



August 28, 2017

Via Electronic Submission

Docket Office
Occupational Safety and Health Administration
200 Constitution Avenue, NW
Washington, DC 20210
Docket No. OSHA-H005C-2006-0870

Re: Construction Industry Safety Coalition
Comments to NPRM on Occupational Exposure to Beryllium and
Beryllium Compounds in Construction and Shipyard Sectors
(Docket No. OSHA-H005C-2006-0870)

I write on behalf of the Construction Industry Safety Coalition (“CISC”). The CISC respectfully files the enclosed written comments on OSHA’s Proposed Rule on Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors, 82 Fed. Reg. 29,182 (June 27, 2017). The CISC appreciates OSHA’s consideration of the information and data presented in these comments.

Sincerely,

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Enclosure

Construction Industry Safety Coalition
Comments to NPRM on Occupational Exposure to Beryllium and Beryllium
Compounds in Construction and Shipyard Sectors
(Docket No. OSHA-H005C-2006-0870)

The Construction Industry Safety Coalition (“CISC”) respectfully files the following written pre-hearing comments on the Occupational Safety and Health Administration’s (“OSHA” or “Agency”) Proposed Rule on Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors, 82 Fed. Reg. 29,182 (June 27, 2017) (“proposed rule” or “proposal”). The CISC appreciates OSHA’s consideration of the information and data presented in these comments.

I. Background on CISC.

The CISC is comprised of numerous trade associations representing virtually every aspect of the construction industry. The CISC was formed in 2013 to provide OSHA thoughtful, data-driven comments on OSHA proposed rules and other policy initiatives. The CISC commented on OSHA’s Occupational Exposure to Respirable Crystalline Silica proposal (78 Fed. Reg. 56,273 (Sept. 12, 2017)), OSHA’s Request for Information on Permissible Exposure Limits (79 Fed. Reg. 61,383 (Oct. 10, 2014)), and recently on OSHA’s SIPs IV proposed rule (81 Fed. Reg. 68,504 (Oct. 4, 2016)). By pooling resources and members from the wide range of trades affected by OSHA’s proposed rules, the participating construction industry trade associations believe that stronger and more detailed comments can be submitted to OSHA during the rulemaking process. The CISC speaks for small, medium, and large contractors; general contractors; subcontractors; union contractors; etc. The CISC respectfully suggests that no group in the construction industry is better positioned to provide OSHA this information.

II. Summary of CISC Position.

The CISC appreciates OSHA revisiting its Occupational Exposure to Beryllium final rule, issued on January 9, 2017, 82 Fed. Reg. 2,470 (Jan. 9, 2017) (hereinafter referred to as the “final beryllium rule”), which adopted a comprehensive standard regulating beryllium exposure in general industry, construction, and shipyards. OSHA did not propose to include the construction and shipyard sectors in the final beryllium rule, instead raising the possibility

of coverage as a regulatory alternative in the initial proposal (*see* 80 Fed. Reg. 47,566, 47,569 (August 7, 2015)). (The CISC refers in these comments to the August 7, 2015 proposed rule as the “2015 proposed rule.”)

The CISC believes strongly that a comprehensive standard regulating beryllium exposure in construction is unnecessary from a safety and health standpoint and would impose significant burdens and unnecessary costs on construction contractors. In addition, while this proposed rule is preferable to the final beryllium rule in that OSHA would not impose ancillary requirements on contractors if the proposal is finalized in its current form, substantial evidence does not support lowering the permissible exposure limit (“PEL”) for beryllium in construction at all. Furthermore, substantial evidence does not support adoption of a short term exposure limit (“STEL”) broadly for the construction industry.

Unfortunately, the final beryllium rule and this proposed rule are the products of regulatory overreach, requiring contractors to expend resources to address adverse health outcomes that do not exist in construction. Chronic beryllium disease (“CBD”) and other disease outcomes that OSHA believes are associated with beryllium exposure simply do not exist in the wide variety of construction operations that are affected by this rule. The rulemaking record shows definitively that the adverse health outcomes associated with exposure to beryllium are limited to general industry work environments with significant exposure to beryllium and beryllium compounds. The 2015 proposed rule correctly targeted *general industry* to address this problem, and not construction.

To be sure, this proposed rule reduces compliance burdens on contractors and that is preferable to the final beryllium rule. However, this proposed rule also suffers from the same flaws as existed in the Agency’s initial analysis. There is simply no evidence that exposure to beryllium in the construction environment causes a significant risk of material harm and that the proposed rule would substantially reduce that risk.

The CISC’s comments are divided into several sections. Part III gives a high-level synopsis of the CISC’s interpretation of the proposed rule and the history of the rulemaking. Part IV discusses certain procedural issues with OSHA’s preparation of the final beryllium rule, including a discussion of the Small Business Regulatory Enforcement and Fairness Act (“SBREFA”) process and OSHA’s involvement with the Advisory Committee on Construction Safety and Health (“ACCSH”). Part V discusses the CISC’s overarching concerns with the Agency’s significant risk and feasibility analyses as it relates to the construction industry, as

well as how the proposed rule is not a cost-effective approach to addressing beryllium in construction. Finally, Part VI discusses the regulatory alternatives presented by the Agency in the proposal.

III. OSHA's Proposed Rule for the Construction Industry.

OSHA is proposing to revise the final beryllium rule for construction by revoking the ancillary provisions of the rule. OSHA states:

After a further review of the comments received on the proposed extension, as well as a review of the applicability of existing OSHA standards, OSHA is proposing to revoke the ancillary provisions applicable to the construction and shipyard sectors, but to retain the new lower PEL of .2 $\mu\text{g}/\text{m}^3$ and the STEL of 2.0 $\mu\text{g}/\text{m}^3$ for those sectors.

82 Fed. Reg. at 29,183.

The final beryllium rule was published on January 9, 2017. In that rule, OSHA concluded that “employees exposed to beryllium and beryllium compounds at the preceding PEL were at significant risk of material impairment of health, specifically chronic beryllium disease and lung cancer.” *Id.* at 29,187. Unlike the 2015 proposed rule, however, in the final beryllium rule OSHA included the construction and shipyard industries within the scope of the standard. According to OSHA, this “decision was based on supportive testimony and comments from stakeholders along with exposure data in the record indicating the potential for exposures above the action level for abrasive blasting using coal and copper slags.” *Id.*

The final beryllium rule adopts a comprehensive approach to address beryllium in construction. In addition to the lowered PEL and the adoption of the STEL, OSHA requires contractors to implement the following: (1) assess employees' exposure to airborne beryllium; (2) establish beryllium regulated areas (and competent persons); (3) develop a written exposure control plan; (4) provide personal protective work clothing and equipment; (5) establish hygiene areas and practices; (6) implement housekeeping measures; (7) provide medical surveillance; (8) provide medical removal for employees who have developed CBD or been confirmed positive for beryllium sensitization; and (9) provide appropriate training. *Id.* at 29,202. The final beryllium rule culminated years of work by the Agency and other stakeholders to address the risk of CBD and other health effects – in general industry environments that process various forms of beryllium.

The PEL that existed in general industry, construction, and shipyards before promulgation of the final beryllium rule was promulgated by the Agency in 1971 pursuant to Section 6(a) of the Occupational Safety and Health Act of 1970 (“OSH Act” or “Act”). Section 6(a) provided that in the first two years after the effective date of the Act, OSHA was to promulgate “start-up” standards on an expedited basis and without public hearing or comment, based on national consensus or established federal standards. *Id.* at 29,185. Notably, adoption of Section 6(a) standards did not involve an assessment of risk and feasibility, as is required by standards issued pursuant to Section 6(b) of the OSH Act. 29 U.S.C. § 655(a).

From the initial adoption of the previous PEL under Section 6(a), several public health organizations, including the National Institute for Occupational Safety and Health (“NIOSH”) suggested that the PEL for beryllium should be reduced based upon their views of the risk associated with exposure to certain forms of beryllium. 82 Fed. Reg. at 29,186. In 1999, the Department of Energy established a Chronic Beryllium Disease Prevention Program for employees exposed to beryllium. *Id.* Also in 1999, OSHA was petitioned by a number of non-construction labor unions and public interest groups to promulgate an Emergency Temporary Standard (“ETS”) for beryllium in the workplace. *Id.* OSHA did not grant the request for an ETS, but instead pursued traditional rulemaking on beryllium pursuant to Section 6(b)(5) of the OSH Act. *Id.*

In 2002, OSHA began to seek public input on occupational exposures to beryllium in a Request for Information (“RFI”). *Id.* That RFI raised a number of questions about risk, health effects, and feasibility. 67 Fed. Reg. 70,707 (Nov. 26, 2002). Virtually all of the RFI was devoted to beryllium risk and exposure in general industry, as opposed to construction. *See id.* at 70,708-11. The RFI posed a series of 52 questions which queried the public on topics including employee exposure, health effects studies, risk assessment, exposure assessment and monitoring methods, control measures and technological feasibility, economic impacts, employee training, medical surveillance, environmental effects, impacts on small business entities, and duplication/overlapping/conflicting rules. *Id.*

The RFI acknowledged that historically beryllium was primarily used in nuclear programs including weapons and energy, but that over time its use became more widespread in general industry manufacturing. *Id.* at 70,708. While the RFI alerts the public to other activities which may unintentionally involve beryllium exposure, the construction industry and related activities were *not* specifically mentioned. *Id.* at 70,708-11.

Five years later, in 2007, OSHA convened a Small Business Advocacy Review Panel under the Small Business Regulatory Enforcement and Fairness Act (“SBREFA”) to review potential approaches to regulate beryllium. 82 Fed. Reg. at 29,186. As described more fully below, the SBREFA process focused entirely on general industry exposure to beryllium and beryllium compounds.

In 2012, Materion Corporation, the leading producer of beryllium, and the United Steelworkers, the union representing workers who manufacture beryllium products and alloys, submitted a jointly-drafted beryllium standard to OSHA for the Agency’s consideration. *Id.* at 29,187. OSHA used this joint labor and industry draft standard as a basis for the 2015 proposed rule. *Id.* There was substantial agreement between the Agency’s proposed rule and the draft developed through this industry/labor partnership. The draft prepared by Materion and the United Steelworkers would not have applied the measures recommended to the construction industry.¹

In the 2015 proposed rule, OSHA did not include construction and shipyards within the scope. This was not surprising given the approach of the Agency leading up to publication. All of the evidence regarding the risk of adverse disease outcomes was found in general industry. The RFI focused on general industry exposures and the SBREFA panel included no construction representatives. There was and is no surveillance data showing cases of CBD and other disease outcomes related to exposure to beryllium throughout the construction industry.

However, in the 2015 proposed rule, OSHA raised as an alternative the possibility of including the construction and maritime industries within the scope of the rule:

Regulatory Alternative #2a would expand the scope of the proposed standard to also include employers in construction and maritime. For example, this alternative would cover abrasive blasters, pot tenders, and cleanup staff working in construction and shipyards who have the potential for airborne beryllium exposure during blasting operations and during cleanup of spent media.

80 Fed. Reg. at 47,569.

¹ The CISC directs OSHA to comments filed by Materion in response to this proposed rule, where Materion makes clear that its jointly-developed standard was drafted to address industries where beryllium material has been added to take advantage of its unique properties.

In the Preliminary Economic Analysis (“PEA”), OSHA performed virtually no assessment of the costs and economic impacts of applying a comprehensive standard to the construction industry. OSHA also did not develop a comprehensive exposure profile for the industry and assess whether it was technologically feasible for the standard to be met in most operations most of the time in construction. In fact, in the PEA OSHA only assessed technological feasibility for the following industries: beryllium production; beryllium oxide ceramics and composites; nonferrous foundries; secondary smelting, refining and alloying; precision turned products; copper rolling, drawing, and extruding; fabrication of beryllium alloy products; welding; and dental laboratories. *Id.* at 47,673. OSHA certainly did not make any assessment of the feasibility of complying with the PEL or STEL for naturally occurring beryllium in soil, dirt, rock, and aggregate, which would be common on construction worksites.

After a short public hearing on the initial proposed rule in 2016, OSHA finalized it at the very end of the administration of President Obama. Shortly after the final beryllium rule was published, multiple organizations petitioned the Courts of Appeals under Section 6(f) of the OSH Act to review the legality of the standard. Certain members of the CISC are involved in that litigation, which is ongoing and currently consolidated in the Eighth Circuit Court of Appeals. *See Airborne, Inc. et al. v. U.S. Occupational Safety and Health Administration, U.S. Department of Labor*, Civ. No. 17-1124.

In addition, after the inauguration of President Trump, OSHA published a delay in the effective date of the rule, based on the Presidential Directive as expressed in the memorandum of January 20, 2017, from the Assistant to the President and Chief of Staff, entitled “Regulatory Freeze Pending Review.” 82 Fed. Reg. at 29,187-88. On March 2, 2017, OSHA proposed in the *Federal Register* a further delay in the effective date to allow time for the new administration to consider questions of fact, law, and policy related to the final beryllium rule. *Id.* at 29,188. Several commenters requested that the Agency reconsider the significant changes that the Agency made to the final beryllium rule from the 2015 proposal. *Id.*

IV. Procedural Issues.

The CISC has had and continues to have significant concerns with the process used by the Agency in promulgating the final beryllium rule. In the CISC’s view, the Agency failed to comply with the letter and the spirit of a variety of statutory and regulatory procedures designed to (1) provide the construction industry notice of OSHA’s intent to adopt a comprehensive standard regulating beryllium on construction worksites, and (2) provide

OSHA early feedback from the construction industry on the need for and the burdens associated with any rulemaking related to beryllium.

A. SBREFA Process.

OSHA failed to raise directly with stakeholders the application of a comprehensive standard on beryllium to the entire construction industry during the SBREFA process. The purpose of SBREFA is to allow small entities that may be regulated directly by a rulemaking action an opportunity to provide comments and regulatory alternatives to OSHA to help minimize the burden on small entities. The process is designed to be interactive. OSHA convenes a SBREFA panel, comprised of representatives of the Agency, the Small Business Administration's Office of Advocacy, and the Office of Management and Budget, to seek feedback from potentially affected small entities and to draft a report memorializing the feedback and recommending alternatives to the Agency's regulatory approach.²

In November 2007, OSHA initiated the SBREFA process for the beryllium rulemaking. The panel convened thirteen small entity representatives ("SERs") to participate in the process. The SERs represented "manufacturers of precision metals, precious metal recycling, dental alloy, and medical optics... and precision machining industries, bushing and bearing producers, metal stampers of low-content copper-beryllium alloy, and dental labs." See OSHA-H005C-2006-0870-0345.

Noticeably absent from the list of SERs was *any* from the construction industry. All of the SERs were general industry representatives. This SBREFA Panel is in contrast to other SBREFA Panels established for standards that have included construction within the scope of the proposed rule, such as respirable crystalline silica. The CISC recognizes that under SBREFA, the Panel is not required to hear feedback from absolutely every industry that is affected by a proposed rule. However, in this instance OSHA had no participation at all from anyone representing the construction industry to provide feedback on risk, benefits, costs, or other economic impacts, or the compliance difficulties of attempting to implement the

² See Federal Administrative Procedure Sourcebook, Fourth Edition 2008, ABA Section of Administrative Law and Regulatory Practice, p. 1112 ("Additional procedures are required to ensure small entities comment whenever either the Environmental Protection Agency (EPA) or the Occupational Safety and Health Administration ("OSHA") promulgate rules. Prior to the publication of the initial RFA, EPA or OSHA must notify and provide the Chief Counsel with information regarding the potential impact of the proposed rule on small entities. The Chief Counsel then identifies individuals to represent small entities and gather comments and suggestions on the proposed rule.").

numerous ancillary provisions that ultimately were included in the final beryllium rule. The CISC contends that once the Agency determined to expand the coverage of the final rule to the construction industry it was under an obligation to convene a second SBREFA panel to assess the impacts of the rule on construction industry small entities. *See* 5 U.S.C. § 609 (head of the agency shall assure that small entities have been given an opportunity to participate in the rulemaking for the rule).

While this proposed rule is a de-regulatory action, OSHA's initial failure to include any construction representatives in the SBREFA process preceding the 2015 proposed rule continues to stymie the information that the Agency has available to truly assess risk and feasibility in construction. SBREFA is designed to provide informal, fact-based information to OSHA from small entities that will potentially be impacted by a regulatory initiative. OSHA never received that feedback for beryllium and construction and, in the CISC's view, this lack of basic information has caused the Agency to make regulatory judgments that are unnecessary from a safety and health standpoint and highly burdensome on construction employers. The CISC respectfully suggests that if the Agency wishes to place any new requirements on the construction industry as it relates to beryllium, that the Agency convene a SBREFA panel to fully assess the impacts of any proposal on small construction companies.

B. Advisory Committee on Construction Safety and Health.

OSHA's failure to meaningfully consult with construction stakeholders during the SBREFA process was compounded by the process undertaken by the Agency in "consulting" with the Advisory Committee on Construction Safety and Health ("ACCSH") on the 2015 proposed rule. OSHA is required to consult with ACCSH before proposing a rule affecting the construction industry:

The Assistant Secretary shall consult with the Advisory Committee on Construction Safety and Health, established pursuant to section 107 of the Contract Work Hours and Safety Standards Act, in the formulation of a rule to promulgate, modify, or revoke a standard. The Assistant Secretary shall provide the committee with any proposal of his own or the Secretary of Health, Education, and Welfare, together with all pertinent factual information available to him, including the results of research, demonstrations, and experiments. The committee shall submit to the Assistant Secretary its recommendations regarding the rule to be promulgated within the period prescribed by the

Assistant Secretary, which in no event shall be longer than 270 days from the date of initial consultation.

29 C.F.R. § 1911.10(a).

The rulemaking record demonstrates that OSHA never meaningfully consulted ACCSH on application of a proposed rule to construction. The proposed rule describes OSHA's consultation as follows:

In May 2014, OSHA presented options to ACCSH for the promulgation of the beryllium rule. These options were (1) reducing the exposure limits in construction to the same level as the proposed exposure limits in general industry, (2) reducing the exposure limits and including a medical surveillance requirement, and (3) including construction in the scope of the rule and including the same ancillary provisions as in general industry. OSHA discussed the types of ancillary provisions that would be included but did not provide regulatory text. Some ACCSH members asked OSHA for more information, including draft regulatory text, before providing OSHA with a recommendation. Without that information, ten members voted for the third option, and four members abstained from voting.

82 Fed. Reg. at 29,223.

This does not come close to fulfilling OSHA's mandate to meaningfully consult with ACCSH. OSHA never presented a "proposal of [its] own" to ACCSH and never presented any supporting information or background justifying application of the rule to construction. OSHA never presented information on significant risk in construction, the prevalence of CBD or other disease endpoints in construction, the overall need for any rulemaking in construction, the feasibility of complying with any new beryllium rule in construction, or the costs and economic impacts of applying any rule to the construction industry.

The regulatory requirement to consult with ACCSH exists for a reason. It is to ensure that experts in construction have an opportunity to advise OSHA on whether and how to promulgate a rule that impacts the industry. The requirement does not exist so that OSHA can simply "check a box" and state that it consulted with ACCSH by presenting a short powerpoint and hurriedly convening a vote of the Committee on alternatives to regulating beryllium

in construction.³ OSHA did not follow its own regulations in promulgating the final beryllium rule and the CISC continues to object to that lack of due process.

C. Lack of Notice in Initial Proposed Rule.

Finally, the CISC objects to the lack of notice given construction industry stakeholders in the 2015 proposed rule that OSHA would finalize a comprehensive health standard on beryllium applicable to all of construction. In the proceedings leading up to the proposal – including the RFI, SBREFA, and consultation with ACCSH – the Agency gave virtually no notice that it would apply such a standard to construction. More troubling, OSHA did not seek out information on beryllium risk or exposure in the construction environment from the construction industry or its experts on ACCSH.

Then, in the proposed rule OSHA simply raises as a general regulatory alternative the possibility of extending the general industry proposal to construction (in some form or fashion). OSHA does not provide any meaningful assessment of the risk or feasibility issues associated with doing so. There is no PEA presented truly assessing the costs, benefits, and economic impacts that application of a comprehensive or other standard would have on construction.

Such minimal discussion and analysis of extending the rule to construction was insufficient to put the construction industry on notice that OSHA would promulgate a

³ During the ACCSH meeting of December 5-6, 2013, OSHA presented a seven page powerpoint regarding “OSHA’s Notice of Proposed Rulemaking for Beryllium.” Only two of the slides concerned construction specifically, one set forth “options” and one described “Be Exposures in the Construction Industry” focused only on “Abrasive Blasting.” This seven page powerpoint served as the predicate for OSHA’s “consultation” with ACCSH. Interestingly, OSHA notes in the powerpoint that “[e]xisting construction standards provide Be exposure protection to workers (ventilation – includes abrasive blasting, PPE, respiratory protection).” This simply highlights the inconsistent position that the Agency has taken throughout the course of this rulemaking with respect to beryllium and construction. In 2013, OSHA stated that “existing construction standards provide Be exposure protection to workers.” Then, in the final beryllium rule, OSHA suggests that existing standards do not render the rule “unnecessary” (*see* 82 Fed. Reg. at 2,637). And now, OSHA seems to be going back to its original view in 2013 that existing beryllium standards provide protection to construction employees. The inconsistency in OSHA’s position is telling and is indicative of the approach the Agency has taken in promulgating a comprehensive standard on beryllium to construction with no adherence to established pre-rule and rulemaking procedures.

comprehensive beryllium standard applicable throughout industry, let alone one that involved everything from exposure monitoring to medical removal.

While the CISC appreciates OSHA putting forward this proposal to eliminate the ancillary provisions that were included in the final beryllium rule, the CISC continues to object to how the Agency developed the final beryllium rule in the first instance as it relates to construction and the lack of notice the industry was given by the Agency throughout the course of the rulemaking.

V. The Proposed PEL and STEL are not Reasonably Necessary and Appropriate.

In order to promulgate a health standard, OSHA must demonstrate based on substantial evidence in the rulemaking record considered as a whole that a significant risk of material impairment of health exists with exposure to a particular hazard and that this risk will be substantially reduced through promulgation of the standard. *See Industrial Union Dept., AFL-CIO v. Am. Petroleum Inst. (“Benzene”)*, 448 U.S. 607, 641-42 (1980). For health standards, the statute also requires that OSHA reduce the risk to the extent feasible. *United Steelworkers v. Marshall (“Lead I”)*, 647 F.2d 1189, 1248 (D.C. Cir. 1980). Moreover, OSHA standards must be cost-effective. Faced with alternatives to address a hazard to the same extent, OSHA must choose the alternative that imposes the least costs on employers. *See Int’l Union, UAW v. OSHA*, 37 F.3d 655, 668 (D.C. Cir. 1994); *see also* 82 Fed. Reg. at 29185 (“An OSHA standard must be cost effective, which means that the protective measures it requires are the least costly of the available alternatives that achieve the same level of protection, but OSHA cannot choose an alternative that provides a lower level of protection because it is less costly.” (internal citations omitted)).

OSHA failed to meet these legal tests when it issued the final beryllium rule. While removing the ancillary provisions from the rule as proposed here would ease some compliance burdens, the CISC respectfully believes that the proposed rule also does not meet these required legal tests.

A. OSHA has not Demonstrated a Significant Risk of Material Impairment of Harm in Construction from Exposure to Beryllium.

Before promulgating a health standard, OSHA must find that a significant risk exists at the current conditions in the industries regulated and that the standard will substantially reduce that risk. *Benzene*, 448 U.S. at 641-42. That is the initial predicate to OSHA promulgating a health standard under Section 6(b)(5) of the OSH Act. Put simply as it relates to construction,

are workers exposed to a significant risk of developing CBD or other associated disease endpoints as a result of their work in construction? Substantial evidence in the rulemaking record does not demonstrate that this threshold has been met.⁴

As an initial matter, the rulemaking record includes *no* surveillance data associated with the development of CBD or other disease endpoints in construction. In the preamble to the 2015 proposed rule, and in the preamble to the final beryllium rule, OSHA points to *no* evidence of beryllium-related disease at the previous PEL in construction.

In fact, in the CISC’s review of the evidence in the rulemaking record, we identified just one “study” addressing beryllium risk in construction. *See* Welch et al. 2004, “Screening for Beryllium Disease Among Construction Trade Workers at Department of Energy Nuclear Sites”; Welch et al. 2013, “Beryllium Disease Among Construction Trade Workers At Department of Energy Nuclear Sites.” This study examined health effects among construction workers who worked within Department of Energy facilities that had significant beryllium exposure. The investigators determined that the construction workers were exposed while working in maintenance (not only construction), renovation, repair and demolition of facilities where work with beryllium had taken place. The study found that 34% of the workers reported exposure to beryllium and a small percentage of workers had an abnormal BeLPT test.

This study is not at all relevant to an overall assessment of risk in the construction industry. It involves an examination of work performed in a facility where significant exposure to beryllium had taken place. There is no evidence whatsoever demonstrating that construction employees have developed CBD or other associated disease endpoints while performing non-specialized construction operations at the current PEL.

In fact, OSHA’s entire risk assessment is based on studies from general industry environments. Below are the primary studies that OSHA relies upon in its assessment of risk:

- Reading, PA Plant: Studies of workers at a copper-beryllium processing facility.
- Tucson, AZ Plant: Studies of workers at a beryllia ceramics plant.

⁴ In making its significant risk determinations, OSHA must rely on a “body of reputable scientific thought.” *Benzene*, 448 U.S. at 656. While the Agency is provided some leeway in assessing risk, OSHA is required to show that there is “empirical evidence” of an actual risk. *Am. Petroleum Inst. v. OSHA*, 581 F.2d 493, 503 (5th Cir. 1978), *aff’d*, 448 U.S. 607.

- Elmore, OH Plant: Studies of workers at a beryllium metal, alloy, and oxide production plant.
- Cullman, AL Plant: Studies of beryllium workers at a precision machining facility.
- Aluminum Smelting Plants: Studies of workers exposed to beryllium at aluminum smelting plants.
- Nuclear Weapons Facilities: Studies of beryllium-exposed workers at nuclear weapons facilities.

All of these studies examined exposures in general industry and involved significant exposures, as well. None even come close to examining the prevalence – or even existence – of CBD or other associated disease endpoints throughout the construction industry.

There is certainly some evidence in the rulemaking record that abrasive blasting involves exposure to beryllium or beryllium compounds at levels that OSHA believes could result in a significant risk for the development of CBD and other associated adverse health outcomes. OSHA states: “[a] number of different types of abrasives containing beryllium in trace amounts can be used for blasting media depending on the application. The most commonly used abrasives in the construction industry (e.g., to etch the surfaces of outdoor structures, such as bridges, prior to painting) include coal slag and steel grit Copper slag produced as by-product at copper smelters can also be used as an abrasive.” 82 Fed. Reg. at 29,190. However, this evidence simply demonstrates the presence of trace amounts of beryllium or beryllium compounds for this task, not that abrasive blasters, pot tenders, or clean-up workers are at significant risk of developing CBD or other disease.

Looked at broadly, OSHA’s significant risk analysis as it relates to construction appears to be based upon the following logic:

1. Exposure to certain beryllium compounds in general industry environments have been associated with CBD and other disease endpoints;
2. There is the potential for exposure to beryllium in abrasive blasting operations in construction; and

3. Therefore, there is a significant risk of developing CBD or other associated disease endpoints in *all* of construction at the previous PEL and that the previous PEL must be reduced in all of construction and a STEL added.

This does not prove significant risk in construction.

In fact, the only support for the “risk” of developing CBD or other associated disease endpoints in construction appears from *qualitative* statements from certain stakeholders in the rulemaking record. OSHA relies on the following comments in support of expanding coverage to construction in the final beryllium rule:

- Comment from National COSH: “OSHA recognizes that these workers are exposed to beryllium during abrasive blasting and clean-up of spent material. The risks that construction and maritime workers face when exposed to beryllium particulate is the same as the risk faced at similar exposures by general industry workers.” 82 Fed. Reg. at 2,637.
- Comment from the AFL-CIO: “[a]vailable data in construction and maritime shows that there is a significant risk of sensitization and CBD among these workers.” *Id.*
- Comment from Public Citizen: “the updated standard cannot leave construction and shipyard workers vulnerable to the devastating effects of beryllium.” *Id.*
- Comment from Kimberly-Clark Professional: “[h]azardous exposures are equally dangerous to workers regardless of whether the worker is in a factory or on a construction site, and the worker protection provided by OSHA regulations should also be equal.” *Id.*

These comments are based on no evidence. In the final beryllium rule, though – and by extension this proposed rule – OSHA simply accepts them. OSHA seems to take the position that there is no difference in the risk that construction workers face with respect to beryllium and the risk that general industry employers face in their operations. 82 Fed. Reg. at 2,637. While the CISC recognizes that OSHA does not need to perform an industry-by-industry assessment of significant risk when promulgating health standards, OSHA must do more than

simply assume that risk exists, when there is no surveillance data showing CBD or other disease endpoints in construction.

Furthermore, the Agency cannot assume that the same degree of risk exists in construction as in general industry given the differences in toxicity with the variety of forms of beryllium. In the preamble to the final beryllium rule, the Agency discusses the variety of characteristics of beryllium and beryllium compounds that could impact development of disease. This includes basic chemical properties such as solubility, particle size, and particle surface area. For example, OSHA states in the preamble to the final beryllium rule that “particle size influences deposition of beryllium in the lung, thereby influencing toxicity.” *Id.* at 2,485. OSHA also finds that “[p]article size and/or surface area may explain differences in the rate of beryllium sensitization and CBD observed in epidemiological studies.” *Id.* at 2,486.

OSHA recognizes this in theory, but does not assess how the differences in toxicity could impact risk in the construction environment. Beryllium occurs naturally and can be found in almost all mineral and clay based materials, including soil, rock, stone, concrete bricks, concrete block, cement, abrasive grinding/cutting wheels, tiles, etc. Given the differences in toxicity, it is incumbent upon the Agency to analyze the extent to which this could impact risk faced by construction employees and, potentially, explain why there is no surveillance data showing CBD or other associated disease endpoints in construction.

In fact, the closest study examining exposure in construction to naturally occurring beryllium is Deubner et al. 82 Fed. Reg. at 2,502. Deubner et al. examined exposure to workers at a beryllium mining and extraction facility. The authors concluded that “[t]here was no sensitization or CBD among those who worked only at the mine where exposure to beryllium resulted solely from working with bertrandite ore.” *Id.* This study strongly suggests that exposure to natural occurring beryllium – as opposed to beryllium used in the manufacturing process – is not associated with the development of beryllium-induced disease. OSHA’s risk assessment fails to even consider the extent to which exposure to naturally occurring beryllium may be associated with risk of CBD or other disease endpoints. Yet – whether OSHA intended to do so or not – OSHA has applied the final beryllium rule and would apply this proposed rule to all forms of beryllium, naturally occurring or otherwise.

B. OSHA’s Risk Assessment Ignores Current Compliance.

OSHA’s risk assessment is also fundamentally flawed in that it fails to analyze existing requirements and compliance. OSHA has identified essentially three job tasks in construction that could have exposures above the existing PEL and thus are at increased risk (in OSHA’s

view) of the development of CBD and other associated disease endpoints that will be substantially reduced by a reduction in the PEL and the addition of a STEL (purportedly in this proposed rule): abrasive blasting operators, pot tenders, and clean-up workers.

OSHA's analysis, however, ignores the extent to which employees performing those tasks are already protected by existing standards. Baseline compliance is not considered. In the proposed rule at issue here, OSHA concedes that those potentially affected employees are already protected by a variety of OSHA standards:

The ventilation standard in construction at 1926.57(f)(2)(ii) requires "the concentration of respirable dust or fume in the breathing zone of the abrasive-blasting operator or any other worker" to remain "below the levels specified in 1926.55...." Through the construction ventilation standard, workers performing abrasive blasting are required to wear extensive PPE, including respirators, under certain conditions, including where beryllium concentrations dispersed by blasting may exceed the PEL and the operator is not already physically separated from the nozzle and blast material. 29 CFR 1926.57(f)(5)(ii). In addition, the construction ventilation standard requires some housekeeping measures.

* * *

Furthermore, the general industry Respiratory Protection standard at 1910.134 applies to construction and requires employers to provide a respirator to each employee when necessary to protect the employee's health.

82 Fed. Reg. at 29,221.⁵

⁵ Going back to the PEA for the 2015 proposed rule, OSHA similarly believed – at that time – that these construction employees were protected for purposes of feasibility:

To address high concentrations of various hazardous chemicals in abrasive blasting material, employers must already be using engineering and work practice controls to limit workers' exposures and must be supplementing these controls with respiratory protection when necessary. . . . Due to these requirements, OSHA believes that abrasive blasting operators already have required controls in place and wear appropriate respiratory protection during blasting operations. Pot tenders, cleanup workers, and other helpers in blasting operations do not have similarly stringent protections. However, beryllium exposure due to blasting materials (coal slag) is associated with large amounts

When assessing the risk faced by employees performing tasks with exposure to beryllium, OSHA must consider the extent to which other requirements are applicable to the conduct at issue. Here, for example, abrasive blasters will generally be equipped with respirators and PPE when performing work operations. This is not an option for employers, but a requirement. As a result, OSHA must consider this when assessing whether a significant risk of material impairment exists at the current PEL.

The CISC understands that OSHA's position has historically been to assess risk without regard to the use of respirators. The CISC is not advocating that OSHA deviate from that historical position here. However, OSHA should consider the extent to which other requirements exist that impact employee exposure to the hazard being addressed by the standard. Failure to do so reduces OSHA's risk assessment to a pure "hypothetical," having nothing to do with the reality of workplace risk.

Looked at from a very high level, OSHA is placing obligations on the entire construction industry to monitor operations that could involve exposure to some form of beryllium and to implement engineering controls to reduce exposures to a much lower level, with no evidence that the existing PEL puts construction employees at a significant risk of developing CBD or other disease endpoints. This, OSHA is not permitted to do.

C. OSHA has not Demonstrated that the Proposed Rule will Substantially Reduce Risk.

Even if OSHA were to conclude that there were a significant risk to abrasive blasters or any other occupational group in construction at the current PEL, the rulemaking record does not demonstrate that reducing the PEL or adding a STEL would substantially reduce that risk. The legal obligation of the Agency to examine significant risk is two-fold, as stated above. First, the Agency has to find that a significant risk exists at the current PEL, which OSHA has not demonstrated here. Second, OSHA has to find that the regulatory action will substantially reduce that risk. *See* 82 Fed. Reg. at 29,184 ("Once OSHA makes its significant risk finding, the standard must be 'reasonably necessary or appropriate' to reduce or eliminate that risk.")

of dust; therefore OSHA judges that helpers would already be wearing the level of PPE that would be required by the proposed beryllium standard.

PEA, VIII-10-VIII-11. OSHA should similarly consider baseline conditions when assessing significant risk.

(internal citations omitted)). OSHA also cannot make that finding based on the evidence in the rulemaking record.

OSHA cannot show that this action will substantially reduce risk. Abrasive blasters, pot tenders, and other helpers are already required to be protected by PPE in the vast majority of circumstances they face when performing their work tasks. *Before* any rule would go into effect, these workers would be protected by PPE and *after* any rule went into effect, these workers would be protected by PPE. The PPE would be required for a number of reasons, in addition to whatever beryllium exposure might exist. Reducing the PEL and adding a STEL would not impact the risk faced by these occupation groups given these other requirements.

OSHA's own assessment of forgone benefits demonstrates how the final beryllium rule and this proposed rule would *not* substantially reduce any risk. In the preamble to this proposed rule, OSHA concedes that it has "uncertainty" about whether there would be benefits from reduced exposure related to abrasive blasting in construction. 82 Fed. Reg. at 29,215. OSHA's estimate of benefits in the final beryllium rule was tied to the ancillary provisions of the rule, which OSHA now recognizes did not fully account for the requirements of existing OSHA standards. This proposed rule, like the final beryllium rule, will not substantially reduce significant risk.⁶

D. OSHA's Feasibility Analyses are not Legally Sufficient.

In addition to a finding of significant risk, in order to sustain a rule regulating a health hazard, OSHA must show that the standard as a whole is feasible for the industries affected. The Supreme Court has defined "feasibility" as "capable of being done, executed, or effected." *American Textile Mfrs. Inst. v. Donovan* ("Cotton Dust"), 452 U.S. 490, 506 n. 25 (1981). Courts have established that there are two components to feasibility: technological and economic.

The established test for technological feasibility is whether OSHA can prove, through substantial evidence in the rulemaking record, the reasonable possibility that the typical firm will be able to develop and install engineering and work practice controls that can meet the

⁶ OSHA's assessment of risk as it relates to the construction industry is further skewed by its 45-year working life assumption. Employees in the construction industry rarely have 45 year careers in the same jobs. Employees typically change jobs not only within the construction industry but also outside of it and typically move into positions such as supervisor, safety leader, and project leader. OSHA does not even attempt to assess risk in construction based upon a realistic working life assumption.

PEL in most of its operations. *Lead I*, 647 F.2d at 1279-1308. A standard is technologically feasible if the protective measures it requires already exist, can be brought into existence with available technology, or can be created with technology that can reasonably be expected to be developed. *Cotton Dust*, 452 U.S. at 513. OSHA must analyze whether a standard is technologically feasible on an industry-by-industry basis and reviewing courts expect that different operations within an industry be individually analyzed if necessary to determine if those operations can meet the revised PEL in most of the operations most of the time. *Lead I*, 647 F.2d at 1279-1308.

A standard is economically feasible if the costs it imposes do not "threaten massive dislocation to, or imperil the existence of, [an] industry." *Id.* at 1265 (internal quotation marks and citations omitted). To prove economic feasibility, "OSHA must construct a reasonable estimate of compliance costs and demonstrate a reasonable likelihood that these costs will not threaten the existence or competitive structure of an industry, even if it does portend disaster for some marginal firms." *Id.* As with technological feasibility, OSHA is not required to prove economic feasibility with certainty, but is required to use the best available evidence and to support its conclusions with substantial evidence in the rulemaking record. *See id.* at 1267; *American Iron & Steel Inst. v. OSHA*, 939 F.2d 975, 981 (D.C. Cir. 1991).

OSHA's feasibility analysis is critically important to the legal validity of an OSHA standard. "Feasibility" sets an important boundary to OSHA's rulemaking authority. It reflects Congress's judgment that OSHA's authority in the realm of safety and health is not limitless, and the Agency must consider the ability of industry to comply with the requirements of new health standards and the related costs. OSHA must analyze how the standard applies to a particular industry, define the industry affected, and make a finding as to whether the standard is capable of being done, both from a technological perspective and from an economic one.

As a threshold matter, OSHA's feasibility analysis for the final beryllium rule and this proposed rule fails to align with their scope.⁷ Both the final beryllium rule and the proposed rule at issue here broadly apply the new requirements to the *entire* construction industry. The reduced PEL and STEL would apply to every construction activity at every construction worksite.

⁷ OSHA essentially adopts the technological feasibility analysis prepared for the final beryllium rule and applies it to the proposed rule at issue here.

OSHA's feasibility analysis, however, does not even attempt to examine potential beryllium exposure in the vast array of construction operations. In the industrial profile used as part of the technological feasibility analysis, OSHA only identifies abrasive blasting as potentially affected, as discussed above. 82 Fed. Reg. at 29188. OSHA estimates that 8,400 employees are potentially affected by the proposed rule, as they are either abrasive blasters, pot tenders, or clean-up operators during abrasive blasting operations in construction. *Id.* at 29,191. OSHA makes no finding that any other construction operations result in exposures at risk to workers.

Putting abrasive blasting aside, OSHA has performed no analysis to determine the extent of beryllium exposures and the type of beryllium compounds at issue in the wide range of activities covered by either the final beryllium rule or this proposed rule. From the CISC's review of the rulemaking record, OSHA has no information – nor did OSHA attempt to even assess – the extent of beryllium exposure during grinding, drilling, cutting, chipping, demolition, tuckpointing, milling, earth moving, sawing, and performing any other variety of activities on stone, brick, concrete, aggregate, tile, metal, and other materials. OSHA seems to presume that exposure in this vast array of operations would be below the PEL and not affect the STEL, but OSHA made no attempt to actually determine that to be the case.

In most of the Agency's feasibility analyses, the Agency reviews data from a number sources, including published articles, exposure data, NIOSH health hazard evaluations and other studies, site visit reports from contractors, and interviews with industry and labor officials. OSHA's feasibility analysis here examined none of that information. OSHA actually has no idea – at least as it is reflected in the rulemaking record – if beryllium is present and to what degree it is present in construction operations. OSHA has essentially applied the new beryllium rule to every construction operation or task without making even a bare finding that the operation or task could involve beryllium exposure.

OSHA's failure to examine even the basics of construction operations has inappropriately shifted its legal obligation to perform a technological feasibility analysis onto employers who now must perform the assessment that OSHA failed to perform. The OSH Act requires the Agency to at least assess technological feasibility on an industry-by-industry basis to ensure that the rule can be met in most operations most of the time before shifting the burden to employers to demonstrate infeasibility in the context of enforcement proceedings. OSHA's analysis does not come close to meeting that basic obligation. *See Nat'l Mar. Safety Ass'n v. OSHA*, 649 F.3d 743, 753 (D.C. Cir. 2011) (“[OSHA's VTL Standard] is almost devoid of a feasibility analysis.”).

As a result, if the proposed rule were to become final, employers in construction will be required to embark on the time-intensive, resource-driven task of conducting exposure sampling for their tasks to determine the existence of beryllium exposure in whatever form and to determine if they are over the PEL or STEL. This is an inappropriate burden to put on employers in construction.

Indeed, in this proposed rule OSHA does not appear to incorporate a cost at all for employers throughout the construction industry to assess the extent of exposure in their operations. As set forth above, beryllium is naturally occurring in a number of different substances that are ubiquitous on construction worksites. In order to ensure compliance, construction employers cannot simply assume that their tasks involve exposures to beryllium below the PEL. If an OSHA compliance officer were to visit a construction worksite and sample for beryllium during construction operations, the employer could not stop the compliance officer from doing so based on the fact that OSHA only considered abrasive blasting operations as potentially affected. In addition, it would not be a defense to a citation to, again, state that OSHA did not consider the vast array of construction operations as potentially affected by the proposed rule.

Furthermore, OSHA has made no finding as to whether there are engineering and administrative controls available to construction employers to meet the proposed PEL or STEL. Thus, OSHA's lack of findings with respect to effective engineering and administrative controls then shifts the burden to employers to determine what controls are available to implement to reach feasible levels.

OSHA states that it did not have enough evidence to complete an initial exposure profile for the construction industry of workers in application groups other than abrasive blasting with beryllium-containing slags. Nevertheless OSHA determined that it was appropriate to cover all construction tasks potentially involving exposure to beryllium in the scope of the standard. In effect, OSHA states that it can only analyze the feasibility of the rule with respect to abrasive blasting in construction, even though the rule applies to all construction activities and, at a minimum, all construction employers will need to do an assessment of their activities to determine if their exposures are above the action level. This is improper.

E. The Proposed Rule is not Cost Effective.

Finally, the proposed rule is not cost-effective. OSHA is required to analyze a variety of options to effectuate the purposes of a rule and adopt the *least costly* option that will achieve

the same level of protection. *See Int'l Union, UAW v. OSHA*, 37 F.3d 655, 668 (D.C. Cir. 1994). The final beryllium rule is not cost-effective, nor is this proposed rule.

If the CISC gives the benefit of the doubt to the Agency in terms of potential employee exposure to beryllium in the construction industry, then the evidence only demonstrates exposure to beryllium at levels above the proposed PEL in abrasive blasting operations. This limited exposure should lead to the development of a regulatory approach that is *similarly* limited.

Instead of a limited regulatory approach, OSHA is applying the rule to the entire construction industry. Thus, all contractors are going to need to devote resources to reviewing all of their construction activities (including materials used and operations performed on the materials) to determine what, if any, exposure to beryllium they have and depending upon those levels, what they need to do to reduce exposures below the PEL or STEL. This is not cost-effective, considering that OSHA has not even attempted to do its own analysis of activities in construction that could be impacted.

The broad nature of the proposed rule will do more than simply cause employers to devote resources to monitoring a wide range of construction activities for beryllium. This exercise will take away resources from other safety and health hazards that construction employers should be assessing and proactively addressing. For example, the single most significant hazard in construction is falls from heights. This is a hazard to which construction employers should be devoting significant resources. Other common hazards in construction include struck-by hazards, slip and trip hazards, and hazards associated with the use of tools and other equipment. Construction employers should be focusing time and attention to these important issues on their job sites, and not devoting resources to studying and addressing exposure to a substance that has not been shown to be associated with adverse health effects in construction. This does not advance workplace safety and health.

The CISC encourages OSHA to take a step back and assess the true need for this proposed rule in construction. Development of CBD and any other associated disease outcomes have not been demonstrated to occur in construction. The CISC respectfully requests that the Agency revisit its underlying rationale for extending what is a general industry rule broadly to every construction operation without evidentiary support for doing so.

VI. Regulatory Alternatives.

OSHA also seeks comments on other regulatory alternatives to the proposed rule. 82 Fed. Reg. at 29,223. In particular, OSHA seeks comment on whether all or some of the ancillary provisions in the final rule should be revoked. *Id.* OSHA is also considering extending the compliance dates in the final rule for construction by a year.

A. Ancillary Provisions.

The CISC strongly believes that there should be no ancillary provisions placed on construction employers in any beryllium standard. As set forth above, the CISC does not believe that the evidence in the record supports even a reduction in the PEL (and the addition of a STEL) for the construction industry, let alone the addition of ancillary provisions. Given the lack of data suggesting any cases of CBD or other associated disease outcomes in construction, requiring construction employers to devote resources to monitoring, medical surveillance, medical removal, written access control plans, etc. is completely unjustified and not authorized by the OSH Act.

B. Extended Compliance Date.

OSHA also seeks comment on whether the compliance dates of March 2018 should be extended by a year for the construction and shipyard industries as a result of the proposed rule. *Id.* at 29,223. As set forth above, the CISC believes that the proposed rule is not necessary to protect the safety and health of construction employees from CBD or other associated disease endpoints and should be withdrawn.

If the proposed rule goes forward in any form, the CISC would request that at a minimum OSHA act consistent with the final beryllium rule and extend any compliance dates to one year from the effective date of any new final rule. If the rule is finalized as proposed, employers will need to perform extensive analyses of the extent to which the range of operations that they perform result in exposures above the PEL and what engineering controls would be needed to be implemented to reduce exposures. Furthermore, given the posture of this rulemaking and the uncertainty surrounding it, the regulated industry would undoubtedly need adequate time to determine whether they are impacted by any future final rule.

VII. Conclusion

The CISC appreciates OSHA re-examining the need for a comprehensive standard regulating beryllium exposure in construction. While the CISC supports eliminating the ancillary provisions from the final beryllium rule, as set forth above the rulemaking record does not support a need for a reduced PEL and the addition of a STEL in construction.

Substantial evidence does not demonstrate that a significant risk of material harm exists to construction workers as it relates to exposure to beryllium and beryllium compounds. Nor does the evidence show that the proposed rule will substantially reduce that risk. OSHA has also failed to perform even the most basic of feasibility analyses.

Based on the above the CISC requests that OSHA adopt the approach put forth in the 2015 proposed rule and maintain the previous PEL for beryllium and beryllium compounds in construction.

American Pipeline Contractors Association
American Road and Transportation Builders Association
American Society of Concrete Contractors
American Subcontractors Association
Associated Builders and Contractors
Associated General Contractors
Association of the Wall and Ceiling Industry
Building Stone Institute
Concrete Sawing & Drilling Association
Construction & Demolition Recycling Association
Distribution Contractors Association
Interlocking Concrete Pavement Institute
International Council of Employers of Bricklayers and Allied Craftworkers
Leading Builders of America
Marble Institute of America
Mason Contractors Association of America
Mechanical Contractors Association of America
National Association of Home Builders
National Association of the Remodeling Industry
National Demolition Association
National Electrical Contractors Association
National Roofing Contractors Association
National Utility Contractors Association
Natural Stone Council
Power and Communication Contractors Association
The Association of Union Constructors
Tile Roofing Institute