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Johns-Manville

Internal Correspondence

To: Paul Kotin, M. D. Date: July 23, 1975

From: George W. Wright, M. D.

Copies: file & C

Subject: MEETING ORGANIZED BY DR. JOHN FINKLEA OF NIOSH TO CONSIDER A REPORT BY DR. SELIKOFF AND HIS ASSOCIATES ON THEIR PRELIMINARY FINDINGS WITH RESPECT TO THE ENVIRONMENT AND THE HEALTH OF WORKERS EMPLOYED IN THE REPLACEMENT OF BRAKE LININGS.

The meeting was held in the afternoon of July 21, and those attending are indicated on the attached exhibit. The agenda is also attached.

Dr. Selikoff opened the meeting by stating that their interest in the health of brake lining repair workers arose because of a report of several cases of mesothelioma occurring in auto repair workers. There was some confusion in my mind at first as to whether this was solely from the New York area or a larger population. It later developed that there were 4 and possibly 5 cases that had come to his attention from workers in this trade throughout the United States. He estimated that at least one million men might be thus employed and exposed to asbestos. He repeated several times that in his judgement it was not possible at this point in the development of information to say whether or not this represented an excess risk of mesothelioma but that he thought the observation merited further exploration. He also indicated that he had reviewed this problem with appropriate people at the Ford Motor Company. He then asked Dr. Langer to discuss the nature of the material found in the dust that accumulates in brake drums and which is by customary practice blown off the surface and into the surrounding air at the time that work on the brake drums is being carried out.

Langer opened his comments by saying that others had reported that 30 percent of the asbestos in brake lining is converted by high heat to Forsterite. He indicated that "modifiers" present prevented the formation of Forsterite and he has found Forsterite in brake drum dust only in one instance. The only person I know of who says that the asbestos is converted to Forsterite is Paul Gross. Others say that it is converted to an amorphous and essentially non-fibrous material. Dr. Langer indicated that the residue was not pristine chrysotile fiber but he did not speak about amorphous material. Langer, in addition, said that he

found pure asbestos fibers. This too has been reported by others in quantities of anything from 1 to 3 percent of the residual dust. He then asked Dr. Rohl to discuss the fiber counts in the dust that was obtained.

It should be indicated that brake drum dust was obtained from cars in taxi repair shops, municipal bus repair shops and I believe some other similar workplaces. Dr. Rohl indicated that studies of the material blown from, or obtained from the brake drum contained fibers in large numbers and these were chrysotile. None of the fibers were more than 0.5 microns long and the bulk were under 0.3 microns. In diameter they varied from 250 to 500 angstroms. On the other hand, he reported that the fiber count varied from 0.4 to 29.0 fibers per ml at the worker breathing zone level where brakes were being cleaned by air jet. It was my understanding that these were fibers that were countable under the OSHA regulations and therefore would be visible with the light microscope and longer than 5 microns. It was not entirely clear to me whether these optically recognizable fibers actually came from the brake drum dust or not. If they did, I have a conflict in reconciling his electron microscope study with his light microscope studies. Rohl also reported that in brushing the brake drums rather than blowing them off the fiber count (OSHA criteria) varied from 1 to 4 per ml, during grinding the fiber count varied between 1 and 5. Most important was the finding that when men were bevelling the brake linings by grinding the counts varied between 20 and 75 fibers per ml. During punching, riveting or sweeping the fiber count varied between 2 and 4 fibers per ml. It is my understanding that other kinds of grinding of the brake lining goes on in the fitting process. Ed Fenner tells me that they do something called "arcing" and this involves direct grinding of the brake lining and is a very dusty job. Rohl also showed data to indicate that there was a very rapid fall off in the level of count as one moved away from the source so that fiber counts 10 or 20 feet more away from the source of origin were lower than 1 fiber per ml and in general were in the neighborhood of 0.2. On some questioning it developed that these shops were what would be considered to be very well run and therefore tend to have lower dust counts than would the average smaller shop. In the pictures that were shown and the comments that were made there was no evidence to indicate that any sort of dust exhaust or suppression systems were in use. I was surprised that no direct referrence to extensive data relative to brake drum dust by Lynch, by Jacko et al, by Anderson et al, and by Johns-Manville as well as a small study of the work place during brake maintenance by Hickish and Knight was not made by either Langer or Rohl.