

CHLORAMINE INFORMATION CENTER

**RESPONSE TO
SECRETARY JOHN HANGER'S LETTER
TO SENATOR MARY JO WHITE
JULY 9, 2009**

“..I can assure you that the Department of Environmental Protection (DEP) has reviewed this proposal thoroughly, ..”

This response provides no documentation or evidence of the manner in which or the time frame involved in this statement. When and how did they ‘review’ this proposal. Was it in 2003 when the permit was requested and prior to the studies we have provided? Have they reviewed the information and studies we have given them? If so, what is their basis for disputing the top scientists at EPA and AWWA on this issue?

“..and we have determined that the use of chloramines by PAWC poses no threat to the public health of their customers.”

Where are the studies upon which DEP relies in making this statement and which dispute the many peer reviewed studies by EPA and AWWA scientists the Chloramine Information Center has provided? EPA’s own website states the following:

“Compared to chlorine, water treated with monochloramine contains fewer **regulated** disinfection byproducts that have been linked to human health problems” (Does not speak to unregulated more toxic byproducts of chloramine)

“Compared to water treated with chlorine, water treated with **monochloramine** may contain **higher concentrations** of **unregulated disinfection byproducts.**”

“EPA scientists are currently **studying the unregulated disinfection byproducts** that form in water treated with mono-chloramine.”

“Compared to water treated with chlorine, water treated with mono-chloramine may contain **different unregulated disinfection byproducts** than chlorinated water.”

“Examples of these unregulated disinfection byproducts include **NDMA**, iodo-trihalomethanes and iodo-acids.”

“Exposure to high levels of NDMA may cause liver damage in humans. ”

“NDMA is classified as a B2 carcinogen- reasonably anticipated to be a human carcinogen”

“Although NDMA is listed as a priority pollutant, no federal maximum contaminant level has been established for drinking water.”

“California has established a public health goal of 3 ng/L [**for NDMA**] in drinking water.”

“EPA **does not require** water utilities to use mono chloramine or any specific treatment process.”

“GAPS in research on how mono-chloramine affects water should be filled.”

- **There are few studies on how monochloramine affects human health**
- **There are few studies on the disinfection byproducts that form when monochloramine reacts with natural organic matter in water**
- Compared to chlorine, water treated with **monochloramine may contain higher concentrations of some unregulated disinfection byproducts.**”

“The addition of mono-chloramine can make water more corrosive, which may lead to pipe corrosion and **increased levels of lead or other contaminants in the water.**”

“While we understand and agree with the need for the public’s concerns to be fully addressed ..”

DEP refused to address the public’s concerns when brought to them in 2007 upon the announcement that PAWC intended to begin the use of chloramine. We were simply told that we were too late. DEP fought to prevent a hearing before the Environmental Hearing Board when customers filed an appeal before the EHB. DEP intervened in the litigation before PUC and joined in every motion filed by PAWC to exclude witnesses, limit evidence and dismiss the complaints. DEP has done everything in its power to make sure these issues are NOT fully addressed by any public forum.

“we are concerned that much of the outcry over this issue may be based on misperception or misinformation.”

In addition to the excerpts from the EPA website cited above, the ‘outcry’ is based upon over 50 peer reviewed studies and articles by renowned scientists, among them: Susan Richardson (USEPA), Michael Plewa (U. of Illinois), David Reckhow (U. of Mass. Amhurst), Dr David Ozonoff (U. of Mass. Amhurst), Richard Valentine (U of Iowa), Thomas Rockaway (U of Louisville), Marc Edwards (Vir.Tech) and Richard Bull (MoBull Consulting) as well as research from Germany and the World Health Organization.

“..contrary to what has been reported, chloramines have not been the subject of a great deal of controversy across the US.”

Massive fish kills attributed to chloramine and resulting from water main breaks have occurred in Virginia, California, and British Columbia. Twenty states have citizens reporting similar acute adverse health conditions in chlorminated areas. A county in Florida has ceased using chloramine when they experienced high levels of e-coli when they switched to chloramine. New York, Texas, North Carolina, South Carolina, Oklahoma, Colorado and Pennsylvania have all independently formed grass roots efforts to investigate and oppose the use of chloramine based upon research and reports of adverse health conditions of people in chloraminated areas. Washington DC is wading through law suits and investigations regarding excessive lead levels having injured thousands of children as a result of the switch to chloramine. California and Vermont have been introducing legislation seeking a moratorium on the use of chloramine and further study. California has, as a state, regulated NDMA as a result of concerns over health effects of chloramine byproducts.

“Chlormines have been used as a drinking water disinfectant since the 1930’s...”

Not true. During WWII use of ammonia was banned as it was needed to make bombs. A nationwide survey conducted in 1938 showed that 16 percent of municipal utilities used chloramines at some point in their treatment process (AWWA 1941). Chloramine use declined during WWII because of the inability to obtain ammonia (White 1986), and by 1959, the number of utilities using chloramines had decreased to 6 percent (Baker 1959). By the early 1960’s, chloramine use had dropped to less than 3 percent (Durfor and Becker 1962). It was the EPA’s regulation of chlorine byproducts that began the resurgence of the use of chloramine prior to discovery of the byproducts of chloramine.

“..to ensure that the water remains safe as it travels from the treatment facility to the customer.”

While this may have been the understanding in 1939, studies since 2004 have indicated that the most toxic byproducts of chloramine, NDMA, are formed in the distribution system.

“Currently there are no bans on the use of chloramines for disinfection purposes, and DEP is not aware of any jurisdictions that have prohibited chloramines use.”

Chloramine Information Center has provided DEP with information that a county in Florida has switched back from using chloramine because it is not effective in killing e-coli bacteria. CIC has also provided information that Germany, the home country of RWE, majority owner of American Water, has banned the use of

chloramine in drinking water systems in its country for over 30 years. France has also banned the use of chloramine.

“The only cases that were elevated to the court system were San Francisco, California and Champlain Water Company, Vermont.”

The ONLY jurisdiction that has challenged the use of chloramine in the courts is Pennsylvania. California and Vermont have challenged chloramine in the legislature only. DEP is not knowledgeable on the issues of chloramine across the country.

“DEP received no comments and issued with regard to the new West Shore Regional treatment facility the construction and operating permits on March 21, 2004 and March 21, 2006, respectively.”

NONE of the permits for the construction of a new facility at the West Shore Regional or the operating permit for the new building made any mention of the change in disinfection or the word chloramine. They were construction permits. The public had no reason to appeal a construction permit. We could not comment on something we did not know was happening.

“A reason PAWC plans to switch to chloramines is to lower the concentrations of known carcinogenic disinfectant by-products. Regulation of these known by-products is supported by long-standing research confirming their toxic effects.”

While it is true that chloramine lowers the formation of known carcinogenic disinfectant by-products of chlorine, it is also true that chloramine creates its own group of unregulated byproducts that are, according to current science, 100 times more toxic than those of chlorine. The ‘long-standing research’ that has confirmed the toxic effects of chlorine is the same science that has determined that the byproducts of chloramine are more toxic. We have produced the studies that prove this.

“On the other hand, the scientific community has made no determination regarding the by-products of chloramines.”

Michael Plewa has likened the use of chloramines to ‘opening Pandora’s Box’. The scientists all agree that four of the most toxic byproducts formed by chloramine are NDMA (classified by EPA as a ‘probable human carcinogen’), Hydrazine (also classified by EPA as a ‘probable human carcinogen’), Iodo Acids (claimed to be some of the most toxic byproducts ever seen in drinking water) and DXAA (a more toxic version of the HAA’s currently regulated by EPA) The science is in...the EPA has not acted...but the scientists, the top undisputed experts in the country on water chemistry, all agree that the byproducts of chloramine are more toxic than those of

chlorine. We have the studies to prove it. Where are Secretary Hanger's studies proving otherwise?

“Please remember that this chemical has been used in systems across the country for nearly a century.”

Please remember as well that chlorine has been used for a century, until its byproducts were found to be toxic. Longevity does not equal safety. Look as well at asbestos, thalidomide, lead and tobacco, to name just of few. We have the science that proves the byproducts of chloramine are more toxic than chlorine. Simply because EPA has not yet regulated them does not mean they are safe. We can't just ignore the science simply because a government agency has not yet done its job.

“DEP believes that the use of chloramine as a residual drinking water disinfectant...will achieve public health goals and produce water that meets current and anticipated standards with no known adverse side effects.”

There is no question among the scientific community, including PAWC's own scientists, that the byproducts of chloramine WILL be regulated as soon as EPA gets to it. It may take 5, 10 maybe 20 years...but there is no doubt in any scientist's mind that they will be regulated. Two of them are already classified as probable human carcinogens. So it is disingenuous at best for DEP to claim that chloramine will meet “anticipated standards” of EPA. Adverse side effects from infrastructure to environmental to acute and long term health problems have been documented and provided to DEP. It is outrageous that they would continue to take the stand that there are no known side effects.

DEP finally refers you to the EPA Q&A and website from which the quotes I offered above were taken verbatim that support the position and statements of the CIC.

One last thought...if DEP is so convinced that the use of chloramine is justified and safe, why have they fought so hard to avoid a full, fair and public hearing that would prove it? Where are their studies?

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