A/C Pipe
Producers Association

Internal Correspondence

TO: Executive Committee
International Affairs Committee

FROM: J. F. Welch
J. F. Welch, Vice President

DATE: December 7, 1982

SUBJECT: Study - Chrysotile Asbestos Fibers in Drinking Water from Asbestos-Cement Pipe

Ref: JFW correspondence, same title, October 1, 1981

ACTION REQUIRED: Review for information

Enclosed is an excerpt from the American Water Works Association (AWWA) Research Foundation's "Research News" describing AACPP's rebuttal to the article alleging the release of asbestos fibers from A/C pipe in non-aggressive water.

AACPP already has received several requests for the article.

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

JFW/ajb

Enclosure

cc: A. Kahn, Esq.

copies to:

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Rebuttal to A/C Study in San Francisco Bay Area

The A/C Pipe Producers Association faults the study reported on page 8, under the title "Nonaggressive Water in A/C Pipe", of the November 1981 issue of *WATER QUALITY RESEARCH NEWS* on several counts:

the false assumption of a positive correlation between the aggressive index and fiber release from asbestos-cement (A/C) pipe,
an extremely-limited sampling program that failed to generate in every instance independent "before/after" pairs,
an incorrectly-calculated test statistic,
the disregard of vital confounding variables in the water,
and conflict with more contemporary knowledge on the subject.

The aggressive index was developed solely for the purpose of ensuring long-term structural integrity of A/C pressure pipe and not as a predictor of asbestos-fiber release.

The sampling program did not embody 39 independent pairs of "before" and "after" water samples corresponding to "before" and "after" flow through A/C pipe as claimed. More than 50% of the sample pairs used a single "before" sample as the basis for concluding that asbestos levels increased in multiple "after" samples. Such sampling does not represent independent "before/after" pairs.

Calculation by a standard statistical equation yields a result not considered as significant.

Many of the studied source waters contain in excess of one million fibers per liter (mfl) and some over 20 mfl. The natural asbestos content of the different source waters, the varying asbestos counts of the treated waters, and the distinct possibility of direct delivery of intermittent slugs of untreated high-asbestos water to system C by any number of sources, all could account for the wide asbestos variation regardless of the pipe material. The inability to control such an important confounding factor weakens any firm conclusion regarding the role of A/C pipe in contributing asbestos to the drinking water.

The limited number of grab samples also raises serious questions. Sampling a small proportion of a very large flow of water would better characterize the asbestos content of the systems studied.

Substantial amounts of asbestos caulking rope used with lead caulked valves and fittings in the 1950s and 1960s could conceivably contribute asbestos to water in the distribution system.

An independent study conducted by one of the Bay Area's largest water utilities contradicts the original paper's findings and hypothesis.

For a detailed statement on this matter, titled "Review of 'Chrysotile Asbestos Fibers in Drinking Water from Asbestos-Cement Pipe'" authored by T. A. Scripps, J. P. Leineweber, H. L. Olson, and J. F. Welch, contact: