



Mr. Deger
File
Bell Laboratories

subjec. Asbestos Sampling at AT&T Co.,
Raritan River Center, Piscataway,
New Jersey, May 3, 1978

date: June 15, 1978

from: V. R. Cohen

PLAINTIFF'S EXHIBIT

SWB-149

MEMORANDUM FOR RECORD

INTRODUCTION

At the request of Mr. Ted Inge an environmental survey was performed where bulk insulation had been installed on structural members of the Raritan River Center. Bulk analysis of the insulating material performed on May 26, 1976 showed the material to contain from 14% to 50% asbestos (analysis performed by ES Laboratories, Marlton, New Jersey). The results of these analyses were sent to Mr. R. J. Gonzalez on June 29, 1976.

Summary

To assess a possible health hazard due to airborne asbestos fibers, environmental measurements were performed on May 3, 1978. Fiber concentrations determined from phase contrast analysis were well below the current Occupational Safety and Health Administration (OSHA) Standard of two fibers per cubic centimeter longer than 5 micrometers (μm).

No asbestos was detected in any of the air samples analyzed by transmission electron microscopy. The lower limit of detection of these analyses was .03 fibers per cubic centimeter.

Standards

The present standard for asbestos promulgated by OSHA is two fibers per cubic centimeter greater than five μm in length. The two fiber limit refers to an eight hour time-weighted average permissible exposure limit and includes a ten fiber per cubic centimeter ceiling concentration which is not to be exceeded.

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The recommended standard proposed by the National Institute for Occupational Safety and Health (NIOSH) is 0.1 fibers per cubic centimeter greater than 5 μ m in length as an eight hour time-weighted average permissible exposure limit and a 0.5 fiber per cubic centimeter ceiling concentration.

Sampling Techniques

Samples were collected on 37mm open faced Millipore cellulose ester and Nucleopore polycarbonate filters with a 0.8 μ m nominal pore size diameter. Air was pulled through the filters with portable, battery powered Mine Safety Appliance and Bendix Corporation pumps at 2.5 liters per minute.

The pumps were calibrated with the soap bubble flowmeter technique. Analysis for asbestos using phase contrast microscopy as required by OSHA was performed by V. R. Cohen at Bell Laboratories and by McCrone Associates Chicago, Illinois. Transmission electron microscopic analysis was performed by McCrone Associates, Chicago, Illinois. This procedure provides analytical identification of the various mineral phases present as well as better fiber (<1.0 μ m in diameter) resolution.

In addition two bulk samples collected in the hallway of building 3 and the telephone closet, room 1C-207, of building 1 were sent to ES Laboratories for analysis by X-ray diffraction.

Discussion and Results

Table I shows the fiber concentrations measured in various locations at the Raritan River Center. Samples were collected in each of the three buildings. An outside ambient sample was taken as well. In all areas where air samples were collected, false ceilings were installed. Low fiber concentrations were found in all samples analyzed by phase contrast microscopy. The results are all well below the current OSHA Standard. The transmission electron microscopic results are found in Table II. There were no asbestos fibers detected in the analyses.

The bulk sample from the telephone closet of building 1 was shown to contain 20% chrysotile asbestos. The bulk sample from the hallway of building 3 contained 25% chrysotile asbestos.