PETITION FOR RULEMAKING - Submitted VIA EMAIL
This petition for rulemaking is submitted in accordance with the NJ APA and in substantial compliance with NJAC 7:1D-1 PETITIONS FOR RULES,
September 1, 2013
Shawn LaTourette, Commissioner
New Jersey Department of Environmental Protection 401 East State Street
P.O. Box 402
Trenton New Jersey 08625
Re: Petition for Rulemaking
Petition for DEP rules to require disclosure, monitoring, treatment, and fee schedule to fully fund controls on currently unregulated drinking water contaminants
• Authority: DEP power to grant rulemaking petition: N.J.S.A. 13:1B-1 et seq; N.J.S.A. 13:1D-1 et seq; the NJ Safe Drinking Water Act (NJSA 58:12A-1 et seq.); the NJ Water Supply Management Act (NJSA 58: 1A-1 et seq); the NJ Water Pollution Control, Water Quality Management Planning and Spill Compensation and Control Acts (NJSA 58:10A – 1 et seq., 58:11A-1 et seq.) .
Dear Commissioner LaTourette:
Please accept this letter petition for rulemaking pursuant to N.J.S.A.52:14B-1 et seq.
This letter petition is filed pursuant to N.J.S.A. 52:14B-4, which provides that:
"*(f) An interested person may petition an agency to adopt a new rule, or amend or repeal any existing rule. Each agency shall prescribe by rule the form for the petition and the procedure for the submission, consideration and disposition of the petition. The petition shall state clearly and concisely:*
(1) The substance or nature of the rule-making which is requested;
(2) The reasons for the request and the petitioner's interest in the request; (3) References to the authority of the agency to take the requested action."
I) Rule-Making requested
I am a citizen, former DEP professional, and long been active in promoting the protection of public health and the environment, including via submissions of petitions for rulemaking to force agency action.
I request that the Department promulgate regulations to govern currently unregulated contaminants that have been detected in public water supply source waters and raw drinking water in New Jersey. These contaminants pose significant adverse risks to human health and the environment.
Specific regulations should be adopted to govern the following:

1. Disclosure of data regarding prior and future detection of unregulated contaminants in NJ water supply source waters and raw drinking water, including: a) name of the chemical detected, b) the concentration detected, c) the location of the sample, and d) the 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/disclosure requirements;
3. Treatment requirements for public water supply systems for currently unregulated contaminants detected in ground and surface public water supply waters, including treatment technology and engineering performance standards; and
4. A fee schedule to fund the necessary monitoring, treatment, and reporting program for unregulated contaminants.

II) Rationale for the request and the petitioner's interest in it
My request is based on the following data, documents, and recommendations, as very briefly highlighted below:
1. The USEP's most recent data, which is hereby incorporated by reference, see:
Occurrence Data from the Unregulated Contaminant Monitoring Rule
https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule
2. the Department's paper titled "**Investigations Related to a "Treatment Based" Regulatory Approach to Address Unregulated Contaminants in Drinking Water**" (April 2010), as presented to the NJ Drinking Water Quality Institute on May 7, 2010 (all studies cited in that paper are incorporated by reference);
3. US EPA **"A New Approach to Protecting Drinking Water and Public Health**" (March 2010)
4. The Department's **"NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT ON POSSIBLE REGULATORY STRATEGIES TO ADDRESS THE OCCURRENCE OF UNREGULATED CONTAMINANTS IN DRINKING WATER"** (February 2004 - @ 36 N.J.R. 889(b)); including all public comments on that notice;
5. New Jersey specific data from USGS "**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"**
6. USEPA Program: **"Ecological Structure Activity Relationships**(ECOSAR)
7. **"Our Stolen Future"** (Theo Colborn, et al. – 1996. Penguin press)
The Department's April 2010 paper summarizes research initiated in 1997, and found (emphases supplied):
• "Research studies have found that many unregulated industrial, household, and commercial chemicals are present in raw waters used as drinking water sources, and that some of these chemicals survive the drinking water treatment process and appear in finished drinking water.

- The chemical specific approach currently used for regulating chemicals in drinking water, while useful for the development of drinking water standards for contaminants first detected in the 1980's and early 1990's, may not represent the optimum approach for addressing low level contamination with multiple chemicals today.

- This treatment technique option asserts that given the lack of necessary health information available for many of the contaminants detected, the current

methods of addressing unregulated compounds cannot be applied to most of these contaminants. This strategy represents a proactive approach to protecting public health in the absence of definitive scientific information on the human health effects of the contaminants being detected. Rather than wait for healtheffect studies to be completed, this option proposes the use of water treatment as a protective measure.

- (1997-2003 study) NJDEP worked with analytical chemists at the Environmental and Occupational Health Sciences Institute (EOHSI) to analyze raw and finished drinking water for the presence of synthetic organic contaminants, indicated as Tentatively Identified Compounds (TICs). The study, which focused on ground water systems near hazardous waste sites, showed that both raw and finished drinking water at vulnerable areas contain a number of TICs at low levels (at or below one part per billion). Over the course of the four year study, approximately 600 tentatively identified organic compounds were detected in 199 water samples collected(including five bottled waters that are sold in NJ).

Human Health Impacts of Non-Regulated Compounds in Drinking Water

- This project evaluated the health effects information available on the TICs identified in the above study. Most were present below 1 ug/L. Toxicology data of any type was only available for 22% of the 524 chemicals evaluated. For many of these 22%, only acute toxicity information was available, and such acute data are not suitable for development of chronic health-based drinking water levels. Information which could be used to develop chronic drinking water concentrations was available for only a small fraction of the TICs. The results of this study suggest that chemical-by-chemical health risk assessment is not a feasible approach for addressing the many unregulated contaminants found at low concentrations in drinking water.

UMDNJ /NJDEP-DSRT/USGS/CDC cooperative project (1999-2000)

- NJDEP/USGS cooperative: A water-treatment plant was sampled as part of this project. Forty-five waste-water related organic chemicals were detected in samples of source water and 34 were detected in samples of settled sludge and (or) filter-backwash sediments. The number of waste-water compounds increased during conditions of low flow in the river. The average percent removal of these was: 53% of the chemicals removed by granular activated carbon filtration; 32% removed by disinfection; and 15% by clarification. This treatment plant is located in the heavily populated highly urbanized drainage basin which includes more than 50 wastewater facilities that discharge effluent to the two streams from which the plant withdraws its raw-water.
- The Department had the opportunity to utilize the best analytical capability in the nation to assess the efficiency of removal of these newly identified organic contaminants at several of the drinking water purveyor locations in the state. For the past several years, the NJDEP has worked with water systems to evaluate the levels of chemical contamination contained in the raw and finished drinking water supplies before and after advanced water treatment, including carbon treatment. By identifying the removal efficiency of the state of the art treatment operations of treatment units, the Department can apply that knowledge most efficiently to solve the contamination challenges faced by the other water systems throughout the state.

• **Interested Party Review** (2004)
The Department considered the treatment-based approach after numerous internal and external discussions, including the Drinking Water Quality Institute. The Department developed a list of potential options to consider for addressing unregulated contaminants in drinking water and published these options in the NJ Register as an Interested Party Review (IPR). The options under consideration were:
1. Chemical-specific regulation of drinking water contaminants.
2. Intensive Site Remediation investigation of unregulated contaminant occurrence in ground water.
3. Regulation of classes of chemicals, by health end-point.
4. Regulation of classes of chemicals, by chemical property
5. Installation of water treatment technology to reduce levels of regulated and unregulated synthetic organic chemicals
The water treatment technology approach represents the likely outcome of the other four options. The best available technology for removing most synthetic organic contaminants from drinking water is granular activated carbon (GAC). However, other treatment techniques may be appropriate depending upon the quality of the source water. For instance, ozone and ozone followed by hydrogen peroxide oxidation has been shown to be effective at reducing levels of synthetic organic chemicals in drinking water.
Almost all comments received in response to the IPR concerned the type of treatment selected: respondents indicated that advanced treatment techniques other than granular activated carbon had been shown in preliminary experiments to reduce levels of unregulated organic contaminants to below detectable levels and that these other techniques should be studied as well. The Department agreed with the comments and initiated a literature review of best treatment options for ground water sources and for surface water sources. The purpose of the literature review was to compare the best treatment techniques under different source water conditions to determine the optimum treatments for removing unregulated organic chemicals.
Based upon these research findings and literature reviews from between 1997-2004, in February 2004, the Department proposed 5 specific regulatory options in the NJ Register. Based on comments on this Feb 2004 proposal, the Department was ready and expected to proceed to formal rulemaking to establish an unregulated contaminant control to protect public health.
Unfortunately, regulations creating that program were never proposed by the Department, which is the primary reason for this petition.
Since the Department deferred making a regulatory decision in 2004, much additional data, toxicological science, and pilot treatment studies have been completed (see especially Black and Veach 2007).
In March of 2010, the US EPA announced that EPA would pursue a treatment based approach to unregulated drinking water contaminants to protect public health. EPA concluded:
“The current approach to drinking water protection is focused on a detailed assessment of each individual contaminant of concern and can take many years. This approach not only results in slow progress in addressing unregulated contaminants but also fails to take advantage of strategies for enhancing health protection cost-effectively, including advanced treatment technologies that address several contaminants at once. The outlined vision seeks to use existing authorities to achieve

greater protection more quickly and cost-effectively."
This EPA policy decision further supports a scientific, engineering and policy consensus that treatment is the preferred approach, and that currently available data support this approach.
However, we want to be clear that a treatment based approach is inherently limited, and must be the final phase of a hierarchical multiple barrier approach. Such an approach includes source water protection; well head and intake protection; pollution prevention and toxics use reduction; advanced pollution controls for wastewater discharges; land use controls; and permanent cleanups of toxic waste sites.
We would also clarify the likely objection that the Department lacks adequate data on human health and ecological effects of unregulated contaminants to mandate advanced treatment. In response to this concern, we note two points:
First, in addition to traditional toxicological data, USEPA utilizes – in a regulatory fashion - "structure and activity relationships" (SAR) to screen chemicals for likely ecological and human health risks. The Department should apply SAR methodologies to the almost 600 unregulated chemicals already detected in NJ water supplies.
Second, the European Union has embraced a science based precautionary policy under the "REACH" program on chemicals and their safe use. REACH stands for "Registration, Evaluation, Authorization, and Restriction. The Department should look to and apply REACH ecological and human health risk methodologies to address unregulated water supply contaminants.

III) Authority of the agency to take the requested action

The Department is authorized to adopt the requested regulations pursuant to NJSA 13:1B-1 et seq. and NJSA 13:1D-1 et seq. (also known as the Department's "organic authority").
The Department has existing adequate authority pursuant to the NJ Safe Drinking Water Act (NJSA 58:12A-1 et seq.); the NJ Water Supply Management Act (NJSA 58: 1A-1 et seq); the NJ Water Pollution Control, Water Quality Management Planning and Spill Compensation and Control Acts (NJSA 58:10A – 1 et seq., 58:11A-1 et seq.
We look forward to your timely and favorable consideration of this petition request. We reserve the right to revise and extend this submission.
Sincerely,
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