



THE INDUSTRIAL
COMMISSION OF OHIO

Richard F. Celeste
Governor

615 West Superior Avenue
Lausche Building, Room 785
Cleveland, Ohio 44113

PLAINTIFF'S
EXHIBIT
BRK-169

May 24, 1989

Legal Section
Industrial Commission of Ohio
246 North High Street
Columbus, Ohio 43215
Attention: Judy Spencer

RE: OD30582-22
Celia Mauri
General Motors
Chevrolet Division
Parma, Ohio 44130

Dear Ms. Spencer:

As requested, an industrial hygiene evaluation was conducted of Celia Mauri's occupational disease claim. The evaluation consisted of a review of the facsimile file and pertinent industrial hygiene literature and a visit to the Chevrolet Division plant of General Motors on Chevrolet Blvd. on October 26, 1988. A visit to obtain additional information was made on December 1, 1988. Company representatives included William Sharkey, Workmen's Compensation adjuster and Roger Mazon, Safety Representative. The claimant was also contacted by telephone on October 26 and 27, 1988.

The claimant has alleged that exposure to welding fumes has caused her breathing problems. According to the facsimile file she was diagnosed as having chronic obstructive lung disease and acute and chronic bronchitis.

Celia Mauri's work history is summarized in Table I. Her first transfer to the Pressed Metal Department in part of 1984 and part of 1985 did not seem to be associated with health problems. Her total time working in the Pressed Metal Department during this period was three months. Mrs. Mauri recalled that her health problems began when she was transferred to the Pressed Metal Department in 1986. According to the company, she first worked on the Monte Carlo fender assembly line which was Dept. 23. This

Celia Mauri OD30582-22
GM-Chevrolet

Table I. Celia Mauri's work history at Chevrolet.

Status	Department	Date
Hired	Transmission Dept.	10/14/1968
Transfer-reduction in force	Pressed Metal Dept.	4/2/1984
Laid off		6/18/1985
Rehired	Pressed Metal Dept.	1/7/85
Transferred	Transmission Dept.	2/11/85
Transferred	Pressed Metal Dept.	1/27/86
Sick leave		1/12/87

assembly line contained local exhaust ventilation wherever welding was done.

The claimant was moved to single point welders in Dept. 32 after a short period of time. Her job title was pressed metal equipment operator. Her job was to resistance weld a post so that a nut would be held in place in the post. The parts were small and large seat anchors. The nut was not actually welded but simply held in place after the post was welded. Some of the posts were galvanized and some were not. According to the company and the labels on the nuts, the threads were coated with Teflon.

According to the company, a typical operator could weld 1200-1400 galvanized posts a day or 1800 ungalvanized parts. The claimant said she typically welded 2300-2600 parts per day. Ventilation on the resistance welder (NC 749) consisted of an airhose positioned to blow fumes away from the operator. Mrs. Mauri claimed the airhose on her welder was positioned so that it blew fumes at her face. In addition, the claimant stated that if parts got too hot and didn't weld properly, more smoke was produced. Some single point resistance welders also had pedestal fans to cool themselves and to blow fumes away. The company stated there was a small fan above the welder to blow fumes away. When there was no work for her, the claimant was assigned to other departments and various jobs. No respirators were supplied or used for resistance welding.

Resistance welding is a process in which pieces of metal are pressed together and an electric current is passed through them. At the contact point, there is sufficient resistance to cause an increase in temperature and melting of the metal. Usually no visible heat is produced. The welding operator positions the

Celia Mauri OD30582-22
GM-Chevrolet

parts to be welded and initiates the start of the weld sequence and removes the welded part.

Although the airhose used to blow fumes away from the welder is not considered good industrial hygiene practice, no studies indicating an increase in respiratory symptoms in resistance welders could be found. Resistance welding does not generate as much fume as most other types of welding. The weld cycle is of short duration in resistance welding.

Good industrial hygiene practice would suggest that the removal of welding fumes with exhaust ventilation is more appropriate than blowing the fumes away from the employee. The position of the airhose may inadvertently be bumped, causing the fumes to be blown into the employee's face.

Welders involved in many types of welding processes have been diagnosed with bronchitis and decrements in pulmonary function. Epidemiologic studies have reported similar findings. However, none of these studies involved resistance welders. Studies on welders exposed to mild steel fume and gases in industries other than shipyards observed differences in pulmonary function measurements between welders and nonexposed groups but could not differentiate between smoking and welding exposure on the observed changes. The interpretation of studies on welders is complicated by the heterogeneity of welding exposures and processes. In all studies where chronic bronchitis occurred, the prevalence of the disease increased with the increasing use of tobacco.

Galvanized metal contains zinc which can produce metal fume fever. This is an acute condition of short duration caused by exposure to freshly generated fumes of zinc or magnesium or their oxides. The symptoms include fever, chills, muscular pain, nausea and vomiting, however complete recovery occurs in 24 to 48 hours.

Polymer fume fever is similar to metal fume fever but is produced by heating of fluorocarbon polymers such as the Teflon used on the nut threads. Polymer fume fever may be defined as an acute, short-term, noninfectious, febrile reaction caused by inhalation of several causative agents. Solderers of metal parts coated with or in proximity to fluorocarbon polymers may be affected. Experimental studies on animals have shown that at high concentrations pulmonary edema, pulmonary hemorrhages, and death are produced.

Sincerely,



Gary Swinehart
Industrial Hygienist

Celia Mauri OD30582-22
GM-Chevrolet

References

1. Criteria for a Recommended Standard: Welding, Brazing, and Thermal Cutting, National Institute for Occupational Safety and Health, Cincinnati, pp.103-104, 1988.
2. Documentation of the Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, Fifth Edition, Cincinnati, pp. 645-646, 1986.
3. Occupational Respiratory Diseases, National Institute for Occupational Safety and Health, Cincinnati, p. 607-612, 1986.

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 Frey
Name (Camera Operator)

3-22-90
Date

3-22-90
Date