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May 2, 2014

Mr. Erich J. (Pete) Stafford  
Chairman  
Advisory Committee on Construction Safety and Health  
8484 Georgia Avenue, Suite 1000  
Silver Spring, MD 20910

**RE: Provisions to the Beryllium Standard (29 C.F.R. 1926.55)**

Dear Chairman Stafford and members of the Advisory Committee on Construction Safety and Health:

On December 6, 2013, the Advisory Committee on Construction Safety and Health (ACCSH) heard testimony from the Occupational Safety and Health Administration (OSHA) and the public on possible changes to the current beryllium standard for general industry (29 C.F.R. 1910.1000) and construction (29 C.F.R. 1926.55). During the meeting, OSHA officials discussed the various provisions under consideration for a Notice of Proposed Rulemaking for an updated beryllium standard, which the agency anticipated issuing in April 2014.<sup>1</sup> (This is merely the latest deadline OSHA has missed during its now more than one decade-long foot-dragging on a new beryllium rule.<sup>2</sup>)

Last month, OSHA released a paper containing the following four options currently under consideration for an updated beryllium standard for construction workers:<sup>3</sup>

- Option 1: alter the permissible exposure limit (PEL) and introduce, for the first time, an identical short-term exposure limit (STEL), but add no other protective provisions to the new standard
- Option 2: alter the PEL, introduce an identical STEL, and include a medical surveillance requirement for beryllium sensitization and chronic beryllium disease (CBD)
- Option 3: alter the PEL, introduce an identical STEL, and include “various ancillary provisions typical of OSHA 6(b) health standards such as exposure monitoring, regulated areas, medical surveillance, and methods of compliance.” This option would harmonize

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<sup>1</sup> Hearing of the U.S. Department of Labor Occupational Safety and Health Administration Advisory Committee on Construction Safety and Health, 86-94 (December 6, 2013) <http://1.usa.gov/1m7nkFF>. (Hereafter cited as “Hearing”). Accessed April 30, 2014.

<sup>2</sup> Public Citizen. Press Release: OSHA Drags Its Feet on Study Regarding Workers’ Exposure to Toxic Substance. Jul. 7, 2011. <http://www.citizen.org/pressroom/pressroomredirect.cfm?ID=3374>. Accessed April 30, 2014.

<sup>3</sup> OSHA Request for an ACCSH Committee Recommendation – Options for the Construction Industry in the Proposed Rulemaking for Beryllium. <https://www.osha.gov/doc/accsh/beryllium.pdf>. Accessed April 30, 2014.

the new standard for construction workers with that eventually adopted for general industry

- Option 4: no change

Of the four options presented to ACCSH, Public Citizen strongly encourages the ACCSH to endorse Option 3, which is the only option that offers sufficient protections for workers. Without the ancillary provisions typical of other OSHA health standards, the effectiveness of (and compliance with) the proposed PELs would be greatly compromised.

### PEL Discussion

From our perspective, the most critical provision within any proposed beryllium standard is the PEL, calculated as an 8-hour time-weighted average (TWA), or average daily exposure (an identical STEL, calculated over 15-minute periods, is equally crucial). In its presentation to the ACCSH in December, OSHA indicated that it was considering PELs of 0.1, 0.2, 0.5, or 1.0  $\mu\text{g}/\text{m}^3$  to replace its current PEL of 2.0  $\mu\text{g}/\text{m}^3$ .<sup>4</sup>

However, in its current proposal, OSHA's options 1-3 all included proposed PELs of either 0.1 or 0.2  $\mu\text{g}/\text{m}^3$ . We are encouraged that OSHA has apparently moved away from the possibility of a new PEL greater than 0.2  $\mu\text{g}/\text{m}^3$ .

In 2001, Public Citizen and the Paper, Allied-Industrial, Chemical & Energy Workers International Union submitted a petition to OSHA for an updated beryllium standard, which requested lowering the PEL from its current threshold of 2.0  $\mu\text{g}/\text{m}^3$  to 0.2  $\mu\text{g}/\text{m}^3$ .<sup>5</sup> (The petition also requested mandatory annual medical surveillance to screen for beryllium sensitization and CBD and the removal of sensitized workers from beryllium-exposed worksites.)

In our 2001 petition, we acknowledged that even a PEL of 0.2  $\mu\text{g}/\text{m}^3$  may be too high if more knowledge emerges that indicates that beryllium sensitization and CBD may still occur below this level.<sup>6</sup>

As it happens, in 2009, the American Conference of Industrial Hygienists (ACGIH) revised its prior beryllium Threshold Limit Value (TLV®) from 2.0  $\mu\text{g}/\text{m}^3$  to 0.05  $\mu\text{g}/\text{m}^3$  based on a detailed review of studies quantifying the relationship between beryllium exposure levels and the occurrence of beryllium sensitization and CBD.<sup>7</sup>

Several of the studies reviewed by ACGIH demonstrated that beryllium sensitization could occur after exposures to beryllium concentrations, averaged over the duration of a worker's tenure (so-called "lifetime-weighted averages"), as low as 0.02-0.10  $\mu\text{g}/\text{m}^3$ .<sup>8</sup> The ACGIH reviewers concluded that a "...TLV-TWA of 0.05  $\mu\text{g}/\text{m}^3$  is expected to be protective of the beryllium-

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<sup>4</sup> Hearing, at 93.

<sup>5</sup> Petition to OSHA to Lower Occupational Exposure to Beryllium (2001) <http://bit.ly/1hQ5suO>. Accessed April 30, 2014).

<sup>6</sup> *Id.* at section 3.

<sup>7</sup> American Conference of Industrial Hygienists, *Beryllium and Compounds* 11 (2009).

<sup>8</sup> *Id.*, at 1, 7-8.

sensitive population because available data indicate very low or no incidences of beryllium sensitization or disease at this level.”<sup>9</sup>

A more recent, 2012 analysis by the National Institute for Occupational Safety and Health (NIOSH) found that 3% of workers at a beryllium manufacturing facility exposed to a lifetime-weighted average beryllium concentration of  $<0.1 \mu\text{g}/\text{m}^3$ , and 11% of workers exposed to ranges of  $0.1\text{-}0.6 \mu\text{g}/\text{m}^3$ , had been sensitized to beryllium.<sup>10</sup> When analyzing only the estimated respirable concentration of beryllium, they found that 6% of workers had been sensitized after average lifetime weighted exposures of  $<0.06 \mu\text{g}/\text{m}^3$  and 8% after exposures of  $0.06\text{-}0.42 \mu\text{g}/\text{m}^3$ , with  $0.04 \mu\text{g}/\text{m}^3$  representing the lowest average respirable exposure at which beryllium sensitization was observed.

Therefore, in addition to endorsing OSHA’s Option 3 for construction workers, Public Citizen strongly urges ACCSH to recommend to OSHA the lower of the two PEL, and identical STEL, options of  $0.1 \mu\text{g}/\text{m}^3$  in order to spare potentially thousands more construction workers the catastrophic health consequences from beryllium-associated diseases they might otherwise suffer with thresholds of  $0.2 \mu\text{g}/\text{m}^3$ .

However, given ACGIH’s 2009 TLV and new evidence since then, we also call on ACCSH to recommend that OSHA commission or conduct a feasibility study, investigating the feasibility of compliance, by most worksites, with a PEL (and identical STEL) of  $0.05 \mu\text{g}/\text{m}^3$ , consistent with ACGIH’s current, evidence-based recommendation. The study should include an exposure assessment of current workplace beryllium concentrations and the possibility of adopting and implementing nationwide the best practices of worksites that already have beryllium 8-hour TWA and/or short-term airborne concentrations at or below  $0.05 \mu\text{g}/\text{m}^3$ . In order to avoid any further delays in the rulemaking process, it is critical that this feasibility study be conducted, to the greatest extent possible, concurrently with the formulation of the proposed rule.

### **Construction Workers at High Risk**

During the December 6<sup>th</sup> ACCSH meeting, the board heard testimony from OSHA on beryllium exposures in the construction industry. OSHA pointed out that most exposures in the construction industry occur during abrasive blasting operations and estimated that 23,000 workers are performing open-air blasting.<sup>11</sup> Beryllium levels can be extremely elevated due to high dust concentrations on construction sites. While some engaged in open-air blasting are protected from high dust levels through supplied air respirators and protective clothing, workers are still being exposed to the harmful effects of beryllium. OSHA pointed out in its Dec. 6 presentation that 70% of inspected abrasive blasting worksites have detectable beryllium levels, with a mean level of  $3.7 \mu\text{g}/\text{m}^3$  and a median of  $0.6 \mu\text{g}/\text{m}^3$ . Fully 35% of abrasive blasting worksites were above the current PEL of  $2.0 \mu\text{g}/\text{m}^3$ ,<sup>12</sup> a level 10 times greater than the higher of the two PELs currently under consideration by OSHA.

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<sup>9</sup> *Id.*, at 1.

<sup>10</sup> Schuler CR1, Virji MA, Deubner DC, et al. Sensitization and chronic beryllium disease at a primary manufacturing facility, part 3: exposure-response among short-term workers. *Scand J Work Environ Health*. 2012 May;38(3):270-81.

<sup>11</sup> Hearing, at 90.

<sup>12</sup> Hearing, at 89.

These alarming figures underline the critical importance of moving as quickly as possible on a new beryllium standard that would adequately protect construction workers from the devastating consequences of CBD and lung cancer.

### **Recommendations for a New Beryllium Standard for Construction**

In summary, we call on the ACCSH to recommend the following to OSHA:

1. Adoption of “Option 3” laid out in OSHA’s recent proposal to the ACCSH, which would mandate a beryllium standard for construction consistent with that eventually adopted for general industry. This includes a lowering of the PEL, the introduction of an identical STEL, and the addition of the following ancillary provisions: employee exposure assessments, regulated areas, specific compliance measures (e.g. engineering and work practice controls), mandatory respiratory and personal protective clothing protections when necessary, protective hygiene areas and housekeeping practices, medical surveillance and medical removal of sensitized workers, adequate hazard communication to employees, and rigorous recordkeeping practices;
2. Lower the PEL (and introduce an identical STEL) to a maximum of 0.1 µg/m<sup>3</sup> and the initiation of a feasibility study to investigate the possibility of implementing a lower PEL consistent with the ACGIH TLV of 0.05 µg/m<sup>3</sup>.

After so many years of unnecessary delays (almost 13 years have passed since our 2001 petition), it is time that the tens of thousands of workers exposed to beryllium on a daily basis get the protections they deserve. We urge you to recommend the strongest protections possible within a new beryllium standard and to implore OSHA to move as quickly as possible to finalize the rule.

Thank you,

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Public Citizen’s Congress Watch

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