

**Presentation to
ARMA Board of Directors**

**Asphalt Fumes, Silica
And IH Database Update**

**Art Sampson
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Topics

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Asphalt Fumes

Cancer Risk Assessment

- In 2015 Dr. Lorenz Rhomberg and colleagues at Gradient published a risk assessment estimating cancer risks for occupational exposure to roofing asphalt. Worklife lung cancer risk was estimated at 8 in 1 million or lower, and skin cancer risk was 3 in 10,000 based on the best available estimates of dermal exposure.
- As Gradient concluded, these risks are generally below levels of regulatory concern. OSHA, for example, considers risks < 1 in 1000 not “significant” and beyond its authority to regulate.
- The Gradient skin cancer risk estimates were based in part on a 2014 EPA dermal potency estimate for B[a]P which, at the time Gradient completed its work, represented EPA’s position. However, a review by EPA’s Science Advisory Board concluded that the 2014 dermal potency estimate should be reconsidered. Accordingly, in January 2017, EPA withdrew it.

Asphalt Fumes

Cancer Risk Assessment (Cont'd)

- The withdrawal of the 2014 EPA estimate is problematic because the dermal risk estimate for roofing asphalt is near OSHA's 1-in-1000 regulatory threshold. A regulatory agency evaluating roofing asphalt might substitute of another dermal potency estimate for B[a]P that could drive the risk estimates up high enough to justify a regulatory response.
- Given the current regulatory climate at EPA, it is unlikely that the Agency will revisit B[a]P in the near future. Accordingly, Gradient will develop an independent scientific justification for using the 2014 EPA value as part of a separate cancer risk assessment Gradient is developing for AI on paving asphalt.
- We understand that Gradient is close to submitting a draft for review by AI scientists. Representatives of several ARMA members are active on this project at AI.

Asphalt Fumes

Evidence Suggesting Chronic Lung Damage

- A series of studies suggest that chronic lung damage (declines in pulmonary function) is associated with asphalt work. Some studies find effects near or below the occupational exposure limit (OEL) for asphalt fumes that is being used as a safety benchmark by most ARMA members.
- Each of these studies has flaws. A common shortcoming is the inability to rule out other factors that might explain the lung findings. Nevertheless, industry scientists worry that the mounting evidence may soon reach the point at which regulators will seriously consider lowering the OEL.
- The Asphalt Institute is sponsoring a critical review of the literature, including the identification of new study designs that might address the limitations in the existing data. An RFP has been drafted, and the process of selecting a scientist or group to conduct the review is underway. Here too, ARMA members active in the AI groups working on this matter are monitoring the progress of this project.

Asphalt Fumes

A Look Ahead

- No significant regulatory or influential scientific proceedings are currently underway or calendared. However, it's just a matter of time.
- ACGIH: The 2012 IARC cancer review, coupled with the mounting evidence of lung function decline, will likely lead ACGIH to review its OEL at some point.
- Federal Action: The likelihood of action by OSHA, NIOSH, or NTP is negligible through at least 2021.
- State Action:
 - Proposition 65: As a result of a priority-setting proceeding last year, Prop 65 may take up the listing of roofing asphalt and its emissions in, roughly, the 2019-2021 timeframe.
 - Cal/OSHA: Can be expected to review its PEL in the coming years for the same reasons as ACGIH.
 - Texas: TCEQ may review asphalt fumes within the next year or two.

OSHA Silica Standard

Status of Judicial and Other Challenges

- Court Challenges: The standard was challenged in court by multiple industry and labor union petitioners. The challenges were consolidated in the D.C. Circuit Court of Appeals, were fully briefed by the end of March 2017, and argued on September 26. OSHA's attorneys vigorously defended the standard against all challenges, and media reports (not always reliable) indicate that the three-judge panel was generally unsympathetic to industry arguments.
- Administrative Challenges: Various industry groups have asked OSHA to reopen the proceeding administratively to reconsider key issues, focusing primarily on feasibility concerns. Thus far, these efforts have not succeeded.
- Legislative Challenges: A number of industry groups are pushing for legislative relief, but to date none of these efforts has gained any traction.

OSHA Silica Standard

Compliance Dates

- Construction Standard: After granting a brief three month extension of the compliance date, OSHA allowed the standard to become effective on September 23 while issuing enforcement guidance suspending enforcement for an additional 30 days as long as contractors are making good faith efforts to comply.
- “General Industry” Standard (includes Manufacturing): The originally established compliance date, June 23, 2018, little more than seven months from now, remains in effect. There are no indications that an extension or suspension in enforcement is in the offing. ARMA members should, by now, be close to attaining compliance, if they are not already there.
- Materials summarizing the requirements of the standard are available from the HS&E Committee.

OSHA Silica Standard

NRCA Silica Study of Asphalt Roofing Products

- As previously reported, ARMA is co-sponsoring With NRCA a study of silica exposures during the installation and removal of asphalt roofing products. The study has two objectives:
 1. To establish that these operations are exempt from the standard altogether, or at least from the standard's burdensome exposure assessment requirements; and
 2. To forestall the potential negative impact of the standard on the hazard perceptions of consumers and building owners, which might create a competitive disadvantage for asphalt roofing manufacturers.
- To date, we have nearly reached the goal for the number of sites to be included in the initial phase (20 sites have been studied or are pending; 22 are needed). However, industrial hygiene reports have been slow in coming; we have only five to date. The good news is that all results have been below the standard's action level.

IH Database Program

- As a result of the withdrawal of the previous Database Administrator, the focus has been on finding a replacement. We have an agreement in principle with the Johns Hopkins Department of Environmental Health & Engineering to make available doctoral students in industrial hygiene to serve as program administrator with oversight by the JH graduate program director.
- Using a PhD student will allow for long-term continuity (e.g. 3 to 4 years), and PhD students tend to also have prior real-world IH experience, so they'll better grasp the data and relevant quality issues. In addition, the arrangement would give us access to JH's IH faculty as needed for statistical analyses, publication assistance, rulemaking submissions, etc.
- A draft agreement has been provided to JH, and we are waiting for review by attorneys in the university's procurement office. Assuming we get a response in the near future, we anticipate that the next QA/QC Task Force meeting will be scheduled for no later than January 2018.

Questions?