

July 8, 1994



Mr. Hans R. Siegel
Exxon Company, U.S.A.
Health Services Department
Suite 3171
Houston, Texas 77002-7426

Dear Mr. Siegel:

You have asked that I memorialize for your information and records an account of the policies and programs implemented by Exxon and its predecessor companies with regard to the use of asbestos in our operations and facilities. My knowledge of what follows is based upon my tenure of service with Exxon from 1951 through my retirement from the Company in 1973, when I took the position of Medical Director at the American Petroleum Institute to pursue my interest in research. Exxon had no confirmed cases of asbestos-related occupational disease, to my knowledge.

I first came to Exxon (in Baton Rouge) in 1951 for a short-term project involving cardiac refinery workers. When a change in my military obligations permitted me to stay on, Exxon hired me full-time as an Assistant Medical Director in the Baton Rouge Refinery Medical Department, which at that time was headed by Dr. Howard Hanson. During my subsequent tenure with Exxon I held a number of positions in the Medical Department, including Medical Director at Baton Rouge Refinery, Medical Coordinator of the Manufacturing Division, Medical Director at Bayway (temporary position), Medical Director of Enjay Chemical Company, and Associate Medical Director at our Houston Headquarters (see attached curriculum vitae for more detail). In these positions I had occupational and environmental health responsibilities for petroleum refining and petrochemical manufacturing; additionally I had responsibility for coal, minerals, oil shale, and uranium.

I had learned in medical school about the hazards of dust exposure (including asbestos dust) leading to pneumoconiosis. (As an aside, by the mid-to-late 1950's and through the 1960's my own Occupational Medicine lectures at Tulane included lectures on pneumoconiosis, including asbestosis.) Shortly after I was hired full-time I became aware that the Refinery implemented a two-pronged approach to safeguarding workers from asbestos disease. Potential exposures to hazardous levels and durations of exposure to asbestos dust were controlled in the field through various engineering, safety, and industrial hygiene measures. These included wetting down asbestos insulation (with water mixed with detergent) before removal, avoiding working downwind from or beneath asbestos insulation removal jobs, wearing respiratory protection where potentially hazardous levels of exposure might be encountered, and the use of tools and safety measures chosen to generate the least dust possible, together with good clean-up procedures afterwards.

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For its part, the Medical Department monitored employees for any suspicious lung changes indicative of exposure to asbestos (and other dusts and substances). This was accomplished by taking a baseline physical examination, including a battery of x-rays, at the commencement of employment, against which we compared subsequent annual (or more frequent) "check-up" x-rays. Although I was a certified B-reader, Exxon always retained the services of an outside consulting certified radiologist to also read, review and interpret x-rays. The Medical Department at Baton Rouge Refinery also had a Collins spirometer (pulmonary function test), a ballistocardiograph, the current technology in x-ray machines and film, and allotted time on the first IBM mainframe used outside government or defense industries. In sum, the Medical Department had the support of the Management Committee (of which I was a member) to obtain not only what was deemed necessary, but also innovative and even experimental technology that was far ahead of its time.

Each worker's chart was also noted "Potentially Exposed to Asbestos" if his work duties had ever potentially exposed him to any significant asbestos-related activities. We in the Medical Department thereby knew which workers to particularly watch for any suspicious lung changes - possibly attributable to asbestos. A worker's inclusion among the category of workers "Potentially Exposed to Asbestos" depended upon the frequency, intensity and duration of possible exposures as determined by first line supervisors, safety and industrial hygiene personnel, and on-site medical personnel. Earlier in my career those workers so designated would have mostly been current or former insulation craft workers; however, by the 1960's, with the advent of pre-formed insulation (which requires little or no cutting in the field) and the phasing out of asbestos-containing insulation, those working with asbestos were no longer exclusively insulation workers, but refinery mechanics who worked with asbestos much less frequently. Nevertheless, the designation of "Potentially Exposed to Asbestos" permanently remained on the medical file.

The two-pronged approach utilizing both industrial hygiene and medical monitoring proved successful. As early as 1960 Dr. John Thorpe (Associate Medical Director, Esso Standard Oil Co. based in New York City) and I prepared a paper for an International Symposium in New York City, which Dr. Thorpe presented, wherein we reported that our epidemiological survey conducted of roughly 23,000 workers (including many refinery workers) to search for chronic respiratory disease had disclosed no pneumoconiosis, even among the "dusty trades" of masons, insulators, and welders, whose medical charts alerted us to their potential exposure to asbestos.

By 1964 I had been named Medical Coordinator of the Manufacturing Division (domestic operations) of the Company. In this capacity I visited, at least quarterly, all our United States facilities, including those located in Baton Rouge, Baytown, Bayway, Everette, Pittsburgh, Billings, Benecia, Charleston, and Baltimore, together with the Enjay Chemical Company manufacturing plants, including the Houston Chemical Plant on the ship channel, the facilities at Lake Zurich, Illinois and Odenton, Maryland, and the facility in South Carolina, and others. During my visits I would typically spend one full day with the on-site physicians and nurses reviewing any unusual or noteworthy cases or concerns, then spend a half or full day in the field with the industrial hygienist, and finally meet with the manager.

I found in my visits that the industrial hygiene measures described above were implemented across the Company at every facility. I found no asbestos-related occupational disease, and asbestos did not appear to be a problem at any of our facilities. In this connection I should add that during my earlier years while at Baton Rouge my interest in respiratory irritants (I am also a certified allergist) led me to undertake weekly pollen counts by reviewing slides strategically placed about the Refinery. I had seen asbestos fibers on slides made for comparison purposes by our on-site industrial hygienist, Mr. Fred S. Venable, but I do not recall ever seeing asbestos fiber on my pollen count slides.

To my knowledge, we never received any information regarding potential health hazards of asbestos from the asbestos insulation manufacturers. Those manufacturers did supply engineering specifications, but no instructions or warnings as to potential hazards of asbestos. The only contact I myself ever had with a manufacturer of asbestos was to request that future shipments of asbestos in bulk bags be sent in a packaging more substantial than paper bags (which could tear open, thereby releasing dust). Thereafter, we did receive such asbestos in a plasticized bag that did not rip and tear so easily.

I did attend the International Symposium on Asbestos at the Waldorf Astoria in New York City in 1964, hosted by Dr. Selikoff, whose studies of insulators suggested a link between asbestos and cancer. Although Dr. Selikoff's studies were not generally regarded within the medical community as conclusive at that time, I came away from that Symposium increasingly concerned about the hazards of asbestos. By about 1967, as more studies, anecdotal case reports, and information appeared in the medical literature, I recommended to management that the Company find substitutes for asbestos insulation products where mechanically feasible, and I believe management heeded this advice.

In sum, I can state without qualification my belief that the Company took every reasonable action to safeguard workers from the known risks of asbestos hazards, based on the knowledge and technology available at any given point in time. Looking back on the programs implemented, I firmly believe that we did all we could at any given time to protect our workers' health.

I hope that the above is responsive to your inquiry. I would, of course, be happy to elaborate if you wish to discuss further. As a suggestion, you might also contact Mr. James W. Hammond, who was our Chief Industrial Hygienist, who, with the support of Dr. Valiant C. Baird, Corporate Medical Director of Humble, and later Exxon Co. U.S.A., implemented programs to control potential asbestos exposures through industrial hygiene measures in the field. For information specific to Baton Rouge after my tenure there, I would refer you to Dr. John Lione, who assumed my responsibilities as Medical Director there when I moved on to Houston.

Neill K. Weaver
Neill K. Weaver, M. D.
2327 N. Powhatan Street
Arlington, Virginia 22205