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THE PITTSBURGH WATER AND SEWER AUTHORITY

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November 13, 2007

ENVIRONMENTAL QUALITY BOARD

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477


**RE: Comments to Proposed Rulemaking, PA Bulletin Doc No. 07-1754
Safe Drinking Water - Public Notice Revisions (Title 25, PA Code Chapter 109)**

Dear Environmental Quality Board:

Enclosed for filing please find the Pittsburgh Water & Sewer Authority's (PWSA) comments in the matter referenced above. Per Section J of the PA Bulletin Doc No. 07-1754, our comments in a "one-page summary will be provided to each member of the Environmental Quality Board in their agenda packet distributed prior to the meeting at which the final regulation will be considered".

The PWSA serves a population of roughly 247,000, providing the citizens and commercial/industrial users in Pittsburgh over seventy million gallons of safe drinking water each day. The PWSA is dedicated to promoting the health and welfare of Pittsburghers by providing affordable drinking water of superior quality and sufficient quantity.

Sincerely,



Michael Lichte, P.E.
Acting Executive Director

MDL/ABM/tlj

cc: Ms. Deborah McDonald, PADEP
Mr. Geoffrey M. Butia, Allegheny County Health Dept.

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The Pittsburgh Water & Sewer Authority (PWSA)
Comments to Proposed Rulemaking, PA Bulletin Doc No. 07-1754
Safe Drinking Water - Public Notice Revisions (Title 25, PA Code Chapter 109)

The PWSA generally supports the proposed rulemaking by the Environmental Quality Board (EQB) and recognizes the need to revise our public notification methods and practices to warn the public when harmful conditions within the drinking water system occur. However, we do have one concern with the Proposed Rulemaking as addressed in the following comment.

Under Subchapter G, Section 109.701(a)(3)(iii)(G), a rule is proposed that a “[probable] situation that causes a negative water pressure in any portion of the distribution system” be reported to DEP within 1 hour of discovery. USEPA Issue Papers^{1,2} have presented various conditions in distribution systems which may cause situations of negative water pressure (i.e. back-siphonage, backpressure, backflow, etc.), such as:

<i>Fire fighting rapid water withdrawal</i>	<i>Supply line repair as gravity drains water</i>	<i>Opening or closing valves</i>
<i>Water main flushing rapid water withdrawal</i>	<i>Venturi/ aspirator effects in some pipe</i>	<i>Sudden demand changes</i>
<i>Supply line break as gravity drains water</i>	<i>Starting or stopping pumps</i>	<i>Power failures & hilly terrain</i>

Many of these situations may logically show negative pressure transients in distribution areas local to the occurrence; however USEPA Issue Paper (1) revealed that negative pressure fluctuations occurred “several miles away in the distribution system” at a node using high-speed pressure data loggers. This same document revealed a distribution system “extremely prone to negative pressures, with more than 90% of the nodes within the system drawing negative pressures”.

USEPA Issue Paper (1) also takes note of the added sensitivity of high-speed electronic pressure data loggers, its implications on State pressure standards, and suggested mitigation techniques:

“Many States have requirements to maintain minimum distribution system pressures based on conventional pressure recorder data. It would be inappropriate, and possibly impractical to apply the same guidelines to data collected by electronic pressure loggers. ... There is insufficient data to indicate whether pressure transients are a substantial source of risk to water quality in the distribution system. Nevertheless, mitigation techniques can be implemented, principally the maintenance of an effective disinfectant residual throughout the distribution system, leak control, redesign of air relief venting, and more rigorous application of existing engineering standards.”

The USEPA Issue Papers mentioned various situations which could cause negative pressure transients affecting distribution areas, both locally and miles away from such occurrences. With such wide geographic variability where negative pressure can affect a distribution system, high-speed pressure data loggers would have to be placed within every hydrant to accurately determine if a situation “causes a negative water pressure” as mentioned in the proposed rule. Pressure sensors, loggers, and an associated SCADA system alarm for each node would cost from \$1,000 to \$3,000 and the PWSA has over 8,000 hydrants. Such an endeavor would be very impractical, expensive, and difficult to maintain.

Without such equipment installed throughout the distribution system (the current circumstance for the PWSA and most public water suppliers), the finalization of this particular proposed rule will require public water distribution system owners to conservatively report to DEP within one hour of any of the above situations. For every fire fighting operation, water line break, water line repair, flushing operation, pump start, pump stop, valve opening, valve closure, etc., a report will be sent to DEP within an hour of occurrence or discovery. This would be an impractical endeavor, straining already limited resources from both public water distributors as well as from DEP.

Prior to 2001, §109.707(a) stated that adverse affects of water “quantity” would require an immediate notification to DEP. Thus at that time, the State required any adverse change (positive or negative) or loss of pressure to be reported to DEP. However the rule has since been deleted, as proposed and adopted on July 17, 2001 (see 31 Pa.B. 5083). The PWSA would appreciate the EQB’s / DEP’s consideration that the currently proposed §109.701(a)(3)(iii)(G) will yield many of the concerns similar to those from the past deleted §109.707(a) rule.

USEPA’s Issue Papers suggest that pressure transients risk to water quality is unsubstantiated, and that any risk can be minimized by using mitigation techniques such as effective disinfectant residual. In addition to this, the PWSA believes that backflow prevention programs and better public awareness of backflow problems will effectively minimize any risk.

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1. USEPA Office of Ground Water and Drinking Water Distribution System Issue White Paper, “The Potential for Health Risks from Intrusion of Contaminants into the Distribution System from Pressure Transients”, also published in Journal of Water and Health, 2003
 2. USEPA Office of Ground Water and Drinking Water Distribution System Issues Paper, “Potential Contamination Due to Cross-Connections and Backflow and the Associated Health Risks”, 2001