



The Industrial Commission
Of Ohio
Division Of Safety & Hygiene
246 N. High St., Col., O. 43215

May 12, 1980

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

RE: Claim #OD 14001-22
Richard J. Pavick
General Motors Corp.
Assembly Division
Lordstown, Ohio 44482

Attn: Guy Sheaffer

Dear Mr. Sheaffer:

On February 21, 1980, a visit was made to the Lordstown Automobile Assembly Plant of General Motors Corporation, for the purpose of determining conditions under which the above named claimant had worked from November, 1966 until February 16, 1977, when he went on sick leave status. Mr. Pavick, who had not returned to work at the time of the visit, alleges to be suffering from neuritis which he feels has been caused by lead poisoning from excessive levels of lead dust in the air.

Following is the employment history of the claimant, prior to being employed by General Motors:

Jan. 1955 - July 1956 - Laborer, Copperweld Steel
Co., Warren, Ohio
Oct. 1957 - Laborer, Republic Steel Corp., Warren, Ohio.
Oct. 1957 - June, 1963 - Mechanic, Borgstrom Garage,
Warren, Ohio
June 1963 - June 1964 - Mechanic, Holub Equipment,
Girard, Ohio
June 1964 - Feb. 1966 - Mechanic, Ohio Fast Freight
Feb. 1966 - Nov. 1966 - Merchant, Cerni Motors, Warren,
Ohio

It should be noted that, although this claimant has been employed by General Motors since 1966, he has been on sick leave status 23 times, prior to the most recent period of sick leave, for a total of over 2.5 years sick leave in the ten year period which ended in December 1976. In addition he has been on sick leave status since February, 1977.

For the most part, since 1968 the claimant has been employed as a repairman on non-painted auto bodies. This work requires the removal of small imperfections in the car bodies. Occasionally solder, which contains lead, is applied to a dent or imperfection and is smoothed with a hand file. Representatives from management and the union were in agreement that very little work is done with solder, and that cars with larger defects would not be repaired on the line. These cars are returned to the assembly area where the damaged sections are replaced with new parts.

The company, with strong support from the union, prohibits the power grinding or sanding of body repairs on which solder has been applied. It is believed that the smoothing of the repairs with a hand file will not create particles fine enough to become airborne. This is substantiated by the following quote from Volume II, Encyclopedia of Occupational Health & Safety, published by the International Labor Office:

"In some few instances arrangements are made to ensure that the dust will be coarse rather than fine. Instead of smoothing-off the leaded parts of automobile bodies by discing, a much coarser dust, which drops immediately to the ground, is produced by hand filing. In spite of the slow, onerous nature of this operation it is sometimes adopted in the interest of avoiding unhealthy conditions".

In addition to prohibiting the power grinding of soldered surfaces outside of a ventilated booth, the company, since the plant opened in 1966, has provided quarterly blood analysis for all employees who work with lead. Company policy is to temporarily remove any worker from possible lead exposure should the lead content of his blood exceed 69 micrograms per 100 grams of blood. The company representative pointed out that no one has been near the 69 microgram level since 1970, when production of full-size cars ended at Lordstown. In the production of the full-sized cars the routine use of solder was required. The soldered areas were sanded in a ventilated booth with the operator equipped with air supplied hoods for protection from the lead dust. When production of compact cars began at this plant in 1970, the routine use of solder in production was eliminated, and the grinding booths were removed. It should be noted that the claimant did not work in these grinding booths.

that results or his blood levels nor did he recall any worker on the repair line ever being removed from the job because of high blood lead levels.

The concentration of lead in the blood, used by General Motors as a criteria for removal of employees from any possible lead exposure, is widely accepted as a safe level. The following is a statement from Volume II, Industrial Hygiene & Toxicology, Patty:

"When the concentration of lead in the whole blood of an individual workman is 70 micrograms or less per 100 grams, the individual, while he may have little margin of safety for further or more severe occupational exposure to lead, is in no danger from his exposure to, or absorption of, lead, as of the time of sampling".

Additional support for the removal criteria is provided in the very stringent OSHA lead standard (effecting date March 1, 1979), which at present requires the removal of an employee from lead exposure if the employee's blood lead level exceeds 70 micrograms per 100 grams of whole blood.

It is likely that the company would have detected high blood lead levels in this claimant if his alleged nerve damage was caused by excessive lead exposures. Central nervous system effects caused by lead exposures are usually due to the ingestion or inhalation of large amounts of lead, and an increase in the concentration of lead in the blood would have been detected before the symptoms could have been experienced, if they are to be attributed to lead exposure.

During the plant visit of February 21, representative personal monitoring of several workers on the metal line of the body shop was conducted to learn the amount of airborne lead dust to which these workers are typically exposed. It should be noted that a company representative and a union safety representative accompanied the writer throughout the day, while the monitoring was conducted, and both were in agreement that the day was a fairly normal day of operations. Personal sampling pumps equipped with cellulose ester filters were utilized for the monitoring. Following are the sample results as reported by the lab:

Employee	Lead Concentration TWA (mg/M ³)	ACGIH TLV (mg/M ³)	OSHA (mg/M ³)
E. Donahey	0.004	0.15	0.05
J. Spragling	0.010	0.15	0.05
R. Hazlett	0.004	0.15	0.05
J. Miller	0.005	0.15	0.05
J. Koziel	0.009	0.15	0.05

mg/M³ = Milligrams per cubic meter
TWA = Time weighted average concentration
TLV = Threshold limit value
ACGIH = American Conference of Governmental Industrial Hygienists

The preceding sample results, representative of the claimants exposure to lead, are well within the suggested limits of exposure which have been adopted by the ACGIH and OSHA, and not of sufficient concentrations to cause lead poisoning. The highest lead concentration determined, 0.01 mg/M³, is only 6.7% of the ACGIH TLV and 20% of the rigid new OSHA standard. The previous OSHA standard permitted lead exposures of 0.2 mg/M³, four times the level permitted in the present standard.

In summary, it is doubtful that this claimant could have received sufficient lead exposures, in his employment at General Motors, to cause his alleged condition. Also, the company policy of routinely performing biological monitoring of employees for elevated concentrations of lead in the blood would have detected an increase of lead in the claimant's blood if he had ingested sufficient lead to cause his symptoms.

Threshold limit values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect. Because of wide variation in individual susceptibility, however, exposure of an occasional individual at or even below current TLVs may not prevent discomfort, aggravation of a pre-existing condition, or an occupational illness.

Sincerely,

Donald B. Meeker

Donald B. Meeker,
Industrial Hygienist

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