PLAINTIFF'S
EXHIBIT
DUP-700

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December 21, 1967

TO: F. H. MACKIE

FROM: K. E. KEUPER

DUST EXPOSURE - SURVEY RESULTS AND POLICY RECOMMENDATIONS

We recently concluded the asbestos dust survey which was conducted at Chambers Works Construction over the past year. The survey was performed under the guidance of A. L. Linch, Medical Section, Chambers Works Plant.

Results of the environmental survey show that employees are being exposed to a total dust particle count that does not exceed 1 per cent of the current Threshold Limit Value (TLV) established for asbestos dust by the American Conference of Governmental Industrial Hygienists. These results were obtained in shops where designed ventilation systems were installed on all power equipment and a controlled cleanliness program existed. The total particle count is many orders of magnitude less than the established TLV of 5,000,000 particles per cubic foot for asbestos dust.

The acquired results would indicate that presently we do not have a problem of concern. However, Federal and State legislation enacted over the past few years has placed on the employer the burden of proof for continuous conformance with established TLV's. In view of this responsibility and trends in decisions of compensation claims, it becomes imperative that an effective industrial hygiene program be adopted. The need for such a program becomes acute when pre-employment medical examinations are not required for the employees.

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With the above mentioned responsibility in mind, the survey results would indicate that a permanent quality control program be initiated to provide not only quantitative data for internal evaluation of dust control efficiency but also to document air quality analysis needed to demonstrate conformance with established TLV's and provide effective defense in litigation cases. Environmental monitoring once a month should suffice for general work areas. If circumstances should arise which involve unusual dust generation, special monitoring will be required to evaluate the potential exposure severity.

Equipment performance and ventilation specifications should be established for effective dust emission control. Work procedures and protective equipment requirements also should be initiated. We request that you consider adopting the following recommendations to be applied at all site locations to acquire satisfactory environments from dust exposure:

1. Maintain an air sampling program with documented results. This is essential for the over-all health exposure and possible litigation suits. Perform random personnel sampling on a frequency of once a month at each field shop location where there is knowledge of exposure to asbestos dust. The site Safety Supervisor should be responsible for acquiring the air sample and all technical information associated with the sample. Arrangements can be made through Dr. Zapp, Director, Haskell Laboratory, for a qualified interpretation of the sample. Results should then be documented at each site location.

   To acquire the sample, the following instrument is recommended: "Mighty-Mite Air Sampler" - Unico Model 440-A-SP with micro-impinger. The approximate cost of the instrument is $180.00.

2. Equipment

   a. Isolate power equipment operations in the shops from other shop facilities.

   b. Install exhaust ventilation on all power equipment to remove dust particles at point of origin and maintain atmosphere total dust count below the Threshold Limit Value of 5,000,000 particles per cubic foot. All possible dust from cutting and shaping functions should be collected by an effective exhaust and collector system. Collector should not vent off collected dust particles to the atmosphere.

3. Applied Methods In Working With Materials

   a. Initiate a controlled shop cleanliness program. Use a vacuum to remove dust particles from shop equipment, work tables, ledges, floors, etc. Hand cutting should be done so that wherever possible scrap and dust particles fall into a container.

   b. Open cartons of material with care. Dust is shaken loose from shipping abuse and is one of the most severe sources of asbestos dust quantities with which we are presented. The carton can be vacuumed prior to opening by cutting a hole in the carton and introducing a vacuum hose.

   c. Asbestos cements must be handled with great care. A system to avoid man handling and mixing by hand is beneficial. This may be accomplished by procurement of the cement in small plastic bags where water may be introduced and the cement kneaded without dust exposure.

   d. The spray application of materials containing asbestos fiber should be prevented. Several states have enacted legislation outlawing this application of Limpit insulating material.

4. Smoking should be prohibited in shops with asbestos dust exposure and when operating tools and equipment performing work which produces dust.

5. Respiratory Protection

   Severe conditions may dictate the need for respiratory protective devices. However, every attempt should be made to avoid these devices since they never adequately protect the people in adjacent areas. Respiratory protective devices are, when required, an admission of a problem. Since the law accepts even a casual exposure as hazardous, the environment should be maintained so that protective respiratory devices can be avoided.

Approximate cost of survey - $2200.00

Equipment Purchased	330.00
Sample interpretation at $10.00 per	1870.00

(Dr. R. J. Manella - University of Pittsburgh)