Background
Beryllium and beryllium compounds are essential materials used extensively in the aerospace, electronics, telecommunications and defense industries. Despite its utility, beryllium has long been identified with certain adverse health effects. Chronic Beryllium Disease (CBD), formerly known as “berylliosis,” is a chronic inflammatory lung disease believed to be caused by inhalation of airborne beryllium by individuals who have been previously sensitized to beryllium. According to OSHA, CBD signs and symptoms can include shortness of breath, fatigue, weight loss, fever and night sweats but it may take months or years after exposure to beryllium to appear. CBD can continue to progress even after a worker has been removed from exposure. An individual must become sensitized to beryllium before a worker can develop CBD.

On Jan. 9, 2017, OSHA published a final rule, Occupational Exposure to Beryllium and Beryllium Compounds, intended to protect workers from workplace beryllium exposures. The rule specified expanded standards for general industry, construction, and shipyards, and included a beryllium lower eight-hour time weighted average (TWA) and permissible exposure limit (PEL), a new short term exposure limit (STEL), and an action level at half of the eight-hour TWA PEL. OSHA's previous PELs for beryllium were believed by OSHA to be outdated and inadequate for protecting worker health.

The previous PELs were based on older studies that did not reflect more recent scientific evidence showing that low-level exposures to beryllium can cause lung disease. For example, in the 45 years since the previous PELs were established, the U.S. National Toxicology Program, the In-
ternational Agency for Research on Cancer, and the National Institute for Occupational Safety and Health had all identified beryllium as a human carcinogen. The 2017 final rule is thought to align better with current health effects data and is expected to reduce the risk of disease among beryllium-exposed workers. The final rule was challenged in federal court by industry stakeholders.

On June 27, 2017, OSHA issued a Notice of Proposed Rulemaking, Occupational Exposure to Beryllium and Beryllium Compounds in Construction and Shipyard Sectors, to revoke the ancillary provisions of the construction and shipyard standards in the final rule. The proposal retained the PELs. All enforceable obligations, outside the ancillary provisions of the construction and shipyard standards, were to be effective as of March 12, 2018, except for the general industry requirements for change rooms and showers that are scheduled to start on March 11, 2019, and the requirements for engineering controls that are scheduled to start on March 10, 2020.

On May 7, 2018, OSHA issued a direct final rule, Revising the Beryllium Standard for General Industry, intended to clarify certain provisions in the 2017 final rule. These include provisions pertinent to processes, operations, or areas where workers may be exposed to materials containing less than 0.1 percent beryllium by weight, the definitions of certain terms including “beryllium work area,” “emergency,” “dermal contact,” and “beryllium contamination,” as well as several other provisions thought to be in need of clarity.

**Enforcement**

In a memorandum dated March 2, 2018, OSHA delayed enforcing the general industry standard, construction, and shipyard PELs, until May 11, 2018. Under the terms of settlement agreements reached with petitioners challenging the 2017 final rule, OSHA was required to propose to extend the compliance dates of certain requirements until Dec. 12, 2018. This delay is intended to allow time to complete that and other ongoing rulemaking proceedings.

As of May 11, 2018, OSHA will begin enforcing only requirements including the PELs in the general industry, construction and shipyard standards. OSHA will also enforce provisions pertinent to the general industry exposure assessment, general industry respiratory protection, general industry medical surveillance and general industry medical removal provisions.

Under the terms of settlement agreements with petitioners who challenged the rule, OSHA will propose to extend further this compliance date for the ancillary provisions to Dec. 12, 2018. OSHA previously proposed to remove the ancillary requirements from the beryllium standards for the construction and maritime industries. In accordance with that proposal, OSHA will enforce the PELs, but will not enforce any other provisions for beryllium exposure in those standards unless it provides notice. Certain compliance dates outlined in the rule remain unchanged. Enforcement of the general industry requirements for change rooms and showers will begin March 11, 2019; and requirements for engineering controls will begin March 10, 2020.

**Discussion**

The beryllium standard has been the subject of controversy, rulemaking, and litigation for years. According to OSHA, the entire worker popula-

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