iv).</p>	<p>(k)(2)(i) Within 30 days after determining that:</p> <p>(k)(2)(i)(B) An employee meets the criteria of paragraph (k)(1)(i)(B) or (C).</p> <p>[where:]</p> <p>(k)(1)(i)(B) Who shows signs or symptoms of CBD or other beryllium-related health effects;</p> <p>(k)(1)(i)(C) Who is exposed to beryllium during an emergency; or</p>	<p>(k)(2)(i)(B) An employee meets the criteria of paragraph (k)(1)(i)(B).</p> <p>(k)(2)(iv) At least one year but no more than two years after an employee meets the criteria of paragraph (k)(1)(i)(C).</p>
<p>(k) <i>Medical Surveillance</i> –</p> <p>(7) <i>CBD diagnostic center</i>.</p> <p>Revised subparagraph (i).</p>	<p>(k)(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 examination must be provided within 30 days of:</p>	<p>(k)(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 employer must also provide, at no cost to the employee and within a reasonable time after the initial consultation with the CBD diagnostic center, any of the following tests if deemed appropriate by the examining physician at the CBD diagnostic center: pulmonary function testing (as outlined by the American Thoracic Society criteria), bronchoalveolar lavage (BAL), and transbronchial biopsy. The initial consultation with the CBD diagnostic center must be provided within 30 days of:</p>
<p>(m) <i>Communication of hazards</i> -</p> <p>Revised paragraph (3).</p>	<p>(m)(3) <i>Warning labels</i>. Consistent with the HCS (§1910.1200), the employer must label each bag and container of clothing, equipment, and materials contaminated with beryllium, and must, at a minimum, include the</p>	<p>(m)(3) <i>Warning labels</i>. Consistent with the HCS (§1910.1200), the employer must label each immediate container of clothing, equipment, and materials contaminated with beryllium, and must, at a minimum, include the</p>



Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
	following on the label: <b>DANGER</b> <b>CONTAINS BERYLLIUM</b> <b>MAY CAUSE CANCER</b> <b>CAUSES DAMAGE TO LUNGS</b> <b>AVOID CREATING DUST</b> <b>DO NOT GET ON SKIN</b>	following on the label: <b>DANGER</b> <b>CONTAINS BERYLLIUM</b> <b>MAY CAUSE CANCER</b> <b>CAUSES DAMGAE TO LUNGS</b> <b>AVOID CREATING DUST</b> <b>DO NOT GET ON SKIN</b>
<p>(m) <i>Communication of hazards -</i></p> <p>(4) <i>Employee information and training.</i></p> <p>(ii) The employer must ensure that each employee who is, or can reasonably be expected to be, exposed to airborne beryllium can demonstrate knowledge and understanding of the following:</p> <p>Revised subparagraphs (A) and (E).</p>	<p>(m)(4)(ii)(A) The health hazards associated with airborne exposure to and contact with beryllium, including the signs and symptoms of CBD;</p> <p>(m)(4)(ii)(E) Measures employees can take to protect themselves from airborne exposure to and contact with beryllium, including personal hygiene practices;</p>	<p>(m)(4)(ii)(A) The health hazards associated with airborne exposure to and dermal contact with beryllium, including the signs and symptoms of CBD</p> <p>(m)(4)(ii)(E) Measures employees can take to protect themselves from airborne exposure to and dermal contact with beryllium, including personal hygiene practices;</p>
<p>(n) <i>Recordkeeping -</i></p> <p>(1) <i>Air monitoring data.</i></p> <p>(ii) This record must include at least the following information:</p> <p>Revised subparagraph (F)</p>	<p>(n)(1)(ii)(F) The name, social security number, and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.</p>	<p>(n)(1)(ii)(F) The name and job classification of each employee represented by the monitoring, indicating which employees were actually monitored.</p>
<p>(n) <i>Recordkeeping -</i></p> <p>(3) <i>Medical Surveillance.</i></p> <p>(ii) The record must include the following information about each employee:</p>	<p>(n)(3)(ii)(A) Name, social security number, and job classification.</p>	<p>(n)(3)(ii)(A) Name and job classification.</p>

Affected Paragraph and Issue	Current Text of Standard	Proposed Rule Text
Revised subparagraph (A).		
(n) <i>Recordkeeping</i> – (4) <i>Training</i> . Revised subparagraph (i).	(n)(4)(i) At the completion of any training required by this standard, the employer must prepare a record that indicates the name, social security number, and job classification of each employee trained, the date the training was completed, and the topic of the training.	(n)(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.
(p) <i>Appendix</i> . Appendix A to §1910.1024  In conjunction with the change to the definition of beryllium work area, revised Appendix A lists operations that trigger a beryllium work area.	Appendix A to §1910.1024 - <i>Control Strategies to Minimize Beryllium Exposure</i> (Non-Mandatory)  (See current appendix, <a href="#">here</a> )	Appendix A to §1910.1024 - <i>Operations for Establishing Beryllium Work Areas</i>  (See new NPRM)