CCAC
Citizens Concerned About Chloramine
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Lisa Jackson
US Environmental Protection Agency Administrator
USEPA Headquarters
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RE: Need for Research on Effects of Chloramine on Human Health

Dear Ms Jackson:

Recently you received a letter from Ed Harrington, the General Manager of the San Francisco Public Utilities Commission (SFPUC), dated March 11, 2009, asking the USEPA to "conduct scientific testing of the immediate, acute, and long term effects of chloramine and other practical alternatives, when used […] as a secondary water disinfectant". Please note that Mr. Harrington left out the word "health" in the quote. According to the resolution, it should read, "…and long term health effects of chloramine…."

Citizens Concerned About Chloramine (CCAC) is the "group of customers" referred to in the SFPUC letter. We are a 501(C) 4 non profit group founded in June of 2004 and incorporated in July of 2005. CCAC was formed because so many people began experiencing skin, respiratory, and digestive health effects after the SFPUC introduced chloramine into our water in February of 2004. CCAC has documented the symptoms of over 500 people in the San Francisco Bay Area from exposure to chloraminated water. When these people use water that does not contain any chloramine, their symptoms clear up. When they return to the use of chloraminated water, from any

source, their symptoms return. Since our website, www.chloramine.org was created in 2006, we have also heard from many hundreds of people in other areas of California, and approximately 30 different states, as well as Scotland, Australia, and Canada who are reporting the same symptoms from chloraminated tap water.

CCAC helps people establish cause and effect between their symptoms and chloraminated water by instructing them to use alternative water sources that do not contain chloramine so that they can isolate the chloraminated water as the cause of their symptoms. Sufferers remove themselves completely from chloraminated water, to see if their symptoms disappear. They then return to chloraminated water to see if their symptoms return, in order to confirm that chloramine is the culprit. Many people have done this test multiple times.

We also have helped to start citizen's groups in Southern California, Vermont, New York, and elsewhere. We provide technical and scientific information about chloramine and its use, aid them in collecting symptom documentation from local sufferers, and encourage them to work with their local lawmakers.

Here in California, CCAC continues to meet with numerous organizations and lawmakers in the greater San Francisco Bay Area. We familiarize them with the symptoms chloramine sufferers are experiencing and their severity. We inform them about the lack of skin, digestive, and respiratory studies on chloramine as a water disinfectant. We show them that there are very few studies of any kind on chloraminated tap water and that there are no epidemiological studies. We also inform them that since there are no filters that completely remove chloramine, symptom sufferers cannot safely use their tap water. This is especially true for bathing and showering because of the intense skin and respiratory exposure encountered in these activities. People with the worst symptoms are forced to use bottled spring water for cooking, drinking, bathing, etc. Many must travel out of town to areas that do not use chloramine in order to bathe, shower, or do laundry. Those that can afford to do so, move to areas that do not use chloramine to end the daily burden and expense of having to avoid their tap water.

CCAC considers this a serious social justice problem, since the elderly, the disabled, and the poor do not have the resources to do these things so that they can use water that does not make them ill. The National Research Council's report, entitled "Classifying Drinking Water Contaminants for Regulatory Consideration" [i] states that "The need to protect vulnerable subpopulations is not only legally mandated by the amended SDWA, but also justified on equity and environmental justice grounds."

As a result of CCAC's efforts, a local water district, the North Coast County Water District (NCCWD) and a regional water group, the Bay Area Water Service and Conservation Agency (BAWSCA) each did their own review of the existing literature and also found that there were no dermal, respiratory, or digestive, studies of the effects of chloraminated water. A local newspaper article stated that, "BAWSCA's general manager Art Jensen wrote to several key public health agencies, asking about past, future and ongoing studies on the epidemiological, dermatological and respiratory effects on humans of chloraminated water. The responses, he says, were not satisfactory and were, in some cases, "spurious." After contacting several agencies by phone later, he concluded that the agencies were unable to cite studies he asked about." [ii]

CCAC worked with California Assemblymember Ira Ruskin to introduce a bill, two years in a row, in the California State Assembly asking that these studies be done. After CCAC met with Representative Anna Eshoo and her staff, she requested a Congressional Research Service Investigation which again confirmed the lack of studies.

In 1978, when the USEPA was anticipating the increased use of chloramine in public water systems, it stated that health studies needed to be done. [iii] As of 2009, only a handful of studies have been done and most of those focused on carcinogenicity. (Interestingly, this handful of studies, which can be found in the USEPA's Integrated Risk Information System (IRIS) document, shows that chloramine itself is a possible carcinogen. However, due to the inadequate number and extent of the studies, the EPA still cannot make a definite assessment.) Furthermore, the "available literature" contains no skin, respiratory, or digestive, studies on chloramine when used as a water disinfectant.

CCAC realizes that, while water providers initially did not know that chloramine would cause adverse health effects, they should now be well aware that there is mounting evidence of a problem. They should also now be aware of the lack of dermal, respiratory, and digestive studies and stop claiming that chloramine's health effects have been fully studied.

We have been told repeatedly by the SFPUC, the San Francisco Department of Public Health (SFDPH) and other related agencies that chloramine is safe for people for all uses (cooking, bathing, drinking, etc.). They deny that the symptoms people are experiencing could be caused by chloraminated water, shifting the burden of proof to those suffering the symptoms and their doctors. Yet claims of chloramine's safety cannot be backed up with studies like the ones we have mentioned.

The Precautionary Principle states that…"the proponent of an activity, rather than the public, should bear the burden of proof". In other words, the agencies responsible for choosing or approving the use of chloramine, and not the members of the public suffering symptoms, should bear the burden of proof of chloramine safety.[iv] Many people are experiencing acute, severe, and/or life threatening health effects from their exposure to chloraminated water. As Dr. Jeffrey Griffiths states in his White Paper entitled, "Sensitive Subpopulations", [v] "…acute exposure risks that sensitive subpopulations experience are of greater public health concern than are chronic exposure risks". No one knows the full extent and occurrence of symptoms in the general population from chloraminated water because so far, no scientific investigation has been conducted on this issue.

It is extremely difficult to isolate tap water as the cause of one's symptoms. It requires diligent avoidance of all sorts of hidden water exposures, e.g. processed foods, dining out, exposure in spas and gyms, doctor's and dentist's offices, liquid medications, water vapor from dishwashers or humidifiers, washing and bathing oneself or others, observing and tracking what happens when one travels in and out of chloraminated water areas, etc. It is too much to expect that most affected individuals will be able to keep track of their exposure to chloraminated water on a daily basis or even know that they need to. Most symptom sufferers and their doctors are completely unaware that chloramine could be the cause of their symptoms. For these

reasons and numerous others, CCAC believes that the incidence of symptoms in the general population is much higher than anyone currently imagines.

As Dr. Jeffrey Griffiths also notes in “Sensitive Subpopulations”,[vi] “When considering hazards and sensitive subpopulations, it is important to understand some of the reasoning behind public health protections. Because we are talking about the health and well-being of human beings, public health action is often taken when there is only a suspicion that injury could arise. [….] Prudent avoidance is justified as being better than taking care of problems after they occur.” In the case of chloramine and those suffering symptoms from its use, CCAC has actual reports of injuries that have already occurred, which the agencies responsible for overseeing water treatment and public health continue to ignore. It is time for our public agencies to stop treating this as a public relations problem and start focusing on getting the necessary skin, respiratory, and digestive studies done. A simple, controlled cause and effect study would be a good place to begin.

Some of the health impacts that are occurring now are going to lead to more serious problems later on due to chronic exposure. One such impact is an increase in deaths from respiratory disorders. CCAC has already seen; from reports gathered over the last five years, that even mild symptoms progressively get worse with continued exposure. Some people’s chloramine related medical bills are into the hundreds of thousands of dollars and counting. Since some of these health effects are acute and life threatening, it is imperative that they be investigated and that studies on chloraminated water be performed as soon as possible.

In addition to the immediate health effects people are experiencing from chlolramine itself, there are emerging scientific concerns about the toxicity of chloramine’s unregulated by-products, like nitrosamines,[vii] which are proving to be much more toxic than those of chlorine. Other problems associated with chloraminated water systems are nitrification, lead leaching, the need for periodic chlorine burns, the need to add chemicals to increase the pH, and the use of phosphates as corrosion inhibiters.

CCAC has heard from numerous filtration engineers that while chloramine is virtually impossible to remove from water, THMs and HAAs are relatively easy to remove. It is conceivable then, that along with lowering DBP precursors prior to disinfection, water providers could return to the use of chlorine (which has been thoroughly studied for its health effects) as their water disinfectant. Those who are concerned about THM and HAA exposure could be advised to install inexpensive filtration to remove them. For instance, a pregnant woman, or someone considering becoming pregnant, could use such filters for the duration of her pregnancy.

CCAC recommends that until the studies on chloramine are completed, (including the skin, respiratory, and digestive health effects) the USEPA should: 1. remove chloramine from the list of accepted disinfectants and, 2. delay the Stage 2 DBP rule. They should, instead, promote the use of methods to reduce organic precursors to DBPs, such as coagulation, sedimentation, and filtration in conjunction with other properly studied water disinfection methods.

We beg the USEPA to start thinking creatively about alternatives to the use of chloramine and to be proactive with the health problems people are already experiencing. Those suffering symptoms from chloraminated water urgently need relief and real solutions.

Sincerely,

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Linda Corwin
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(i). National Research Council, 2001.”Classifying Drinking Water Contaminants for Regulatory Consideration”. Washington, D. C.: National Academy Press.

(ii). Renee Batti, May 17, 2006, “How’s the Water?” The Almanac Cover Story.

(iii). USEPA, 1978, ”National Interim Primary Drinking Water Regulations”.

(iv). Wingspread Conference on the Precautionary Principle, January 26, 1998.

(v). Jeffrey Griffiths, Sept. 4, 2001, National Rural Water Association White Paper, “Sensitive Subpopulations”.

(vi). Ibid.

(vii). Plewa, Richardson, et al, ‘Haloacetronitriles vs. Regulated Haloacetiv Acids: Are Nitrogen Containing DBPs More Toxic?’ Environ. Sci. Technol. 41 (2), 645-651, 2007.