SPECIAL Report

NATIONAL ROOFING CONTRACTORS ASSOCIATION

NATIONAL ROOFING CONTRACTORS ASSOCIATION

# ASPHALT FUMES - AN UPDATE

## CIB PEER REVIEW MEETING - OVERVIEW

On December 1 and 2, 1993 a scientific peer review meeting of a draft of a Current Intelligence Bulletin (CIB) was held at NIOSH in Cincinnati. The CIB states, among other things, that worker exposure to *roofing* asphalt fumes is a "potential carcinogen."

The invited scientists included: Dr. Earl Arp of Ashland Oil Company, a toxicologist; Dr. Allan Bender of the University of Minnesota, an epidemiologist; Dr. Gary Blackburn of Mobil Oil, a toxicologist; Dr. William Kojola of the Laborers Health and Safety Fund of the AFL/CIO, a toxicologist; and Dr. Dana Loomis of the University of North Carolina, an epidemiologist. Dr. Loomis appeared in place of Dr. Eula Bingham, a toxicologist with the University of Cincinnati and a former head of OSHA, who joined the panel on the second day.

Dr. Arp briefly evaluated the primary studies cited in the CIB showing their non-conclusiveness and lack of either good or relevant science. Dr. Arp stated that the NIOSH laboratory method of asphalt fumes generation was not representative of the workplace, and that these animal studies should not be the basis upon which asphalt fumes are classified as a potential carcinogen.

Dr. Bender, whose epidemiologic study of Minnesota paving workers was cited in the CIB, concluded that the increase in leukemia in this workforce could not be attributed to exposure to asphalt fumes. He stressed the importance of confounding factors, such as lifestyle habits of the group, on an epidemiologic study. Because the epidemiologic studies cited in the CIB were totally inconclusive, the evidence is merely anecdotal, he said. Dr. Bender concluded that much further study is needed if NIOSH wants to base part of its conclusions on epidemiology research.

Dr. Blackburn reviewed the animal carcinogenicity studies, and said that the method NIOSH used was very sound scientifically. However, he concluded that the NIOSH method of generating fumes in the lab--constant stirring and heating of the same asphalt and pulling hot air over the flask in a vacuum--is not at all representative of the way fumes are generated in the field. Dr. Blackburn concluded that more research is needed and that NIOSH cannot publish the CIB based on the research presented in it.

Dr. Kojola welcomed the CIB as a positive step toward worker protection, and suggested that the scientific data also supports the inclusion of paving asphalt in the CIB.

Dr. Loomis stated that the CIB's recommendations are sound. He

felt that the toxicology evidence, combined with the epidemiology studies ("though by themselves not significant"), were enough to persuade him. Like Dr. Kojola, he didn't understand why paving was differentiated; from an epidemiology standpoint, he said, there is no evidence to substantiate a difference between roofing and paving fumes.

Dr. Bingham said, "As scientists we get caught up in the minutia, but we must find out what the worker is exposed to." She, too, felt there should be no distinction drawn between roofing and paving asphalts based on the current scientific evidence. Dr. Bingham wanted to know if field studies had been done, which was a perfect lead-in to a discussion of the field research performed by asphalt industry coalition.

There were a number of presentations given by members of the audience. All but one were related to the work industry coalition has been undertaking. Tony Kriech of Heritage Research Inc. presented his research on lab-generated versus field-generated fumes and added that the temperature to which asphalt is heated (300F to 550F) does not appear to be significant, weakening NIOSH's argument for differentiating to two products.

Finally, Mr. Kriech presented substantial evidence that the research performed by Dr. Eva Hansen in Denmark--an epidemiologic study of Danish mastic asphalt workers--was confounded by the presence of coal tar.

RECENT ACTIVITY

Subsequent to the December meetings, the roofing industry coalition met with Dr. Neimeier to discuss the status of the CIB. It is clear that NIOSH would still like to publish a CIB, but it must first consider all of the new evidence that has been presented. NIOSH had originally planned a Spring, 1994 release of the CIB, however, it is now expected to be published in the fall of 1994 as a *criteria document*.

In the meantime, the asphalt industry coalition is proceeding with a number of research projects. First, retesting of the asphalt used in the NIOSH research projects has begun. Second, an asphalt fume human irritation study is planned for this summer. It is felt that these projects will confirm previous research supporting worker exposure to asphalt fume as an irritant rather than as a potential carcinogen. Previously, OSHA recommended a 5.0 mg/m3 (measured on a time-weighted average basis) permissible exposure limit (PEL) for exposure to asphalt fumes as an irritant, as part of a large PEL rulemaking. OSHA, however, suspended the rulemaking in light of a court decision requiring PEL determination on a substance-by-substance basis. We believe there is interest among some members of OSHA's staff to regulate asphalt fumes at a much lower exposure level, but because the current science does not support the "significant risk" determination that OSHA is required to substantiate, no

immediate action is anticipated.

CALIFORNIA

The industry is also keeping an eye on California. In California, regulators who are responsible for Proposition 65, which is an official state listing of carcinogens, are considering including asphalt fumes on the list. The asphalt industry coalition made a persuasive argument three years ago, and recently responded to a request for information from the Scientific Advisory Board, which oversees Prop 65, by providing the results of recent industry research and activity.

KETTLE MANUFACTURERS

NRCA met with kettle manufacturers in February at its national convention in San Francisco. The group discussed the availability of thermostatic controls, insulation and other ideas available to avoid overheating and reduced fumes. It was noted, however, these options are rarely purchased/used outside of the western U.S. NIOSH is looking to the roofing industry for ways to reduce kettle emissions/worker exposures. NRCA and kettle manufacturers are working together with NIOSH toward solutions.

NRCA will keep the membership apprised of new developments.