Abestos file

PLAINTIFF'S EXHIBIT

FD-2112

Ford

Labor Affairs Planning Department

July 17, 1974

Dr. D. L. Block
Mr. P. E. Toth

The attached paper on asbestos was submitted by the UAW to Chrysler recently. It is submitted merely for your general information.

Eugene W. Preston

8008 0168

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SCF-FORD-1203

Ford

Benefits Planning & Administration

July 16, 1974

Mr. E. W. Preston:

For your information. We received this from Chrysler.

Paul J. Ryder

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Recd from
UAW
6/28/74

A Review of the Scientific Knowledge on the Status of Asbestos as a Health Hazard as Related to Manufacturing Industries

International Union, U.A.W.
Chrysler Department
June 18, 1974

There is now substantial scientific evidence to demonstrate that exposure of workers to asbestos dust over considerable periods of time is seriously harmful to their health, and consequently contributes to their death rates. Further, there is evidence that exposure over limited time periods may also be harmful. Serious medical problems resulting from occupational exposure to asbestos have been recognized for over half a century. The first record of a case of asbestosis was reported in England in 1906.[1] In 1918 it was reported that the practice among American and Canadian insurance companies was not to insure asbestos workers.[2] This practice was due to the assumed health injury conditions of the asbestos industry.

Asbestos is a generic name that applies to a group of naturally occurring hydrated mineral silicates which are incombustible in air and separable into filaments. Chrysotile is the most widely used form of asbestos in the United States today. Crocidolite and amosite asbestos are also commercially significant. Other types of asbestos include tremolite, anthophyllite and actinolite.

Asbestos fibers can be spun into threads and woven into cloth. Asbestos is remarkably heat resistant and will not burn. Further, for the most part, asbestos is resistant to chemical action. It is also a non-conductor of electricity.

As many as 3,000 different products currently in use contain asbestos. The heat resistant properties and fibrous nature of asbestos make it extremely desirable for use where fire or excessive heat are encountered. In the automobile industry, asbestos is extensively used in brake linings, in automobile transmission friction materials and in gaskets.

Despite the qualities which make it a commercially significant substance, asbestos, especially asbestos dust, has been implicated as a definite health hazard.

In Chrysler Corporation, possible occupational encounters with asbestos dust occur at four locations. The Kokomo Transmission plant, the Trenton Chemical plant, the Eldon Avenue plant, and the Chelsea Proving Grounds have operations which could result in the release of asbestos dust. At these locations, a total of approximately 300 workers could be directly exposed. (Further details contained in Appendix A.)

Classically, the condition produced by asbestos dust exposure is a lung disease called asbestosis. Asbestosis may develop in situations where the dust concentration is high or the exposure is long. This lung disease develops when scar tissue, which forms around inhaled asbestos fibers, slowly spreads throughout the lung. The air exchange between lung and blood is diminished and the blood does not transport adequate oxygen. Breathlessness becomes pronounced.

Dr. Irving Selikoff, a recognized authority on asbestos disease, related the plight of an asbestotic. "One of the men in the asbestos workers' union, who, before he died, used to walk backwards. I had never seen that before until I began to care for asbestos workers. You may wonder why asbestos workers walk backwards. They don't always walk backwards. It is only going upstairs. They are so short of breath that after two steps they have to sit down. It is easier to go up a flight of stairs backwards than walking up. It is a terrible way to die."[3/]

A recent study showed that 12% of the deaths of workers in a New Jersey asbestos plant were due to asbestosis.[4/] Of the 199 deaths recorded between January 1, 1959 and December 31, 1971, 24 were due to the lung disease. Asbestosis, as a disease causing death in the general unexposed population, is extremely rare.

Another investigation involving 392 individuals working in asbestos insulation trades showed radiological evidence of asbestosis in 339.[5/] In addition to the X-ray changes, 134 of these workers displayed labored breathing of some extent. This group consisted of workers with more than 20 years elapsed since the onset of exposure. Analysis of data concerning the symptom of breathlessness indicated a striking observation. Labored breathing, as a symptom, was uncommonly seen in workers with less than 20 years from the onset of exposure but was an extremely important symptom after that. Of 725

workers with less than 20 years from the onset of exposure, only one experienced severe labored breathing. Of this group, 32 workers complained of minimal breathlessness on exertion. While, as indicated earlier, of the 392 workers with more than 20 years since the onset of exposure, 134 displayed labored breathing of some degree, with 61 of these showing disability of greater or lesser extent.

Further, a government survey showed that seven of 18 workers employed at a Tyler, Texas asbestos plant for 10 or more years showed symptoms of asbestosis.[6/] This report is particularly interesting since the plant was in operation only slightly more than 17 years.

Asbestosis as a disease has been shown to be a significant occupational illness. It is untreatable, irreversible, often disabling, and frequently fatal.[7/]

A number of medical studies have linked asbestos exposure with an increased risk of lung cancer. In these studies of bronchogenic cancer, it has been shown that the frequency in workers exposed to asbestos is far greater than the incidence of the disease in the general population. Among 632 asbestos insulation installers observed from 1943 to 1967, there were 63 excess deaths (above that expected) due to lung cancer.[8/]

In another study, Selikoff found that in 307 consecutive deaths among asbestos workers, lung cancer was at least seven times as common as expected.[9] This study also revealed that, upon examination, four of 133 men no longer actively at work were found to have the malignancy. Newhouse also found an excess of lung cancer in a study of workers employed at an asbestos factory making both textile and insulation materials.[10] This excess of lung cancer was shown among workers with heavy exposure and was irrespective of the duration of exposure.

At this time there is evidence that cigarette smoking, together with asbestos exposure, heightens the likelihood of the occurrence of lung cancer. Selikoff and associates have suggested that asbestos workers who smoke have a 92 x greater risk of dying of lung cancer than men who neither smoke nor work with asbestos.[11]

Mesothelioma, a fatal cancer attacking the lining of the lung or abdominal cavity, has been associated with asbestos exposure. Eighty percent of the cases of mesothelioma studied in South Africa and the United Kingdom have been shown to have an occupational or para-occupational association with asbestos fibers.[12] Selikoff also reports that in additional studies the association of asbestos and mesothelioma was further indicated by the finding of four mesotheliomas of the lung cavity and three mesotheliomas of the abdominal cavity among 26 consecutive autopsies of cases of asbestosis.[13] In Selikoff's investigations of

307 consecutive deaths among asbestos workers, there were ten instances of mesothelioma.[14] This rare cancer normally afflicts only one out of 10,000 in the general population.[15]

D. L. Cron indicated that mesothelioma did occur in cases of asbestosis.[16] However, in most cases of mesothelioma which he had seen, asbestosis was not found. From these observations, and knowing that long periods of exposure were required to produce asbestosis, Cron postulated that mesothelioma could occur long after a short intensive exposure to asbestos.

Studies of the distribution of mesothelioma in populations occupationally exposed indicate a strong relationship between exposure to asbestos fiber and the presence of mesothelioma.

Asbestos dust has also been implicated in other neoplastic disease. In 1972, Dr. Selikoff and co-workers reported an increased incidence of gastrointestinal cancer (cancer of the stomach, colon, and rectum) among asbestos workers.[17] Among these asbestos workers, 13 died of gastrointestinal cancer while five deaths of this type would normally be expected. Additionally, in his study of 307 consecutive deaths among asbestos workers, Selikoff reports that 34 deaths were due to cancer of the stomach and colon.[18]

Asbestos-related diseases are insidious in nature. Reports of the development of mesothelioma, for example, give a range of from 23 to 53 years from exposure to development of the disease.[19] Moreover,

mesothelioma may occur, many years later, following a very limited exposure. "It has been recognized that biological monitoring (by periodic chest roentgenograms) and removal from further exposure after initiation of fibrosis, calcification or neoplasia will not absolutely prevent further progression of asbestosis or the clinical development of neoplasms." 20/

Asbestosis typically has been found to develop in shorter periods of time than does mesothelioma. 21/ Radiologically evident asbestosis appears to vary directly with the occupational duration of exposure. For instance, in a study by Selikoff and co-workers, 72.8% of asbestos workers with 20 - 29 years exposure exhibited abnormal x-ray changes while only 10.4% of workers in the same industry but with less than 10 years exposure showed x-ray changes. Further, fully 19 out of 20 workers showed x-ray changes after 40 or more years exposure. 22/ Moreover, it was particularly evident that asbestosis in these cases tended to be considerably more extensive and severe.

Studies conducted on the effects of asbestos exposure have produced disturbing results. Dr. Selikoff discussed the implications of such studies: "At present, one in every five deaths among insulation workers is due to lung cancer, one in 10 to cancer of the pleura or peritoneum, one in 10 to the scarred lungs of asbestosis." 23/ Since insulation workers receive relatively light exposures compared to some other occupational groups, these results are especially striking.

Especially disturbing is that in many cases of asbestos related disease, the disease resulted from exposure dating back to the 1930's. Since that time asbestos usage has multiplied tremendously. Dr. Hammond of the American Cancer Society has projected that by the end of the century, if working conditions are not significantly altered, asbestos exposure can lead to 17,000 deaths from lung cancer, 10,000 deaths from mesothelioma, and 10,000 deaths from asbestosis. 24/

Dr. Selikoff calls asbestos a "hidden time bomb" that results in cancer 20 to 40 years after exposure. "It's what's happening in 1973 that will become evident in the year 2000." "Unfortunately," said Selikoff, referring to asbestosis, "it's almost entirely a man-made disease. That means it's also man preventable." 25/

The Federal Government has acknowledged the fact that there is a very definite relationship between asbestos fibers and disease. It was with this knowledge that an emergency standard for controlling occupational exposure to asbestos was announced by the Department of Labor, under the OSH Act, on December 7, 1971. A permanent asbestos standard became effective on July 7, 1972.

Through extensive medical-scientific-epidemiological investigation, it has been shown that definite health risks are attributable to asbestos exposure. The U. S. Department of Labor has recognized the serious hazard represented by this material. Since asbestos-related health hazards are

almost exclusively confined to the occupational setting, it can only be concluded that individuals working with asbestos are subject to an insidious and potentially deadly stress not encountered by unexposed persons.

Appendix A

Specifically, the locations, the functions which could lead to asbestos dust exposure and the number of workers entailed in these functions are as follows:

- Kokomo Transmission plant, in the grinding and scouring of pads, 24 workers could be exposed.
- Trenton Chemical plant, in brake lining and disc brake pad manufacturing, 146 workers could be exposed.
- Eldon Avenue plant, in the grinding of brake linings, 121 workers could be exposed.
- Chelsea proving grounds, in the grinding of brake linings, four to 10 workers could be exposed.

FOOTNOTES

1/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

2/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

3/ Health/PAC Bulletin, No. 50, March 1973

4/ Health/PAC Bulletin, No. 50, March 1973

5/ I. J. Selikoff, J. Churg, E. C. Hammond, The Occurrence of Asbestosis Among Insulation Workers in the United States, Annals, New York Academy of Sciences

6/ The New Yorker, October 29, 1973

7/ The New Yorker, October 29, 1973

8/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

9/ I. J. Selikoff, J. Churg, E. C. Hammond, The Occurrence of Asbestosis Among Insulation Workers in the United States, Annals, New York Academy of Sciences

10/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

11/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

12/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

13/ I. J. Selikoff, J. Churg, E. C. Hammond, Relation Between Asbestos Exposure and Mesothelioma, New England Journal of Medicine, 272, 1965

14/ Health/PAC Bulletin, No. 50, March 1973

15/ Target Health Hazards, Asbestos: Airborne Danger, U.S. Government Printing Office: 1973, U-512-378(27)

16/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

17/ Health/PAC Bulletin, No. 50, March 1973

18/ I. J. Selikoff, J. Churg, E. C. Hammond, Relation Between Asbestos Exposure and Mesothelioma, New England Journal of Medicine, 272, 1965

19/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

20/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

21/ Criteria for a Recommended Standard, Occupational Exposure to Asbestos, U.S. Department of HEW, PHS, NIOSH, 1972

22/ I. J. Selikoff, J. Churg, E. C. Hammond, The Occurrence of Asbestosis Among Insulation Workers in the United States, Annals, New York Academy of Sciences

23/ Target Health Hazards, Asbestos: Airborne Danger, U.S. Government Printing Office: 1973, U-512-378(27)

24/ Target Health Hazards, Asbestos: Airborne Danger, U.S. Government Printing Office: 1973, U-512-378(27)

25/ Doctor Says Asbestos To Kill Million by 2000, Detroit Free Press, February 24, 1973

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