cc: E. S. Woolard - Old Hickory
C. D. Crook - Old Hickory
J. F. Morgan - Haskell Lab.
L. Cox

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

TEXTILE FIBERS DEPARTMENT

August 21, 1969

P. J. TRACEY
OLD HICKORY

ASBESTOS DUST ANALYSIS

In mid-1968 we followed Construction Division's lead in adopting an asbestos dust level goal of 0.5 million particles per cubic feet (MPPCF). The recognized TLV was then 5.0 (Ref. 1) based on an impinger collection, light-field count technique. We also adopted Construction's proposed method of membrane filter sample collection and phase light microscopic analysis as this is more accurate than the impinger/light-field technique. Our 0.5 MPPCF goal is only for the small asbestos particles (less than 5 microns in length) as the recognized Haskel Lab and Construction Safety experts all maintain that the respiratory system of the human body can filter out those larger sized particles.

In late 1968 the American Conference of Governmental Industrial Hygenists published an intent to lower the asbestos TLV to 2 MPPCF (impinger/light-field count) or 12 fibers per milliliter, greater than 5 μ (membrane filter, phase light microscopic count). (Ref. 2). From Ref. 3, I deduce that the TLV for the membrane filter method excludes the smaller particles to more equate these results with the impinger method as the impinger collection efficiency for small particles is low. I assume it is from the 1968 TLV intended change that Old Hickory decided to measure only the large asbestos dust particles ($>5\mu$) with a goal of 12 particles/ML. However, since the problem area is defined today as the small particles ($<5\mu$), I suggest that you have a total particle count made (i.e. 0-5, 5-10, $>10\mu$, total asbestos fiber count, and total count for all dust). Also, while the conversion from ML to cubic feet can be readily made, I think it best if you would use the MPPCF units so that your results directly compare with our established goal and results from Construction Division and other Textile Fibers plants. Dr. Corn, Univ. of Pittsburgh, can provide a dust count per the above size ranges in the MPPCF units - as he now does this for our other plants.

MANUFACTURING DIVISION
J. A. Sigman
Division Engineer

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by _____
D. D. Drummond

DDD:hcs

Ref.1 Threshold Limit Values - 1967 - American Conference of Government Industrial Hygenists.
Ref.2 Threshold Limit Values - 1968 - American Conference of Government Industrial Hygenists.
Ref. 3 Measurement of Asbestos Exposure by Lynch and Ayer, from Journal of Occupational Medicine, 1/68.

Note to J. F. Morgan:

In view of apparent discrepancies, could we consider presenting our views on asbestos TLV's, particle size, sampling methods, etc. at the next (5/70) A.C.G.I.H. meeting? This gives us about 8 months to gather data. Suggest we discuss this when Haskell holds the company-wide seminar on asbestos dust hazards.

D.D.D.