RE: Occupational Lead Exposure Limits
WAC 296-62-07521 and WAC 296-155-176

Ms. Soiza and Mr. Lundeen,

The Department of Health fully supports efforts of the Department of Labor and Industries (Department) to make occupational regulation of lead more health-protective. While lead exposure levels in the general public have generally declined in the past 30 years with the removal of lead from gasoline and paint, potential for elevated occupational exposures still exists and current regulations are neither adequate to protect worker health nor to protect workers' children from take-home exposure.

Since Occupational Safety and Health Administration (OSHA) first established a permissible exposure limit (PEL) for lead in 1978, increasing evidence suggests that much lower adult exposures are associated with a wide range of health effects, including cardiovascular, renal, neurobehavioral, and reproductive effects. Furthermore, the National Toxicology Program (NTP) of the National Institute of Environmental Health Sciences (NIEHS) concludes that there is sufficient evidence in adults that (NTP 2012):

- Blood lead levels <10 µg/dL are associated with increased blood pressure, hypertension and essential tremor.
- Blood lead levels <5 µg/dL are associated with decreased renal function.
- Maternal blood lead levels <5 µg/dL are associated with reduced fetal growth.

Based on this information, we recommend that the PEL for lead be significantly reduced from 50 µg/m^3 as an 8-hour time-weighted average (TWA), to a level that would maintain blood lead levels as low as possible. We recognize that much literature about lead health effects is based on measurement of blood lead concentrations, and determining the relationship between these and airborne lead concentrations is a separate scientific step. However, it is clear that the current PEL in the rule does not ensure a sufficiently low blood lead level that is protective of worker health. Estimates from a recently published physiologically-based pharmacokinetic model reported that workers exposed to an 8-hour TWA lead concentration of 17.6 µg/m^3 correspond to a blood lead level of 43 µg/dL among 95th percentile of the population (CAL EPA 2013).

We recommend that the blood lead levels that trigger medical removal and the testing schedule, be reduced to alignment more closely with the NIOSH case definition of "elevated blood lead level" at 5 µg/dL or higher (NIOSH 2015). We also note that there are several other integral components of the Department's current occupational lead exposure regulation, beyond the PEL, that merit reconsideration, including: the action level, defined engineering and work practice controls to maintain compliance, more protective hygiene practices and policies, and requirements for medical surveillance.

We defer to the Department to determine a PEL and other requirements for lead that protect worker health, given the current state of scientific knowledge and alignments with Federal guidelines and best practices. As a partner in the protection of public health, we welcome the opportunity to support you in the promulgation of updated lead exposure rules.

Respectfully,
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