The Vinyl Institute

A Division of The Society of The Plastics Industry, Inc.

Roy T. Gottesman
Executive Director

September 4, 1991

TO: Vinyl Institute Legal Committee

RE: Fire Litigation of Interest to Vinyl Industry

Over the past few years I have had periodic contact with Robert L. Joyce, an attorney at the New York office of Wilson, Elser, Moskowitz, Edelman and Dicker. This firm is representing the New York Telephone Company and AT&T in litigation stemming from the 1975 fire at the telephone company building on Second Avenue in New York City and is also providing legal support to the New York Transit Authority in connection with a subway fire last December that resulted in two fatalities.

We have made available all of the information we have on PVC and fire/combustion toxicity and Bob Joyce visited our offices some time ago and we allowed him to copy items he considered of value that are in the VI files.

With this as background, I believe you will be interested in the letter I received from Bob Joyce dated August 26 which provides an update on two interesting developments relating to the 1975 fire as well as a copy of a favorable toxicology report relative to the subway fire. In addition to the letter, I am also forwarding a copy of the report from one of the plaintiff's treating physician, Dr. Harvey M. Plasse, which is of interest in view of the plaintiff's past medical history (a three-pack-a-day cigarette smoker who drank scotch "socially").

The toxicology report prepared for the New York Transit Authority by McDowell Owens Engineering entitled Toxicological Investigation of Combustion Products from Polyvinyl Chloride, Chloroprene Rubber, Ethylene-Propylene Rubber and Treated Wood Relative to the Clark Street Tunnel Fire - December 28, 1991 issued August 12, 1991 is quite lengthy. For that reason, I am only enclosing the title page and the **Abstract** and **Summary and Conclusion** sections. If you have a need for the entire McDowell Owens report, please let me know and we will arrange to have it copied and sent to you.

If you have any comments on either of these reports, please let me know.

Roy

RTG/pmb

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August 26, 1991

Dr. Roy Gottesman
Vinyl Institute
155 Route 46 West
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RE: 1975 Second Avenue Fire Litigation
December 28, 1990 Clark Street Tunnel Fire

Dear Dr. Gottesman:

This will advise of 1) two recent interesting developments relative to the 1975 Second Avenue Fire litigation which we are handling on behalf of New York Telephone and AT&T and 2) the results of a McDowell Owens toxicology study relative to the December 28, 1990 Clark Street Tunnel Fire where we are providing legal support to the New York City Transit Authority.

SECOND AVENUE FIRE LITIGATION

As you will recall, this litigation arises out of a fire on February 27, 1975 at a New York Telephone Main Switching Center at 204 Second Avenue, New York. A percentage of the fuel load at the fire was polyvinylchloride ("PVC") coating on the cable runs in the building.

In excess of 700 firemen fought the fire at one point or another prior to its extinguishment. A number of fire fighters working at the fire sought medical attention at the scene or at nearby hospitals. The fire has been the focus of considerable attention from the Firefighters Union and Deborah Wallace, among others.

In 1986, the New York Legislature enacted legislation which revived all causes of action caused by the latent effects of exposure to PVC and four other substances (DES, asbestos, chlordane and tungsten carbide). Pursuant to that legislation, a number of

complaints were filed against New York Telephone and/or AT&T. The injuries alleged in the complaints range from permanent respiratory impairment with a "fear of" developing a future condition or disease including cancer to cancer itself. There are three plaintiffs or plaintiff-intestate who are alleging the development of cancer as a result of exposure to burning PVC at the 1975 Second Avenue Fire. Those plaintiffs and the type of cancer alleged are set forth below:

Walsh:	Colon cancer - deceased
Gallowitz:	Laryngeal cancer - retired, non service-related disability
Harrington:	Lung cancer - deceased
Pfundstein:	Leukemia - deceased

Mr. Walsh's colon cancer claim has recently been dismissed prior to trial on the ground that, as a matter of law, he failed to satisfy his burden to prove a causal connection between his exposure at the Second Avenue Fire and his subsequent development of colon cancer.

With respect to the Harrington and Gallowitz cases, in light of the questionable viability of plaintiffs' causation claim, both plaintiffs were ordered to produce by August 31, 1991 expert reports supporting plaintiff-decedent Harrington's exposure and plaintiff Gallowitz' exposure to burning PVC at the 1975 Second Avenue fire as the "legal cause" of their lung and laryngeal cancer respectively.

Plaintiff has not yet been able to produce an expert report with respect to the Harrington claim. Plaintiff has, however, tendered an expert report with respect to Gallowitz. The report (copy enclosed) was secured from Gallowitz's treating physician. We are now in the process of collecting whatever literature cited in that report we are not already in possession of. We have also begun to explore the expert report with Dr. Kaplan. We thought that the opinions expressed in the report would be of interest to you and your member companies.

CLARK STREET TUNNEL FIRE

We also take this opportunity to forward a copy of the favorable McDowell Owen's Toxicology report relative to the December 28, 1990 Clark Street Subway fire.

Should you have any comments with respect to the Gallowitz "expert" report or the McDowell Owens toxicology report, please do not hesitate to contact us.

Very truly yours,

WILSON, ELSER, MOSKOWITZ, EDELMAN & DICKER

Robert L. Joyce

RLJ/tg
Enclosure

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July 15, 1991

Mr. Frank D'Errico
47 Mineola Boulevard
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Re: Mr. Robert Gallowitz

Dear Mr. D'Errico:

I first saw Robert Gallowitz in consultation on 8/4/78. He had noted the recent onset of hoarseness. At this time both his vocal cords were red and swollen. The patient was treated with Ampicillin and Sudafed and seen again on 9/22/78. At this time the patient was found to have a persistent raised reddish tumor of the anterior two thirds of the left vocal cord. Both vocal cords moved well.

Mr. Gallowitz was admitted to University Hospital and on 9/25/78 underwent a Direct Laryngoscopy and Biopsy. Pathology report was a well-differentiated Squamos Cell Carcinoma of the left vocal cord. From 10/16/78 to 11/30/78 Mr. Gallowitz received 33 treatments of Cobalt 60 radiation for a total tumor dose of 6500 Rads as an out patient under the supervision of Dr. Joseph Newall at the New York University Medical Center. To date Mr. Gallowitz has had no recurrence of Squamos Cell Carcinoma of the Larynx.

The patient's past medical history was significant for several risk factors for carcinoma of the larynx. He smoked three packs of cigarettes per day and drank scotch socially. He was also involved in the Telephone Company fire which occurred on 2/27/75 at Second Avenue and 13th Street. The fire took forty hours to extinguish completely. During the course of the fire, Mr. Gallowitz was exposed to 100,000 to 200,000 pounds of decomposed polyvinyl chlorides.

It is impossible to estimate how much each of the risk factors contributed to Mr. Gallowitz' eventual development of carcinoma of the larynx. However, it is my belief that there are a number of lines of evidence that clearly point to the exposure

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to the decomposing polyvinyl chlorides as the important cause, a competent producing cause of larynx cancer in this patient.

Mr. Gallowitz developed cancer of the larynx at the age of 38. Cann and Fried in their article Determinants and Prognosis of Laryngeal Cancer, Otolaryngolocic Clinics of North America 17(1): 139-150, 1984 pointed out that the incidence of larynx cancer starts to increase at age 55 and peaks between ages 60 and 80. Mr. Gallowitz's unusually young age of onset suggests that something other than the usual factors was operative in his case.

The telephone fire was characterized by the generation of large amounts of hydrochloric acid. Most otolaryngolists now believe that gastroesophageal reflux, which is the reflux of hydrochloric acid into the larynx is an important cause of carinoma of the larynx. Paul Ward, in his article Reflux as an Etiological Factor of Carcinoma of the Laryngopharynx, Laryngoscope, 98(11): 1195-1199, 1988 reported on 16 patients who never smoked nor drank but did have moderate to severe gastroesophagealreflux who developed cancer of the larynx. Morrison reported 6 similar patients in his article Is Chronic Gastroesophageal Reflux a Causative Factor in Glottic Carcinoma? in Otolaryngology and Head and Neck Surgery, 99 (4): 340-373, 1988.

The combustion of polyvinyl chlorides may also have released carinogenic hydrocarbons and other compounds. There is also evidence that industrial workers exposed to increased concentration of hydrocarbons have a higher incidence of carcinoma of the larynx. Brown, Mason, and Pickle in their article Occupational Risk Factors for Laryngeal Cancer on the Texas Gulf Coast, Cancer Research, 48: 1960-1964, 1988 studied 183 patients who developed cancer of the larynx and found that there was a significantly elevated risk of cancer of the larynx for employees in the public service industries, for those exposed to paint and deisel or gasoline fumes, and for those in metal fabricating, construction, and maintenance occupations, even after differential patterns of tobacco and alcohol consumption were included.

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Other studies have shown the carcinogenic effects of polyvinyl chlorides on other organ systems. Whelan et al in their article Angiographic and Radionuclide Characteristics of Hepatic Agiosarcoma Found in Vinyl Chloride Workers. Radiology, 118: 549-557, 1976 reported on 8 cases of angiosarcoma of the liver in vinyl chloride workers. Anderson et al in Levels of CEA among Vinyl Chloride Workers and Polyvinyl Exposed Workers, Cancer, 42: 1560-1567, 1978 found the elevated CEA titers in workers exposed to chlorinated hydrocarbons and vinyl chlorides. CEA represents a nonspecific material resulting from pathological cell changes that probably reflects cell differentiation.

The above data gives convincing evidence that the Telephone Fire played a major role in causing Mr. Gallowitz's cancer of the larynx. It must also be remembered how difficult it is to obtain such data. Multiple observation and repeated series were necessary before the correlation of smoking with larynx and lung cancer was made in spite of the prevalence of smoking in our population.

Very truly yours,

Harvey M. Plasse, M.D.

HMP:rlp

TOXICOLOGICAL INVESTIGATION OF COMBUSTION PRODUCTS FROM POLYVINYLCHLORIDE, CHLOROPRENE RUBBER, ETHYLENE-PROPYLENE RUBBER AND TREATED WOOD RELATIVE TO THE CLARK STREET TUNNEL FIRE DECEMBER 28, 1990

Prepared for

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August 12, 1991

Reference: New York City Transit Authority Tunnel Fire Litigation;
Smoke/Fire Incident in the Clark Street Subway Tunnel;
Case #TA-90-12-28-02-999
MOEI File No: 911488

ABSTRACT

On the morning of December 28, 1990 an electrical fire took place in the Clark Street Tunnel in Brooklyn, New York. Passengers aboard the northbound 8:42 train originating from the New Lots Avenue Terminal (842/NLT train) were subjected to smoke from that fire. It was the purpose of the investigation reported here to determine the harmful constituents of that smoke, estimate the amounts of those constituents inhaled by the passengers, and evaluate the long-term health effects, if any, resulting from that exposure.

An electrical fault between the third rail and the tunnel's metal shell ignited nearby materials causing the fire and smoke. The materials identified as being consumed were treated wood from the third rail protection board (6.9 lbs), chloroprene rubber clad, ethylene-propylene monomer (CR/EPM) rubber insulation of the electric power cables (9.1 lbs), and polyvinylchloride (PVC) conduit for the power cables (3.9 lbs.) with an undetermined amount of snow being vaporized.

The primary requirement for evaluating the long-term health effects of the passengers' smoke exposure was the identification and quantification of the products of combustion from the materials. Electrical, radiant heat, and piloted combustion tests were conducted with PVC and CR/EPM rubber samples. Only radiant heat and piloted combustion tests were conducted with treated wood samples because that material was not considered to be influenced by the electrical arcing during the incident.

For each material tested, the maximum amount of each compound produced was selected from all of the combustion tests for the dose-response evaluation. This evaluation was based upon a comparison of the estimated exposure of passengers to the products of combustion found in the smoke to the exposure considered to cause no harm to humans, or minimal health risk dose.

Two parameters were used as the guideline for determining the minimal health risk dose. For non-carcinogenic compounds, the acceptable daily intake (ADI) was the guideline while

a minimum cancer risk dose was used for compounds considered to be carcinogenic. These guideline dosages have been specified by the Environmental Protection Agency (EPA).

Even subject to the conservative factors used in estimating and evaluating the exposure of passengers to smoke at the Clark Street Tunnel fire, it is concluded that there is no concern for long-term health effects.

SUMMARY AND CONCLUSION

On the morning of December 28, 1990 an electrical fire took place in the Clark Street Tunnel in Brooklyn, New York. Passengers aboard the northbound 8:42 train originating from the New Lots Avenue Terminal were subjected to smoke from that fire.

The fire and smoke were attributed to an electrical fault between the third rail and an exposed area of the tunnel's metal shell igniting nearby materials. The materials identified as being involved in the fire were relatively small amounts of treated wood from the third rail protection board, CR/EPM rubber electric power cable insulation and PVC power cable conduit.

For all aspects of this study, when conditions were indeterminant, assumptions were made that represented "worst case" situations.

A laboratory model was developed to identify and quantify the carcinogenic and/or toxic compounds produced during combustion of the materials involved in the fire. Various temperatures and combustion mechanisms were employed to insure that the products of combustion were representative of those occurring in the tunnel fire in terms of both their variety and rates of production. Electric arcs produce very high temperatures. At those energy levels, chemical bonds are broken directly without a series of chemical reactions. As a result, a more efficient combustion process takes place with lower concentrations of large, and generally more harmful molecules, as products of combustion, compared with lower temperature radiant heat and piloted ignition combustion. To avoid biasing the compound production rates used in the evaluation toward the cleaner electric arc combustion, tests of the materials were also conducted using radiant heat and piloted ignition. The highest production rate for each compound, regardless of combustion method, was selected for use in the health evaluation.

The estimated smoke concentration to which passengers were exposed was based on assumptions, consistent with available information, that tended to maximize its value. In this

regard, it was assumed that the greatest amount of material possible was consumed in the shortest available time; that the smoke was confined to the smallest volume available; that the exhaust fans had minimal effect in dispersing the smoke; the smoke concentration inside the cars was the same as outside the cars; and there was no decrease in smoke concentration from the front to the rear of the train.

Additionally, the compound dose estimations were made with the assumptions that 100% of a compound inhaled was absorbed into the body and that the exposure time was equal to the entire time from the train stopping short of the fire to the time it returned to Borough Hall Station.

The relative toxic and carcinogenic effects of the compounds were also maximized to avoid underestimating the health risks posed by the passengers' exposure. In this regard, the toxicity of all compounds in a congener group were assumed to have the toxicity of its most toxic member.

Even subject to the conservative factors used in estimating and evaluating the exposure of passengers to smoke at the Clark Street Tunnel fire, it is concluded that there is no concern for long-term health effects.

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