

DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER RESOURCE MANAGEMENT
DIVISION OF WATER SUPPLY

Notice of Action on Petition for Rulemaking
Safe Drinking Water Program
Unregulated Contaminants

Petitioner: New Jersey Public Employees for Environmental Responsibility

Take notice that the Department of Environmental Protection (Department) has determined to deny the petition for rulemaking filed on September 10, 2010 by the New Jersey Public Employees for Environmental Responsibility (petitioner), seeking rules requiring disclosure, monitoring and treatment for currently unregulated drinking water contaminants, and the establishment of a fee schedule to fund such controls. A notice of receipt of the petition was published in the New Jersey Register on October 18, 2010. See 42 N.J.R. 2498(b).

The petitioner stated that currently unregulated contaminants have been detected in public water supply source waters and raw drinking water in New Jersey and pose significant adverse risks to human health and the environment. The petitioner cited and excerpted information, research, and data regarding unregulated contaminants and drinking water from several sources, including the Department and the US Environmental Protection Agency. The petitioner specifically requested rules to govern the following:

1. Disclosure of data regarding past and future detection of unregulated contaminants in New Jersey water supply source waters and raw drinking water, including chemical name, concentration detected, location of sample, known and/or suspected ecological and human health effects of the chemical based on best available toxicological data and/or structure and

activity relationships;

2. Monitoring requirements for public water supply systems for a specific list of currently unregulated contaminants, including sampling frequency, location, analytical methods, and reporting and disclosure requirements;
3. Treatment requirements for public water supply systems for currently unregulated contaminants detected in ground and surface public water supply source waters, including treatment technology and engineering performance standards; and
4. A fee schedule to fund the monitoring, treatment, and reporting program for unregulated contaminants.

After careful consideration, the Department has determined to deny the petition for the reasons set forth below.

In response to national and international studies of the occurrence of unregulated contaminants in water, the Department in 1997 initiated studies to determine the occurrence of unregulated contaminants in New Jersey water supplies. In March 2003 the Department published results regarding the occurrence of tentatively identified compounds (TICs) in raw and finished water in 21 water systems in New Jersey that have historically reported volatile contaminants or that are located in proximity to known contaminated sites (see <http://www.state.nj.us/dep/dsr/TIC-report.pdf>). (A TIC is a compound that can be detected by an analytical testing method, but its identity and concentration cannot be confirmed without further analyses). Results of the analyses of raw (untreated) and finished (treated) water samples using these research analytical methods adapted to detect low levels (less than 1 part per billion) of non- and semi-volatile organic contaminants performed by the Environmental and Occupational

Sciences Institute (Piscataway, New Jersey), showed that approximately 600 TIC's were present in these water samples.

In addition to the above-described TIC occurrence study, other studies have indicated the presence of unregulated contaminants in untreated ground and surface water used as sources of water by public water systems in New Jersey. For instance, as noted by the petitioner, the Department prepared a summary of "Investigations Related to a 'Treatment-Based' Regulatory Approach to Address Unregulated Contaminants in Drinking Water, April 2010" at the request of the Association of State Drinking Water Administrators (see http://www.state.nj.us/dep/watersupply/pdf/Treatment%20Approach_14-22-10_1.pdf). This document listed the "Water-Quality Data for Pharmaceuticals and Other Organic Wastewater Contaminants in Ground Water and in Untreated Drinking Water Sources in the United States, 2000-01," a joint project among the Department, the US Geological Survey, and the Centers for Disease Control. In this study, over 90 percent of the samples contained detectable concentrations of one or more of the 126 target compounds. The number of compounds detected per sample ranged from 0 to 32, with a median of 11. The total concentration of these compounds per sample ranged from non-detectable to 81 ug/L, with a median of 1.7 ug/L.

Some of the analytical methods used in the TIC research study were screening techniques meant to gauge the number and geographic distribution of unregulated contaminants in drinking water, but they are not appropriate techniques for use on a routine basis for monitoring water systems or to make regulatory decisions. As stated above, the analytical methods are not appropriate because they do not positively identify or quantify the compounds. In order for these methods to be used for regulatory monitoring of drinking water systems in the future, the USEPA or the Department would need to develop and promulgate drinking water testing

methods in order to obtain results from public water systems with adequate precision and accuracy. The data collected to date are not sufficient basis to establish the sort of regulatory program the petitioner seeks.

In addition to concerns regarding the accuracy of the analytical methods in the studies of unregulated contaminants conducted to date, toxicity information and effective treatment technologies for these contaminants are lacking. Research conducted by the Department and the University of Medicine and Dentistry (Piscataway, New Jersey) to compile toxicity information about the TICs that have been detected showed that toxicity information was available for only 22 percent of the TICs found in the New Jersey water samples, and that the information that was available was mostly regarding acute (short-term) health effects. Information on chronic health effects is needed to establish drinking water standards because they are intended to protect over a lifetime of exposure. For these reasons, the Department developed a list of potential options to address unregulated contaminants and sought public comment on them in a February 2004 Interested Party Review (see 36 N.J.R. 889(b)). Based on the comments received, the Department determined that implementing the water treatment technology approach would likely have the best outcome of the options presented. Of the few treatment technologies available to remove the various unregulated contaminants from drinking water, granular activated carbon (GAC) seemed to be the most promising.

Consequently, based on the general support for the approach of requiring treatment for unregulated contaminants, the Department approached two water systems, Fair Lawn Water Department (Bergen County) and Merchantville-Pennsauken Water Commission (Camden County), about conducting pilot demonstrations for the purpose of studying GAC performance and optimization. Both water systems reported the largest number of unregulated contaminants

in water samples as compared to other public water systems in the TIC study and expressed interest in implementing treatment to remove them. With funding from the New Jersey 1981 Bond Fund, contracts to construct GAC treatment technology at these systems have been awarded and construction is under way. When these treatment technologies are operational, the Department will be able to monitor the effectiveness of GAC in the removal of unregulated contaminants.

The Department is also evaluating whether advanced drinking water treatment techniques that are already in place at surface water treatment plants are effective at removing unregulated organic chemicals. For instance, as part of a Settlement of Environmental Penalty (SEP) study, the New Jersey American Water Company sampled the drinking water moving through its water treatment process to determine the extent of removal of unregulated contaminants by each unit process. In addition, the Department is joining with the Water Research Foundation (Denver, Colorado) to study the occurrence and concentration of synthetic organic contaminants in raw and finished water supplies at five New Jersey water treatment facilities that are supplied by surface waters, in order to identify the primary physical and chemical processes that govern the fate of synthetic organic contaminants. The Department intends to use the monitoring and operational information gained from each of these studies to further study feasibility and effectiveness of using a treatment technique approach to managing unregulated contaminants.

While these studies to evaluate the effectiveness of treatment are under way, the Department continues to evaluate the occurrence of unregulated contaminants in New Jersey drinking water sources through the implementation of the USEPA's Unregulated Contaminant Monitoring Rule (UCMR) (see 40 CFR 141.35). The UCMR requires all community water systems serving more than 10,000 people, as well as a subset of randomly selected (by USEPA)

small community water systems, to monitor their water for a list of not more than 30 unregulated contaminants selected from the Contaminant Candidate List (CCL). The CCL is a list of contaminants currently not subject to any proposed or promulgated national primary drinking water regulations that are known or anticipated to occur in public water systems, and that may be subject to future regulation under the Safe Drinking Water Act (SDWA). The CCL is updated every five years by the USEPA. The CCL includes some of the contaminants evaluated in the Department's March 2003 TIC study.

The first UCMR List – UCMR1 – consisted of 12 chemical contaminants (with an additional 15 chemicals plus a microbiological parameter to be monitored at a subset of the selected water systems). The selected public water systems conducted monitoring for UCMR1 between 2001 and 2005. The second UCMR list – UCMR2 – consists of 10 chemicals (with an additional 15 chemicals to be monitored at a subset of the selected water systems). The monitoring period for collecting samples for UCMR2 is 2008 through 2010. The UCMR2 list contains flame retardants, explosives, nitrosamines, and acetanilides.

The contaminants monitored pursuant to the UCMR are analyzed using USEPA certified drinking water methods at specified intervals so that USEPA can determine if the occurrence of the contaminants is such that maximum contaminant levels and future regulatory action are warranted. The UCMR data also enable the Department to assess the occurrence of the unregulated contaminants within New Jersey. The data collected pursuant to the UCMR are available at <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/data.cfm>.

Finally, in March 2010, the USEPA released a document entitled, "New Approach to Protecting Drinking Water and Public Health" (see [http://water.epa.gov/lawsregs/rulesregs/sdwa/dwstrategy/upload/Drinking_Water_Strategy\(s.pdf](http://water.epa.gov/lawsregs/rulesregs/sdwa/dwstrategy/upload/Drinking_Water_Strategy(s.pdf))

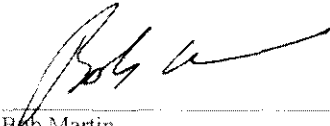
, referred to as the "Drinking Water Strategy." USEPA took comments on one of the principles of this new strategy, specifically, addressing "contaminants as groups rather than one at a time so that enhancement of drinking water protection can be achieved cost-effectively." USEPA held web-based discussion forums on July 29 and 30, 2010 to foster an open dialogue about the Drinking Water Strategy and to hear from the public and stakeholders about how the USEPA should proceed and implement the Drinking Water Strategy. USEPA also held a public stakeholder meeting on September 21, 2010 in Washington, D.C. USEPA expects to publish its findings and recommendations regarding the implementation of the new Drinking Water Strategy soon and intends to seek stakeholder and public comment on those findings. USEPA is initially considering carcinogenic volatile organic chemicals, nitrosamines and chlorinated disinfection by-products as groups of contaminants for potential regulatory development in the near future. Other groups of contaminants, including perfluorinated compounds, organophosphate pesticides, and carbamate pesticides, are listed for future consideration. If the USEPA adopts regulations that implement the Drinking Water Strategy, these regulations will become part of the New Jersey drinking water regulatory program since New Jersey adopts the Federal primary drinking water standards by reference.

The Department acknowledges that research conducted to date has demonstrated the presence of unregulated contaminants in some drinking water systems around the State. As described above, the Department is involved in various efforts to obtain more complete information about the occurrence, toxicity, and possible treatment approaches for these contaminants. Once the results of these efforts are analyzed, the Department will determine whether the science supports initiating a regulatory monitoring and treatment program for currently unregulated contaminants. Any such future regulatory initiative will include a robust

stakeholder process.

Accordingly, based on the foregoing, the petitioner's request for rulemaking is denied. A copy of this notice has been mailed to the petitioner as required by N.J.A.C. 1:30-4.2.

11/22/2010
DATE



Bob Martin
Commissioner