

March 7, 1980

Environment Committee
Room 400
State Capitol Building
Hartford, Connecticut 06115

Gentlemen:

My name is Hilton Cecil Lewinsohn. I am a licensed physician and surgeon in the State of Connecticut and full-time Corporate Medical Director of Raybestos-Manhattan, Inc., 100 Oakview Drive, Trumbull, Connecticut 06611.

I wish to enter the following statement into the records of this Public Hearing on behalf of the abovenamed Corporation. I will make this statement brief and submit herewith a comprehensive position statement, reserving the right to forward additional comments and possible counter-proposals during the post-hearing submission period.

Raybestos-Manhattan supports the purpose and intent of the State of Connecticut in establishing asbestos control regulations to protect the public health and wishes to assist in the development of a control limit to achieve this end. We believe there are deficiencies in the assumptions upon which the proposed ambient air standard for asbestos is based which we will briefly enumerate in this statement.

The first deficiency to which I would like to draw attention is the assumption that all asbestiform minerals in commercial use and hence found in the environment are equally hazardous. There is evidence in the medical literature which clearly indicates that there are differences in biological effect among different asbestos varieties. The risk is mainly related to malignant mesothelioma of the pleura or peritoneum and is considered to be greatest with crocidolite, less with amosite and apparently less with chrysotile. There is evidence of an association of mesothelial tumors with air pollution in the neighborhood of crocidolite mines and of factories using mixtures of asbestos fiber types. The evidence relates to conditions of many years ago. There is evidence of no excess risk of mesotheliomas from asbestos air pollution which has existed in the neighborhood of chrysotile and amosite mines. There are reported differences on incidence of mesothelioma between urban and rural areas, the causes of which have not been established. There is evidence from certain areas in Turkey where asbestos is not mined or used that other forms of fibrous silicate minerals can be associated with mesothelioma. There is no evidence of a risk to the general public at present.

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Although mesothelioma incidence has increased in the State of Connecticut in recent years, there is inadequate information available at present to associate this with environmental exposure as opposed to direct or indirect occupational exposure or para-occupational exposure through neighborhood or domestic contact with an industrial source. A study to attempt to unravel this problem is currently underway.

The reliance upon measurements of asbestos levels in the ambient air as measured by currently available techniques is open to question. The biologically effective concentration and deposition characteristics of the particles available for inhalation in the breathing zone of the individual are the critical parameters to be measured. The diameter of the individual fiber is the principal controlling variable in deposition, but length is important enough that both should be measured, although this is difficult in practice.

No satisfactory monitoring technique is currently available which is able to take account of the fiber dimensions when collecting samples from ambient air for analysis. Reliance is currently placed on estimations of mass in large volume samples collected over prolonged periods of time. The following quotation is found in Appendix C of the DHEW document "Asbestos: An Information Resource" (DHEW Publication No. (NIH)78-1681 published in May, 1978 and edited by Richard J. Levine, M. D.).

"Economic Constraints

The equipment needed for complete analyses in a continuous monitoring program will require a highly skilled and experienced operator and extensive technical support. The minimum initial capital investment required for new equipment will be in the range of \$100,000-\$250,000, and an annual operating budget of nearly \$100,000 will be required. This will cover the expense of purchasing and installing a scanning/transmission electron microscope, and the salaries, fringe benefits, and overhead expenses for a microscopist and two or three technicians.

For an uncomplicated membrane filter sample--when only one type of fiber is present, and other particulate material is not excessive--the number and mass of fibers and their size distributions may be obtained for a cost of a few hundred dollars per sample. If the sample is more complex, the costs may run to several thousand dollars, and the sample may require several weeks for analysis.

Some progress has been made in automating the counting and sizing of fibers, from photomicrographs, but these automated methods are based only upon recognition of fibrous morphology and are therefore unsuitable for evaluation of 'mixed' exposure by fiber type.

Reproducibility of Measurements

Because of the difficulties of measuring asbestos fiber contamination, there are large variations in the measurement of asbestos in samples of air and water, both within and among laboratories. Several replicability and duplicability studies are summarized below."

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I would like to enter as evidence the section on Pages C-8-C-12 of the Appendix of the DHEW publication. This document points out the difficulties encountered thus far by laboratories which have attempted to measure asbestos in ambient air and the lack of agreement between them on duplicate test samples.

It is our contention that the present requirements of the Federal EPA Standard should remain in effect until such time as a select committee or working group comprised of knowledgeable experts from industry, government and academia has derived a suitable monitoring technique. Raybestos-Manhattan would be willing to participate fully in such an exercise and to provide support whenever practicable. We respectfully request this Committee to defer action until such time as the matter can be settled in a scientific manner in the best interests of the citizens of this State.

Sincerely,



Hilton C. Lewinsohn
Corporate Medical Director

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