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TITLE:

ASBESTOS MONITORING DURING TRANSITE MODIFICATION AT MACHINE SHOP, B-105, DECEMBER, 1988 BY THE PLANT B CARPENTERS

PLAINTIFF'S EXHIBIT

DOW-766

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SUMMARY

On December 7, 1988 short term personal and eight-hour area monitoring for asbestos was conducted during a transite modification job at the B-105 Machine Shop by the Plant B Carpenters. The monitoring was done to ensure that the approved asbestos handling procedures would result in acceptable airborne concentrations of asbestos.

All measured asbestos concentrations were well below the OSHA STEL of 1.0 fiber per cubic centimeter (30 minute period) for employees performing the job and below the Permissible Exposure Limit (PEL) of 0.2 fibers per cubic centimeter for area sample taken during the job. The highest personal short-term level found was .01 fibers/cc. The area sample was .005 fibers/cc.

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ASBESTOS MONITORING DURING TRANSITE MODIFICATION AT MACHINE SHOP, B-105, DECEMBER, 1988 BY THE PLANT B CARPENTERS

INTRODUCTION

Personal and area monitoring for asbestos was done during the modification of transite siding at B-105 by the Plant B Carpenters. The job consisted of cutting two 2-5/8 inches holes in a transite siding wall. The monitoring was done to ensure that the use of approved job procedures would result in acceptable airborne concentrations of asbestos.

CONCLUSIONS AND RECOMMENDATIONS

1. All measured asbestos concentrations were well below the OSHA Permissible Exposure Limit (PEL) of 0.2 fibers per cubic centimeter and the OSHA STEL of 1.0 fiber/cc for a thirty minute period. The highest level found was .01 fibers per cubic centimeter during the thirty minutes that it took to cut the holes in the transite. The area sample obtained was .005 fibers/cc. All exposures were potential since workers within the regulated areas wore half-face respirators with high-efficiency particulate air (HEPA) cartridges.

2. A local exhaust method was used during the cutting and removal of the transite material. The method used is described on Table I of this report. Texas Operations asbestos handling procedures must always be followed. The Texas Operations Asbestos Handbook and Safety Standard T-12 must be reviewed. These procedures are designed to make the transite removal jobs safe. If these procedures are not followed, a potentially serious exposure or safety situation may result. For this reason, the asbestos handling procedures must be reviewed, understood, and enforced by all personnel involved in the asbestos removal jobs.

RESULTS AND DISCUSSION

Table I shows the results of personnel monitoring during the cutting of holes in transite siding. The highest potential personnel measurement was .01 fibers per cubic centimeter, for the 35 minute job. Results showed that measured short-term concentrations were well below the OSHA STEL of 1.0 fibers per cubic centimeters for a thirty minute period. Table I also shows the result of area monitoring during the cutting and removal of transite. The area measurement was .005 fibers/cc, well below the OSHA PEL of 0.2 fibers/cc.

The results clearly show that the potential for harmful exposure to asbestos during the cutting and removal of transite jobs is very low when local exhaust ventilation is used when glove bag or enclosures are not feasible. However, improvement is needed in

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ASBESTOS MONITORING DURING TRANSITE MODIFICATION AT MACHINE SHOP, B-105, DECEMBER, 1988 BY THE PLANT B CARPENTERS

RESULTS AND DISCUSSION (CONT')

the asbestos handling procedures (i.e. pre-job meetings, ensuring job procedures are followed, etc.). These procedures are designed to make the transite removal jobs safe. For this reason, the asbestos handling procedures must be reviewed, understood, and enforced by all personnel involved in the asbestos removal jobs.

METHODOLOGY

Asbestos samples were collected using Gilian HFS 513A and 113A air sampling pumps. A known volume of air was pulled through a 25 millimeter mixed cellulose ester membrane filter, 0.8 micron pore size. Samples were collected at a flow rate of approximately 2.0 liters per minute. The pumps were calibrated before and after the sampling, and the samples were counted by McKee Environmental Health Services using phase contrast microscopy. NIOSH method 7400 used.

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EVALUALTION CRITERIA

The evaluation of exposure levels was based on the following criterion:

AGENT	EXPOSURE GUIDELINE	SOURCE**
Asbestos	0.2 fibers/cc (8-Hr.TWA)	OSHA (PEL)
	1.0 fibers/cc (30 minute)	OSHA (STEL)

** OSHA (PEL) Occupational Safety and Health Administration, Permissible Exposure Level

OSHA (STEL) Occupational Safety and Health Administration, Short Term Exposure Limit

The OSHA (PEL) is the time-weighted average concentration for a normal 8-hour workday, 40-hour work week, to which nearly all workers may be repeatedly exposed without adverse health effects. The OSHA (STEL) is the excursion limit averaged over a thirty minute period.

IHS File B1-3425

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TABLE I

ASBESTOS MONITORING DURING TRANSITE MODIFICATION AT MACHINE SHOP, B-105, TEXAS OPERATIONS DECEMBER 7, 1988

SAMPLE DATE	MASTER NUMBER	SAMPLE TIME(min)	SAMPLE VOLUME(L)	SAMPLE NUMBER	CONCENTRATION (f/cc)TWA
12-7-88	202519	35	66.5	RLW12788-3	.007
12-7-88	118761	31	62	RLW12788-4	.01
12-7-88	(Area Sample)	44	88	RLW12788-2	.005
			OSHA STEL (30 MIN)		1.0
			OSHA PEL		0.2

NOTE:

The following job procedure was used:

Two 2-5/8 inches holes were cut in a transite wall using an electric hand drill motor and cutting tool. The transite material and cutting tool were kept wet during the entire job. The wall was double sided with hallow section in center. One hole was cut on one side then the other. During the entire procedure a HEPA filtered vacuum was used in the immediate area of the cutting tool to remove any contamination. All the requirements in Section XI, under Transite and asbestos shingles cutting, drilling, or abrading minimum requirements were followed during the job.