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PLAINTIFF'S
EXHIBIT
WRG-754

CAMBRIDGE

TO: H. A. Eschenbach

DATE: 31 January 1983

FROM: P. M. Connor

SUBJECT: Asbestos Regulations: Chronology and Rationale

PLAINTIFF'S
EXHIBITEschenbach 82
va 8-7-86CHRONOLOGY

In 1967, the American Conference of Governmental Industrial Hygienists (ACGIH) proposed a TLV of 12 fibers (greater than 5 microns in length) per cubic centimeter of air. The Walsh-Healey Public Contracts Act of 1969 and subsequently the Occupational Safety & Health Administration (OSHA) in 1971 adopted the ACGIH-proposed TLV as legal standards.

In November 1971, a petition for an emergency temporary standard to control concentrations of asbestos dust was submitted to OSHA by the AFL-CIO. As a result of that petition, an emergency temporary standard of 5 fibers (greater than 5 microns in length) per cubic centimeter of air for an 8-hour time-weighted average (TWA) was published on December 7, 1971.

In 1972, NIOSH published an asbestos criteria document which recommended a standard of 2.0 asbestos fibers per cubic centimeter of air based on a count of fibers greater than 5 microns in length. This standard was recommended with the stated belief that it would prevent asbestosis and with the open recognition that it would not prevent asbestos-induced neoplasms. Furthermore, data were presented which supported the fact that technology was available to achieve that standard and that the criteria would be subject to review and revision as necessary.

On June 7, 1972, OSHA promulgated a permanent standard for occupational exposure to asbestos containing an 8-hour TWA concentration exposure limit of 5 fibers longer than 5 m/cc of air, with a ceiling limitation against any exposure in excess of 10 such f/cc. The standard further provided that the 8-hour TWA was to be reduced to 2 f/cc on July 1, 1976.

As the result of a court case, OSHA decided that to achieve the most feasible occupational health protection, a reexamination of the standard's general premises was necessary. To this end, on October 9, 1975, OSHA announced a proposed rule-making to lower the exposure limit

to an 8-hour TWA concentration of 0.5 asbestos fibers longer than 5 μ m/cc of air with a ceiling concentration of 5 f/cc of air for up to 15 minutes. On December 2, 1975, OSHA requested NIOSH to reevaluate the information available on the health effects of occupational exposure to asbestos fibers and to advise OSHA on the results of this study, so further rule-making may be expected as time goes on.

OSHA invited comments on the above proposed rule-making, and on February 4, 1976, some 65 representatives from companies and trade associations met and overwhelmingly endorsed that the "2 fiber" level has been or can be attained by application of engineering technology but the proposed "0.5 fiber" level is unnecessary, impractical and lacks medical justification.

On December 15, 1976, NIOSH released its Revised Recommended Asbestos Standard which stated that the OSHA standard should be set at the lowest level detectable by available analytical techniques. Since phase contrast microscopy is the only generally available and practical analytical technique at the present time, this level is defined as 0.1 f/cc on an 8-hour TWA basis with peak concentrations not exceeding 0.5 f/cc based on a 15-minute sample period.

In the fall of 1979, NIOSH and OSHA established an asbestos working group whose mandate was to review all health effects data since the 1976 NIOSH Study and to determine whether any changes to the earlier recommendation of 0.1 f/cc is warranted. In April of 1980, the group found that:

1. There is no safe exposure limit for asbestos;
2. All commercial and several non-commercial forms of asbestos cause disease;
3. OSHA should promulgate a new standard of 0.1 f/cc as a maximum workplace exposure limit.

RATIONALE

The setting of an asbestos occupational exposure standard by OSHA in 1971 relied primarily on assessments made by the British Occupational Hygiene Society (BOHS). While there were numerous studies in the United States establishing that asbestosis was a major cause of disability and death among workers exposed to asbestos dust, the British data (1968) contained information on both exposure levels and adverse health effects. The BOHS, in evaluating the information given to it on the recorded exposures in the asbestos textile mill and the infrequency of disease among workers exposed to dust at levels between 4-15 fibers/ml, came to the conclusion that, by lowering the permitted level from the present level of 12 fibers/ml to 2 fibers/ml as a time-weighted average, employees could be permitted to work in such environments for a full working life-time (50 years) without substantial risk of developing asbestosis. It was calculated

that workers exposed to 100 fiber years/ml, that is, 2 fibers/ml for 50 years, 4 fibers/ml for 25 years, or 10 fibers/ml for 10 years, would have a 1% risk of developing early signs of asbestosis.

The asbestos standard set by OSHA in 1972 (5 f/cc to be lowered to 2 f/cc in 1976) was thus based on the numerous U.S. studies and the risk assessment done by the British Occupational Hygiene Society. OSHA (also NIOSH and the BOHS), however, noted that the standard was developed to protect workers from developing asbestosis and that it was not possible at that time to specify an air concentration that would be known to be free of cancer risk.

In October of 1975, OSHA stated that:

"Since the promulgation of the U.S. permanent asbestos standard, considerable new information has been forthcoming on the toxic effects of asbestos. This has been in two areas: in the widening spectrum of cancers associated with asbestos exposure, and in various manifestations of asbestos disease in individuals exposed to relatively low concentrations of dust."

OSHA maintained that new data (from 1970-1975) revealed that a reduction of asbestos exposure to levels sufficient to prevent asbestosis is not sufficient in some instances to prevent asbestos-cancer. On the other hand, OSHA stated, a reduction of asbestos exposure to an extent sufficient to prevent asbestos associated cancer will also prevent asbestosis.

The OSHA (1975) proposed rule-making document cited many studies showing excess deaths due to neoplasms in asbestos exposed workers. Included in these studies was a follow-up evaluation of the earlier mentioned British study which showed higher levels of asbestos-related disease than was previously found or predicted to be found.

The data that was cited and the fact that none of these studies had demonstrated that a "no effect" or safe level existed led OSHA to endeavor to lower the standard to a level as low as feasible. OSHA proposed a level of 0.5 fibers/cc for an 8-hour TWA. While OSHA maintained that, since there is no assurance of a safe exposure to a known carcinogen and there should be no detectable concentrations, the Occupational Safety and Health Act requires that the Secretary establish standards to the extent feasible.

The OSHA proposed "0.5 level" was never promulgated because its feasibility was not proven. Future NIOSH and OSHA communiques still called for a lowering of the asbestos exposure standard to the lowest detectable level.

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