

TESTIMONY - N.Y.S. Assembly and Senate Public Hearing, December 10, 1981,
Niagara Falls, N.Y. New York State Public Interest Research Group's (NYPIRG)
Report on Toxics and Chemical Wastes.

My name is Leo J. Hetling and I am Director of the Division of Environmental Health, the New York State Department of Health. I am pleased to speak on behalf of Dr. Axelrod at this hearing:

Eight public water systems draw approximately 112 million gallons of water from the Niagara River and supply over a half-million people with drinking water (Attachment 1). This Department has over the past several decades taken an extensive number of samples from these water systems and analyzed them for a great number of chemical compounds. Attached is a summary of some of the available data (Attachment 2). These data indicate that the quality of water delivered to the consumer by these systems is excellent and has (with the rare exceptions noted) not contained chemicals at concentrations which exceeded any existing drinking water standards, or exceeded guidelines used by the Department of Health for toxic organic substances.

The Department has quality standards for inorganic chemicals, including heavy metals of health significance, six organic pesticides, and for trihalomethanes. We are now in the process of developing standards for other organic toxic substances which have been found in New York State's waters and are of public health concern. As part of this effort, we are sampling 80 sites in New York State for toxic organic chemicals. We are also working with EPA in carrying out a survey of 47 groundwater supplies for organic toxic substances (Attachment 3). Although we do not yet possess sufficient background data on levels of all chemicals in drinking water, our data base is growing daily and we are encouraged by what we are not finding.

The recent NYPIRG report raises the subject of activated carbon. Activated carbon is a useful treatment process for removing a variety of compounds, particularly organics. However, it is inefficient to use for removal of many toxic substances such as the heavy metals, is costly, and is not 100 percent efficient for any compound. It is a sophisticated treatment process which has high operation and maintenance costs.

There are a variety of commercial small activated carbon units sold for home use. The quality and effectiveness of these units vary widely and their manufacture and sale is not currently regulated by any government consumer or regulatory agency. Such devices require adequate maintenance, proper operation, and frequent monitoring to be effective. Since most homeowners would not likely provide such, these units provide a false sense of security. Reports have also suggested that bacterial growth could be a problem with such devices. The Department does not recommend the use of such units if one is connected to a public water supply. We are confident that our monitoring of public water supply systems is such that if a problem occurs, it will be resolved at the source or in the treatment plant.

When, through sampling and investigation, we find that the quality of water is not satisfactory, we take immediate action. We have done this in 40 supplies in New York State which, when monitored, indicated they contained concentrations of toxic organic substances that exceeded our guidelines (Attachment 4). Engineering, or other measures were taken so that the water delivered to the consumer was safe.

The recent NYPIRG report has implied a link between cancer rates in Erie and Niagara Counties and toxics in drinking water. Although there are no comprehensive data on total human exposure to suspected carcinogens, it is likely that human exposure to synthetic organic chemicals in Lake Erie and the Niagara River is insignificant when compared to exposures from occupational, dietary and consumer products.

In the hearing notice you raise a series of questions. I will respond specifically to those questions for which the Health Department has a direct responsibility.

Question 1.

Many chemical contaminants found in the Niagara River bioaccumulate in the fatty flesh of organisms. With regard to toxic contamination of aquatic life, fish, waterfowl and other wildlife, what is the current and project status of these organisms? What are the implications associated with human consumption of those organisms?

Answer

The Department of Health acts in an advisory capacity to the Department of Environmental Conservation when fish, waterfowl or any other wildlife containing toxic contaminants may be consumed by the public. When new analytical results are obtained by the DEC, the Health Department reviews the results and provides recommendations for advisories as necessary. The DEC is the lead agency in analyzing contaminant levels in wildlife and for determining patterns and trends in the results. Two recent publications by the DEC can be obtained for further information. One is entitled, "Trends in Levels of Several Known

Chemical Contaminants in Fish from New York State Waters, Technical Report 80-2" and the second is "Toxic Substances in Fish and Wildlife: 1979 and 1980 Annual Report, Technical Report 81-1 (BEP)."

The consumption of fish from the Niagara River or Lake Ontario should not result in any acute (i.e. immediate toxic response in humans. The fish do contain chemicals which are of human health concern for long-term impact. Some of these compounds when administered in relatively large doses are animal carcinogens or produce other toxic effects in animals or humans. The consumption of an occasional fish is not expected to result in adverse health effects. However, the consumption of fish containing toxic chemicals may contribute to the body burden of toxic materials which may result in increased health risk for a variety of diseases, including cancer.

The Department and the DEC are conducting additional tests for contaminant levels in fish taken from the Niagara River and these results should be available next year. For the record, I am attaching the Department's fish consumption advisory listed in the New York State's Fishing, Small Game Hunting, Trapping Regulations Guide; the fish consumption advisory for Lake Ontario issued by the Department on August 5, 1981 and the consumption advisory for waterfowl issued by the Department on October 7, 1981 (Attachments 5 and 6).

Question 2.

More than 380,000 people drink water from the Niagara River.
What is the current level of chemical and other contamination
of this drinking water? What is expected to occur if discharges
from all present sources (direct discharges, waste water and
toxic contaminated landfills) were to continue at the present
level?*

*Our data indicates that approximately 520,000 people utilize water from the Niagara River (Attachment 1).

Answer

The current level of toxic contamination of the Niagara River is demonstrated by the attached data which covers a period of 10 years and shows only very low levels of toxic organics present. These levels are not sufficiently high enough to render the water unsuitable as a source for public water supplies provided standard treatment is provided. This includes chemical precipitation, coagulation, settling, filtration and chlorination. Although not specifically designed for toxic organic chemical removal, our experience indicates that these processes are effective in removing many of these compounds.

If the present levels of toxic discharges do not significantly increase, the Niagara River will continue to be suitable as a source for public water supplies. However, it is our position that cleanup of the environment should continue so that even the low levels of toxic organics present in the river are reduced. Public water practice has always been to have a double barrier against contaminated water at the tap, i.e. an uncontaminated source and adequate treatment. Cleanup of the river will ensure the first barrier of an uncontaminated source.

Question 3.

Are waste waters discharged by industries and municipal waste water treatment facilities discharged into the Niagara River adequately or inadequately regulated? What are the environmental and public health consequences of this situation?

Answer

It appears that the existing industrial and municipal wastewater treatment facilities are adequately regulated but that they do not yet receive adequate treatment. The regulatory program in place is comprehensive but is not yet fully implemented. The State's program for dealing with wastewater has two components, the regulation of direct industrial discharges via SPDES program and the pretreatment program for dealing with industrial discharges to municipal sewerage systems. These programs are under the direction of DEC and I am sure that they will describe them in detail.

Permit issuance is an integral part of DEC air, water, and solid waste management programs. The DEC consults the Department of Health for technical advice concerning public health matters in reviewing applications and issuing limits for air and water discharge permits. Such health assessments for chemical compounds could include: a review of the scientific literature for physical and chemical properties, environmental persistence and degradation, pharmacokinetics, bioaccumulation, acute and chronic toxicity, teratogenicity, and mutagenicity; carcinogenicity assessment of various and often conflicting toxicological data; meeting with industrial toxicologists; and recommendation of allowable environmental levels in air, soil, drinking water and food, particularly fish and game.

DEC, the federal government, and Canada are conducting a study of the Niagara River ecosystem which will identify current levels of environmental contamination in the River and Lake Ontario, the receiving waters. Hopefully, this will assess the relative contribution of ongoing direct wastewater discharges as well as sources from in-place or abandoned landfills, non-point sources and

the existence of existing contamination of Niagara River sediments. Data exists which leads us to conclude that the levels of toxic chemicals in drinking water are below levels which the Department would consider as being acceptable for consumption. The toxic control program in place should result in even lower levels of these contaminants from direct wastewater discharges.

Question 9.

Hazardous wastes lie buried in more than 250 landfills located throughout the Niagara River basin. Few of these disposal sites are secure. What environmental and public health hazards do these dumps pose? What can be done to reduce these dangers?

Answer

In addition to programmatic responsibilities dealing with water supply regulation and input to DEC on the SPDES permits, we also have a legislative mandate in Title XII-A, Inactive Hazardous Waste Disposal Sites, Section 1389-a,b,c of the Public Health Law to work with the DEC and to assess health problems related to conditions at disposal sites.

Based on our preliminary health and environmental assessments, the State has proceeded to set priorities to deal with the sites that pose the greatest potential problems. We work very closely with the DEC Hazardous Waste Compliance Team in Buffalo. This team has been placed in Buffalo because of the recognized need to focus our resources on the Niagara Frontier wherein approximately 250 disposal sites are located. We can, with some assurance, say that the major

dump sites have been identified in the Niagara River basin and that our priorities are meaningful.

A more detailed explanation of progress on this program was submitted to the Legislature last year in the Joint Department of Environmental Conservation/Department of Health report on Hazardous Waste Disposal Sites in New York State. An update of that report is now in preparation.

I hope this discussion of the issues raised at this hearing is useful and I will be happy to answer any questions you might have.