

TESTIMONY OF
THOMAS A. BURKE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BEFORE THE
SUBCOMMITTEE ON TOXIC SUBSTANCES AND ENVIRONMENTAL OVERSIGHT
OF THE
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

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Mr. Chairman, Members of the Committee, I appreciate the opportunity to speak with you today. I am Thomas Burke, Director of the Office of Cancer and Toxic Substances Research of the New Jersey Department of Environmental Protection. My office is the research arm of the toxic substances control efforts in the State of New Jersey. My testimony today will be divided into two parts. First, I would like to present an overview of four years of research on toxic contaminants in New Jersey's water. I would then like to address a number of issues raised by proposed amendments to the Safe Drinking Water Act.

Overview of Research

In 1975, the National Cancer Institute released statistics revealing that for the period 1950-1969 New Jersey led the nation in overall cancer mortality. This prompted an aggressive multidisciplinary program to evaluate the State's cancer problem, which included extensive research and monitoring of citizen exposure to toxic and carcinogenic pollutants in the environment. The goals of this research are: increased knowledge of the extent and sources of toxic pollutants, improved regulatory and enforcement efforts to reduce exposure and a better understanding of the effects of these pollutants on human health.

A major part of this research has been the extensive monitoring of the State's water. This includes statewide testing of our ground, surface and drinking waters for a wide range of toxic pollutants. I would like to give a brief overview of our results. In presenting these results I would like to stress that they are not unique to New Jersey, but are indicative of a national problem. They clearly indicate the sensitivity of our water resources, and the need for a strong national policy to safeguard human health.

Groundwater

Fifty percent of the nation and sixty percent of New Jersey receives its drinking water from underground sources. Historically, groundwater was assumed to be purer and safer than drinking water from surface supplies. Recently, however, the sensitivity of groundwater to irreversible contamination by industrial chemicals has been demonstrated nationwide. In New Jersey we have tested over 1000 wells statewide for organic compounds, pesticides and heavy metals. These tests revealed the presence of low levels of these contaminants in virtually all areas of the State. Seventeen percent (17%) of the initial 670 wells tested contained one or more of eight volatile organic compounds at concentrations above ten parts per billion (10ppb).

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Five of these compounds are suspected carcinogens. 3.1% of the wells in the study contained these compounds at concentrations exceeding one hundred parts per billion. A number of instances of pesticide and heavy metal contamination were also discovered. It appears, however, that the greatest threats to groundwater are the halogenated volatile organic compounds. This is due to the combination of their widespread use, relative ease of movement, resistance to breakdown and potential cancer causing effects. The results of our research are presented in the report "Toxics in Groundwater" by Dr. Robert K. Tucker, which I have attached to my testimony.

Surface Water

We have also conducted statewide monitoring of surface water. While the dynamics of surface water systems provide some natural cleansing action, it is clear that these systems are sensitive to the threat of toxic chemical contamination. Our State shares with New York the tragic consequences to our commercial and recreational fisheries and the threat to human health resulting from the PCB contamination of the Hudson-Raritan Estuarine System. On the other side of the State, in the Camden area, we have uncovered severe problems of pollution by the pesticide chlordane again with subsequent bioconcentration in fish used for human consumption.

Monitoring of resevoirs in southern and northern areas of the State clearly demonstrated the sensitivity of our watersheds to the threat of toxic chemicals.

Drinking Water

We have conducted extensive monitoring of our public drinking water supplies, both surface and ground, for the EPA list of 129 priority pollutants. In addition, as part of a national study of the relationship between drinking water quality and bladder cancer being conducted by the National Cancer Institute, we have tested every purveyor serving over 1000 people for a list of ten volatile organics.

The results of these tests are sobering. The majority of the finished drinking waters contained low levels of potential cancer causing volatile organics. While many groundwater supplies contained traces of industrial solvents, the greatest threats to surface supplies are the volatile organic trihalomethanes which are formed by the combination of chlorine with naturally occurring organic material during the chlorination process. Several large public supplies were found to have levels of trihalomethanes exceeding 100 parts per billion, the current EPA standard.

Implications of Research and the New Jersey Response

The results of our investigations clearly indicate the sensitivity of our water resources to the threat of chemical contamination. Evidence of toxic contaminants was found in urban industrialized areas as well as the most rural parts of the State. Potential sources range from abandoned hazardous waste sites to individual homeowners' septic systems.

Our responses to specific incidences of contamination have been as varied as the potential causes. In some instances we have closed individual domestic wells, requiring homeowners to hook up with municipal suppliers. Other times we have initiated major enforcement or clean-up activities to remove potential contaminants. In many cases we have worked with local authorities to determine the most appropriate courses of action which often include long term monitoring, improved treatment or development of a new source. All of these responses are extremely costly and have been hampered by the lack of federal standards for toxic contaminants.

By far, our most effective long term response to groundwater contamination is prevention. Through the New Jersey Solid Waste Management Act and Federal Resource Conservation and Recovery Act, we have initiated aggressive programs to control the improper dis-

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charge and disposal of hazardous chemicals. We have developed a program to identify and clean up abandoned hazardous waste dumpsites which is supported by the New Jersey Spill Compensation and Control Act, the 1981 Hazardous Discharge Bond Act and the Federal Comprehensive Environmental Response, Compensation, and Liability Act. In addition, through the development of a State Water Supply Master Plan, we have identified a great need for a program to identify all types of sensitive re-charge areas and water sheds to facilitate the protection of these critical areas. Limiting this program to sole source aquifers would do a grave injustice to the many thousands of our citizens who depend on groundwater supplies drawn from other types of aquifers.

This threat of chemical contamination of drinking water is not unique to New Jersey, but a growing national concern which must be addressed with the preventive approach of a strong Safe Drinking Water Act. To insure the safety of the nations drinking water we must aggressively pursue research on the human health effects of toxic contaminants; we must move to protect our sensitive watersheds and recharge areas; and we must continue to develop and assess treatment technologies to efficiently and effectively remove toxic chemicals from our water. Most importantly, enforceable standards must be developed to provide guidance to consumers, purveyors and regulators and prevent any adverse effects to the health of our citizens.

I would now like to address four specific issues raised by the proposed amendments S.1866 and S.2131

Unreasonable Risk

Section 3 of S.1866 would change the contaminants to be regulated from those which "may have any adverse effect on the health of persons" to those which "pose an unreasonable risk to the health of persons." This change is not consistent with the preventive approach of the Act and would severely weaken its protective powers. It represents a fundamental shift from preventive to reactive. The burden of defining "unreasonable risk" would cause great delay in the setting of standards leading to continued exposure of our citizens. If such wording is to be included in the Act, I recommend that the sponsors include an estimate of the number of deaths or other adverse health effects which constitute a "reasonable" risk.

New Jersey has taken the prudent approach of minimizing or eliminating citizen exposure in the absence of documented health effects data. We believe in this conservative approach and therefore urge that the original preventive language of the Act be preserved.

Treatment Technology

The establishment of safe standards for chemical contaminants is a complex and difficult task which is complicated by the many thousands of potential pollutants and their potential synergistic effects. Currently, the Safe Drinking Water Act authorizes the Administrator to prescribe a particular treatment technology in cases where setting a maximum permissible contaminant level is prohibitively expensive or technologically impossible. S.1866 would eliminate this authority, in effect reducing the Agency's ability to address a threat to public health. In specific instances, the use of broad spectrum treatment may prove an efficient and economic alternative to addressing individual pollutants. Concern has been voiced that the opportunity for "over-regulation" is too available and that the existing regulations may not always result in cost effective solutions to specific contamination problems. We feel, however, that a cooperative and open dialogue between EPA, the water purveyors, and the affected customers, will enable the regulatory process to operate in an equitable and effective manner. With proper supportive regulations to insure that proposed treatments are practical and implementable, we feel that this authority should be preserved.

The current groundwater contamination situation in Atlantic City provides a good example of the benefits of broad spectrum treatment. Presently, the Atlantic City well field is ^{potentially} threatened by a soup of toxic chemicals from an abandoned hazardous waste site. Rather than attempting to monitor and control individual chemicals, granular activated charcoal treatment was chosen. Should the monitoring wells indicate an impact from the dumpsite this treatment will be employed to remove a broad range of contaminants and protect consumers from potential harmful effects.

Undoubtedly there are countless other instances nationwide where broad spectrum treatment technologies could be efficiently employed. We therefore believe that this tool should continue to be available to the Administrator.

Variances for Small Suppliers

In New Jersey many of the problems concerning the quality of public water supplies are commonly associated with small water treatment systems. The granting of variances or waivers from standards on the basis of economic hardship would tend to prolong an acute existing problem. Public health risks to individual consumers remain the same regardless of the size of the supplier. Many of New Jersey's smaller water companies rely exclusively on groundwater supply, and because of our problems with aquifer contamination it is these companies that may be most vulnerable to contamination by toxic compounds. As a demonstration of our concern New Jersey has a law that permits the Department of Environmental Protection to order small water companies to combine with larger ones in order to improve quality and operation. Rather than waivers permitting the violation of standards, small companies should be given incentives to upgrade.

Sole Source Aquifers

We commend the efforts of Senator Moynohan and agree with the intent of S.2131 to protect sensitive recharge areas. However, we feel that greater benefits and protection could be derived if the protective efforts are expanded to include all water sources. The concept of "sole source" has caused problems and misunderstanding in New Jersey. In the coastal plain, which constitutes the southern half of our state we have a layered aquifer system. If an upper aquifer is contaminated, it is argued that we can simply sink wells deeper into a lower aquifer. While there is now some advocacy for treating this whole system as a single "sole source", this interpretation may not prevail under the law. Yet all of these aquifers are critical in providing drinking water to New Jersey's citizens. States should be encouraged to develop detailed plans for mapping important aquifers and watersheds and initiating programs to encourage appropriate local zoning for prudent land management in critical areas. Only a small proportion of the nation's drinking water reserves would fit the definition of "sole source." To insure maximum protection of our resources all sources should be afforded equal attention.

Conclusion

I want to thank you for this opportunity to be part of your review of the Safe Drinking Water Act. I feel that the work we have done in New Jersey clearly indicates the need for a strong national effort to protect our drinking water. By preserving the preventive approach of the Act and urging improved implementation by EPA we can ensure the maintenance of safe and pure water throughout the United States.