

## TESTIMONY

To Members of the House Committee on Health

My name is Nancy Cox. I live in New Cumberland and like all of you, I drink water to survive. And so the quality of that water is very important to me as it should be for everyone. I cannot choose my water provider. Nor can I convince them that they are heading in the wrong direction. Only you, our representatives, can do that. I firmly believe, based on all the evidence that has been put forward in the last three years, that using chloramine as a disinfectant in water systems will cause more health problems than it solves. The consequences will not only cause acute health problems for many of us now, but will burden our children in their adult years (and our already overburdened health system) with increased life threatening illnesses that will greatly impact their quality of life.

We are the Keystone State. Pennsylvania has an opportunity to lead the nation in declaring a moratorium on the use of chloramines until this chemical and its byproducts are proven safe or an alternative is found or developed. Most of us know that mixing ammonia and bleach creates a gas that can cause ill health. We also have learned to “look before you leap” and “better safe than sorry” and the ancient oath “First, do no harm”. Today these common sense adages have been incorporated into a new environmental policy called the Precautionary Principle. A key element is taking precaution in the face of scientific uncertainty. This is the right time and the right place for our State to apply the Precautionary Principle.

The basic tenet of this principle is ‘When the health of humans and the environment is at stake, it may not be necessary to wait for scientific certainty to take protective action’. The 1998 Wingspread Statement (see attachment) “When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the PROPONENTS of the activity rather than the public should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the FULL RANGE of alternatives, including NO ACTION.” (emphasis added)

WHY should we take action before science tells us what is harmful or what is causing harm?

Because sometimes if we wait for certainty it is too late. Scientific standards for demonstrating cause and effect are very high. For example, smoking was strongly suspected of causing lung cancer long before the link was demonstrated conclusively. By then, many smokers had died from lung cancer. But many other people had already quit smoking because of the growing evidence that smoking was linked to lung cancer. These people were wisely exercising precaution despite some scientific uncertainty.

As early as the 1930's factories and corporations began to realize the disastrous effects of asbestos exposure. American workers were suffering grave illnesses and even death as a result of their employment in factories, building trades and other everyday working environments AND NOTHING WAS DONE ABOUT IT. 40 years later, in the 1970's, government agencies began to warn about asbestos use and that the health risks had long been known. But many companies chose to continue using asbestos rather than incur extra costs from changing procedures. As a result thousands of Americans are now suffering and dying from asbestos-related diseases and cancers. A relative of mine is one of them. And someone you know may be also. Today lawsuits abound. But money can't replace life or quality of life.

The Precautionary Principle is most powerful when it serves as a guide to making wiser decisions in the face of uncertainty. It requires exploring alternatives to possibly harmful actions, especially in the use of toxic substances. It also places the burden of proof on proponents (public drinking water suppliers- monopolies) rather than on the victims or potential victims (customers with no choice in suppliers).

You will hear that Chloramine has been used to disinfect drinking water for over 70 years. This is partly true. In 1938 16% of municipal utilities used it at some point in their treatment process. During World War II, it declined dramatically because ammonia was needed for the war effort. By 1959 the number was 6% and by the early 1960's was less than 3%. Chloramine was banned in 1978 because of its ineffectiveness as a biocide but the ban was lifted in 1979 when field tests convinced the EPA to rescind it. The World Health Organization still warns against its use because of its ineffectiveness as a biocide. Only since the EPA set new drinking water standards are water suppliers across the state

choosing chloramine to meet those standards in spite of the recent studies by top scientists indicating 100-10,000 % increase in the toxicity of its byproducts and warning against its use. And only in the last few years have all the negative effects been published by top scientists including those from EPA. BUT THEY ARE BEING IGNORED BY THE VERY AGENCIES THAT EXIST TO PROTECT OUR HEALTH AND THE ENVIRONMENT.

Since 2007, when it was scheduled to be added to our water system we have been denied a fair and open hearing to have our concerns heard. We filed suit with the DEP seeking hearings on the safety of chloramines. We were denied a hearing. We appealed all the way to the State Supreme Court and were denied.

We filed suit with the PUC, whom we assumed existed to serve utility consumers. We were wrong. Then Vice-Chairman Cawley stated that "In a controversial matter such as this case, where the public's health and safety is at issue, the public interest is better served by granting an open and transparent hearing for adequate proof and public assurance, not only that the proposed water treatment method is safe but also that the public's government is available and listening. This is no less true for PAWC, which should welcome the opportunity to demonstrate the safety of its treatment method, rather than relying on a perfectly valid but more technical process for its approval..." March Order p.6 Concurring statement

The Commission went on to say that: "The Complainants in this proceeding have concerns regarding the suitability of water treated by chloramines for household use; the effect that the change in treatment will have on PAWC's facilities, including lead leaching from pipes, affordability concerns of installing filtration systems, safety concerns, and concerns regarding whether PAWC provided adequate and timely notice of this change in treatment. ALL OF THESE ARE WITHIN OUR JURISDICTION" Sept order at 12. So we were granted a hearing. It was a travesty. The Administrative Law Judge said at the outset that she would not permit any testimony that pertained to health or the environment. She upheld PAWC's objections to our experts. We were unable to put forth any evidence to address our concerns. We appealed to the commission who completely reversed their earlier order by saying "We reasoned that the DEP has primary jurisdiction with regard to the public health issues related to the use of chloramines at

PAWC facilities. Therefore, allowing the introduction of public health-related evidence from the DEP permitting decisions would be improper.” We appealed to Commonwealth Court. Oral arguments were held on March 22. No decision has come down as yet.

In June of 2009 we provided a number of legislators with our findings and many agreed that we should have a fair and open hearing. PAWC and DEP were not too far behind, assuring them that we were just a few Camp Hill disgruntled customers and that the EPA said it was safe. On subsequent visits we were told there would be no hearings.

We contacted Sen Spector, Sen Casey and Congressman Platts. Their offices jointly arranged a meeting with their aides and USEPA and regional EPA in January.. After repeated requests for a written response (which they promised) we finally received a letter in June, stating that they were studying the situation, but didn't expect any action for a number of years. (letter attached)

We came back to the Legislature and were given this hearing. We thank you. We are told it is being used to meet EPA regulations of 2012. Most of our water utilities in Pennsylvania are already in compliance and expect to remain so in 2012. And there are other methods to use for those not in compliance that are both health and environmentally friendly.

There is compelling evidence, both anecdotal and in scientific studies that the use of chloramine to disinfect our water can cause irreversible harm to our health in the present and in the future. I hope you will take the precaution of delay, which will do no harm to any water facility, whereas to go forward with this treatment will do irreparable harm to our health. A moratorium is needed until the magnitude of its effects are known.

# **THE PRECAUTIONARY PRINCIPLE**

## **A Common Sense Way to Protect Public Health and the Environment**

Prepared by The Science and Environmental Health Network Jan2000

### **What is the precautionary principle?**

A comprehensive definition of the precautionary principle was spelled out in a January 1998 meeting of scientists, lawyers, policy makers and environmentalists at Wingspread, headquarters of the Johnson Foundation in Racine, Wisconsin. The Wingspread Statement on the Precautionary Principle, which is included in full at the end of this fact sheet, summarizes the principle this way:

"When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

Key elements of the principle include taking precaution in the face of scientific uncertainty; exploring alternatives to possibly harmful actions; placing the burden of proof on proponents of an activity rather than on victims or potential victims of the activity; and using democratic processes to carry out and enforce the principle-including the public right to informed consent.

### **Is there some special meaning for "precaution"?**

It's the common sense idea behind many adages: "Be careful." "Better safe than sorry." "Look before you leap." "First do no harm."

### **What about "scientific uncertainty"? Why should we take action before science tells us what is harmful or what is causing harm?**

Sometimes if we wait for proof it is too late. Scientific standards for demonstrating cause and effect are very high. For example, smoking was strongly suspected of causing lung cancer long before the link was demonstrated conclusively that is, to the satisfaction of scientific standards of cause and effect. By then, many smokers had died of lung cancer. But many other people had already quit smoking because of the growing evidence that

smoking was linked to lung cancer. These people were wisely exercising precaution despite some scientific uncertainty.

Often a problem-such as a cluster of cancer cases or global warming-is too large, its causes too diverse, or the effects too long term to be sorted out with scientific experiments that would prove cause and effect. It's hard to take these problems into the laboratory. Instead, we have to rely on observations, case studies or predictions based on current knowledge.

According to the precautionary principle, when reasonable scientific evidence of any kind gives us good reason to believe that an activity, technology or substance may be harmful, we should act to prevent harm. If we always wait for scientific certainty, people may suffer and die, and damage to the natural world may be irreversible.

### **Why do we need the precautionary principle now?**

Those who issued the Wingspread Statement and many others believe that the effects of careless and harmful activities have accumulated over the years. They believe that humans and the rest of the natural world have a limited capacity to absorb and overcome this harm and that we must be much more careful than we have been in the past.

There are plenty of warning signs that suggest we should proceed with caution. Some are in human beings themselves-such as increased rates of learning disabilities, asthma and certain types of cancer. Other warning signs are the dying off of plant and animal species, the depletion of stratospheric ozone, and the likelihood of global warming. It is hard to pin these effects to clear or simple causes-just as it is difficult to predict exactly what many effects will be. But good sense and plenty of scientific evidence tell us we must take care, and that all our actions have consequences.

### **We have lots of environmental regulations. Aren't we already exercising precaution?**

In some cases, to some extent, yes. When federal money is to be used in a major project, such as building a road on forested land or developing federal waste programs, the planners must produce an "environmental impact statement" to show how it will affect the surroundings. Then the public has a right to help determine whether the study has been thorough and all the alternatives considered. That is a precautionary action.

But most environmental regulations, such as the Clean Air Act, the Clean Water Act and the Superfund Law, are aimed at cleaning up pollution and controlling the amount of it released into the environment. They regulate toxic substances as they are emitted rather than limiting their use or production in the first place.

These laws have served an important purpose they have given us cleaner air, water and land.

But they are based on the assumption that humans and ecosystems can absorb a certain amount of contamination without being harmed. We are now learning how difficult it is to know what levels of contamination, if any, are safe.

Many of our food and drug laws and practices are more precautionary. Before a drug is introduced into the marketplace, the manufacturer must demonstrate that it is safe and effective. Then people must be told about risks and side effects before they use it .

But there are some major loopholes in our regulations and the way they are applied. If the precautionary principle were universally applied, many toxic substances, contaminants, and unsafe practices would not be produced or used in the first place. The precautionary principle concentrates on prevention rather than cure.

### **What are the loopholes in current regulations?**

One is the use of "scientific certainty" as a standard, as discussed above. Often we assume that if something can't be proved scientifically, it isn't true. The lack of certainty is used to justify continuing to use a potentially harmful substance or technology.

Another is the use of "risk assessment" to determine whether a substance or practice should be regulated. One problem is that the range of risks considered is very narrow- usually death, and usually from cancer. Another is that those who will assume the risk are not informed or consulted. For example, people who live near a factory that emits a toxic substance are rarely told about the risks or asked whether they accept them.

A related, third loophole is "cost-benefit analysis" -determining whether the costs of a regulation are worth the benefits it will bring. Usually the short-term costs of regulation receive more consideration than the long-term costs of possible harm-and the public is left to deal with the damages. Also, many believe it is virtually impossible to quantify the costs of harm to a population or the benefits of a healthy environment. The effect of these loopholes is to give the benefit of the doubt to new and existing products and

technologies and to all economic activities, even those that eventually prove harmful. Enterprises, projects, technologies and substances are, in effect, "innocent until proven guilty." Meanwhile, people and the environment assume the risks and often become the victims.

### **How would the precautionary principle change all that without bringing the economy to a halt?**

It would encourage the exploration of alternatives --better, safer, cheaper ways to do things -- and the development of "cleaner" products and technologies. Sometimes simply slowing down in order to learn more about potential harm -- or doing nothing -- is the best alternative. The principle would serve as a "speed bump" in the development of technologies and enterprises.

It would shift the burden of proof from the public to proponents of a technology. The principle would ensure that the public knows about and has a say in the deployment of technologies that may be hazardous. Proponents would have to demonstrate through an open process that a technology was safe or necessary and that no better alternatives were available. The public would have a say in this determination.

### **Is this a new idea?**

The precautionary principle was introduced in Europe in the 1980s and became the basis for the 1987 treaty that bans dumping of persistent toxic substances in the North Sea. It figures in the Convention on Biodiversity. A growing number of Swedish and German environmental laws are based on the precautionary principle. International conferences on persistent toxic substances and ozone depletion have been forums for the promotion and discussion of the precautionary principle.

Interpretations of the principle vary, but the Wingspread Statement is the first to define its major components and explain the rationale behind it.

### **Will the countries that adopt the precautionary principle become less competitive on the world marketplace?**

The idea is to progress more carefully than we have done before. Some technologies may be brought onto the marketplace more slowly. Others may be stopped or phased out. On the other hand, there will be many incentives to create new technologies that will make it



unnecessary to produce and use harmful substances and processes. These new technologies will bring economic benefits in the long run.

Countries on the forefront of stronger, more comprehensive environmental laws, such as Germany and Sweden, have developed new, cleaner technologies despite temporary higher costs. They are now able to export these technologies. Other countries risk being left behind, with outdated facilities and technologies that pollute to an extent that the people will soon recognize as intolerable. There are signs that this is already happening.

### **How can we possibly prevent all bad side effects from technological progress?**

Hazards are a part of life. But it is important for people to press for less harmful alternatives, to exercise their rights to a clean, life-sustaining environment and, when they could be exposed to hazards, to know what those hazards are and to have a part in deciding whether to accept them.

### **How will the precautionary principle be implemented?**

The precautionary principle should become the basis for reforming environmental laws and regulations and for creating new regulations. It is essentially an approach, a way of thinking. In coming years, precaution should be exercised, argued and promoted on many levels-in regulations, industrial practices, science, consumer choices, education, communities, and schools.

### **Wingspread Statement on the Precautionary Principle**

The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions; along with global climate change, stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment the larger system of which humans are but a part.

We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new-principles for conducting human activities are necessary.

While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

In this context the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

### **Wingspread Participants:**

(Affiliations are noted for identification purposes only.)

- Dr. Nicholas Ashford' Massachusetts Inst. Of Technology,
- Katherine Barrett, Univ. of British Columbia
- Anita Bernstein, Chicago-Kent College of Law
- Dr. Robert Costanza, University of Maryland
- Pat Costner, Greenpeace
- Dr. Carl Cranor, Univ. of California, Riverside
- Dr. Peter deFur, Virginia Commonwealth Univ.
- Gordon Durnil, attorney
- Dr. Kenneth Geiser, Toxics Use Reduction Inst., Univ. of Mass., Lowell
- Dr. Andrew Jordan, Centre for Social and Economic Research on the Global Environment, Univ. Of East
- Anglia, United Kingdom
- Andrew King, United Steelworkers of America,

- Canadian Office, Toronto, Canada
- Dr. Frederick Kirschenmann, farmer
- Stephen Lester, Center for Health, Environment and Justice
- Sue Maret, Union Inst.
- Dr. Michael M'Gonigle, University of Victoria, British Columbia, Canada
- Dr. Peter Montague, Environmental Research Foundation
- Dr. John Peterson Myers, W. Alton Jones Foundation
- Dr. Mary O'Brien, environmental consultant
- Dr. David Ozonoff, Boston Univ.
- Carolyn Raffensperger, Science and Environmental Health Network
- Dr. Philip Regal, Univ. of Minnesota
- Hon. Pamela Resor, Massachusetts House of Rep.
- Florence Robinson, Louisiana Environmental Network
- Dr. Ted Schettler, Physicians for Social Responsibility
- Ted Smith, Silicon Valley Toxics Coalition
- Dr. Klaus-Richard Sperling, Alfred-Wegener- Institut, Hamburg, Germany
- Dr. Sandra Steingraber, author
- Diane Takvorian, Environmental Health Coalition
- Joel Tickner, University of Mass., Lowell
- Dr. Konrad von Moltke, Dartmouth College
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public utility over which it has jurisdiction, when any such question arises in any controversy or other proceeding before it, and upon the determination of such question by the department incorporate the department's findings in its decision.

By use of the word "may," the Legislature clearly intended that referral was discretionary with the Commission, and not mandatory. It is significant that the complaint itself is not referred to DEP. Instead, the Commission retains jurisdiction to decide the complaint. Thus, in *Pennsylvania Gas & Water Co.*, the Commission had the choice of interpreting the federal and state standards or referring that part of the case to DEP for findings of fact. In fact, four qualified representatives of DEP testified in the rate proceeding, and the Commission determined, based on their testimony and that of several others, that the company had violated Section 1501 of the Public Utility Code.

#### 5. The Commission's Discretion to Dismiss a Complaint Without a Hearing

Public Utility Code Section 703(b) provides, in relevant part, that "[t]he commission may dismiss any complaint without a hearing if, in its opinion, a hearing is not necessary in the public interest." Of course, the corollary is that the Commission has equal discretion to grant a hearing upon a complaint. Here, the public interest requires that a hearing be granted.

Having invoked Section 1501 by alleging not only adverse health effects of chloramination but that it (1) causes corrosion of pipes and fittings and leaching of lead from piping, (2) requires costly additional filter systems in some homes, and (3) renders such treated water unsuitable for some household uses, the complainants deserve the opportunity to make their case as to these allegations alone, even if the allegations of adverse health effects were a matter exclusively within DEP's overlapping jurisdiction.

In a controversial matter such as this one, where the public's health and safety is at issue, the public interest is better served by granting an open and transparent hearing for adequate proof and public assurance, not only that the proposed water treatment method is safe but also that the public's government is available and listening. This is no less true for PAWC, which should welcome the opportunity to demonstrate the safety of its treatment method, rather than relying on a perfectly valid but more technical process for its approval, while ignoring this Commission's overlapping public protection role.

### C. Conclusion

In sum, every water quality complaint is a potential violation of Section 1501 regarding the adequacy, efficiency, safety, and reasonableness of the utility's service and facilities. Especially when serious public health and safety issues are at stake, it is incumbent on the Commission to provide an opportunity for the complainant, who has the burden of proof, to show that the public utility is not meeting these standards.

Here, the Complainants alleged unsafe and inadequate service if PAWC is permitted to convert its treatment plants to chloramination. The allegations claimed not only adverse effects on human health but also adverse effects on customers' property, the usefulness of the service supplied, and the ability of customers to use the water without additional filtration. As such, their complaints fall squarely within the confines of Section 1501 because the allegations concern the facilities used to provide and deliver service and the quality and adequacy of the service itself. Complainants are therefore entitled to their "day in court," despite the fact that DEP has approved PAWC's intended treatment method as in compliance with state and federal standards. In short, even though the water so treated may be potable under the Safe Drinking Water Acts, it may not meet other aspects of water quality that bear on the question of adequate, safe, and reasonable service under the Public Utility Code.

With that said, the Complainants have a heavy burden of proof. Currently, 28 water systems in Pennsylvania use chloramination to treat their water. There are 45 other systems that purchase some or all of their water from those systems. Thus, 73 systems contain chloraminated water and serve over 4 million customers in Pennsylvania, apparently without ill effect.

Nevertheless, Section 1501 having been implicated, and it being highly inadvisable to dismiss without a hearing, the Complainants are entitled to an opportunity to prove that PAWC's intended treatment method (and, by implication, the same method used elsewhere in Pennsylvania) is contrary to law and the public interest. We must keep an open mind while the parties create a record for decision, and then decide the case with impartiality.



James H. Cawley  
Vice Chairman

March 13, 2008



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

JUN 03 2010

Ms. Susan Pickford  
Chloramine Information Center  
2612 Chestnut Street  
Camp Hill, Pennsylvania 17011

Dear Ms. Pickford:

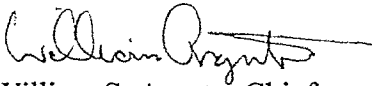
Thank you for your participation in the January 20, 2010 meeting with representatives from the U. S. Environmental Protection Agency (EPA) Region III and our EPA headquarters Office of Ground Water and Drinking Water to discuss your concerns associated with the treatment change from chlorine to chloramines at Pennsylvania American Water company's West Shore water treatment plant. During the meeting you described your concerns and desire to have EPA delay the 2012 compliance date for new standards for regulated disinfection by products (DBPs), and to prohibit further conversions to chloramination.

All of the information that you presented during the meeting has also been forwarded to our headquarters Office of Ground Water and Drinking Water for their information and review. Chloramines are disinfectants used to treat drinking water in order to provide longer-lasting water treatment as the water moves through pipes to consumers. Their use is closely regulated. Water that contains chloramines and meets EPA regulatory standards is safe to use for drinking, cooking, bathing and other household uses.

The information you provided to support your disagreement with the use of chloramines for secondary disinfection is appreciated by EPA. We as an agency are concerned and interested in the citizens' opinions and will continue to monitor the treatment change and the concerns expressed by the community. We will also work closely with the Pennsylvania Department of Environmental Protection and Pennsylvania American Water in monitoring the issues.

Thank you for the candid discussion of your concerns during our January 20, 2010 meeting and please do not hesitate to forward new information and continuing concerns to our office. If you have any questions, please contact me at 215-814-3367.

Sincerely,

  
William S. Arguto, Chief  
Drinking Water Branch