

Appendix B

Written Comments Received After Comment Period

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Comment: Lane Mt. Silica Company #1

“Lane Mountain does not believe there is an adequate basis for Ecology to add silica (crystalline, respirable) to its list of toxic air pollutants, nor is there an adequate basis for the proposed ASIL, SQER, and de minimis emissions value based on an ASIL of $3\mu\text{g}/\text{m}^3$, as measured over a 24-hour period.”

Response: Lane Mt. Silica Company #1

Ecology is listing respirable crystalline silica as a toxic air pollutant (TAP) on the basis of work conducted by the California Office of Environmental Health Hazard Assessment (OEHHA). OEHHA is internationally recognized and accepted within the field of toxicology. OEHHA developed a Chronic Reference Exposure Level (CREL) for respirable crystalline silica of $3\mu\text{g}/\text{m}^3$ in 2005.

Ecology reviewed the regulatory record for the development of the respirable crystalline silica CREL and has determined that it is well supported by toxicological studies and underlying science. The panel of OEHHA toxicologists carefully considered many of the comments raised by Lane Mountain and the American Chemistry Council in developing the CREL and responded in kind. See http://oehha.ca.gov/air/chronic_rels/pdf/ACCSilicaPanel_RESPONSE_FINAL.pdf.

Ecology finds OEHHA’s conclusions compelling, and will therefore list an ASIL of $3\mu\text{g}/\text{m}^3$ for respirable crystalline silica.

Comment: Lane Mt. Silica Company #2

“Because EPA has not identified silica (crystalline, respirable) as a “criteria” or “principal” pollutant and emissions of silica (crystalline, respirable) fall within the scope of the standards set forth for Particulate Matter (PM_{10} and $\text{PM}_{2.5}$), Lane Mountain does not believe any further standards are necessary. Because the public health and safety of the citizens, plants and animals of Washington and the Valley, Washington community are adequately protected by the Particulate Matter (PM_{10} and $\text{PM}_{2.5}$) standards set forth in the NAAQS, silica (crystalline, respirable) should not be included on the list of toxic air pollutants.”

Response: Lane Mt. Silica Company #2

The Environmental Protection Agency’s (EPA’s) Standards for Particulate Matter, do not directly address the issue for which we are adopting the ASIL respirable crystalline silica as a toxic air pollutant. Particulate Matter standards are more generally applied. They are ambient air quality standards applicable to all areas of the nation. The ASILs established in this rule are not ambient standards, and only apply at the boundary line of a new source when an existing source is being modified. They are threshold levels that trigger an additional level of regulatory review of a source if exceeded. That additional

regulatory review includes a risk assessment to characterize the risk posed on off-site receptors from the new or modified source. Because they have different purposes and regulatory endpoints, it is appropriate that ASILs are different from EPA's ambient air quality standards.

Further, the Particulate Matter standards are not chemical specific, and so are not set with the particular toxic properties of chemicals in mind. ASILs are set to reflect the toxic and carcinogenic properties associated with each listed toxic air pollutant so that their risks can be adequately characterized.

Our rule only applies at the boundary line of a new source or when an existing source is being modified. The Particulate Matter standards are not set with their toxic properties in mind. But the ASILs are specifically designed to protect the public from the toxic and carcinogenic properties in mind. Ecology has determined that due to the different regulatory endpoints and health effects involved, setting an ASIL that differs from EPA's Particulate Matter Standards is appropriate.

Comment: Lane Mt. Silica Company #3

"While Lane Mountain is highly concerned with air pollution in the community in which it operates and the quality of the environment in which its employees work, Lane Mountain disagrees with the with the application of standards derived from these occupational studies to Ecology's ambient air pollution regulations. Any regulation of silica (crystalline, respirable) as a toxic air pollutant should be the result of careful analysis of properly conducted and applicable scientific research regarding the affects of silica (crystalline, respirable) in the ambient air on the general population."

Response: Lane Mt. Silica Company #3

Ecology agrees that air quality regulations should be based on science, and has carefully evaluated the work by OEHHA in establishing a CREL for respirable crystalline silica. While most of the underlying studies supporting the CREL were occupational epidemiology reports, Ecology believes that the CREL was appropriately derived. The practice of relying on occupational reports is widely accepted among scientists and organizations that develop chemical specific risk based concentrations (RBCs), largely because these studies directly examine human health effects in relation to exposures to more or less specific toxicants. The use of the occupational exposure studies helps to prevent higher exposures in the ambient air.

Comment: Lane Mt. Silica Company #4

". . . (T)he standards set forth by MSHA (Mine Safety and Health Administration) should be given great weight when determining whether silica (crystalline, respirable) should even be considered a toxic air pollutant by Ecology, and certainly should be considered when establishing an appropriate ASIL, SQER, and de minimis emissions value."

Response: Lane Mt. Silica Company #4

Ecology's rules set ASILs differently than those standards that are set for an occupational setting. Our ASILs are set with the need to protect sensitive populations, such as children and the elderly. The Mine Safety and Health Administration sets their regulatory levels for healthy workers. Since we are trying to protect different populations, it is appropriate to have different levels of concern. It is also important to note that the ASILs are not ambient standards that cannot be exceeded, but instead threshold levels to trigger risk assessments if triggered. This is a very different regulatory context than occupational standards set by MSHA. Given both these differences, Ecology finds it appropriate for the respirable crystalline silica ASIL to differ from standards established by MSHA.

Comment: Lane Mt. Silica Company #5

"Lane Mountain's Experience shows it is not a health risk to its community. . . . To date, Lane Mountain is not aware of a single reported case of a respiratory ailment or silicosis over the past 49 years within the Valley, Washington community attributable to the presence of silica (crystalline, respirable) emitted from Lane Mountain's operations into the ambient air."

Response: Lane Mt. Silica Company #5

While there may or may not have been any cases of disease caused by silica in the Valley, Washington community, this regulation applies not only in Valley. This regulation has statewide application and will protect members of the public across the state. Ecology is regulating silica (crystalline, respirable) in order to protect the public in all areas of the state from all sources that emit this toxic chemical.

Comment: Lane Mt. Silica Company #7

"Regardless the AQP" (Valley School District monitoring) "study shows no instances of the presence of Particulate Matter-10 or Particulate Matter-2.5 in excess of the standards set forth in the NAAQS, and does not include any report regarding the proportion of silica (crystalline, respirable) to the total particulate matter found in samples. For this reason, no conclusions can, or should be drawn from this study for purposes of determining whether silica (crystalline, respirable) should be included in the list of toxic air pollutants."

Response: Lane Mt. Silica Company #7

The study mentioned above did not in any way influence Ecology's decision to include silica (crystalline, respirable) in the list of toxic chemicals in WAC 173-460-150. That decision was based solely by its inclusion in the OEHHA database and our review of the supporting data for that database.

Comment: Lane Mt. Silica Company #8

“Lane Mountain joins the ACC” (American Chemistry Council) “in these” (their) “comments and would ask that the Ecology remove silica (crystalline, respirable) from the proposed list of toxic air pollutants to be set forth in the revised WAC 173-460-150.”

Response: Lane Mt. Silica Company #8

Ecology reviewed and considered the American Chemistry Council’s comments, including their extensive appendices. Ecology did not agree with these comments. Our more detailed responses to their comments are included in this document.

Comment: Lane Mt. Silica Company #9

“The Proposed Rule Changes could have a tremendous economic impact on the state of Washington. The Proposed Rule Changes have the potential to halt future growth of Lane Mountain and may possibly put it out of business.”

Response: Lane Mt. Silica Company #9

Ecology has produced two documents, a Small Business Impact Statement (SBIES), and a Cost Benefit Analysis (CBA) regarding the economic impacts of this rule. Neither document addresses the survivability of any businesses on a singular basis, but looking at the state as a whole the SBEIS predicts a positive employment impact. The CBA states that the costs to business and society are outweighed by the benefits to society and business.

As far Lane Mountain ceasing operation, Ecology reminds the commenter that ASILs are not ambient standards. The ASILs are trigger levels. ASILs are only considered when a business is modifying an existing source or when establishing a new source. If the ASILs exceeded, the only actions required are further analysis of the permit application and further review by Ecology including characterization of the risk associated with a project.

WAC 173-460-150 ASIL Table

Comment: American Chemistry Council #1

The Panel does not believe the ASIL is justified from a scientific standpoint.

Response: American Chemistry Council #1

Ecology disagrees with this assertion. We selected the respirable crystalline silica Ambient Source Impact Level (ASIL) on review of work by California’s Office of

Environmental Health Hazard Assessment (OEHHA) in selecting a respirable crystalline silica Chronic Reference Exposure Level (CREL).

California's process for setting reference exposure levels is thorough and extensive. The process includes review at several levels: internal OEHHA review, consultation with the California Air Pollution Control Officers Association (CAPCOA) and the California Air Resources Board (CARB), a public comment period, public workshops and review by a scientific review panel. The final RELs reflect changes made in response to public comments and scientific input. The ASIL is justified by well-founded scientific work.

Comment: American Chemistry Council #2

The Panel does not believe that the ASIL is practical or responsive to any identified public health concern. In particular, there is no evidence indicating that concentrations of crystalline silica in ambient air (which often are as high or higher than the proposed ASIL) have caused silicosis or any other silica-related disease in the general population. Rather, silica-related disease appears to be confined to the occupational setting, where exposures are far higher than anything the general population would encounter. Accordingly, from a public health perspective, adoption of an ASIL of 3 $\mu\text{g}/\text{m}^3$ for crystalline silica is unnecessary.

Response: American Chemistry Council #2

The comment suggests that development of a chronic REL for silica is not practical or responsive to any identified public health concern. However, significant literature exists on the adverse effects of silica in human workers. This literature was considered and reviewed by OEHHA in establishing their CREL, and Ecology finds the conclusion that there could be health risks posed at levels of respirable crystalline silica above 3 $\mu\text{g}/\text{m}^3$ compelling.

This ASIL is implemented as part of an air quality program, which aims to prevent any of these adverse health effects occurring in the general public. The ASIL is only applicable to new and modified sources of air pollution. An exceedance of the ASIL triggers the need for additional regulatory review, including a risk assessment of the risks posed by the new or modified source. Because it is intended to act as a threshold level to trigger additional review to detect potential risks to the public associated with projects before they occur, Ecology believes the ASIL to be appropriately set at 3 $\mu\text{g}/\text{m}^3$.

Comment: American Chemistry Council #3

If an ASIL is to be established for crystalline silica at all, it should be set at a level no lower than 8 $\mu\text{g}/\text{m}^3$ - 10 $\mu\text{g}/\text{m}^3$, based on a proper interpretation of what OEHHA termed the "key study" by Hnizdo and Sluis-Cremer (1993) and an adjustment to reflect corrected exposure levels of workers in that cohort.

Response: American Chemistry Council #3

We reviewed the reports American Chemistry Council Crystalline Silica Panel submitted to support eliminating the respirable crystalline silica ASIL or raising it to 8-10- $\mu\text{g}/\text{m}^3$. Namely, these reports are ones by the American Chemistry Council Crystalline Silica Panel and the California Mining Association, by Gibbs, and by Berry. As noted, the ASIL is the CREL established by the California OEHHA. OEHHA also considered the information provided in these reports and responded in kind. See http://oehha.ca.gov/air/chronic_rels/pdf/ACCSilicaPanel_RESPONSE_FINAL.pdf.

- The Silica Panel report argues that the silica exposures in the key study and supporting studies were underestimated resulting in silicosis risk being overestimated and consequently making OEHHA's CREL too low.
- The CREL is based on several supporting studies and one key study (i.e. Hnizdo and Sluis-Cremer (1993)). Hnizdo and Sluis-Cremer investigated silicosis risk retrospectively in a cohort of 2,235 white male South African gold miners. Exposure estimates were made for nine separate occupational categories based on a special study of dust levels in these mines done by Beadle during the same period some of workers who went on to develop silicosis were exposed (Beadle, 1971).
- The Silica Panel argues that the exposure estimate by Beadle is incorrect but that an exposure estimate prepared by Gibbs and Du Toit (2002) is correct. OEHHA reviewed both Beadle (1971) and Gibbs and Du Toit (2002) and concluded the former was correct and the latter is incorrect (See p. 28-31 of OEHHA. 2005. Chronic Toxicity Summary, Silica).

In short, Ecology agrees with OEHHA's responses to the issues raised by the Silica Panel, and believes that OEHHA's CREL is well supported by existing studies and data.