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PLAINTIFF'S
EXHIBIT
CAM-362

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- **Record Type:** Occupational Exposure to Asbestos, Tremolite, Anthophyllite and Actinolite
- **Section:** 3
- **Title:** Section 3 - III. Regulatory History

III. Regulatory History

OSHA first regulated asbestos on 1971 when, under authority of section 6(a) of the Occupational Safety and Health Act, it adopted the existing Federal standard for asbestos under the Walsh-Healey Public Contracts Act [29 CFR 1910.93, Table G-3 (36 FR 10466, May 29, 1971)]. The standard consisted of a permissible exposure limit listed in Table G-3 "Mine Dusts". The Walsh-Healey standard for tremolite was also adopted and separately listed in Table G-3.

Following an emergency temporary standard (ETS) for exposure to "asbestos dust" in 1971 (36 FR 23207, December 7, 1971), OSHA conducted rulemaking and issued a permanent standard under section 6(b) of the OSH Act, which regulated occupational exposure to asbestos. The standard defined asbestos as chrysotile, crocidolite, amosite, tremolite, anthophyllite, and actinolite [29 CFR 1910.93a (later renumbered as Section 1910.1001); 37 FR 11318, June 7, 1972]. The 1972 standard regulated only fibers longer than 5 micrometers, measured by phase contrast illumination (37 FR 11318, 29 CFR 1910.1001 (1985)). Also at that time, OSHA deleted the entry for tremolite in Table G-3.

On October 18, 1972, OSHA made clarifying revisions to Table G-3. The existing permissible exposure limit for "talc" was explained to apply only to "non-asbestos form" talc, while new entries for "fibrous talc" and tremolite instructed readers to use the permissible limit for asbestos (37 FR 22102, 22142).

All major provisions of the standard which were initially challenged were upheld by the U.S. Court of Appeals for the District of Columbia Circuit in *Industrial Union Department, AFL - CIO v. Hodgson*, 499 F.2d 467(1974).

Because the 1972 standard did not distinguish between asbestiform and non-asbestiform ATA, OSHA began to inspect employers whose employees were exposed to either mineralogic variety.

One supplier of industrial talc containing non-asbestiform anthophyllite and tremolite (the R.T. Vanderbilt Company) petitioned OSHA to restrict the application of the 1972 standard so that non-asbestiform anthophyllite and tremolite would not be covered by it. In October 1974 OSHA interpreted the applicability of the asbestos standard to mean only asbestiform tremolite with an aspect ratio of 5 to 1 [Letter from OSHA Assistant Secretary John Stender to R.T. Vanderbilt Company, August 6, 1974; OSHA Field Information Memorandum (FIM) # 74-92, November 21, 1974 (Ex. 411)]. However, because of preliminary information received from NIOSH regarding medical evaluations of workers exposed to tremolitic talc, FIM #74-92 was canceled on January 4, 1977 (Ex. 412). OSHA reverted to its regulatory definition of asbestos, which included all tremolite fibers, whether asbestiform or non-asbestiform..

In 1975 OSHA proposed to reduce the PEL and otherwise revise and tighten the asbestos standard to protect employees against carcinogenic effects of asbestos (40 FR 47652, October 9, 1975). No change was proposed concerning the six minerals defined as asbestos, but OSHA proposed to define "asbestos fiber" as a "particulate" instead of a "fiber" so as to stress its "morphology and toxicity * * * rather than its geologic or mineralogic origin." (40 FR 46758). It also proposed to add a three to one aspect ratio and a five micrometer maximum diameter to the definition of fiber in recognition of fiber respirability and the ACGIH recommended methods for fiber sampling and counting using phase contrast microscopy. No hearings were held on this proposal.

In 1983 OSHA issued an Emergency Temporary Standard (ETS) for asbestos, lowering the permissible exposure limit from 2 fibers per cubic centimeter (2 f/cc) to 0.5 f/cc (48 FR 51086, November 4, 1983). In the preamble to the ETS, which also constituted a proposal for a revised permanent standard, OSHA raised the possibility of revising the definition of "asbestos" and "asbestos fiber" and included an extensive discussion of the relative carcinogenicity and toxicity of different fibers (48 FR 51110-51121). As with the 1972 standard, OSHA concluded there was no basis to regulate fiber types differently (48 FR 51110). The ETS itself was vacated by the Fifth Circuit Court of Appeals on March 7, 1984 for reasons not related to the issue of the mineralogical definition of asbestos.

In its supplemental proposed rule (49 FR 11416, April 10, 1984), OSHA said it was considering a revision of its definition of asbestos to conform to the practice of other federal agencies (the Mine Safety and Health Administration, the Consumer Product Safety Commission, the Environmental Protection Agency, and the Department of Education) which regulated only mineralogically correct "asbestos". The definition under consideration would include only the asbestiform varieties of the six covered minerals. However, OSHA noted that health evidence existed implicating non-asbestiform minerals in the production of asbestos-related disease; that morphology may be a significant causative factor; and that the Agency would examine all relevant evidence before its final decision on coverage (51 FR 14122).

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Several parties addressed the issue in written comments and in oral testimony during the rulemaking. A primary proponent of including only a "mineralogically correct" definition of asbestos was the R.T. Vanderbilt Company, a miner and producer of tremolitic talc (See generally Ex. 337). Vanderbilt claimed that health studies at its mine and mill do not show the presence of asbestos - related disease; and that therefore its products should not be regulated with the same stringency as asbestos. Other participants also supported limiting coverage to "mineralogically" defined asbestos (See e.g. 90-3 and 90-143).

Other commentors opposed excluding non-asbestiform tremolite, anthophyllite, and actinolite from the scope of the standard. Public Citizen Health Research Group (Ex. 122; Tr. June 22, pp. 51-52) and the United Brotherhood of Carpenters and Joiners of America (Tr. June 28, pp. 168-172) contended that a revised asbestos standard should include these minerals because of their asbestos - like health effects. Their comments in part were based on findings of the NIOSH studies of upstate New York talc miners and millers, working at Vanderbilt which found an excess of respiratory disease.

OSHA's final standards (29 CFR 1910.1001 and 1926.58) define "asbestos"

as "chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that has been chemically treated or altered" [29 CFR 1910.1001(b); 29 CFR 1926.58 (b)]. However, these standards also regulate the non-asbestiform varieties of tremolite, anthophyllite, and actinolite. Only "fibers" of these materials are regulated; fibers are defined as particles of the covered materials which are five micrometers or longer with an aspect ratio of at least 3 to 1. These non-asbestiform "fibers" were regulated because OSHA determined that there was substantial evidence to support protection under the revised asbestos standards for workers exposed to non-asbestiform tremolite, anthophyllite and actinolite (51 FR 22631). OSHA, however, did not separately analyze the economic and technological feasibility of the revised provisions in industries using the non-asbestiform minerals.

Following issuance of the standards, a number of parties filed petitions in the Second, Fifth, and District of Columbia Circuit Courts of Appeals for review of the standards under section 6(f) of the OSH Act based on broad challenges to the standard's validity. On June 20, 1986, the R.T. Vanderbilt Company requested an administrative stay of the standard pending judicial review based on its claim that OSHA improperly included non-asbestiform minerals (Ex. 403). This request was denied on July 9, 1986 in a letter from OSHA Assistant Secretary John Pendergrass (Ex. 404). Vanderbilt also filed a stay motion in the United States Court of Appeals for the Second Circuit (Ex. 502). The National Stone Association (NSA) and Vulcan Materials Company, nonparticipants in the rulemaking, also requested a stay of the standards on July 11, 1986 insofar as they applied to tremolite and actinolite exposure from the use of crushed stone in construction (Ex. 406 & 407). In their request for a stay, the NSA claimed that the technological and economic impacts of the new standard on users of crushed stone in the construction industry was never considered in the rulemaking. It alleged severe adverse impacts on the industry and the public as the result of applying the new standard to crushed stone.

Vanderbilt requested OSHA to reconsider its denial of an administrative stay on July 24, 1986 (Ex. 416). Court papers filed by Vanderbilt brought to OSHA's attention internal memoranda from three NIOSH scientists which disputed OSHA's regulatory treatment of non-asbestiform tremolite, anthophyllite and actinolite. Dr. Donald Millar, the Director of NIOSH, wrote to OSHA on July 17, 1986 to reaffirm NIOSH's support for OSHA's positions in the final standards (Ex. 408). On July 18, 1986, OSHA granted a temporary stay insofar as the standards applied to non-asbestiform tremolite, anthophyllite, and actinolite (51 FR 37002). OSHA said it was granting the stay in part to enable the agency to review Dr. Millar's letter, the NIOSH memoranda, the submissions of Vanderbilt and various trade associations, and to conduct supplemental rulemaking on whether non-asbestiform tremolite, anthophyllite and actinolite should be regulated in the same manner as asbestos and the feasibility of regulating the affected industries. The stay was extended to July 21, 1988 (52 FR 15722) and thereafter (53 FR 27345), (54 FR 30704) and (56 FR 43699) in order to complete rulemaking. The current stay expires May 30, 1992.

Pursuant to the stay and its extension, the standard, covering tremolite, anthophyllite, and actinolite were to remain in effect as they had applied to minerals under the previous standard. The 1972 standard was republished as 29 CFR 1910.1101 (1987).

On February 12, 1990 OSHA published a Notice of Proposed Rulemaking (NPRM) in which the Agency proposed to remove non-asbestiform tremolite, anthophyllite and actinolite from the scope of the revised standards for Asbestos. At that time OSHA also presented and requested comment on various alternatives for regulating non-asbestiform ATA.

Public hearings on the proposed standard were held in Washington, DC May 8-14, 1990, to provide interested parties and the public with the opportunity to comment on the proposed action. Post hearing submissions of data, comments, and briefs were received through July 23, 1990.

After the close of the post hearing briefing comment periods, the American Thoracic Society (ATS) submitted a report to the record concerning the health risks of non-asbestiform tremolite (Ex. 525). The Agency set an additional period, later extended to December 14, 1990 to enable the public to submit written comments and analyses on all issues raised by the ATS report. In order to review comments on this document as well as the entire rulemaking record the Administration Stay was extended to February 28, 1992 (56 FR 43699) and again to May 30, 1992 (57 FR 7877).

The record of the public hearing contains the original transcript of the hearing, which incorporated the record as a whole and exhibit numbers 505 to 553. Copies of the materials contained in the record may be obtained from the OSHA Docket Office, room N-2625, U.S. Department of Labor, 200 Constitution Ave., NW, Washington, DC 20210. The Docket Office is open to the public from 10:00 a.m. to 4:00 p.m. Monday through Friday except Federal Holidays.

The final decision on the occupational exposure to non-asbestiform ATA is based on full consideration of the entire record of this proceeding, including material discussed or relied upon in the proposal, the record of the informal hearing, and all comments and exhibits received.

[57 FR 24310, June 8, 1992]

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