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INTERNAL CORRESPONDENCE

To: CLUB AND PLANT CS

INSTITUTE PLANT • P. O. BOX 2981 • CHARLESTON, WEST VIRGINIA 25330

Name: Mr. A. R. Clark

Date: July 8, 1976

Position

Dept.

Originating Dept.

Mr. J. H. Lloyd
Dr. R. J. Sexton
Mr. E. Williams

Subject: Asbestos Exposure Associated With Automotive Brake Systems

At the request of the Plant Medical Department, measurements of personnel exposure to asbestos fibers during brake repair and inspection job tasks have been made. The spirit of cooperation on the part of Mr. L. M. Hoffman was commendable while wearing personnel samplers during three types of job tasks involving brake maintenance. Discussion of each of the job performances, together with results is as follows:

FIRST: The right rear wheel of a pickup truck was removed for inspection. It was determined that new brake shoes were required and the mechanic proceeded to vacuum the brake drum and replace the shoes. He did not wear a respirator as a need was not apparent. Time involved 24 minutes as sampling time. Asbestos fiber count was 0.4 fibers per ml of air with the threshold limit value (TLV) being two fibers greater than five micrometers in length.

SECOND: The left rear wheel was removed for inspection and the need for replacement was apparent. At our request, the mechanic wore a 3M respirator and used compressed air to clean the brake drum before changing the brake shoes. Significant quantities of fine dust was generated, which dispersed throughout the shop. Elapsed time and/or sampling time was 19.5 minutes. Asbestos fiber count of fibers greater than five micrometers in length was 0.2 per ml of air. There was considerable dust collected on the sample but less fibers, possibly due to air dispersion.

THIRD: The right front disc brake was removed, inspected, and replaced during a sampling time of two minutes. No air or vacuum was used. The results were 1.9 fibers per ml, which likely indicates the greatest exposure potential associated with routine brake service to be the removal and replacement of the wheel for inspection when additional work is not required. This factor is time related.

We are of the opinion that even at the new two-fiber TLV, there is generally no problem with excessive exposure to asbestos in the automotive garage. Use of the recently acquired vacuum capability should continue to be required. The 3M respirators should be used on any special occasion where dust levels are suspect of being excessive.

Mr. Hoffman should be informed of the results of these measurements, and if there are questions, please call me at 6161.

H. R. Frazier

HRF/kjs