



**A/C Pipe  
Producers Association**

1600 Wilson Boulevard,  
Suite 1308  
Arlington, Virginia 22209  
(703) 841-1556

*Must be  
filed at  
court*

*Liberty*

PLAINTIFF'S EXHIBIT

CAP-665

April 23, 1981

Mr. William R. Perrell  
CAPCO Pipe Company, Inc.  
1400 South 20th Street  
P.O. Box 3435  
Birmingham, AL 35205

Dear Bill:

Enclosed are additional materials which Mr. Barber may find useful in presenting the health issue to the Greenwich (Connecticut) City Council:

- (1) Executive Summary of Scientific Evidence on Asbestos Cement Pipe and Drinking Water Preliminary.
- (2) Preliminary results of National Institute of Environmental Health Sciences (NIEHS) study on ingested asbestos (including AACPP press release).
- (3) Position statements from state health departments on the safety of A/C water pipe.

Since CAPCO/ASARCO are involved at this early stage, it would be appropriate for you and John Prechek to monitor this field problem. If we can be of any assistance, please do not hesitate to call.

Very truly yours,

A/C PIPE PRODUCERS ASSOCIATION

*John F. Welch*

John F. Welch  
Director, Public Affairs

JFW:mmj  
Enclosures

cc: A. Kahn, N. Rahn

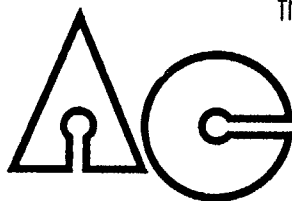
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CAPCO JEN 0010774

# NEWS

from



A/C Pipe Producers Association

1600 Wilson Boulevard ☐ Arlington, Virginia 22209 ☐ Telephone 841-1556 Area Code 703

CONTACT: Nancy L. Battle  
Lewis & Gilman, Inc.  
(215) 568-3775

## SCIENTIFIC AND MEDICAL RESEARCH:

### ASBESTOS-CEMENT PIPE AND HEALTH

Some persons who have inhaled heavy concentrations of asbestos fibers in industrial settings have shown some increases in gastrointestinal cancer. Since there is evidence that the inhalation of asbestos under certain conditions can be harmful, some have reasoned that the ingestion of asbestos in drinking water may also be harmful. Considerable amounts of asbestos-cement (A/C) water pipe are used in North America, Europe and other parts of the world. Thus, questions have been raised about the possible health hazards associated with drinking water conveyed through A/C pipe.

In order to determine whether the ingestion of asbestos in drinking water represents a health hazard, two types of studies have been conducted: (1) Statistical or epidemiological\* studies, in which the medical experience of one group, exposed to a high level of ingested asbestos, is compared to the experience of another group, exposed to a lower level or no ingested asbestos; and (2) animal studies, in which conclusions are derived from the ingestion by animals of asbestos under scientifically controlled conditions.

\*Epidemiology: the study of the distribution and dynamics of disease in human populations.

One of the first major studies was conducted by a panel of government and independent authorities in pathology, epidemiology, analytical methods, and public health, commissioned in 1974 by the American Water Works Association Research Foundation. The committee concluded, "No firm evidence shows that the proper use of asbestos-cement pipe poses a hazard to health by reason of ingestion of asbestos fibers. Calculations comparing the probable ingestion exposure in occupational groups to that likely to occur as a result of ingestion of potable water from asbestos-cement pipe systems suggests that the probability of risk to health from the use of such systems is small -- approaching zero."

Substantial epidemiologic evidence exists that the ingestion of asbestos in drinking water does not cause cancer.

Thomas J. Masson et al. in 1974 conducted a study of ingestion of asbestos in drinking water, entitled "Asbestos-Like Fibers in Duluth Water Supply."

The study undertook to determine whether fibers present in the drinking water of Duluth, Minnesota produced increased cancer mortality. The study concluded:

Thus, in Duluth, one would expect a greater excess of cancer in the esophagus and stomach than in the rectum, but this did not occur.

B. S. Levy of the Minnesota Department of Health, together with other researchers, in 1976 continued the investigation made by Masson. Levy was the Acting State Epidemiologist for Minnesota and his co-authors of the report were associated with the University of Minnesota School of Public Health and the Mayo Clinic.

Gastrointestinal cancer incidence data for the cities of Duluth, Minneapolis and St. Paul were gathered and compared in the same manner as in the Masson study. (Minneapolis and St. Paul have populations similar to Duluth, but they have few, if any, asbestos fibers in their water supplies.) After a thorough investigation, the authors concluded that ... "there was no consistent pattern of statistically significant differences observed" among the three cities.

Thomas R. Fears of the National Cancer Institute published an article in 1976 in the American Journal of Epidemiology entitled "Cancer Mortality and Asbestos Deposits." The specific question posed in that study was: "Is there an increase in risk from cancer associated with naturally-occurring asbestos?"

The abstract of the study states:

The study of cancer mortality rates in these matched counties provides no evidence that naturally-occurring asbestos is a great hazard to the general population of counties with asbestos deposits.

Donald T. Wigle, M.D., Ph.D. and M.P.H., Bureau of Epidemiology, Health and Welfare, Canada, conducted an extensive study in 1977 of municipalities in Quebec Province entitled "Cancer Mortality in Relation to Municipal Water Supplies." These area comparison studies presented an unusual scientific opportunity to analyze cancer mortality in populations exposed to as much as 1.3 billion fibers per liter of drinking water. Despite the extremely high levels of asbestos in drinking water, this study concludes:

A study of twenty-two municipalities in Quebec did not reveal excess cancer mortality that could be related to the presence of asbestos fibers in drinking water supplies.

The Commins report, published in 1979 under the aegis of the internationally prestigious Water Research Center, entitled: "Asbestos in Drinking Water: A Review" summarized the Wigle study in this fashion:

It is reassuring that a recently reported, detailed, epidemiological study carried out in 22 municipalities in Quebec failed to reveal excess cancer mortality that could be related to the presence of asbestos fibers in drinking water supplies. This was despite the fact that some of the water supplies fed to these municipalities were reported to be fairly heavily contaminated with asbestos fibers.

#### The Harrington Study

The first of two studies made in Connecticut concerning the use of asbestos-cement water pipe and the incidence of cancer is entitled "An Investigation of the Use of Asbestos-

Cement Pipe for Public Water Supply and the Incidence of Gastrointestinal Cancer in Connecticut." Referred to as the Harrington study, it was published in the American Journal of Epidemiology in 1978, and was co-authored by officials of the U. S. Center for Disease Control, Environmental Protection Agency, Yale University School of Medicine and Connecticut State Health Department.

As the Harrington study stated:

The possibility of studying reliable cancer incidence data over a 35-year period through the Connecticut Tumor Registry and linking these data with information gathered on asbestos cement pipe studies conducted by US Environmental Protection Agency, prompted the present investigation.

The findings of the Harrington study are consistent with a determination that the use of asbestos cement pipe does not create a health hazard:

...This study detected no changes in incidence rates or patterns in Connecticut for cancers of the stomach, colon, or rectum over the period 1935-1973, that could be construed as related to the introduction around 1950 of A/C pipes to carry domestic water supplies to some or most of the residents of certain towns.

#### The Meigs Study

The Meigs study, entitled "Asbestos Cement Pipe and Cancer in Connecticut 1955-1974," was published in the January/February, 1980, edition of The Journal of Environmental Health. The principal author of the report, J. Wister Meigs, is Director of the Connecticut Cancer Epidemiology Unit and Clinical Professor of Epidemiology, Yale University School of Medicine. The Meigs

study used essentially the same methods as those used in the Harrington study, but the procedures and techniques were more sensitive and refined. The study was supported in part by the National Cancer Institute and by the EPA.

Following are the principal conclusions of the Meigs study:

These analyses give no consistent indication that use of A/C pipe in Connecticut public water supplies has been followed by increases in incidence either of "all cancers" or of the individual sites considered.

Therefore, the lack of coherent evidence of cancer risks from use of A/C pipe is reassuring. (Emphasis in article.) It is consistent with most reports from other areas of the United States.

Hence, the Harrington study and the Meigs study represent independent, thorough and competent epidemiological studies carried out for the sole purpose of determining the question at issue: whether the use of asbestos-cement pipe creates a hazard to the public health. Both studies reached the conclusions: that there was no association between the use of the asbestos-cement pipe in Connecticut and the incidence of cancer; and, in the opinion of the authors of the Meigs study, there was no need to change water distribution policies in this State because of the use of such pipe.

#### The Kanarek Study

The Kanarek study (the results of which were first published in 1978-1979) was conducted in five California counties in the San Francisco Bay area by Dr. Robert C. Cooper (principal in-

vestigator), doctoral candidate Marty Kanarek (project coordinator), and others. The study found a weak statistical correlation between the ingestion of asbestos in drinking water and certain cancers. The Kanarek study was an indirect study in which census tracts with differing amounts of asbestos fibers in their drinking water were compared for cancer incidence, after attempting to take into account certain variables.

By its own admission, the study is of limited value in its relevance to asbestos-cement pipe:

Samples were taken before and after passage of water through lengths of asbestos-cement pipe. In most of the districts sampled, there was not a substantial increase in fiber counts after passage through asbestos-cement pipe. The amount of asbestos-cement pipe in the various distribution systems was not included as a variable in the analysis because of the difficulty of determining its location, age and dimensions.

The study design was that of an indirect epidemiological approach in which the observational unit was the census tract. Studies such as this one can only suggest associations, and cannot pinpoint definite causation.

Dr. J. Wister Meigs, author of the Meigs study was asked to comment on the Kanarek study at a Connecticut public hearing held on September 16, 1980:

I believe that there are inherent problems with the California study that have (not) been addressed by the author, and I will explain to you what that problem, the basic problem is. We knew in Connecticut that there are other variables besides asbestos, and one would expect this to be true, that influence cancer (incidence) rates.

One of the necessary variables in Connecticut that we have studied in some depth is population density. For reasons that are not entirely clear to us ... people who live in more crowded areas where the population density is higher per square mile have and have had over a long period of time in Connecticut higher cancer (incidence) rates. This has been systematically true with a number of different cancers, and it continues to be true at the present time ...

So far as I can make out from this study, he did not consider population density. I believe it is a major defect in the study. I believe that there is evidence from his thesis to suggest that population density would explain the results that he got...

Dr. Ian T. T. Higgins, Professor of Epidemiology and Professor of Environmental Health, Michigan University School of Health, also was asked to review and comment on the Kanarek study at the Connecticut public hearings. He, too, criticized its failure to adjust for the population density factor, and stated that the study should not be relied upon: "...I don't believe that its conclusions are valid."

The California Department of Health Services has taken the following view of the Kanarek study:

The UC doctoral thesis abstract entitled: "Asbestos in Drinking Water and Cancer Incidence," contains no new or original evidence of a medical nature about cancer or asbestos, nor does it establish any causal link between asbestos in Bay Area drinking water and the incidence of cancer.

The Environmental Protection Agency (EPA) has stated of the Kanarek study:

The University of California investigators are among the first to report finding an association between ingested asbestos and cancer rates. They caution that causative inferences must necessarily be limited because of the indirect nature of the data being compared. This means that the results of this study do not prove that there is a link between Bay Area water and cancer.

Animal Feeding Studies Provide Substantial Evidence that the Use of Asbestos-Cement Pipe Does Not Create a Public Health Hazard.

Animal ingestion studies support and confirm the epidemiologic findings that there is no association between the ingestion of asbestos fibers in drinking water and the presence of a health hazard. Test animals have been fed diets containing substantial proportions of asbestos, without inducing related tumors or shortening lifespan.

All of the following scientific authorities have concluded that animal laboratory experiments do not support the proposition that the ingestion of asbestos in drinking water is harmful:

Bonser, G. M. and Clayson, D. B., "Feeding of Blue Asbestos to Rats," 45th Annual Report of the British Empire's Cancer Campaign, 242 (1967). An experiment was performed to ascertain whether feeding asbestos to rats, would induce peritoneal tumors. Sixty-five rats were fed 1,500 mg/kg body weight crocidolite ("blue asbestos") for life and no tumors were observed.

Smith, W. E., "Asbestos, Talc and Nitrites in Relation to Gastric Cancer, American Ind. Hyg. Assoc. Journal 34:227-228 (1973). This too was a complete life span experiment in which hamsters were fed abnormally large amounts of asbestos.

In 45 hamsters maintained throughout their lives on diets containing 1% of the chrysotile or amosite varieties of asbestos, we found no gastric carcinomas and no tumors in the gastrointestinal tract except for a neoplasm in the mesentery of the colon. We are unable to relate that lesion to the treatment, since ashing has revealed no asbestos fibers in it.

Webster, I., "The Ingestion of Asbestos Fibers," Environ. Health Persp. 9:199-202 (1974). Dr. Webster fed baboons heavy doses of crocidolite over considerable periods of time to determine if peritoneal or gastrointestinal cancers could be induced. The report states:

In none of the many baboons used was there any evidence of a peritoneal tumor or gastrointestinal tumor.

Gross, P., et al., "Ingested Mineral Fibers: Do They Penetrate Tissue or Cause Cancer?," Arch. Environ. Health 29(6):341-347 (1974).

Twenty-one months of intimate contact of rat GI mucosa with very high concentrations of chrysotile asbestos failed to produce cancer or any other kind of lesion. ...Short-term and long-term feeding (up to 1-1/2 years) of chrysotile and crocidolite by a second laboratory resulted in no tumor production in the GI tract or mesothelium during the lifetime of the animals.

Moore, J. H., "Biological Effects of Ingested Asbestos  
- Status Report, U.S. Department of Health, Education and  
Welfare, Public Health Service, National Toxicology Program,  
January, 1981."

The National Institute of Environmental Health Sciences is sponsoring a multi-million dollar study on the effects of ingested asbestos on rats and hamsters. Preliminary results released in January, 1981 were reported as follows:

There was no indication of major differences in the mortality rate between the hamsters receiving the asbestos diet or the control diet. Preliminary analysis of the hamster data indicates that no carcinogenic or cocarcinogenic effect was observed.

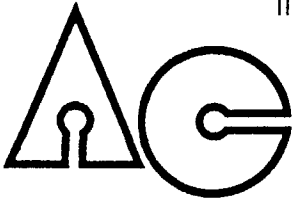
Rat studies. The lifetime exposure phase of the study concluded ... longevity was not affected by exposure to the various types of fibers.

These animal feeding studies conducted by the federal government are the most extensive ever carried out to assess the effect of the ingestion of asbestos fibers on animals.

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# NEWS

from



A/C Pipe Producers Association

1600 Wilson Boulevard ☐ Arlington, Virginia 22209 ☐ Telephone 841-1556 Area Code 703

CONTACT: Nancy L. Battle  
Lewis & Gilman, Inc.  
(215) 568-3775

FOR IMMEDIATE RELEASE

## GOVERNMENT STUDIES SHOW NO CARCINOGENIC

### EFFECT OF INGESTED ASBESTOS

ARLINGTON, VA -- Preliminary results of government-sponsored studies on the effect of ingested asbestos on laboratory animals show no carcinogenic effect.

The studies are being conducted by the National Institute of Environmental Health Sciences (NIEHS) under the direction of the Public Health Service's National Toxicology Program. The Environmental Protection Agency (EPA) has contributed a portion of the funding.

The aim of the NIEHS/EPA studies is to assess the biological (carcinogenic) effects of asbestos fibers which are ingested, or taken into the body through the digestive tract, as in drinking water.

A large number of male and female hamsters were fed asbestos over their entire lifespan. Two types of asbestos fibers commonly used in the manufacture of asbestos-cement products were administered. The doses of asbestos fed to the hamsters were millions of times higher than levels which occur in drinking water consumed by the public in a lifetime, in areas where asbestos occurs in the drinking water. The same number of animals,

CAPCO JEN 0010786

called a "control group", were fed a diet with no asbestos.

NIEHS reports, "There was no indication of major differences in the mortality rate between the hamsters receiving the asbestos diet or the control diet." Preliminary analysis of the hamster data indicates that no carcinogenic or cocarcinogenic effect was observed.

The analysis included thorough pathologic evaluation at time of autopsy, as well as microscopic examination of some thirty tissues from test animals.

In addition, preliminary results of rat studies, carried out in a similar manner, also were reported. The lifetime exposure phase of the study concluded, ". . . longevity was not affected by exposure to the various types of fibers."

These findings are consistent with a number of other studies of animals fed asbestos in food or drinking water. In 1980, the Health Research Institute at Fairleigh-Dickinson University reported no malignant tumors related to treatment in hamsters maintained on drinking water containing 13 billion asbestos fibers per liter.

# # #



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
NATIONAL TOXICOLOGY PROGRAM  
P.O. BOX 12233  
RESEARCH TRIANGLE PARK, N.C. 27709

## Biological Effects of Ingested Asbestos

Status Report January 22, 1981

### Introduction

The NIEHS is conducting a series of studies on the effects of ingested asbestos. These studies are part of the NIEHS commitment that is directed by the recently established National Toxicology Program. The Environmental Protection Agency has contributed approximately 10% of the total funding. A summary of the evolution of the study is to be found in Appendix A. A paper, given at a Workshop on Asbestos, Gaithersburg, Maryland, July 1977, detailing the studies' design and implementation is attached (Appendix B).

### Current Status

**Test Materials** - Two samples of chrysotile, and single samples of amosite and crocidolite asbestos plus a tremolite material are being tested. A repository of these materials was established and has also served as a source for other scientific studies on asbestos.

Each material has been extensively characterized as to physical and chemical properties. The fiber size characterization performed by the Illinois Institute of Technology Research Institute (IITRI), Chicago, Illinois, has been completed and a final report received. The chemical and physical property characterization performed by the U. S. Bureau of Mines is also completed.

### Hamster Studies

Three asbestos materials are being studied at IIT Research Institute, Chicago, IL. The lifetime exposure phase of these experiments has been completed. There was no indication of major differences in the mortality rate between the hamsters receiving the asbestos diet or the control diet. Histopathologic examination of tissues from female hamsters has been completed. The contractor has reported that a preliminary analysis of the hamster data indicates that no carcinogenic or cocarcinogenic effect was observed. A standard independent quality review of the pathology results has been completed for the female hamster. A similar review of the male hamsters is in progress and is expected to be completed in March 1981. Analyses of the verified data and preparation of the draft report is in progress. The report is expected to be completed and submitted to the NTP Board of Scientific Counselors' Technical Report Subcommittee for independent public peer review in May 1981.

### Rat Studies

Five test materials are being studied in this species at the Hazleton Laboratories, Vienna, Virginia. In addition, a subset of two studies includes neonatal as well as lifetime oral exposure to asbestos. The lifetime exposure phase of the study has been completed. Although data has not yet been statistically analyzed, it appears that longevity was not affected by exposure to the various types of fibers, although the known carcinogen (DMH) did significantly shorten lifespan. The histopathologic phase of the study is in progress and is projected to be completed in October 1981--there are a total of 5,158 rats to be examined. The histopathologic evaluation is to be completed by group and then subjected to pathology quality review. Sequential issuance of final reports by asbestiform type is being considered with the first reports projected to be available for public peer review in December 1981.

## High Asbestos Level Found in State Aqueduct Water

By ERIC MAINIC

Times Staff Writer

"Unusually high" concentrations of asbestos—a known carcinogen—have been found in water transported to the Southland via the California Aqueduct, Metropolitan Water District officials said Friday.

However, while those concentrations have been 50 times higher than normal in some cases, virtually all the asbestos has been removed by filtration, and John Gaston of the State Department of Public Health said he thought there was "no discernible health hazard."

"There has been no link between asbestos in water and cancer in the body," he said.

Safety standards for asbestos concentration in water have never been established.

### Supplies Cities

The connection between the compound and cancer usually is mentioned in connection with asbestosis, a progressive respiratory disease caused by the inhalation of asbestos fibers suspended in the air.

The large amounts of asbestos measured in aqueduct water last summer apparently came from storm runoff that had drained through abandoned asbestos mines in the Coalinga area, according to Dave Kennedy, MWD's assistant general manager.

Coalinga, a small farming town 50 miles southwest of Fresno, is one of the few places where runoff is permitted to enter the aqueduct. The aqueduct supplies some of the drinking water used by 129 cities in Southern California, among them Los Angeles.

Water from the aqueduct is diluted with water from other sources before it is pumped to consumers. Los Angeles, which gets most of its water from the Owen Valley project, receives only about 5% of its drinking supply from the California Aqueduct.

The water systems' filtration processes take out about 99% of the asbestos, Kennedy said, adding, "Some of the samples we've taken down here show no detectable level."

Last summer's tests for asbestos were conducted near Coalinga after officials of the Calleguas Water District in Ventura County "asked us to take a look," Kennedy said.

The Ventura County officials had become concerned when they discovered high levels of the contaminant that apparently were not connected with their use of asbestos pipe, he said.

The concentrations of asbestos ran as high as 1.5 billion fibers per liter, as opposed to the norm in California of about 30 million fibers per liter.

### Microscope Needed

Ironically, that normal concentration comes from runoff washings over serpentine—the jade-green mineral that has officially been designated as California's state rock.

The individual asbestos fibers are extremely small, Kennedy said, so small—about one-four hundred thousandth of an inch in length—that they can be viewed only with an ultrasensitive electron microscope, which magnifies the particles about 20,000 times.

State of Kansas . . . John Carlin, Governor

# DEPARTMENT OF HEALTH AND ENVIRONMENT

Joseph F. Harkins, Secretary

Forbes Field  
Topeka, Kansas 66620  
913-862-9360



June 24, 1980

C.E. Defourneaux  
Assistant District Sales Manager  
Pipe Division  
Johns — Manville Sales Corp.  
P.O. Box 5771  
Denver, Colorado 80217

Dear Mr. Defourneaux:

We appreciated your "Asbestos and Health" presentation to our staff on May 16, 1980.

We do not believe there is any health risk associated with the use of asbestos-cement pipe in public water supplies.

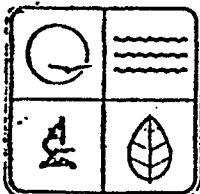
Sincerely,

DIVISION OF ENVIRONMENT

*N. Jack Burris*

N. Jack Burris, P.E.  
Director  
Bureau of Water Supply

NJB:lw



MISSOURI DEPARTMENT OF NATURAL RESOURCES

P.O. Box 1368 1103 Southwest Blvd. Jefferson City, Missouri 65102 (314) 751-3241

June 11, 1980

Mr. Charles E. Defourneaux  
Assistant District Sales Manager  
Pipe Division  
Johns-Manville Sales Corporation  
P.O. Box 5771  
Denver, Colorado 80217

Dear Mr. Defourneaux:

The staff of the Public Drinking Water Program appreciated you and Mr. Drake taking your time to discuss asbestos cement pipe and potential asbestos health concerns with us. Your presentation was very informative and will be very beneficial to us should questions arise concerning AC pipe.

As you know, the Missouri Department of Natural Resources does not issue approval in advance for proprietary products. We have approved the use of AC pipe, with proper engineering design and supervision, in the past and anticipate engineers to continue specifying AC pipe in Missouri.

Thank you again for taking your time to be with us.

Sincerely,

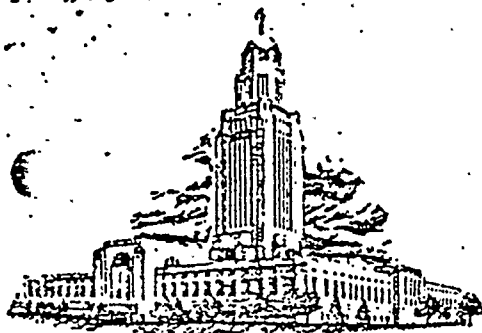
Robert S. Miller, P.E.  
Director  
Public Drinking Water Program

RSM:JLL:kab

cc: Mr. Monet Drake, Sales Representative

Joseph P. Teasdale Governor  
Fred A. Lafser Director

Division of Environmental Quality  
~~James P. Odendahl~~ Director  
Robert J. Schreiber, Jr.



STATE of NEBRASKA

DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL ENGINEERING  
301 CENTENNIAL MALL SOUTH  
P.O. BOX 95007  
LINCOLN, NEBRASKA 68509  
(402) 471-2674

June 18, 1979

Patrick H. Savage  
Territory Manager - Pipe Division  
JOHNS-MANVILLE SALES CORPORATION  
P.O. Box 34227  
Omaha, NE 68134

Dear Mr. Savage:

Your recent presentation regarding the use of asbestos cement pipe in potable water supply systems was informative and appreciated by this Department. I am writing to express the views of this Department concerning the use of asbestos pipe.

Of the several studies pertaining to the health effects of asbestos cement pipe for use in potable supplies, none have established a link between the ingestion of asbestos fibers and gastrointestinal cancer or other disorders. Harmful effects of asbestos fibers seem to be limited to inhalation rather than ingestion. This Department, therefore, has no objection to the use of asbestos cement pipe with respect to health effects. We do feel, however, that asbestos cement pipe should not be used when the water to be transmitted is aggressive. This concern is not based on health effects but on the economics of transmission line life and pipe replacement.

In summary, this Department will approve the use of asbestos cement pipe for use with transmission of potable water in all situations where the water supply is not aggressive to the point of shortening pipe life.

Sincerely,

Clifford L. Summers, P.E.  
Director

CLS/sf



STATE OF NEVADA  
DEPARTMENT OF HUMAN RESOURCES  
DIVISION OF HEALTH  
BUREAU OF CONSUMER HEALTH PROTECTION SERVICES  
CAPITOL COMPLEX  
CARSON CITY, NEVADA 89710

TELEPHONE  
(702) 886-4750

May 29, 1979

Mr. P. J. Galtly, Manager  
Regional Corporate Marketing Services  
Johns-Manville  
2500 Campus Drive  
San Mateo, California 94403

RE: A/C PIPE DOMESTIC WATER SYSTEMS, STATE OF NEVADA

Dear Mr. Galtly:

The Nevada Division of Health requires that materials used for domestic water systems meet AMWA standards, be approved by NSF for potable water systems, etc.

Asbestos-cement pipe meeting AMWA Standard C400-77 is acceptable for use in potable water systems in Nevada.

Sincerely,

L. H. Dodgion  
Supervisor  
Public Health Engineering

LHD:dcn

 **Department of  
Water & Natural Resources**

Joe Foss Building  
Pierre, South Dakota 57501

July 25, 1979

Patrick H. Savage  
Territory Manager - Pipe Division  
Johns-Manville Sales Corporation  
P.O. Box 34227  
Omaha, Nebraska 68134

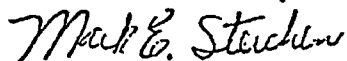
Dear Mr. Savage:

Department personnel and I who attended your presentation on "A/C Pipe and Health" on July 24 found it very informative, and we appreciated your time and efforts.

Regarding our policy on approval of asbestos-cement pipe, the State of South Dakota will continue to follow the American Water Works recommendations outlined in "AWWA Standard for Asbestos-Cement Distribution Pipe for Water and Other Liquids" (AWWA C400-77). Present evidence does not indicate that asbestos from A/C pipe contributes to adverse health effects in humans. Should such evidence surface, I am certain that the AWWA, whose research and analytical capabilities surpass ours, will recommend adequate changes in standards to protect the health of those exposed to A/C pipe.

In summary, the South Dakota Department of Water and Natural Resources will continue to follow AWWA recommendations for use of asbestos-cement pipe for distribution of potable water.

Sincerely,



Mark E. Steichen, Administrator  
Office of Water Hygiene

B2/06

*Equal Opportunity Employer*

CAPCO JEN 0010795



## Social Services

Scott M. Matheson, Governor, State of Utah  
Anthony W. Mitchell, Ph.D., Executive Director

April 5, 1979  
533-4207

Mr. J. L. Wharton  
Johns-Manville Sales Corporation  
Pipe Division  
525 East Third South  
Salt Lake City, Utah 84102

Dear Mr. Wharton:

We appreciate your presentation on asbestos cement (A.C.) pipe this morning. Per your request, this letter is being written to let you know of our feelings concerning A.C. pipe.

While there have been various allegations relative to asbestos in drinking water which may have originated from A.C. pipe, we are also aware of many studies by such agencies as American Water Works Association, National Academy of Science, etc., none of which have concluded that the use of A.C. pipe poses a threat to the health of water users. Furthermore, we feel that there is a significantly larger health risk when asbestos fibers are chronically inhaled into the respiratory system than fibers passing through the digestive system.

In summary, we do not at this point feel that there is a health risk associated with the use of A.C. pipe in public water systems which is greater than is experienced with the use of other types of commonly accepted pipe. When we learn of any information to the contrary, we will let you know.

Sincerely,

Gayle J. Smith, P. E., Director  
Bureau of Public Water Supplies

br

Division of Health  
Environmental Health Services Branch  
James D. Clise  
Deputy Director of Health

150 West North Temple, Suite 426  
P.O. Box 2500, Salt Lake City, Utah 84110  
801-533-6121

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CAPCO JEN 0010796



# COMMONWEALTH of VIRGINIA

Department of Health  
Richmond, Va. 23219

JAMES B. KENLEY, M.D.  
COMMISSIONER

September 19, 1979

The Honorable J. C. Buchanan  
Senator, Senate of Virginia  
P.O. Box 1006  
Wise, Virginia 24293

Dear Senator:

At this time I would like to reiterate the position of this agency in regard to Senate Bill 806 which would prohibit the use of pipe containing asbestos. First, I would like to take this opportunity to clarify any misunderstandings that may have resulted from our failure to attend or make comment at the subcommittee's public meetings. We felt that it was not appropriate for a state agency to participate in a meeting intended for public participation. For your information I am attaching my 26 January 1979 letter that originally expressed this same position and our objections. I have written a statement of our position to each legislative member of the subcommittee and do so in order to allow more time at the public hearing for the lay public to express its views before the subcommittee. The policy, to which this Department will adhere unless directed otherwise or unless evidence develops to show a health related hazard exists, is that proper use of pipe containing asbestos is suitable for conveyance of potable water.

This policy is supported by all evidence available at present. This evidence and the latest word on EPA's position was summarized by an EPA scientist at a recent presentation at the National American Water Works Association (AWWA) meeting in San Francisco on 28 June 1979. Two members of my staff were present at this presentation which indicated no formal change in EPA's current policy of allowing the proper use of asbestos-cement (A/C) pipe.

As you realize, many background contaminants are found in our sources of water. Many of these contaminants are natural in their occurrence; therefore people are exposed by natural means to their effects. Asbestos is one such element and is present in varying amounts in all natural water sources. It has also been a substance for which man has found many uses. The forms of use that cause inhalation of asbestos fibers are now known to cause cancer. However, exposure of the human body through drinking water containing asbestos has not been linked with cancer. If it is shown that there is asbestos in drinking water, fibers from either geological erosion or from waste effluents can be filtered out or

mile) of A/C pipe. If cast iron with mechanical joint was used; an additional 29 percent increase, i.e., 9,660 dollars or another 1520 feet (one-third mile) of A/C pipe. FmHA has also informed us that severe state requirements or regulations have caused FmHA monies to be disallowed in the State of Kansas. This type of impact on our local communities must not be allowed unless a proven health hazard is evident.

In conclusion, the Health Department advocates proper use of asbestos-cement pipe until such time as there is clear evidence of related health hazards. We feel that the banning of this pipe as a bid option will unnecessarily raise costs, especially local, and prevent some needed projects from being constructed.

As the agency responsible for the protection of public health in the Commonwealth, we will be the first to take appropriate actions concerning the use of asbestos-cement pipe if convincing evidence comes to our attention that this type of pipe represents a hazard.

Sincerely,

James B. Kenley, M.D.  
State Health Commissioner

JBK/TBG/djv  
Attachment

Drafted By:

T. B. Nagy

Reviewed By:

Eric H. Bartuk

THE STATE



OF WYOMING

ED HERSCHLER  
GOVERNOR

## *Department of Health and Social Services*

*Division of Health and Medical Services*

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

June 27, 1979

Jack D. Garber  
Pipe Division  
Johns-Manville Sales Corp.  
P.O. Box 5771  
Denver, CO 80217

Dear Mr. Garber:

We are aware of the current medical literature which indicates no relationship between gastrointestinal carcinoma and other gastrointestinal disorders in those individuals who ingest water transported through asbestos cement pipe.

With our current knowledge our agency approves the use of asbestos cement pipe in the transmission of drinking water.

Sincerely yours,

  
Lawrence J. Cohen, M.D.  
Administrator

LJC/bh

CAPCO JEN 0010799

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November 24, 1971

TO: ENVIRONMENTAL HEALTH TASK FORCE  
AIA/NA BOARD OF DIRECTORS and  
ADMINISTRATIVE SUB-COMMITTEE

CC: George Swallow      Dr. J. Goodman  
Ike Weaver              Ed Drislane

ILLINOIS POLLUTION CONTROL BOARD REGULATIONS

On November 23, the Illinois Pollution Control Board voted on the proposed regulations affecting the manufacturing and use of asbestos in the state. There are a number of changes in the regulations as originally proposed. The two most important are:

1. The ban on asbestos containing brake linings has been dropped completely.
2. The proposed plant emission standard of .5 fibers per centimeter has been raised to two fibers per centimeter, or "no visible emissions".

This information was obtained from Neal Regan of Hill & Knowlton's Chicago office and from Harold Halfpenny, Raybestos-Manhattan legal counsel in Chicago, both of whom talked personally to Timothy Harker, staff assistant to Board member Samuel Lawton.

A complete revised copy of the regulations will not be available until late today (November 24). As soon as we have received a copy, a full distribution will be made.



M. M. Swetonic