Environmental Control Department
Research & Engineering Center
April 8, 1969

C. B. Burnett - GHQ
H. M. Ball - GHQ
J. B. Jobe - DHQ
K. V. Lindell - Asbestos 1500
A. B. Marchant - GHQ
A. C. Smith
Ivan Sabourin
F. J. Solon, Jr. - GHQ
W. L. VanDerbeek
Dr. G. W. Wright

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REPORT OF MEETING
ENVIRONMENTAL CONTROL SUBCOMMITTEE
MARCH 18, 1969

Attending this meeting were: W. L. VanDerbeek, Chairman
K. V. Lindell
H. M. Jackson
E. M. Fenner
Dr. G. W. Wright

The agenda as issued on March 10, 1969, copy attached, was followed for the meeting.

(1) E. M. Fenner explained, using slide illustrations, our three newly adopted techniques for measurement of dust concentrations. These three are:

(A) Membrane filter sampling technique utilizing the personal air sampler and light microscope counting to determine concentrations of asbestos fiber dusts.

(B) High volume air sampler with filter paper to obtain silica dust samples. Concentrations of the dust are determined by gravimetric procedures. X-Ray diffraction is utilized to determine percentage of crystalline silica in the sample. These factors are used in the total mass formula to determine the Threshold Limit Values.

(C) Midget impinger sampling and light microscope counting for evaluation of all other toxic and nuisance dusts.

The following questions were asked:

(A) Question: Will the Industrial Hygienists continue to do impinger sampling for asbestos fiber dust?

Answer : Since the new technique is radically different from the old and employs a personal sampler rather than a location or station sampler, correlation between the two methods is extremely difficult. The department plans to take only a limited number of impinger samples simultaneously with the membrane filter samples where we believe this might give valuable information.

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(B) Question: Since the Department's proposed new technique for silica sampling involves a total mass sample, how will this be related to respirable dust?

Answer : In the proposed Threshold Limit Values for 1968 are two for crystalline silica, one expressed in terms of respirable dust, and the other expressed in terms of total dust. Howard Ayer of the United States Public Health Service informs me that at least in 90% of the cases, use of the mass formula will result in a lower TLV than use of the respirable dust formula. The department proposes to use the mass formula because the sampling and analysis technique is much simpler and much quicker than that required when using the respirable dust formula. Dr. Wright stated he would further investigate and report on this total mass method.

(2) E. M. Fenner reviewed the program of ambient air sampling which has been initiated on Manville Plant property downwind of the Asbestos Textile Plant. At the time of the meeting sampling had just begun and only two samples had been analyzed with highly inconclusive results. Since the meeting we have established a technique of operating two personal air samplers (same equipment as used in the plant) simultaneously at the test location. The material collected by one sampler is prepared for electron microscope evaluation and the other for light microscope evaluation. To date, we have examined samples with sampling times of 1½, 3, 8, and 24 hours (three 8-hr daylight shifts). Results to date under light microscopy show only 0.10 to 0.14 fibers/cc. The ashing technique required for preparation of the electron microscope sample has so far resulted in samples too minute for successful examination. We presently are running two 40-hr (five 8-hr daylight shift) samples.

(3) Progress in asbestos fiber bag opening was briefly reviewed. It was reported that the second glove box of revised design, which is to be installed in the Asbestos Textile Plant, will be ready for preliminary operation and debugging in the Central Construction Shop during the week of April 14.

The Waukegan automatic bag opening device had been completed and is undergoing test. Preliminary tests were promising. A comment was made that the automatic would be preferable to the glove box for a number of reasons, including its greater operating speed.

(4) The problems of empty fiber bag disposal were briefly discussed. It was pointed out by E. M. Fenner that proper disposal of the bag immediately after emptying was a problem that has not yet been completely solved, and that it still presents a sizable environmental health problem to the worker involved. It was recommended that work on methods and procedures for removal of empty fiber bags be accelerated.

(5) The results of the sampling station summaries as contained in Environmental Control Report #8 were thoroughly reviewed. Great concern was expressed since these summaries indicated that our sample stations out of control were

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increasing rather than decreasing. It also was pointed out that the reporting techniques could be improved. The Environmental Control Department presently is trying to develop a procedure for more logical and readable presentation of these summary data.

(6) Our serious immediate air and water pollution problems were discussed. Those highlighted were:

(A) Asphalt saturator emissions at Manville, Waukegan, Fort Worth, and Madison.

(B) Diversion of sanitary wastes from the present combined system at Parkersburg to the City treatment system.

(C) Improvement of fluid effluent treatment at Toronto to divert phenol containing effluent to the city sewer system, and provision of pH control facilities in the main settling basins. Density of smoke emissions from the Toronto Power House has resulted in an official citation and the plant is momentarily expecting a report on process air pollution which will also request control facilities.

E. M. Fenner, Secretary
ENVIRONMENTAL CONTROL SUBCOMMITTEE

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Attach.

cc: H. M. Jackson - DHQ
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