



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

August 20, 1985

Ms. Judy Spencer
Legal Section
Industrial Commission of Ohio
246 North High Street
Columbus, Ohio 43215

RE: OD 23614-22
Steve Reno
G.M.A.D.
Lordstown, Ohio

Dear Ms. Spencer:

On June 20 and July 2, 1985, visits were made to the General Motors auto assembly plant located in Lordstown, Ohio, to investigate conditions under which the above-named claimant was employed. He alleges that his condition, which was diagnosed in November of 1984 as "brochospastic airway reaction," resulted from welding smoke blowing into his work area.

From information supplied by company representatives, Mr. Reno was employed in Department 11 of the body shop from April of 1984 until January of 1985. His symptoms, which he described as cough and shortness of breath, first appeared in November of 1984, while he was assigned to Department 11. The claimant, who has worked for G.M. since mid-1978 and performed various duties in several departments, apparently never experienced the symptoms prior to November of 1984. Shortly after the diagnosis of his symptoms in late November of 1984, Mr. Reno was transferred from Department 11 to a door fitter job on January 7, 1985. Although there is no welding or generation of other contaminants even remotely associated with his new assignment, Mr. Reno was still being treated for his problem as late as March 15, 1985, over two months after he transferred from Department 11. In the description of his work site, which the claimant depicts on his application, it is assumed he is referring to his work in Department 11 and not his new assignment.

Following, as observed by this writer, are the claimant's duties and a description of conditions which exist at the two work locations:

1. Department 11--In this job the claimant's responsibility was to remove completed doors from five conveyors and hang them on a monorail, which delivers the doors to the assembly area

where he presently works. His work location was approximately 30 to 35 feet mid-way between six automatic welding machines (two rows of three machines each) which are used to weld hinges on the doors. It is important to note that each of the automatic welding machines is equipped with local exhaust ventilation, with make-up air centrally located directly above the door hanging area where the claimant worked.

Area air monitoring for total welding fume and metallic fume generated during welding was carried out in the claimant's former work area on July 2, 1985. Samples were obtained with the use of personal air sampling pumps equipped with the appropriate filtering media. Following are the laboratory results of analysis of these samples:

Area	Contaminant	(TWA) Concentration Measured	ACGIH (TLV) TWA
West of Monorail	Total Welding Particulate	0.53 mg/M ³	5.0 mg/M ³
	Iron Oxide	0.19 mg/M ³	5.0 mg/M ³
	Copper	0.005 mg/M ³	0.2 mg/M ³
	Zinc	0.02 mg/M ³	5.0 mg/M ³
	Manganese	0.02 mg/M ³	1.0 mg/M ³
East of Monorail	Total Welding Particulate	0.22 mg/M ³	5.0 mg/M ³
	Iron Oxide	0.22 mg/M ³	5.0 mg/M ³
	Copper	0.005 mg/M ³	0.2 mg/M ³
	Zinc	0.02 mg/M ³	5.0 mg/M ³
	Manganese	0.02 mg/M ³	1.0 mg/M ³

TWA - Time-weighted average

TLV - Threshold limit value

mg/M³ - Milligrams per cubic meter of air

ACGIH - American Conference of Governmental Industrial Hygienists.

Reviewing the preceding results of air monitoring, it is indicated that concentrations of welding fumes and metallic fume in the claimant's former work area were below the (TWA) exposure limits which have been suggested by the ACGIH. At these low concentrations, adverse health effects normally should not be experienced.

It should be noted, in addition to fumes generated during actual welding, that there is some smoking when the doors are removed from the welding machines and placed on the conveyors to the monorail. This smoke, apparently produced from the vaporization of residual oil on the doors by the heat from

welding, is not collected by local exhaust ventilation and enters the general work area. However, this possible contaminant appears to be quickly dispersed by the overhead make-up air system. From the sample results for total particulate or welding fume reported earlier, it is not likely that oil mist particulate concentrations would be excessive at this location.

Except for contaminants associated with welding, which do not appear to be excessive, there are no other operations in or near Department 11 which can produce airborne contaminants.

2. Assembly--Door Fitter--On this job since January 2, 1985, the claimant removes doors from the monorail and installs them on autos. There are no operations in or near his present work location which can produce airborne contaminants. Because of the absence of any potential contaminants, air monitoring was not carried out at this location.

If this claimant is experiencing a hypersensitive reaction to some substance in his workplace, it is likely that the reaction will occur upon any contact with the causative agent. Hypersensitive reactions can occur upon contact with even undetectable concentrations and local exhaust ventilation is of little help in controlling the situation. If an individual has become sensitized to some substance in the workplace, to avoid future reactions, he should consider moving to another department or changing his occupation if possible. It should be noted that no known sensitizing agents were identified in the claimant's work areas.

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 variations in individual susceptibility, however, a small percentage of workers may experience discomfort from some substances at concentrations at or below the threshold limit; a smaller percentage may be affected more seriously by aggravation of a pre-existing condition or by development of an occupational illness.

Sincerely,

Donald B. Meeker

Donald B. Meeker
Industrial Hygienist

DBM/klp

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William D. Kaye
Supervisor, Microfilming Unit

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