**Testimony of Mike Ewall**
**Director of ActionPA**
**before**
**City Council Committee on Public Health & Human Services**
**Public Hearing Concerning the Safety of the City's Drinking Water**
**Resolution #080288**

April 14th, 2008

Hi, my name is Mike Ewall and I'm the Founder and Director of ActionPA, a statewide environmental group based here in Philadelphia.

I'm here to speak to the issue of the single most dangerous "drug" in the water – one that is the most preventable.

Others are here to talk about pharmaceutical drugs that are present in waters in parts per trillion (ppt), which is a real concern. The debate is about whether there are health effects at that level and the science is still being developed as more studies are done on the matter.

Philadelphia pays around $1,000,000 per year to put fluoridation chemicals in the water at one part per **million** (ppm) – a level one million times higher than what we're talking about with the other drugs. This 1 ppm level is a level at which health effects are **intended** and **expected**.

**Fluoridation chemicals not pharmaceutical grade, but industry waste products**

However, the "fluoride" that is put in the drinking water isn't pharmaceutical grade, even though it's put in the water with a pharmaceutical intention. They're not squirting toothpaste into the water. The chemical purchased by the Philadelphia Water Department (and 92% of U.S. drinking water systems that fluoridate) is hydrofluosilicic acid, a hazardous waste byproduct of the phosphate industry. Literally, if the same chemicals were dumped into a river or lake, it would be regulated as hazardous waste. However, injecting the same chemicals into drinking water supplies at 1 ppm is considered medication. Legally, upon being sold (unrefined) to municipalities as fluoridating agents, these same substances are then considered a "product", allowing them to be dispensed through fluoridated municipal water systems to the very same ecosystems to which they could not be released directly. Over 99% of fluoridated water is released directly into the environment at around 1 ppm and is not even used for drinking or cooking.

These chemicals are not FDA approved for safety or effectiveness and the delivered chemicals are not batch tested for contaminants, even though these chemicals are known to be contaminated with arsenic, lead, mercury, radioactive particles and more. The arsenic levels in particular are enough to be at levels that should concern a water system, since they're high enough to potentially push a water system over the safe drinking water act limit for arsenic (a limit that was lowered in 2001). [See: http://www.fluoridealert.org/f-arsenic.htm]

**Fluoridation not effective at reducing tooth decay**

The intended effect of putting hydrofluosilicic acid in the drinking water is to reduce tooth decay. However, data from our own state Department of Health [Oral Health Needs Assessment, 2000] shows that the worst tooth decay in the state is in Pittsburgh, with Philadelphia in second place. [See http://www.actionpa.org/fluoride/ej.html#reason3] Both cities have been fluoridated since the 1950s. National and international data backs this up. Looking at the tooth decay trends in the few countries

where fluoridation is common compared to comparable first world countries where fluoridation isn't used, you can see that tooth decay is falling overall, regardless of fluoridation status. [See 2nd chart at http://www.fluoridealert.org/health/teeth/caries/who-dmft.html] On the national level, a state-by-state review of data from the CDC and U.S. Department of Health and Human Services shows that the percentage of U.S. residents with 'very good' or 'excellent' teeth is related directly to income levels and is totally unaffected by the percentage of the state's population that is receiving fluoridated water. [See http://www.actionpa.org/fluoride/50states.pdf] Populations with more tooth decay are those who are poor and can't afford dental care.

**Fluoridation causes discoloration of teeth (fluorosis)**

Philadelphia and Pittsburgh also have the state's highest rates of dental fluorosis. Fluorosis is the white, brown or yellow spotting (or 'mottling') of tooth enamel. It's a disease named after the fluoride chemicals that cause it. The PA Department of Health data from the aforementioned Oral Health Needs Assessment shows that Philadelphia's rate of children with dental fluorosis is the highest in the state (25.6%) compared to a state-wide average of 14.9% and a rate in the (largely unfluoridated) Philadelphia suburbs of 9.9%. [http://www.actionpa.org/fluoride/ej.html#reason3]

**Agencies warn not to mix infant formula with fluoridated tap water**

In late 2006, two of the largest organizational promoters of fluoridation – the American Dental Association and the Centers for Disease Control – both issued a press release warning that parents shouldn't use fluoridated water to mix infant formula for infants in their first year of age. No warnings have gone to fluoridated water customers, however, to let parents of young children know that they're not supposed to mix infant formula with Philadelphia tap water. [See links to the press releases here: http://www.actionpa.org/fluoride/reasons.html#reason6]

**Scientific studies in recent years show many health problems with fluoride exposure**

Various other health problems have been linked to fluoride exposure, as documented many times in recent years. A recent Scientific American article [http://www.actionpa.org/fluoride/sciam.pdf] brought some of this to popular attention. The landmark study of the issue is the National Research Council's March 2006 extensive review of over 1,000 scientific studies. [http://www.actionpa.org/fluoride/nrc/NRC-2006.pdf] The National Research Council (NRC) is part of the prestigious National Academy of Sciences, which does research for the federal government, in this case, for the U.S. Environmental Protection Agency. The report concluded that the level determined to be "safe" by the Environmental Protection Agency (EPA) is *un*safe and needs to be lowered to protect public health. EPA's "no longer considered safe" level of 4 ppm is already dangerously close to the 1 ppm level put in drinking water. Since the dose can't be controlled, there are some populations that drink more water and are at higher risk, including diabetics and athletes. Health Departments and other fluoridation promoters will argue that the report isn't relevant to water fluoridation due to the difference between the 4 ppm level studied and the 1 ppm level used. This position has been refuted by one of the NRC report's authors and others. [See http://www.fluorideaction.net/health/epa/nrc/fluoridation.html] Additional links on the topic are here: http://www.actionpa.org/fluoride/reasons.html#reason1

**EPA scientists call for national ban on fluoridation**

The NRC report affirmed the long-standing position of EPA's own scientists, who have long objected to the determination that 4 ppm was a "safe" level. In August 2005, eleven EPA unions representing over 7,000 environmental and public health professionals at the federal agency wrote to Congress and called

for a national moratorium on drinking water fluoridation programs. The unions acted following revelations of an apparent cover-up of evidence from Harvard School of Dental Medicine linking fluoridation with elevated risk of a fatal bone cancer in young males. The union representing scientists at the EPA Region III office in Philadelphia, which covers Pennsylvania is one of the unions signed onto this statement. [See http://www.actionpa.org/fluoride/reasons.html#reason9]

**Fluoride-lead connection implicates fluoridation with violence, drugs and learning problems**

Another major concern is the fluoride-lead connection. Some studies have shown that hydrofluosilicic acid leaches lead from pipes. [For the most recent study, see: Neurotoxicology. Sept. 28, 2007, "Effects of fluoridation and disinfection agent combinations on lead leaching from leaded-brass parts." RP Maas, SC Patch, AM Christian, MJ Coplan] Other studies have shown that exposure to hydrofluosilicic acid increases the brain's absorption of lead – especially in African-Americans and Latinos. [http://www.actionpa.org/fluoride/ej.html#reason2] The increased exposure to (and absorption of) lead is well known to affect learning ability and IQ. Because it affects the dopamine levels in the brain, the fluoride-enhanced lead exposure has also been implicated with increased affinity for violence and cocaine addiction. That such pressing urban problems could be made worse by fluoridation is cause enough to take precaution and stop adding fluoride acids to the water system.

**Philadelphia's hydrofluosilicic acid purchases; rising chemical costs**

Since hydrofluosilicic acid is a waste product of the phosphate industry, its availability is subject to the trend of falling phosphate production. In late 2007, the American Water Works Association and the Pennsylvania Department of Environmental Protection issued warnings of fluoridation chemical shortages. [See links to these warnings at the bottom section of: http://www.actionpa.org/fluoride/chemicals/shortagesandrisingcosts.html] As phosphate production has been dropping, the costs of purchasing the chemicals has been rising dramatically, nation-wide. Since at least 1999, Philadelphia's supplier has been Solvay Fluoride. In 1999, the city paid $447/ton, spending nearly $200,000 on the chemicals that year. In 2007, the city bought the same chemicals for $1,194/ton and the costs are expected to double again in the city's current purchasing for the coming year. If this expected doubling takes place, the city will now be paying about $1 million a year just for the chemicals, not to mention the cost of handling and administering the chemicals.

**State mandate would take away local control and further increase costs**

The state legislature is considering House Bill 1649 [http://www.actionpa.org/fluoride/bills/], which would mandate fluoridation statewide, taking away the rights of local governments to choose whether to fluoridate their water systems. Currently, about 9% of the state's water systems are fluoridated, affecting 52% of the state's water customers (it's mostly the urban systems that are fluoridating). [http://www.actionpa.org/fluoride/map/] If HB 1649 passes, it'll nearly double the demand for fluoridation chemicals in the state, making the current chemical shortages even more dire and dramatically pushing the chemical costs even higher. Even if Philadelphia wanted to keep fluoridating forever, it's in the city's financial interest not to see HB 1649 pass, since the mandate would further drive up the cost to the city.

**City Council can take precaution, repeal the 1951 ordinance and save money**

In the medical profession, there is the principle "first, do no harm." This precautionary principle should be applied in this case – where there is mounting evidence of harm, very questionable benefit and no requirement that the practice continue. The only requirement currently in place is a 1951 city ordinance

that caused the city's water to start being fluoridated in 1954. [The ordinance and related documents provided by the Philadelphia Water Department can be found here: http://www.actionpa.org/fluoride/philly/]

In light of the mounting costs and rising awareness of health and social problems relating to fluoridation, City Council is encouraged to repeal the 1951 ordinance and instruct the Philadelphia Water Department to cease water fluoridation – which would also save the city around $1 million or more a year. Ending water fluoridation can be done through a simple DEP permit process. [See http://www.actionpa.org/fluoride/383-2125-001.pdf]

There are many credentialed scientific experts who are familiar with the newest science on water fluoridation and fluoride exposure. I'd encourage this committee to invite some of these experts to the hearings on this important topic – and I'd be glad to provide access to these experts.

If the city wanted to effectively address the tooth decay problem, the savings from ending water fluoridation could be used to hire dentists that could treat eligible low-income city residents who can't afford dental care.

Thank you.

Mike Ewall
Founder & Director
ActionPA
1434 Elbridge St.
Philadelphia, PA 19149
215-743-4884
catalyst@actionpa.org
http://www.actionpa.org