

**Comments of the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied
Industrial and Service Workers International Union (USW)**

on

**OSHA's Proposed Rule on Occupational Exposure to Beryllium and Beryllium
Compounds in the Construction and Shipyard Sectors**

RIN 1218-AB76

Docket OSHA-H005C-2006-08702191

November 7, 2019

The USW welcomes this opportunity to comment on OSHA's proposed revisions to the beryllium rule in shipyards and construction. While minor revisions to the general industry standard are still pending, we appear to be close to the end of a decades-long effort to better protect workers from the effects of this highly useful but highly toxic metal.

Our union has advocated for an improved beryllium standard for more than 40 years. We were active in the 1977 rulemaking that attempted, but failed, to establish a new beryllium regulation. In 2012 the USW and Materion Brush, the predominant U.S. supplier of beryllium and beryllium alloys, submitted a joint recommendation to OSHA for a comprehensive standard, including a proposed regulatory text. That proposal was only for general industry; to include shipyards and construction would have required broadening the USW-Materion negotiations to include representatives from those industries. But the USW always encouraged OSHA to extend the standard to protect shipyard and construction workers, and Materion did not object.

The OSHA rulemaking took another four years. The final set of standards, issued on January 9, 2017 contained many elements of the USW-Materion recommendation, including the PEL of 0.2 ug/m³. Shipyards and construction were included.

However, on June 27, 2018 OSHA proposed to revoke all the ancillary provisions of the shipyard and construction standards – everything but the new PEL and STEL. As is required by the rulemaking process, the agency solicited comments, which the USW and other stakeholders provided. Of course we opposed the proposal, as did many other parties.

On October 8 of this year, OSHA determined that the ancillary provisions would not be revoked after all. Instead, OSHA proposed to modify them. It is that proposal that we comment on today.

1. Preserving the Ancillary Provisions

OSHA's decision not to remove the ancillary provisions is embodied in a final rule, and is not the subject of, or an issue in this rulemaking. It is worthy of comment nonetheless. There was never any justification for failing to protect shipyard and construction workers to the same level as workers in all other industries. The employers and trade associations who advocated mutilating the two standards failed to provide any convincing evidence during the comment period because no such evidence exists. In the preambles to the 2017 standards OSHA fully

explained why medical surveillance, workplace monitoring and other requirements were critical aspects of all three beryllium regulations. That finding was correct.

OSHA clearly did the right thing in deciding not to remove the ancillary provisions. But doing the right thing in an extreme deregulatory climate requires not only wisdom, but courage as well. We applaud the agency and its staff.

2. The OSHA Proposal

When OSHA determined to keep the ancillary provisions it also proposed to change them. Many of those changes align the proposed shipyard and construction standards with the changes to the general industry standard adopted in a May 7, 2018 direct final rule (DFR) and the changes proposed in a December 11, 2018 notice of proposed rulemaking, but not yet finalized. The changes and proposed changes arose from a settlement agreement between OSHA and Materion, in which the USW participated. We fully support them. It would be bad-faith bargaining for the USW not to support them.

However we do not support the changes that conflict with the general industry standard as modified by the May DFR and the current general industry rulemaking. Those proposed changes are predicated on the belief that the only significant operations potentially involving exposure to beryllium in shipyards and construction are abrasive blasting using slag-derived blasting agents and a limited amount of beryllium-copper welding. This sweeping generalization applies not only to current operations, but implicitly to all future operations.

This is a dangerous assumption, and OSHA makes it in no other health standard. If a new chemical product is synthesized from 1,3-butadiene, the 1,3-butadiene standard will apply in its entirety. If arsenic finds a new use in semiconductors, the employer will be expected to comply with the entire arsenic standard. A newly-designed process unit in an oil refinery will not be exempt from any part the benzene standard.

However, under the OSHA proposal, if metallic beryllium, a beryllium alloy, ceramic or other compound is someday used on a construction site or in a shipyard, exposed workers will lack important protections enjoyed by their counterparts in general industry.

Beryllium is a highly useful material. It is light, strong, rigid, non-magnetic, and resistant to corrosion and fatigue. It combines high thermal conductivity with high thermal stability. It is transparent to x-rays and other forms of radiation. It adds important qualities to metal alloys, even in small quantities. It is used in many high-tech applications, including circuit boards, x-ray machines, high-performance aircraft, particle detectors at the Large Hadron Collider, medical instruments, as a moderator in some nuclear reactor designs, and as the mirror assembly in the James Webb Space Telescope. It is also used in lower tech products like non-sparking and non-magnetic tools and in springs and coils.

The USW represents workers at the Huntington Ingalls Shipyard in Newport News, Virginia. The yard builds nuclear aircraft carriers and submarines. A nuclear aircraft carrier is the most complex and high-tech movable machine ever constructed. A nuclear submarine has an

equivalent level of cutting-edge technology, and it operates in an environment even more extreme than outer space. Can OSHA legitimately assume that beryllium alloys, ceramics or other compounds will never be used on an aircraft carrier or in a submarine? Can the agency even assume that they are not used now, given that many of the assemblies and components of these vessels are classified?

The same can be said for construction. New materials and techniques are being introduced into the industry at a rapid pace. Can OSHA be certain that future construction workers will never be exposed to beryllium except in abrasive blasting or welding?

We previously raised these issues in our comments on the proposed rule finalized in 2017, as did others. We also cited the current use on construction sites and probably in shipyards of beryllium-copper non-sparking tools. (The author of these comments has himself used such tools on a construction site.) Beryllium-copper tools are also non-magnetic, and are used around highly magnetic components of military radars.

OSHA acknowledges that welding with beryllium-copper rods and wire can expose shipyard workers to beryllium, but dismisses the hazard of dermal contact on the grounds that such contact with materials exceeding 0.1% beryllium is unlikely. However beryllium-copper rods typically contain 2% beryllium and at least one manufacturer warns users against grinding, cutting or polishing the weld without proper protection. (Attachment A). OSHA also cites limited evidence that the beryllium content of welding fume is lower than that of welding rods¹, and that airborne levels of beryllium from welding operations are low². However welds are often subjected to the operations the manufacturer warned against, sometimes by workers other than welders, and there is no indication that OSHA considered them.

OSHA addressed the possibility of other exposures in the preamble to the 2017 final rule:

OSHA acknowledges the USW's concerns about future beryllium use and recognizes that there is potential for exposure to beryllium in construction and shipyard operations other than abrasive blasting. As such, workers engaged in such operations are exposed to the same hazard of developing CBD and other beryllium-related disease, and therefore deserve the same level of protection as do workers who are engaged in abrasive blasting or covered in the general industry final rule. Therefore, although at this time OSHA cannot specifically quantify exposures in construction or shipyard operations outside of abrasive blasting, OSHA has determined that is necessary for the final standards for construction and maritime to cover all occupational exposures to beryllium in those industries in order to ensure that the standard is broadly effective and addresses all potential harmful exposures.³

However, in this rulemaking OSHA has reversed itself. The agency was right the first time.

¹ 83 FR 53906

² 83 FR 53923

³ 82 FR 2639

In an attempt to justify removing or modifying numerous provisions from the shipyard and construction standards, OSHA states that “the vast majority of the operations...involve beryllium in concentrations of less than 0.1% by weight.”⁴

OSHA also states:

*In construction and shipyards, where beryllium exposure occurs almost exclusively from materials that contain beryllium in concentrations less than or equal to 0.1 percent by weight, OSHA is now proposing to remove provisions triggered by dermal contact or beryllium contamination entirely.*⁵

Even if OSHA is correct that the “vast majority” of exposures are to materials with less than 0.1% beryllium, and correct that exposure is “almost exclusively” to such materials; and even if OSHA could somehow magically determine that it would remain so for years into the future, it would still not justify removing provisions triggered by higher concentrations. OSHA’s mandate is to protect all workers, not just the “vast majority,” or “almost” all. Only by including all the general industry protections in the shipyard and construction standards can OSHA fulfill that mandate,

Respectfully submitted,



Michael J. Wright
Director of Health, Safety and Environment

⁴ 83 FR 53913 and 53917

⁵ 83 FR 52906