



Route to info

A/C Pipe
Producers Association

Public Affairs Committee
International Affairs Committee

FROM: *J.F. Welch*
J. F. Welch, Director, Public Affairs

Internal Correspondence

DATE: May 19, 1981

SUBJECT

State of Connecticut - Report on Health Hazards of Vinyl Lined A/C Pipe

ACTION REQUIRED: Review for information

Connecticut Public Act 80-359, which established a task force to study the public health hazards of asbestos, also required the Commissioner of Health Services to report on the health hazards associated with vinyl lined A/C pipe. Enclosed is the Commissioner's report, presumably prepared by Richard S. Woodhull (Chief, Bureau of Water Supplies) since it carries the initials "RSW".

The report is quite short and thus, barely scratches the surface of the scientific evidence regarding the potential health hazards of tetrachloroethylene (TCE) in drinking water and the role of vinyl lined A/C pipe in releasing tetrachloroethylene. Moreover, it makes no mention of the efforts made by the industry to assist utilities in controlling TCE in drinking water and removing the product from the marketplace.

The report mentions the "extensive testing" done by the Department of Health Services to determine the presence of other solvent residues in water systems using other pipes. Staff will request special counsel to file a Freedom of Information Act request for the results of this testing.

If you have any questions, please do not hesitate to call.

JFW/ajb

cc: A. Kahn, Esq.
N. Rahn, Esq.
T. Joyce, Jr.
M. Greenberg, Esq.
B. Pigg
Sir Neville Stack

copies to: Public Affairs Committee

H. Olson
I. Adams
B. Cook
✓ W. Perrell
J. Woods
J. Baker
T. Dougherty
D. Stinson
W. McCallie

International Affairs Committee

R. Dorner
E. Van Der Rest
B. Giboin
R. Hobbs
C. Walters
A. Saoulis
R. Jalan
V. Pattabhi
H. Hudson
C. Barton
S. Al-Tarkait
E. Costa



OFFICE OF THE COMMISSIONER

STATE OF CONNECTICUT DEPARTMENT OF HEALTH SERVICES

Report On Public Act 80-359, Establishing A Task Force To Study Public Health Hazards of Asbestos

INTRODUCTION

Public Act 80-359*, An Act Establishing a Task Force to Study Public Health Hazards of Asbestos, banned the installation of vinyl-lined pipe containing tetrachloroethylene or other potentially toxic substances through July 1, 1981. The Act calls for the Commissioner of Health Services to report on the health hazards associated with the use of vinyl-lined pipe as well as to give recommendations concerning its future installation in Connecticut. The following report is presented to the General Assembly in fulfillment of the requirements of this Act.

HISTORICAL PERSPECTIVE

Vinyl lined asbestos cement (A-C) pipe was manufactured to eliminate the corrosion of A-C pipe by aggressive water and to reduce possible taste and odor complaints. The liner was applied with a solvent containing tetrachloroethylene (TCE). Vinyl lined pipe has been installed in New England for approximately 12 years and in Connecticut since about 1978.

Tetrachloroethylene is an organic chemical which is slightly soluble in water. When used as a solvent in the application of the vinyl liner, most of the TCE evaporates with only small amounts remaining.

The finding of tetrachloroethylene (TCE) in drinking water came to the attention of the State Department of Health Services through information obtained at a meeting of the New England Water Works Association held in Randolph, Massachusetts on March 24, 1980. Further information was made available at a state Environmental Protection Agency (EPA) regional conference held in Boston, Massachusetts on April 2 and 3, 1980.

The first laboratory results of TCE in drinking water in Connecticut were obtained through a private laboratory monitoring the public water supply in Simsbury. When it was determined that TCE could be found in Connecticut's drinking water, a review of all utilities using vinyl-lined asbestos pipe was conducted by the State Department of Health Services and an active sampling and monitoring program was put in place.

There are 146 water utilities in Connecticut that use some amount of asbestos-cement (A-C) pipe to convey drinking water to consumers. A total of 900 miles of A-C pipe is in use. About 20 miles of the vinyl-lined A-C pipe has been installed in Connecticut.

*See Attachment

In April of 1980 all 146 utilities using A-C pipe in Connecticut were contacted to learn where any of the vinyl-lined pipe had been used. Water samples were collected and tested for TCE wherever vinyl-lined pipe was found to have been used. Significant quantities of TCE were found present in 5 water systems.

The control of TCE levels in water in the five affected Connecticut water utilities was accomplished by installing bleeder taps at the end of deadend lines or where water flow was not continuous. This control was achieved by May 1, 1980. Water supplied by the five utilities is tested on a monthly basis to monitor TCE levels and to ensure that the EPA limits for TCE in drinking water are not exceeded.

There is no evidence that vinyl-linings have ever been used in Connecticut on any drinking water pipe other than asbestos-cement. This is verified by the fact that extensive testing by the Department of Health Services and by water utilities has not disclosed the presence of solvent leachings in systems using other pipe materials.

TCE HEALTH EFFECTS/STANDARDS

Tetrachloroethylene (TCE) is rapidly absorbed through the skin and lungs. The chemical properties of TCE indicate that it should be rapidly absorbed through the gastrointestinal tract, a conclusion which the federal Environmental Protection Agency (EPA) used in setting its suggested No Adverse Response Level (SNARL).

Exposure to elevated levels of TCE has been shown to cause damage to the liver and kidneys and to affect the central nervous system. In most inhalation studies, doses in excess of 100 parts per million (ppm) were used before any toxic effects could be detected.

Several studies conducted to assess the carcinogenic effect of TCE have given conflicting results. In 1977 the National Cancer Institute (NCI) completed one of the most comprehensive studies. The results indicated a carcinogenic response in mice to massive doses of TCE, but not in rats. However, the results of the response in rats should be interpreted with caution since the rat studies suffered from problems in their experimental design.

There is evidence that TCE is likely to be a human carcinogen based on the NCI mouse study and studies involving occupational exposures to TCE by dry cleaning workers which suggest evidence of increased cancer. These latter studies were conducted by the National Cancer Institute (NCI) on dry cleaning workers in St. Louis and by the Oklahoma University on dry cleaning workers in Oklahoma.

Based on the data on toxicity and potential carcinogenicity, the EPA set Suggested No Adverse Response Levels (SNARLS) for TCE at low levels to avoid these problems. The Connecticut Department of Health Services monitors the five water supplies which have installed vinyl-lined asbestos cement pipe to ensure that the water has levels of TCE below the SNARL.

CONCLUSIONS AND RECOMMENDATIONS

There are reasonable alternative water distribution pipes available which can be used in place of vinyl-lined asbestos cement pipe. The use of alternative water pipe will not expose any additional Connecticut water consumers to TCE.

Those pipe systems where vinyl-lined asbestos pipe has been installed are currently being monitored to assure that levels of TCE released into the water are kept at very low levels.

We recommend that a ban be placed on the future installation of TCE vinyl-lined pipe. We also recommend the continued periodic monitoring of those systems in which this pipe has been installed until such time as TCE is no longer leaching into the water.

RSW/ch
4/23/81

PUBLIC ACT 80-359 - Attachment 1

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. There is established an asbestos hazards task force consisting of thirteen members, including (1) the commissioners of environmental protection, health services, and economic development or their designees, (2) a representative of the asbestos manufacturing industry, a representative of the construction industry and one public member appointed by the president pro tempore of the senate, (3) a physician experienced in the field of pulmonary disease, a physician experienced in the field of cancer and one public member appointed by the speaker of the house of representatives. The remaining members shall be members of the general assembly appointed as follows: The president pro tempore of the senate shall appoint one member, the minority leader of the senate shall appoint one member, the speaker of the house of representatives shall appoint one member and the minority leader of the house of representatives shall appoint one member. The task force members shall not receive compensation and shall not be reimbursed for expenses incurred in the performance of their duties as task force members.

Sec. 2. The task force shall (1) evaluate and inventory the existing and potential public health hazards related to asbestos and (2) develop recommendations for the adoption and implementation of measures to reduce and eliminate such hazards. On or before January, 1981, the task force shall report its findings and recommendations to the governor and the general assembly. Upon completion of such report, said task force's existence shall terminate.

Sec. 3. (NEW) From the effective date of this act to July 1, 1981, no person, firm, corporation or municipality may install any vinyl-lined pipe containing tetrachloroethylene or other solvents deemed toxic by the commissioner of health services, in any water supply system in the state. On or before February 15, 1981, the commissioner of health services shall report to the general assembly his recommendations concerning the future installation of such vinyl-lined pipe and any public health hazards associated with its use.