PANEL DISCUSSION ON WATER QUALITY REGULATIONS

Sponsored by:
Georgia Water and Pollution Control Association

MODERATOR: Jack Dozier, Executive Director, Georgia Water and Pollution Control Association, 301 Old Hickory Trail N., Carrollton, Georgia 30117.


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Panel Discussions:

The Origin, Development and Implementation of Water Quality Regulations - Nationally and in EPA Region IV, Phil Vorsatz, U.S. Environmental Protection Agency, Region IV

The Development and Implementation of Water Quality Regulations in Georgia, David Word, Chief, Water Protection Branch, Georgia Environmental Protection Division

The Effect of Water Quality Regulations on Municipal Wastewater Treatment, George Barnes, Director, Bureau of Pollution Control, City of Atlanta

Legal Perspective on Water Quality Regulations, Michael Davis; Troutman, Sanders, Lockerman & Ashmore

The Effect of Water Quality Regulations on Industry, Don Holder, Georgia Power Company

The Effects of Water Quality Regulations on Industrial Pretreaters, Charlie Jones, Jordan, Jones & Goulding, Inc.

Laboratory Analytical Limitations Related to Water Quality Regulations, Albert Liabastre, Principal Chemist, Environmental Lab Division, U.S. Environmental Protection Agency

One of the key environmental issues which has been in the spotlight over the past few years in Georgia is the quality of water in our streams and rivers. Nothing is more important to the success of our water quality programs than a concerned and informed public. We are at least half way toward success in this area, because the public is certainly concerned. Unfortunately, we have not done a very good job of disseminating facts on water quality to the media or the public, and as a result there is a perception that Georgia's water quality has slipped. While there are certainly some areas where improvements are needed, the bottom line is that we have experienced tremendous improvements overall in water quality throughout our State over the past twenty years. Those improvements are continuing thanks to the combined, though sometimes not very well coordinated, efforts of local, State and Federal elected officials, industry officials, plant operators and superintendents, engineers, contractors, equipment manufacturers and their representatives, regulatory agency personnel, environmental organizations, and a concerned citizenry. During the past twenty years, Georgia's population increased by over 40%, to its current level of approximately 6.5 million people. Over this same period of time, Georgia enjoyed tremendous economic growth and development. Environmental protection has gone hand-in-hand with this growth and development, not at the expense of it. Today, fish have returned to and thrive in areas where they could not survive not so many years ago. Virtually all Georgians enjoy a safe supply of drinking water which meets extremely stringent State and Federal standards for purity. However, we are faced with increasingly stringent standards, and today some waters cannot meet these standards, not because we have lost ground in protecting our waters, but because we are measuring our level of success against much more stringent requirements. At the same time, laboratory technology has improved dramatically, and we are now able to detect many chemicals at levels many orders of magnitude smaller than we could a few years ago.

Over the past two decades, we have taken care of
virtually all of our water quality problems dealing with conventional pollutants from municipal and industrial discharges. Today there is a new interest in the environment, and a new focus in environmental protection on toxic pollutants and pervasive "non-Point" sources of pollution from runoff from streets, urban areas and even agricultural and timber operations.

At the same time, public attitudes and perceptions have changed dramatically. We will gladly accept any degree of self-imposed risk; we sky-dive, scuba-dive, drive too fast or recklessly, smoke, drink, and eat unhealthy foods. However, we are not willing to accept any degree of externally imposed risk. We want to enjoy the benefits of our economic growth and development, but we are seldom willing to accept the fact that some degree of risk is inherent in life itself, and insist on protection which in some cases may be beyond reason.

In recognition of the importance of protecting our waters from toxic impacts, the Department of Natural Resources has adopted progressively more stringent water quality standards and safe drinking water standards, consistent with Federal guidance and requirements. In its Five-Year Strategy, DNR lists the reduction or elimination of any source of chemicals in the environment to levels below established standards for air, surface water, ground-water and community water systems, and solid waste management facilities as its Number One Priority. For water protection, the Department has based its standards on protection of aquatic life from chronic toxicity due to long-term exposure to pollutants, and protection of human health at a one-in-one million cancer risk level, and has adopted numeric standards for 132 toxic pollutants.

As mentioned above, our ability to detect many chemicals in the environment has improved dramatically over the past ten years, and we are now able to detect some chemicals in the parts per billion, parts per trillion, or even parts per quadrillion range, where not so long ago we were detecting in the parts per million range. To put this into perspective, a part per trillion is the equivalent of one second in 32,000 years; or, one drop in a pool of water the size of a football field 40 feet deep. To illustrate this point, we have heard a great deal over the past few years about chlordane and PCB's being detected in fish in the Chattahoochee River, and the public has been led to believe that this is a sign of a new pollution problem, because we had not detected these chemicals in fish previously. In fact, fish are now thriving in the Chattahoochee River below metropolitan Atlanta in areas where they could not exist 15 years ago, and the levels at which chlordane and PCB's are being detected could not have been measured even five years ago. The chlordane and PCB's which have been detected are thought to be present not because of some discharge, either permitted or unpermitted, in metropolitan Atlanta but because these chemicals have been in widespread use for several decades (chlordane for termite protection; PCB's as an electrical transformer coolant) throughout the United States prior to being banned from use by the U.S. Environmental Protection Agency. The very properties which made them most attractive for their applications, their resistance to break-down, will make them persist in the environment of several years until they work their way through the system.

It is important also that we understand the level of protection which is being provided by Georgia's newly adopted standards for water quality and safe drinking water. As stated above, DNR has based its standards on protection of human health to a one-in-one million lifetime cancer risk level. First, it should be understood that one in four American's will contract cancer during their lifetime, and that one in eight Americans will die of cancer. Adding to that a one-in-one million risk means that we can expect to see one additional case of cancer per year in a population of 14 million people or, put another way, that Georgia would expect to see one additional case of cancer approximately every two years, during which time we would expect to experience 100,000 new cases of cancer from other causes. Bear in mind that the additional one-in-one million cancer risk from which we are being protected by the standards is not based on eating a single fish contaminated at the levels targeted by the State standards, or even on occasionally eating such fish, but on eating over five pounds of fish contaminated to those levels per year for 70 years, or on drinking two liters of water contaminated at the levels in the State safe drinking water standards every day for 70 years. It should also be understood that, in order to be very conservative, quantitative risk assessments were used in the development of the Federal guidance numbers upon which Georgia's standards are based, meaning that they provide an indication of the highest risk which would be assumed by consuming fish or water contaminated by the particular toxic chemicals in question.

**GW&PCA.** The Georgia Water and Pollution Control Association (GW&PCA) is a non-profit association with membership of over 3700 operators, owners, engineers, contractors, manufacturers' representatives, elected officials, regulatory agency personnel, and others concerned with water resources. Our chief purpose is to educate and assist those who have an interest in water and wastewater in our State.

Historically, our Association has been very effective in providing training within our own profession. Our annual conference and regional conferences, along with the numerous seminars, workshops and District meetings which we sponsor, provide excellent opportunity for technical exchange and advancement within our profession. In addition, in 1989 GW&PCA accepted responsibility for running the Georgia Water & Wastewater Institute in Carrollton under a contract with the Georgia Department of Natural Resources. This institute provides virtually all of the training available to water and wastewater treatment plant operators and laboratory analysis in the State of Georgia.