March 22, 2016

The Honorable David Michaels, Ph.D., M.P.H.
Assistant Secretary of Labor for Occupational Safety and Health
Department of Labor
Occupational Safety and Health Administration
200 Constitution Avenue, NW
Washington, D.C. 20210

Re: Docket No. OSHA-H005C-2006-0870 [Occupational Exposure to Beryllium and Beryllium Compounds]

Public Citizen, a consumer advocacy organization with more than 400,000 members and supporters nationwide, submits this testimony on the Occupational Safety and Health Administration's (OSHA's) proposed beryllium rule issued August 7, 2015.[1] My name is Sammy Almashat, a physician and researcher with Public Citizen's Health Research Group. I refer you to our written comments submitted on the proposed rule in November 2015,[2] which form the basis for our testimony today.

I am here to reiterate our call to OSHA to finalize a significantly more protective permissible exposure limit (PEL) and short-term exposure limit (STEL) than its proposed PEL of 0.2 μg/m^3 and STEL of 2.0 μg/m^3 and we will briefly present data, available in more detail in our November comments, showing that such safer levels are feasible.

OSHA's long history of inaction

But first, it is important to remind ourselves of the long history behind this proposed rule. In 1975, OSHA first proposed lowering the beryllium PEL from 2 μg/m^3 to 1 μg/m^3, but that rulemaking was never completed.[3] In 1977, the National Institute for Occupational Safety and Health (NIOSH) published a recommendation to lower the beryllium PEL to 0.5 μg/m^3, but OSHA ignored this recommendation.[4] Then, in 1999, the Department of Energy instituted an action level of 0.2 μg/m^3, which would trigger the implementation of certain protections for its workers,[5] while the same year, former OSHA head Charles Jeffress acknowledged to workers

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[1] 80 FR 47565. Docket No. OSHA-H005C-2006-0870. Proposed Rule; request for comments. Occupational Exposure to Beryllium and Beryllium Compounds. August 7, 2015. https://s3.amazonaws.com/public-inspection.federalregister.gov/2015-17596.pdf. Accessed March 18, 2016. **[Hereafter referred to as "OSHA Proposed Rule"]**

[2] Public Citizen. Comments Urging OSHA to Finalize a More Protective Beryllium Rule. November 5, 2015. http://www.citizen.org/hrg2281. Accessed March 18, 2016.

[3] OSHA Proposed Rule, at 53.

[4] *Ibid.*

[5] *Ibid*.

that its "current permissible exposure limits [of 2.0 μg/m^3] for beryllium in the workplace now appear to be too high to prevent chronic beryllium disease (CBD)".[6]

Indeed, Dr. Jeffress' conclusion was by then supported by a wealth of evidence demonstrating the dangers of beryllium at levels far below OSHA's PEL of 2.0 μg/m^3. In response, in 1999, the Paper, Allied-Industrial, Chemical and Energy Workers International Union (PACE),[7] along with Dr. Lee Newman and Margaret Mroz of the National Jewish Medical Research Center, petitioned OSHA to lower the beryllium PEL from 2.0 μg/m^3 to 0.2 μg/m^3 in order to protect workers from beryllium sensitization (BeS), CBD, and lung cancer.[8] And in 2001, Public Citizen joined with PACE to again petition OSHA for a PEL of 0.2 μg/m^3.[9]

OSHA denied both petitions[10] but nonetheless initiated a rulemaking process in 2002 with the goal of "determining an appropriate course of action regarding occupational beryllium exposure".[11] However, that process has now dragged on for more than 13 years, with multiple delays by OSHA[12] and the White House's Office of Management and Budget[13] along the way.

Proposed rule must be strengthened

This history is relevant to what we are discussing today because the long delays in issuing the proposed beryllium rule have resulted in OSHA's rulemaking process falling behind the evolving science on the health effects of beryllium exposure. Our 2001 petition requested a PEL of 0.2 μg/m^3, the same limit now proposed by OSHA, but the petition then noted that even this limit could prove too high should additional evidence emerge of beryllium's harms below this level.

Because of OSHA's lengthy delay in proposing the rule, there is, by now, enough evidence showing that OSHA's proposed PEL of 0.2 μg/m^3 (and even – but less so – its alternative proposed PEL of 0.1 μg/m^3) still would leave workers exposed to unsafe levels of beryllium.

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[6] Occupational Safety and Health Administration. Trade News Release: OSHA Alerts Workers to Beryllium Exposure. September 17, 2009. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=283. Accessed March 18, 2016.

[7] PACE has since merged with the United Steelworkers. See e.g. United Steelworkers. Our History. http://www.usw.org/union/history. Accessed March 18, 2016.

[8] OSHA Proposed Rule, at 54.

[9] Public Citizen. Petition to OSHA to lower occupational exposure to beryllium. September 1, 2001. http://www.citizen.org/Page.aspx?pid=2042. Accessed March 18, 2016.

[10] OSHA Proposed Rule, at 54. And: Public Citizen. Comments concerning OSHA's failure to set adequate standards for occupational exposure to beryllium. February 24, 2003. http://citizen.org/Page.aspx?pid=2039. Accessed March 18, 2016.

[11] 67 FR 70707. Docket No. H005C. Occupational Exposure to Beryllium; Request for Information. November 26, 2002. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FEDERAL_REGISTER&p_id=17469. Accessed March 18, 2016.

[12] Public Citizen. OSHA Drags Its Feet on Study Regarding Workers' Exposure to Toxic Substance. July 7, 2011. http://www.citizen.org/pressroom/pressroomredirect.cfm?ID=3374. Accessed March 18, 2016.

[13] Hopkins JS. The campaign to weaken worker protections. The Center for Public Integrity. June 29, 2015. http://www.publicintegrity.org/2015/06/29/17522/campaign-weaken-worker-protections. Accessed March 18, 2016. "The latest delay involves a rule for beryllium, which is used in industries ranging from defense to golf-club manufacturing and can trigger a deadly lung disease. It's a rare case in which a big company has championed better protections after decades of efforts to impede them. OSHA sent a proposal for a tighter limit to the OMB after the substance's major producer, Materion, and the United Steelworkers union joined together to urge such an action. The OMB has had the proposal since September — nearly 10 months"

OSHA concedes this point in its proposed rule, concluding that "significant risks of sensitization and CBD remain" at both its proposed PEL of 0.2 μg/m^3 and its alternative proposal of 0.1 μg/m^3.[14] We agree, as this danger has been borne out in numerous studies, which are summarized in our November 2015 comments to the agency.[15]

Those studies are unequivocal: BeS, and resulting CBD, occur after even brief exposures to average beryllium concentrations well below OSHA's proposed PEL of 0.2 μg/m^3, and that even a PEL of 0.1 μg/m^3 may not adequately protect workers from these dangers. Both the National Institutes for Occupational Safety and Health[16] and the National Research Council[17] have concluded that there is not enough evidence to determine a safe concentration of airborne beryllium below which BeS and CBD do not occur. Nevertheless, OSHA can at least minimize the risks to workers by lowering the PEL by 50%, to 0.1 μg/m^3.

OSHA further conceded in its proposed rule that a PEL of 0.1 μg/m^3 would "almost certainly be feasible" for some industries, such as beryllium alloy production, and "appears feasible" for others, such as the precision turned products industry.[18] The sole reason OSHA listed for not requiring a PEL of 0.1 μg/m^3 was that, for industries with the highest measured airborne beryllium concentrations, "the exposure monitoring data necessary to more fully evaluate the effectiveness of exposure controls adopted after 2000 are not currently available to OSHA, which makes it difficult to determine the feasibility of achieving exposure levels at or below 0.1 μg/m^3."[19]

The claimed lack of evidence by which to judge the feasibility of a PEL of 0.1 μg/m^3 for certain industries need not prevent OSHA from implementing such a limit. OSHA's conclusion that a PEL of 0.2 μg/m^3 would be feasible for "most operations most of the time" necessarily means that some operations in certain industries will continue to exceed this proposed PEL even with maximal engineering and work practice controls. In its proposed rule, OSHA describes how it would address such workplaces: "Where engineering and work practice controls are insufficient to reduce exposures to or below the TWA PEL and STEL, employers would still be required to implement them to reduce exposure as much as possible, and to supplement them with a respiratory protection program".[20] This same enforcement paradigm could and should be instituted for workplaces unable to achieve a PEL of 0.1 μg/m^3 with the maximum possible engineering and work practice controls.

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[14] OSHA Proposed Rule, at 732.

[15] Public Citizen. Comments Urging OSHA to Finalize a More Protective Beryllium Rule. November 5, 2015. http://www.citizen.org/hrg2281. Accessed March 18, 2016.

[16] National Institute for Occupational Safety and Health. Comments of the National Institute for Occupational Safety and Health on the Department of Energy Request for Information on Chronic Beryllium Disease Prevention Program. Docket No. HS-RM-10-CBDPP. February 22, 2011. http://energy.gov/sites/prod/files/2015/04/f21/23_Paul%20A.%20Schulte_10%20CFR%20850%20Request%20for%20Information_Docket%20Number_HS_RM_10_CBDPP.pdf. Accessed March 18, 2016.

[17] National Research Council. Managing health effects of beryllium exposure. The National Academies Press;2008. http://www.nap.edu/catalog/12464/managing-health-effects-of-beryllium-exposure. Accessed March 18, 2016.

[18] OSHA Proposed Rule, at 402.

[19] *Ibid.*

[20] OSHA Proposed Rule, at 16.

A lower STEL of 1.0 μg/m^3 is even more feasible, based on OSHA's analysis of all short-term airborne beryllium samples taken by its inspectors since 1978,[21] which found that 75 percent of the samples, taken from seven different industries, fell below a concentration of 1.0 μg/m^3. Furthermore, over the past several decades, there has been a steady increase in the proportion of short-term airborne beryllium samples falling below a concentration of 1.0 μg/m^3, from 51 percent (1980-1989) to 80 percent (1990-1999) and, finally, 94 percent from 2000-2008. Therefore, judging from OSHA's own inspection data, a STEL of 1.0 μg/m^3 already seems feasible for the vast majority of workplaces and failing to require it is inexcusable.

A more protective rule urgently needed

In conclusion, it has been more than 14 long years since Public Citizen and PACE first petitioned OSHA to lower the now-acknowledged dangerous beryllium PEL of 2.0 μg/m^3. It has been even longer since OSHA first proposed lowering the PEL in 1975. It is unknown how many workers have died or been permanently disabled from CBD and lung cancer due to OSHA's inaction. The least the agency can do now is set a PEL and STEL that will ensure that, going forward, as few workers as possible are afflicted with beryllium-related disease. Public Citizen reiterates its call for OSHA to lower the proposed PEL and STEL to levels that will adequately protect a much larger proportion of workers from the devastating and irreversible effects of beryllium exposure. Thank you for your consideration of my testimony.

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[21] Occupational Safety and Health Administration. Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis: Supporting document for the Notice of Proposed Rulemaking for Occupational Exposure to Beryllium. http://www.regulations.gov/#!documentDetail;D=OSHA-H005C-2006-0870-0426. Accessed March 18, 2016.