Mr. Ralph Sarla
Union Carbide Nuclear Company
Sterling Forest

July 17, 1963



Mr. C. E. Brown
Mr. K. W. Lentz
Dr. Nale

Dear Ralph:

The results of particle counts of air samples collected at the asbestos development facility at Sterling Forest, June 27 and July 12, 1963 are as follows:

Sample Location	Date	MPPCF*
Area around the bagger	6/27/63	2.0 - 4.0
	7/12/63	8.4
		7.1
		9.2
		9.3
Mezzanine above bagger	6/27/63	2.0 - 6.0
	7/12/63	3.7
		3.8
		11.7
		10.8

*MPPCF--Millions of particles per cubic foot of air.

The higher results shown for the bagger (7/12/63) were probably related to the fact that there was several occasions when the feed from the dust collector plugged and cleaning (with accompanying dust dispersion) was required.

The two highest counts for the mezzanine above the bagger were caused by dust leaks from the exhaust duct at this point. The leaks were repaired.

In examination of the samples by oil immersion microscopy (mag.-1200X) we found the expected fibers and many particles that did not resemble fiber. These, of course, could have been fiber turned on end.

The particles that were definitely identified as fiber generally had diameters of 0.5 - 1.2 microns. The lengths ranged from 0.9 to 40 microns but most were in the range of 0.9 to 10 microns.

When I examined the product (CMS - mechanically refined) that was made on the dates shown, I found a number of fibers of diameter less than 0.3 micron. This was not so with the air samples; however, I'm trying to get electron micrographs made of air samples to assure ourselves that the fiber is not preponderantly of diameter less than the limit of the optical microscope.

The maximum allowable concentration for asbestos in the work atmosphere as recommended by the American Conference of Governmental Industrial Hygienists is 5.0 MPPCF and no restriction is included for particle size. While I am aware that there is considerable argument concerning the significance of size of asbestos, I believe it better to observe the above limit until there is ample proof for change. If it is in error it is on the conservative side.

Very truly yours,

Paul W. McDaniel

Paul W. McDaniel
Industrial Hygiene Engineer

PWM/en