



May 26, 1987

Legal Section
Industrial Commission of Ohio
246 North High Street
Columbus, Ohio 43215

Re: OD #26612-22
Martha Hanna
Hydramatic Division, GMC

Attn: Judy Spencer

Dear Ms. Spencer:

On April 16 and May 1, 1987 visits were made to Hydramatic Division of General Motors, Alexis Road, Toledo, Ohio to gather information on the above claim. Fred Oliger, Worker's Compensation Representative, was interviewed and conducted a plant tour.

The claimant is diagnosed as having chronic bronchitis, reactive airway disease and on the diagnosis date, possible pneumonia. The lengthy medical history is in the facsimile file. The claimant is a smoker with a three pack a day history for at least fifteen years for a 45 pack year history.

The claimant's work history involves the Hydramatic Division from 1972 to the present. Prior to Hydramatic, she worked at Tillotson Carburetor, Berdan Avenue, Toledo, Ohio assembling carburetors. Tillotson has been closed for the past fifteen years

The claimant was an assembler from 1972 to 1983. This involved assembling parts for vehicle automatic transmissions; the only product of Hydramatic. On January, 1984 she was promoted to machine operator in Department 32, where parts are machined from raw castings. The machines in Department 32 used a water based coolant-cutting fluid (Cindol 3204T). Presently, Department 32 has been totally renovated and moved to another part of the plant. The coolant-cutting fluid now used in the old Department 32 machines, has been changed.

The majority of machining departments have a central coolant processor. Here the coolant is circulated from the machines to have the lubricating oil and metal particles removed. This

central operation reduces coolant fluctuations as far as acidity, concentration and biological controls.

Exposure Discussion

The claimant's work area (Department 32) removal and coolant change does not allow an environmental recreation. Hydramatic did provide some air samples, coolant material safety data sheets, OSHA sampling results and a coolant analysis sheet.

Health Effects - Coolant

The coolant-cutting fluid is a water soluble fluid mixed 20 to one with city water. The material safety data sheet lists numerous ingredients in varying proportions. None of the components of Cindol 3204T are considered respiratory irritants, individually, but a material safety data sheet of Cindol 3204T, dated March 11, 1986 states, "Breathing fumes and mists may be hazardous". The sheet also notes that respiratory irritation may be an effect of exposure to the coolant.

Respiratory irritation other than chemical may also come from biological contaminants in the coolant mists. The continual mixing of the coolant with lubricating oil, air, water from dilution and heat from the process allows incubation of biological organisms flushed from the air. The recognizable odor of organic decomposition was evident near some of the plant coolant process centers as well as the machines visited by this author. Sixteen years as a State health inspector, including sewage plant visits, qualifies this author for the previous observations. Biosensitivity must be considered if a worker is hypoallergic.

Smoking

The claimant's prior medical and smoking history demands some mention of the cigarette health effects and industrial exposure synergism.

1. General Principles, Patty's Industrial Hygiene and Toxicology, Volume 1, J. Wiley and Sons, 1978, p. 193-4.

"By far the most potent factor, though not the only one causing . . . this disease (bronchitis), is cigarette smoking There is surprisingly modest support for the concept that industrial dust or the irritating fumes commonly also present play a role in the development of aggravation of chronic bronchitis or emphysema. It is difficult to accept the belief that no role is played by these agents What seems likely is that the powerful effect of cigarette smoking, . . . place of residence, medical care, and so on, and general air pollution, overshadow any demonstrable strong influence of industrial dust, fumes, or gases. In studies in which these other factors are corrected for, there is some suggestion that occupational dust per se may contribute at

least to chronic bronchitis, even though it is not the most potent factor."

2. Encyclopaedia of Occupational Health and Safety, International Labour Office, McGraw-Hill, 1974, pp. 331-334.

Every detailed investigation of the symptoms of chronic bronchitis and some on the emphysematous lung have brought to light the harmful effect of smoking cigarettes. A positive relationship between the amount of smoking and the prevalence of disease has been observed.

Although occupation makes a contribution to the initiation, progression, and outcome of chronic bronchitis, its contribution is very small compared to the effects of smoking.

3. Chemical Hazards of the Workplace, N.H. Proctor, Ph.D., J.P. Hughes, M.D., J.P. Lippincott Company, 1978, p. 74.

"Chronic bronchitis may occur after repeated exposure to chemical irritants. Usually, however, the underlying cause is . . . cigarette smoking."

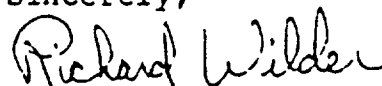
4. Work is Dangerous to Your Health, J.M. Stelman, Ph.D., Random House, Inc., 1973, pp. 158-159.

"Low-level exposure to all irritating gases, including those in cigarette smoke and urban air, probably produces a continuous minor irritation of the medium-sized air tubes, causing overproduction of mucous by the bronchial lining and resulting in chronic cough with phlegm. This makes a person more susceptible to infection of the air tubes, or acute bronchitis. After repeated infections, he or she may develop chronic bronchitis"

Conclusions

The claimant's exposure to the coolant vapors and mist is reasonable. A definitive cause and effect to just coolant exposure is unclear.

Sincerely,



Richard Wilder
Industrial Hygienist

RW/dk

Gen. Motors
Hydramotic Div.

-Toledo

4 pages

RECORDS CERTIFICATION

I, the undersigned, an employee of the Bureau of Workers' Compensation, do hereby certify that the microfilm images on this reel of microfilm or microfiche are complete and accurate reproductions of the original records of the SAFETY + HYGIENE as accumulated during the regular course of business, and that it is the established procedure of this department to microfilm its records for permanent file and to dispose of the original records after microfilm reproductions have been made.

William D. Koye
SUPERVISOR, Microfilming Unit

John Tracy
Name (Camera Operator)

11/20/87
Date

11-20-87
Date