
Federal and New York State Regulation of Drinking Water Contaminants



OFFICE OF THE NEW YORK STATE COMPTROLLER
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Message from the Comptroller

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It's easy to take clean, safe drinking water for granted. However, as incidents of contamination in our public water supplies in recent years have reminded us, strong regulatory oversight is essential to assure the quality and safety of our water.

The Safe Drinking Water Act, enacted by Congress in 1974, assigns responsibility for regulation of public water supplies to the federal Environmental Protection Agency (EPA) and to state governments. As a result of that law, the EPA has set binding standards that limit the concentrations of certain substances in water supplies nationwide, and has established advisory limits for some other contaminants. States have a key role as well: they can impose more strict limits than the EPA's, or establish standards for substances that the federal government does not regulate. In New York, the State Department of Health has taken those steps with regard to a number of contaminants.



Yet the current federal-state regulatory structure can leave significant gaps in protections for New Yorkers. News of water contamination in places such as the City of Newburgh and the Village of Hoosick Falls shows the vulnerabilities that may arise as a result.

Several measures included in New York's State Fiscal Year 2017-18 Enacted Budget are intended to enhance protection of public water supplies and the State's ability to respond to future contamination events. Unfortunately, the new Administration in Washington has proposed actions by the federal government that could weaken safeguards for water consumers. The EPA's ability to implement the SDWA effectively may be threatened by the Administration's plan to cut the agency's budget by nearly a third.

Ensuring that drinking water supplies are free from hazardous contaminants is a complicated challenge, with important implications for public health as well as for State and local government budgets. This report outlines a variety of steps that federal and State policy makers could consider in working to meet that challenge. Such items include enhancing information for the public, establishing a more effective federal-State regulatory partnership, strengthening State regulation where appropriate, and expanding capacity to identify and respond effectively to contamination incidents.

New Yorkers support their public water systems through taxes and fees, and expect clean, safe water when they turn on the tap. While both the State and federal governments have done much to ensure that result, further efforts are essential.

Thomas P. DiNapoli
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Table of Contents

I. EXECUTIVE SUMMARY	1
II. INTRODUCTION	4
III. HISTORY OF THE SAFE DRINKING WATER ACT	6
Initial Passage.....	6
1986 and 1996 Safe Drinking Water Act Reauthorization.....	6
Federal EPA Process for Regulating Contaminants	7
IV. NEW YORK STATE’S REGULATION OF DRINKING WATER CONTAMINANTS.....	11
New Initiatives to Promote Safe Drinking Water	12
V. PUBLIC WATER SYSTEM REPORTS ON WATER QUALITY	14
VI. POTENTIAL ACTIONS TO PROTECT WATER USERS.....	15
Federal Actions	15
State and Local Actions.....	16
VII. CONCLUSION	18

I. Executive Summary

Laws and regulations implemented over decades by the federal and State government are intended to assure clean, safe drinking water for New Yorkers. In recent years, however, contamination of water supplies in certain communities has raised questions as to whether existing oversight is adequate and effective. This report summarizes the current regulation of public water supplies and outlines potential steps to enhance such oversight for the benefit of individuals and communities throughout New York.

The federal Safe Drinking Water Act (SDWA), enacted in 1974, provides the statutory basis for federal and state regulations governing the operation of public water systems, including concentrations of contaminants in drinking water. The Environmental Protection Agency (EPA) sets national standards and has implemented broad regulatory processes, as well as specific directives relating to certain chemicals, pursuant to the law.

The SDWA includes a key role for state governments to play in ensuring safe drinking water, allowing individual states to set and enforce their own standards that are at least as stringent as the EPA's national rules. New York statutes and regulations give the State Department of Health (DOH) authority to implement federal law and regulations, and to issue State-level rules governing public water systems.

The current federal-state regulatory structure requires a strong partnership between the two levels of government, and can leave significant gaps in protection. In some cases, the State has adopted standards for water contaminants that are identical to or stricter than the EPA's, or established regulations where federal rules do not exist. In other cases, the EPA has recommended non-binding health advisory levels and encouraged states to use such guidance in their efforts to keep drinking water safe. However, there are instances in which the binding standards set by the DOH are not as protective as EPA health advisory levels, or where the DOH has opted not to establish regulatory standards consistent with EPA guidance.

Since enactment of the SDWA, the EPA has established national primary drinking water standards for 88 contaminants and groups of contaminants. However, it has not added final regulations for any additional contaminants in more than two decades.

Water contamination incidents in the Village of Hoosick Falls and the City of Newburgh illustrate the vulnerabilities of the current regulatory structure. In Washington, the new Administration's proposal to cut the EPA's budget by nearly one-third, and its intent to reduce environmental regulatory oversight, raise further concerns regarding the agency's ability to implement the SDWA effectively.

Ensuring that public drinking water is safe and clean is a significant challenge, given the thousands of chemical contaminants that may be present in drinking water and the incomplete scientific understanding of potential health impacts from many of these

substances. Several measures in the State Fiscal Year 2017-18 Enacted Budget are intended to address contaminants that are not regulated at the federal level and to provide new resources to clean up contamination and protect drinking water sources.

For example, DOH will be required to identify certain substances as emerging contaminants. Water systems that serve certain numbers of consumers will be required to test for such contaminants at least every three years, and to notify DOH and local property owners of the results of such testing when concentrations reach certain levels. In such cases, DOH is empowered to require that water systems take action to reduce exposure to the contaminants. Other provisions in the Budget include \$2.5 billion for clean water infrastructure projects, with some of that funding directly addressed to prevention or remediation of water contaminants.

Given the importance of assuring clean water, the federal government and New York State should consider additional steps to protect public water systems and their consumers more effectively, including:

- **Enhancing information to the public in annual drinking water quality reports.** Operators of drinking water systems should provide information on the health impacts of contaminants found in the water they provide. In addition, the State should report regularly on trends in drinking water quality and implications for public health. DOH could also provide readily understandable information about relevant laws, regulations and current scientific findings, as the EPA does now.
- **Establishing a more effective federal-State regulatory partnership.** The necessary first step for federal policy makers is to commit to moving forward, rather than backward, in keeping drinking water safe. Such a commitment would require adequate funding, including resources to implement the SDWA. Meanwhile, the EPA should move more decisively to develop regulations for contaminants found in drinking water. To meet the difficult challenge of reducing risks from exposure to water contaminants, federal and State officials should work cooperatively, in areas such as maintaining up-to-date information on the condition of local water systems and providing technical assistance to such entities.
- **Strengthening State regulation where appropriate.** In considering standards under its new emerging contaminants program, DOH should consider whether explicit adoption of a more precautionary approach to regulating contaminants is appropriate. While the State regulatory process moves forward, policy makers should consider EPA advisory guidance, existing State standards for contamination of other environmental media, or relevant standards in effect in other states to develop interim responses to protect public health. State policy makers could consider whether New York binding standards should be at least as restrictive as those set out in EPA's advisory levels.
- **Expanding existing water testing to more contaminants.** Under newly enacted statutory requirements, DOH will identify currently unregulated contaminants as candidates for required sampling by New York water systems. In addition to criteria that are statutorily required under the new emerging contaminant program, data from the Toxic Release Inventory, historic land use records, hazardous waste generation permits and results of prior sampling performed under established

regulations should be evaluated to identify potential contaminants and guide the expenditure of State resources and potential regulatory actions.

- **Establishing more effective systems for responding to hazardous levels of contamination.** To assure prompt, consistent and effective responses, the State should prepare and publish an overall plan including measures that may be implemented when future contamination events occur.
- **Creating a State health monitoring program.** In Hoosick Falls and Newburgh, the State created health monitoring programs on an ad hoc basis in response to local concerns. Establishing ongoing protocols for such programs, including consideration of potentially necessary funding, would better ensure effective responses in the future.

New Yorkers need clean drinking water. While both the State and the federal government have done much in recent decades to minimize the possibility of unsafe contamination in our drinking water, further and more effective efforts are essential.

II. Introduction

Clean, safe drinking water is critically important for New Yorkers' health and for the State's economic growth and prosperity. Over the last 20 years, more than \$5.24 billion in federal and State funding has been spent on the public water systems in New York State.¹ Studies suggest that even more funding will be needed over the next 20 years.² The cost of replacing broken pipes and maintaining other water infrastructure has received much attention. However, as recent events have demonstrated, adequate regulation and monitoring of contaminants in public drinking water are also essential to safeguarding consumers' health and avoiding added costs.

In the Village of Hoosick Falls, testing by a private individual in 2014 found perfluorooctanoic acid (PFOA) in water samples from the Hoosick Falls public water system at concentrations that exceeded the health advisory levels set by the federal Environmental Protection Agency (EPA). PFOA belongs to a class of chemicals known as perfluorinated compounds that have been linked to cancer and other serious health effects. After confirming the presence of PFOA in the water supply, Village officials notified water users of the PFOA contamination. Information about preventing harmful exposures was not provided to local residents until late 2015, when the EPA wrote to the Mayor of Hoosick Falls, directing that residents be advised to stop drinking the water. In an August 2016 letter to the EPA, the commissioners of the State Department of Health (DOH) and the Department of Environmental Conservation (DEC) estimated that the cost of removing the contamination and providing health monitoring to residents would be at least \$50 million.³

Similar events played out in Newburgh, where, in 2013, another perfluorinated compound, perfluorooctane sulfonate (PFOS), was discovered in the City's Washington Lake reservoir in the course of sampling required by the EPA.⁴ Although the City had back-up sources of water, those supplies were not tapped until May 2016, when the EPA reduced its advisory level for PFOA and PFOS to 70 parts per trillion (ppt).

¹ Public water system, as defined in New York Codes, Rules and Regulations Title 10, Part 5, Subpart 5.1, Section 5-1.1 (ay) generally means certain systems which provide water to the public for human consumption with at least five service connections or regularly serving an average of at least 25 individuals daily at least 60 days out of the year. For the precise definition see:

https://www.health.ny.gov/regulations/nycrr/title_10/part_5/subpart_5-1#s511.

² *Drinking Water Systems in New York: The Challenges of Aging Infrastructure*. Office of the New York State Comptroller. February 2017. See: <https://www.osc.state.ny.us/localgov/pubs/research/drinkingwatersystems.pdf>. This report finds that the State and federal governments have provided \$5.24 billion in financing for drinking water infrastructure since 1996 through the Drinking Water State Revolving Fund. The DOH estimates that additional expenditures of \$39 billion will be needed between 2007 and 2026.

³ August 30, 2016 letter from Howard Zucker, M.D. Commissioner of the Department of Health and Basil Seggos, Commissioner of the Department of Environmental Conservation to Gina McCarthy, Administrator, U.S. Environmental Protection Agency. See: https://www.health.ny.gov/press/releases/2016/docs/2016-08-30_letter_to_epa.pdf.

⁴ PFOS was detected in concentrations ranging from 140 to 170 parts per trillion in samples taken in 2013 and 2014, below the EPA's Provisional Health Advisory for PFOS of 200 parts per trillion that was established in 2009 and in effect until May 2016.

The EPA, DOH, county and New York City agencies, and the operators of public water systems across the State each have certain responsibilities for overseeing the safety of water delivered to public water consumers. Given the water contamination issues that have arisen, this report describes the current structure of federal and State regulatory oversight, with particular attention to organic contaminants such as PFOA, and provides recommendations for improvements in such oversight.

A federal law, the Safe Drinking Water Act (SDWA), enacted in 1974 and amended in 1986 and 1996, provides the statutory basis for federal and state regulations governing operation of public water systems, including concentrations of contaminants in drinking water supplied by those systems. New York State is one of 49 states to which the EPA has granted authority for implementing the SDWA within their boundaries.⁵

To be granted this authority, states must adopt regulations that are at least as strict as EPA's.⁶ New York State statutes and regulations give DOH authority to implement provisions of the SDWA as well as to make rules and regulations to protect public water systems and their water sources.⁷ This authority and the rules governing the establishment of standards of water quality and purity are found in DEC and DOH regulations.⁸ DEC is also authorized to undertake planning associated with public water system needs, to authorize water withdrawals for drinking and other uses and to prevent the contamination of both surface waters and groundwater that may be a source of drinking water.⁹

Since its inception, SDWA has given the states a key role in ensuring safe drinking water. "The Act places the primary responsibility for enforcement and supervision of public drinking water supply systems and sources clearly upon the State," according to an EPA publication issued in March 1975, just a few months after President Ford signed the Act into law.¹⁰ However, this shared regulatory structure requires a strong partnership between federal and state agencies. State legislative hearings on PFOA and PFOS contamination in New York, held in August and September 2016, raised concerns that the agencies' conflicting views on the level of public health threat posed by the contamination led to continued harmful exposure.

⁵ Tiemann, Mary. *Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements*. Congressional Research Service. February 5, 2014.

⁶ *Ibid.*

⁷ See New York State Public Health Law Title 1, Section 1100. See also, New York Codes, Rules and Regulations Title 10, Chapter 1 Part 5 and Title 10, Chapter 3, Part 170.

⁸ See New York Codes, Rules and Regulations Title 6, Chapter 10, Parts 700 through 706.

⁹ See New York State Environmental Conservation law Article 15, Titles 5, 11, 13, 15 and 31.

¹⁰ Agee, James L. "Protecting America's Drinking Water: Our Responsibilities Under the Safe Drinking Water Act," *EPA Journal*, March 1975.

III. History of the Safe Drinking Water Act

Initial Passage

The federal Safe Drinking Water Act of 1974 established a nationwide program that required public drinking water systems to test the water provided to customers for certain contaminants and report the results to their customers, appropriate State regulatory agencies and the EPA. According to the EPA, the general idea behind the SDWA was that public water systems would provide information to the states and to their customers, states would work with water systems to mitigate circumstances that may lead to excessive levels of contaminants, and that customer demand would pressure systems to reduce contaminants.¹¹ The SDWA further empowered consumers by including “citizen suit” provisions that allowed consumers to go to court to seek action to address unsafe drinking water.

The impetus for the SDWA included the discovery of cancer-causing chemicals and lead in the water supplies of several large U.S. cities, as well as widespread problems with viral and bacteriological contamination.¹² A 1970 study by the U.S. Public Health Service found that 41 percent of 969 public water systems surveyed did not meet standards then in place.¹³

Regulations to implement the SDWA went into effect for all public drinking water systems in December 1976. The EPA adopted standards in regulation for 23 contaminants or groups of contaminants between the Act’s adoption and its reauthorization in 1986.¹⁴ According to the EPA, the SDWA “gives individual states the opportunity to set and enforce their own drinking water standards if the standards are at minimum as stringent as EPA’s national standards.”¹⁵

1986 and 1996 Safe Drinking Water Act Reauthorization

The 1986 reauthorization amended the program to require the EPA to increase its list of regulated contaminants to 83. Amendments also required the EPA to update the list of regulated contaminants by adding 25 new contaminants every three years; banned the use of lead in public water systems, residential and non-residential facilities; required disinfection of all systems; and established wellhead and aquifer protection programs.¹⁶

¹¹ Ibid.

¹² Ibid.

¹³ Knotts, Jamie. *A Brief History of Drinking Water Regulations*. On Tap: Drinking Water News for America’s Small Communities. Volume 8, Issue 4, Winter 1999. National Drinking Water Clearing House.

¹⁴ Gray, Kenneth F. *The Safe Drinking Water Act Amendments of 1986: Now a Tougher Act to Follow*. Environmental Law Reporter. 16 ELR 10388. 1986

¹⁵ *Drinking Water Regulatory Information Overview*. United States Environmental Protection Agency. See: <https://www.epa.gov/dwreginfo/drinking-water-regulatory-information>.

¹⁶ Gray, Kenneth F. op. cit.

Congressional reauthorization of the SDWA in 1996 repealed the requirement to add 25 contaminants every three years, replacing it with a process to select and regulate the contaminants that posed the greatest risk to public health and required the use of cost benefit analysis. This change was made in part to lower contaminant monitoring costs for small systems.¹⁷

Federal EPA Process for Regulating Contaminants

The SDWA establishes a multi-step process by which the EPA identifies potential contaminants in drinking water, evaluates the potential for regulation of these substances and, in some cases, develops regulatory standards for them. The SDWA directs the EPA to develop a list of contaminants that are candidates for regulatory standards. In developing this list, the EPA evaluates the potential of certain contaminants to cause a public health risk and to be present in drinking water.

As part of its process for monitoring unregulated contaminants, the EPA selects a subset of these candidate contaminants and requires that public water systems monitor their water for the presence of such substances. The agency then develops a preliminary regulatory determination for a smaller subset of contaminants based on prevalence and health risks. After considering public comments, the EPA issues a final regulatory determination. If the agency determines that developing a regulation at the federal level would provide a meaningful opportunity to reduce health risks, it then proceeds to develop a national regulatory standard for the contaminant. Once the EPA has determined to regulate a new contaminant under the SDWA, it must issue a proposed regulation not later than 24 months after making the determination and a final regulation not later than 18 months after the proposed regulation. The EPA, by notice in the Federal Register, may extend the deadline for issuance of the final regulation for up to 9 months.¹⁸

The EPA uses the following criteria when making a determination to regulate:

- The contaminant may have an adverse effect on human health;
- The contaminant is known to occur or there is a high chance that it will occur in public water systems often enough and at levels of public health concern; and
- Regulation of the contaminant presents a “meaningful opportunity for health risk reductions” for persons served by public water systems.¹⁹

In sum, the SDWA leaves significant discretion to the EPA to determine which potentially dangerous substances will be subject to federal regulation and at what levels.

The EPA national primary drinking water regulations are expressed as either a concentration limit, called a maximum contaminant level (MCL), or as a treatment technique. An MCL represents a threshold which cannot be exceeded in drinking water

¹⁷ Knotts, Jamie, op. cit.

¹⁸ 42 U.S.C. section 300-g-1(b)(1)(E).

¹⁹ See “How EPA Regulates Drinking Water Contaminants” at: <https://www.epa.gov/dwregdev/how-epa-regulates-drinking-water-contaminants>.

provided by public drinking water systems. In instances where a public water system detects a contaminant in a concentration exceeding an MCL, action must be taken to reduce the concentration to a level below the MCL.

Treatment techniques are typically used when there is no reliable method to detect contaminants at concentrations below those at which evidence indicates that health hazards may occur.²⁰ They are enforceable procedures that must be used, or levels of technological performance that public water systems must achieve.²¹ The EPA currently lists 88 primary regulations, some of which address a single contaminant while others address two or more. Of the primary regulations, 78 are expressed as MCLs and 10 are in the form of treatment techniques. The EPA classifies contaminants in six categories: disinfectant, disinfection byproduct, inorganic chemical, organic chemical, microorganism and radionuclides.

Health Risk Assessment

In addition to primary and secondary regulations, the EPA publishes health advisories, which serve as recommendations for operators of public drinking water systems, and guide the EPA's own internal review of potential contaminants for regulation.

The agency also develops health reference levels (HRLs) for concentrations of certain substances on a candidate contaminant list, which it uses in the evaluation process. HRLs are not final determinations on the appropriate concentration of contaminants. Rather, they reflect assessments of risk from a given level of exposure and are used, along with data on frequency of occurrence, to evaluate the level of public health concern and the potential need for regulation.²²

Unregulated Contaminant Monitoring

Every five years, as part of its ongoing contaminant review process, the Act requires the EPA to publish a list of no more than 30 unregulated contaminants for monitoring. The third Unregulated Contaminant Monitoring Rule (UCMR 3) was adopted in May 2012.²³ Under this rule, the EPA directed certain public water supply systems to monitor for 28 chemical contaminants (including PFOA and PFOS), and two viruses.

For each contaminant on the UCMR, the EPA lists a minimum reporting level (MRL) represented as a concentration at which a contaminant may be detected by current analytical methods (for example, the MRL for PFOA is 20 ppt). In addition, the EPA lists a reference concentration for some of the contaminants included in the UCMR 3. The Agency describes the reference concentration as one at which current information

²⁰ Ibid.

²¹ Ibid.

²² *Regulatory Determination 3 Support Document*, EPA 815-R-15-014, Office of Water, U.S. Environmental Protection Agency, December 2015.

²³ The Fourth UCMR was published in the Federal Register on December 20, 2016 and became effective on January 19, 2017.

indicates health effects may result; it does not require any action by water system operators.²⁴

Based on information from water systems, the EPA publishes monitoring results for contaminants in the National Contaminant Occurrence Database.²⁵ Operators of public drinking water systems are also required to report to customers contaminants identified in the course of monitoring activities. In New York State between 2013 and 2015, 192 public water systems collected 47,760 samples.²⁶ An Office of the State Comptroller review of the National Contaminant Occurrence Database showed that 171, or nearly 90 percent, of the State's public water systems that collected samples detected contaminants in concentrations equaling or exceeding the MRL in in at least one sample. MRLs were exceeded in over 20 percent (10,257) of the samples collected. In 472 of these samples, originating from 74 public water systems in the State, contaminant concentrations met or exceeded the reference concentration.²⁷ Systems in all regions of the State detected contaminants.

EPA Regulatory Determinations to Date

Over the 20 years since the reauthorization of the SDWA, the EPA has not added any new contaminants to its list of regulated contaminants. During that period, 26 contaminants or groups of contaminants have been considered for regulation. The EPA has made a final determination to regulate one of these contaminants but has not yet issued an accompanying MCL, and has proposed one other contaminant for regulation but not yet made a final determination.

In numerous instances, the EPA has chosen not to establish standards for contaminants with demonstrably negative health effects, stating that these contaminants are not found to occur in a significant number of public water systems.²⁸

²⁴ *The Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary, April 2016*, Office of Water, U.S. Environmental Protection Agency. See: <https://www.epa.gov/sites/production/files/2016-05/documents/ucmr3-data-summary-april-2016.pdf>.

²⁵ Occurrence Data for the Unregulated Contaminant Monitoring Rule 3, U.S. Environmental Protection Agency, is available here: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#3>.

²⁶ A February 2017 report by the Office of the New York State Comptroller, *Drinking Water Systems in New York: The Challenges of Aging Infrastructure*, identifies a total of 939 public drinking water systems in New York State. For additional information see: <https://www.osc.state.ny.us/localgov/pubs/research/drinkingwatersystems.pdf>.

²⁷ When the reference concentration was expressed as a range of concentrations, the lowest concentration in the range was used to evaluate reported samples.

²⁸ Rideout, Christine L. "Where Are All the Citizen Suits?: The Failure of Safe Drinking Water Enforcement in the United States." *Health Matrix: The Journal of Law-Medicine*. Volume 21, Issue 2. 2012.

A 2011 U.S. Governmental Accountability Office report criticized the EPA's performance in addressing unregulated contaminants:

Since the enactment of the 1996 amendments to the Safe Drinking Water Act, EPA has made limited progress in prioritizing drinking water contaminants on the basis of greatest public health concern, and the lack of data on the public's exposure to potentially harmful drinking water contaminants and their health effects continues to limit EPA's ability to make regulatory determinations. In addition, during the nearly 15 years since the 1996 amendments were passed, EPA has not developed policies or guidance providing its interpretation of, or guiding personnel in how to implement, the broad statutory criteria for selecting contaminants and making regulatory determinations on them. Moreover, the credibility of some of EPA's regulatory determinations is reduced because of a lack of transparency, clarity, and consistency in the regulatory determination notices and primary support documents.²⁹

The EPA has been reluctant to address contamination issues that are peculiar to a specific region or state. In addition, the EPA moves slowly in developing enforceable standards for drinking water contaminants. Given this, New York may need to develop its own standards to ensure that exposures to contaminants in drinking water are eliminated as quickly as possible.

²⁹ *Safe Drinking Water Act: EPA Should Improve Implementation of Requirements on Whether to Regulate Additional Contaminants*. GAO-11-254. United States Governmental Accounting Office. 2011. Page 17.

IV. New York State's Regulation of Drinking Water Contaminants

As noted earlier, the SDWA gives states the authority to promulgate enforceable standards for drinking water contaminants that are no less stringent than EPA standards, and the EPA has encouraged states to consider doing so in certain cases where it has not adopted national standards. Authority for implementing the Act in New York State has been delegated to the DOH.

For many of the EPA's primary drinking water regulations, the DOH has adopted standards identical to those adopted by the EPA. In certain other instances, DOH has imposed stricter requirements than the EPA's, or established regulations where federal rules do not exist. However, there are instances in which binding standards set by the DOH are not as protective as EPA guidance in health advisory levels, or reference concentrations. A comparison of the EPA and DOH approaches to regulating certain organic chemical contaminants demonstrates the potential variability between EPA primary regulations and guidance, and DOH regulations.

As noted in Figure 1, State MCLS are as or more stringent than their federal counterparts. However, for contaminants such as PFOA and 1,4-dioxane, the State MCLS are orders of magnitude less protective than EPA's non-binding guidance (health advisories or reference concentrations).

As noted above, the EPA encourages states to use the health advisory concentrations as guidance in their efforts to prevent hazardous exposures to drinking water contaminants. However, in the case of Hoosick Falls, it appears that the DOH did not follow the EPA advisory for PFOA. Press accounts of the Hoosick Falls PFOA contamination issue include quotes from DOH officials saying they believed the EPA health advisories were too stringent.³⁰

In New York State, PFOA is currently regulated as an unspecified organic contaminant under a generic MCL of 50,000 parts per trillion (ppt) – as opposed to the initial EPA health advisory of 400 parts ppt. The EPA health advisory was later lowered to 70 ppt. The Hoosick Falls experience is an example of where the DOH's mandatory MCL did not protect consumers as much as EPA's advisory standard would have.

³⁰ See *New Documents Show Cuomo Administration Resistance to EPA Warnings on Hoosick Falls*. Politico. June 2, 2016. Scott Waldman.

Figure 1

Regulatory Approaches to Organic Chemical Contaminants in Drinking Water
Selected New York State MCLs, Federal MCLs and
Federal Health Advisories or Reference Concentrations
(Parts per trillion, or ppt)

Contaminant ³¹	State MCL	Federal MCL	EPA Health Advisory or Reference Concentration ³²
MTBE	10,000 ppt	NA	20,000-40,000 ppt
Benzene	5,000 ppt	5,000 ppt	3,000 ppt
1,4-Dioxane	50,000 ppt	NA	350 ppt
PFOA	50,000 ppt	NA	70 ppt
2,4-D	50,000 ppt	70,000 ppt	NA
2,4,5-TP (Silvex)	10,000 ppt	50,000 ppt	50,000 ppt

Source: Department of Health, EPA

Note: In interpreting concentrations expressed in ppt, a lower number represents a lesser amount of the contaminant in drinking water.

New Initiatives to Promote Safe Drinking Water

New York's State Fiscal Year 2017-18 Enacted Budget includes several measures to promote clean drinking water.

New provisions in the State's Public Health Law require DOH to create a new regulatory program in relation to emerging contaminants. The department is directed to develop a list of such contaminants for which most public water systems in the State will be required to test at least every three years. The list must include at least three substances – PFOA, PFOS and 1,4-dioxane. In identifying other contaminants to list, DOH must consider unregulated contaminants monitored pursuant to SDWA, and certain other factors including recommendations from a new Drinking Water Quality Council. The new statutory provisions also require DOH to establish notification levels for the contaminants it decides to include on the list. When any emerging contaminant is confirmed present in drinking water at or above such a notification level, public water systems will be required to notify DOH and local property owners.

The newly enacted provisions empower DOH to require that water systems “take such actions as may be appropriate to reduce exposure to emerging contaminants,” including

³¹ State MCLs are drawn from New York Codes, Rules and Regulations, Title 10, Part 5, Subpart 5-1 Public Water Systems Tables, Table 3. Organic Chemicals. Federal MCLs are drawn from the 2012 Edition of the Drinking Water Standards and Health Advisories. U.S. EPA, EPA 822-S-12-001, April 2012.

³² Unless otherwise noted the concentrations in this column are drawn from the 2012 Edition of the Drinking Water Standards and Health Advisories. U.S. EPA, EPA 822-S-12-001, April 2012. The concentrations listed in this column are either those established by the EPA for no expected life-time risks of non-cancer health impacts, the one-in-ten-thousand excess cancer risk, or if available, the one-in-one-million excess cancer risk, whichever is lower. The listing for 1,4-dioxane is a reference concentration drawn from the *The Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary, April 2016*. U.S. EPA. The concentration listed for PFOA is drawn from the *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA)*. U.S. Environmental Protection Agency. EPA 822-R-16-005. May 2016.

the use of a new remedial program—also enacted in the budget—addressing certain solid waste and other sites that contribute to drinking water contamination. The new provisions allow, but do not require, DOH to establish new, enforceable limits on concentrations of water contaminants.

Other measures in the Enacted Budget include a new capital projects appropriation of \$2.5 billion for clean water infrastructure projects. Appropriation language allocates funding to project categories that may help mitigate drinking water contamination including: up to \$130 million for the remediation of contaminated sites; at least \$20 million for the replacement of lead drinking water service lines; and up to \$10 million for information technology systems related to water quality.

At the federal level, a bill proposed by Senator Gillibrand (S.519) would require the EPA to develop MCLs for perfluorinated compounds, including PFOA and PFOS, as well as for 1,4-dioxane and perchlorate.

V. Public Water System Reports on Water Quality

State and federal law and regulations require operators of public water systems to issue annual public reports to consumers identifying the contaminants present in drinking water, the concentrations of contaminants, relevant MCLs and a description of the health concerns that led to the regulation or monitoring of the contaminant.³³ The Office of the State Comptroller reviewed a sample of water quality reports by New York State public water systems that discovered contaminants in the course of sampling required by UCMR3. All of the reports reviewed provided this information to such systems' customers.³⁴

The EPA provides certain information regarding potential health effects from water contaminants in the form of reference concentrations. Such information could be useful to consumers if included in the water quality reports they receive.³⁵ For example, the EPA provides reference concentrations for cancer risks of one-in-one million and one-in-ten thousand associated with the contaminant 1,4-dioxane, yet certain public water systems that detected this contaminant at these concentrations did not provide this information on potential health effects to their customers.

³³ See New York Codes, Rules and Regulations Part 5. Subpart 5-1.78 Public Notifications. See also Title XIV of the Public Health Service Act ("Safe Drinking Water Act") Section 1414 (c) (4) (A). Annual Reports to Consumers.

³⁴ The Office of the State Comptroller reviewed 25 municipal drinking water quality reports included in the EPA's National Drinking Water Occurrence Database.

³⁵ *The Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary, April 2016*, Office of Water, U.S. Environmental Protection Agency. See: <https://www.epa.gov/sites/production/files/2016-05/documents/ucmr3-data-summary-april-2016.pdf>.

VI. Potential Actions to Protect Water Users

In recent decades federal and State actions have begun to address the threat of public water supply contamination by creating new requirements for identifying potential contaminants, testing water supplies, and reporting test results. Still, communities across New York continue to face the risk of unsafe levels of water contaminants, especially in areas where land use has involved industrial or agricultural purposes.³⁶

Public disputes between State officials and the EPA regarding the Hoosick Falls contamination issue in 2015 and 2016 have highlighted the need for more effective coordination of State and federal regulatory initiatives. Federal and State agencies must work together to meet the difficult challenge of reducing risks from exposure to water contaminants. For example, federal and State officials should work cooperatively to maintain up-to-date information on the condition of local water systems; provide technical assistance to local water systems, especially smaller entities; and collaborate on reaching scientific consensus on specific contaminants.

It is important for federal and State agencies to focus on early detection and prevention of contamination problems wherever possible. Programs established in the SFY 2017-18 Enacted Budget are intended to enhance the State's ability to do so. Targeted, more frequent monitoring may detect contamination problems in the early stages, before water sources become pervasively contaminated or water customers suffer harmful exposures. Such monitoring could also result in detection of previously unknown instances of contamination and, in these cases, allow more immediate action to eliminate exposures.

Federal Actions

The new Administration in Washington has proposed cutting the EPA's budget by nearly one-third, including cuts to programs that play a crucial role in the implementation of the SDWA. Overall, in recent decades, EPA's regulatory efforts related to safe drinking water have moved slowly. While it appears that budgetary reductions could significantly hamper the EPA's efforts to assure safe drinking water, recent events in New York and other states indicate that greater effort in this area is needed.³⁷

Instead of curtailing its efforts, the EPA should move more quickly and decisively to develop regulations for contaminants identified as meeting statutory thresholds for regulation. The EPA should also consider whether its application of these thresholds has

³⁶ *New York State's Water Quality Rapid Response Team Continues Actions to Address Water Contamination Statewide*. New York State Department of Health Press Release, January 31, 2017, https://www.health.ny.gov/press/releases/2017/2017-01-31_actions_to_address_water_contamination.htm.

³⁷ President Trump budget proposal, *Budget of the U.S. Government, A New Foundation for American Greatness*, Fiscal Year 2018, U.S. Office of Management and Budget. Although this document proposes a marginal increase for state drinking water revolving funds, there are significant cuts to enforcement, research, hazardous waste cleanup and regional water quality initiatives which could hamper efforts to protect clean drinking water and introduce further delays in EPA's regulation of drinking water contaminants.

been too restrictive and whether prior decisions not to regulate certain contaminants should be reconsidered. The EPA should also consider requiring additional public water systems to conduct sampling under the next UCMR.

State and Local Actions

While federal law and regulations create the overall framework for efforts to guard against harmful water contaminants, New York and other states have broad discretion to set higher standards, along with wide-ranging responsibility for implementing regulatory and other protections. Policy makers and key regulatory agencies, particularly DOH and DEC, along with operators of public water systems, should consider additional steps in several areas.

Keeping the public informed is essential. The notification requirements for emerging contaminants included in the SFY 2017-18 Enacted Budget represent a positive step in this regard. The DOH and the operators of public water systems should also take action to inform customers of potential health effects associated with certain contaminant concentrations identified in the UCMR, or in State-directed sampling. At a minimum, this information should be provided for contaminants that are found in concentrations at or above EPA reference concentrations, health advisories, MCLs, or other relevant standards or guidance.

With respect to regulatory standards, the EPA has explicitly concluded that it may decide not to establish national limits for substances that pose human health risks, if such risks are present only in limited areas. The agency encourages states to consider taking action in such cases. Given this context, New York policy makers should consider establishing standards for contaminants that are unregulated at the federal level that occur in public water systems in the State. In setting these standards the State should consider whether explicit adoption of a more precautionary approach to regulating contaminants is appropriate.

State policy makers should consider whether binding standards in New York should consistently be at least as restrictive as those set out in the EPA's reference concentrations or health advisories. The standard setting process should be transparent and subject to public review and comment at every stage, including decisions about the scientific evidence that will be considered and how this evidence will be evaluated and translated into standards.

In addition, the DOH and local agencies should, subject to public review and comment, develop and publish a plan for responding swiftly and effectively to instances of drinking water contamination. To guide local agencies, the DOH should consider publishing a list of effective measures to prevent hazardous exposures and action levels at which these measures are to be taken and by whom. Clearly and transparently identifying measures and triggering thresholds up front could prevent confusion and delays in addressing water contamination problems.

The State should also consider creating a health monitoring program that would track the health of people exposed to contaminants in drinking water. Such a program should identify appropriate health monitoring activities, including biomonitoring, and threshold criteria to trigger health monitoring in an exposed community.

The State's new emerging contaminant monitoring program requires DOH to consider certain factors in identifying such contaminants. In addition to statutorily required factors, the DOH should also review Toxic Release Inventory records, historic land use and hazardous waste generation records to identify contaminants that may have been released into the environment. By considering these factors, DOH and DEC may be able to identify contaminants likely to be present in particular areas of the state and provide crucial information to guide expenditure of State resources and potential regulatory actions.

To provide a comprehensive overview of drinking water quality in New York State, in addition to the geographic information system required in the Clean Water Infrastructure Act of 2017, the DOH should consider periodic reporting that includes the results of contaminant sampling conducted in public water systems across the State, trends in such findings and a discussion of the implications of this data for public health.

Preventing contamination of drinking water must be a top priority. For example, remediating sources of groundwater and surface water contamination can mitigate contamination before it enters the source waters of public water systems, preventing hazardous exposures and obviating the need for expensive health monitoring. In addition, the State should work to identify less toxic alternatives for chemicals and other substances in common commercial use that have the potential to create public health problems should they enter the source waters of our public water systems.

VII. Conclusion

More than 40 years after the law's enactment by Congress, the goals of the federal-state regulatory framework created by the Safe Drinking Water Act remain essential. The SDWA assigns key oversight roles to the federal and state governments, as well as certain responsibilities to the operators of public water systems. A review of that regulatory framework points to further steps that policy makers at all levels of government could take to benefit water users throughout New York State.

As recent events have emphasized, in New York State and elsewhere, that framework also requires continued scrutiny to accomplish its purposes fully. Contamination of water supplies in Hoosick Falls and Newburgh in recent years has resulted in additional State oversight and funding to begin to restore clean water for those communities, as well as newly enacted, more comprehensive Statewide programs.

At the federal level, potential funding and staffing cuts for the EPA may portend a reduced commitment to keeping public water systems safe and free of harmful contaminants, thus creating the potential of higher risks for those systems' consumers. Federal budgetary and regulatory actions, this year and going forward, should protect and preserve our water supplies, rather than create new vulnerabilities for these critical resources.

Customers of public water systems pay a portion of the cost of these systems through fees and taxes in the expectation that their water will not damage their health. The SDWA is intended to safeguard public health by ensuring timely discovery of and appropriate action to address contaminants in public drinking water supplies. It is incumbent on the governmental entities charged with assuring safe drinking water to live up to this expectation. Examining potential enhancements to the EPA's and New York State's implementation of the SDWA can help ensure that all New Yorkers enjoy clean, safe drinking water.

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