

TOWN OF GREAT BARRINGTON



BOARD OF HEALTH

ORDER TO CORRECT

M.G.L. c. 111, §§ 122, 123

EFFECTIVE IMMEDIATELY

August 22, 2024

Name of Business/Landowner/Individual:
(Hereafter referred to as "Respondent")

Housatonic Water Works Company

Address of Business/Landowner/Individual:

80 Maple Avenue
Great Barrington, MA 01230

The Great Barrington Board of Health, (hereafter referred to as the "Board") acting under the authority of G. L. c. 111, §§ 122, 123, hereby issues this **ORDER TO CORRECT ("ORDER")**, to the Respondent identified above, for the reasons stated herein.

WHEREAS, Respondent, Housatonic Water Works Company, is a privately owned public water supplier serving, *inter alia*, certain residents of the Town of Great Barrington.

WHEREAS, In Massachusetts, public water suppliers have specific duties and responsibilities to their customers, governed by state laws and regulations, to ensure the safety, reliability, and quality of water services. The Respondent has the following duties, without limitation:

1. *Water Quality and Safety:* Public water suppliers must comply with the Massachusetts Drinking Water Regulations (310 CMR 22.00) and the Safe Drinking Water Act. The Respondent is required to regularly test its water supply for contaminants, including bacteria, chemicals, and other harmful substances, and must ensure that the water it supplies meets or exceeds the health-based standards set by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP).

2. *Public Notification and Reporting:* The Respondent is required to notify customers about any violations of drinking water standards, significant changes in water quality, or issues that may pose a health risk. Included within this requirement, the Respondent

must provide annual Consumer Confidence Reports (CCRs) that inform customers about the quality of their drinking water, including information on detected contaminants and compliance with drinking water regulations.

3. *Emergency Response and Preparedness*: The Respondent is required to have emergency response plans in place to address situations such as natural disasters, contamination events, or other emergencies that could affect water quality or supply.

4. *Infrastructure Maintenance and Improvements*: The Respondent is responsible for maintaining and upgrading the water supply infrastructure, including treatment facilities, storage tanks, and distribution systems, to ensure the continued delivery of safe and reliable water.

5. *Customer Service and Communication*: The Respondent is required to provide adequate customer service, including responding to customer inquiries, handling complaints, and providing information about water service, rates, and quality. This obligation also includes the requirement to communicate clearly to customers about service interruptions, boil water advisories, and other important water service notices.

6. *Regulatory Compliance*: The Respondent is required to adhere to all applicable state and federal regulations, including environmental laws and public health standards.

These duties are intended to protect public health and ensure that the public water supplier's customers have access to safe, reliable, and high-quality drinking water.

WHEREAS, MassDEP oversees and enforces compliance with these requirements.

WHEREAS, it is within the purview and authority of the Board of Health to act in the interest of protecting the citizens of the Town by making reasonable health regulations and enforcing the Nuisance Statute, G.L. c. 111, § 122; and the protection of public health is within the police power of a municipality to protect the health, safety and welfare of its residents. (Druzik et al. v. Board of Health of Haverhill, 324 Mass. 129 (1949))

WHEREAS, the Board has based this **ORDER** on the consideration of a sound body of scientific evidence including reliable scientific studies, papers and anecdotal reports as set forth in "Attachment A, Scientific Literature and sources that were reviewed in support of Order to Correct in the Housatonic Water Works matter."

WHEREAS, there are a number of residents of the Town of Great Barrington who are water supply customers of the Respondent and whose water supply is potentially contaminated, discolored, contains as-of-yet insufficiently defined amounts of potentially neurotoxic manganese, potentially carcinogenic levels of haloacetic acids (commonly referred to as HAA5), causing them to have a lack of potable water at various times, such conditions thereby subjecting residents of an Environmental Justice neighborhood (as designated by the Massachusetts Executive Office of Environmental Affairs) to a risk of long term and potentially fatal illnesses including cancer, manganism, and other diseases.

WHEREAS, haloacetic acids (HAA5) are a group of chemical compounds that can form as byproducts when disinfectants, such as chlorine, are used to treat drinking water. The group includes five specific acids: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid,

monobromoacetic acid, and dibromoacetic acid. These compounds have been determined to be present in the water supplied by the Respondent in as-of-yet insufficiently identified quantities.

WHEREAS, the Board of Health finds that well documented health risks of HAA5 exposure include the following:

1. **Cancer Risk:** Long-term exposure to high levels of HAA5 has been associated with an increased risk of cancer. Specifically, some of the haloacetic acids, like dichloroacetic acid and trichloroacetic acid, have been linked to an increased risk of liver cancer and other cancers in animal studies.
2. **Reproductive and Developmental Effects:** Studies suggest that exposure to HAA5 may affect reproductive and developmental health. For example, certain haloacetic acids have been associated with potential reproductive toxicity and developmental effects, such as birth defects.
3. **Liver and Kidney Damage:** Prolonged exposure to elevated levels of HAA5 may cause liver and kidney damage. Some haloacetic acids are known to cause liver enlargement and other liver issues in animal studies.
4. **Other Health Effects:** There may also be other non-cancer health effects associated with long-term exposure to HAA5, including potential effects on the nervous system and other organs.

WHEREAS, to mitigate these risks, the EPA has established a Maximum Contaminant Level (MCL) for HAA5 in drinking water. The MCL for HAA5 is set at 0.060 milligrams per liter (mg/L) or 60 parts per billion (ppb). Public water systems are required to regularly monitor HAA5 levels and take corrective actions if the MCL is exceeded, in order to protect public health. (Refer to 310 CMR 22.00)

WHEREAS, manganese is a naturally occurring element found in many water sources. While it is an essential nutrient at low levels, necessary for proper bodily functions, elevated levels of manganese in drinking water can pose health risks. The risks associated with manganese in drinking water include:

1. **Neurological Effects:** There are scientifically well documented differences in health risk among adult and pediatric populations.
 - a. *Adults:* Long-term exposure to high levels of manganese can affect the nervous system. In particular, it can lead to symptoms similar to Parkinson's disease, such as tremors, difficulty walking, and facial muscle stiffness. This condition is sometimes referred to as manganism.
 - b. *Infants and Children:* Young children, including infants, are more susceptible to the effects of manganese. Elevated levels can impact neurological development, potentially leading to learning and behavioral issues.
2. **Cognitive and Behavioral Effects:** Studies suggest that high manganese exposure may be associated with lower IQ scores and impaired memory and attention in children. The developing brain is particularly vulnerable, making early childhood exposure a significant concern.

3. Other Health Effects: While the primary concern is neurological, excessive manganese intake may also affect other bodily systems. For example, it could potentially lead to liver and kidney issues, although this is less well-documented compared to neurological effects.

4. Other Issues: High levels of manganese can cause discoloration of water, turning it a brownish color, and can stain laundry and plumbing fixtures. This can cause a nuisance and cause concern among consumers.

WHEREAS, to mitigate the risks from exposure to manganese in drinking water, the EPA has set a secondary maximum contaminant level (SMCL) for manganese at 0.05 milligrams per liter (mg/L) or 50 parts per billion (ppb) to manage aesthetic issues such as taste, color, and staining. However, the EPA also suggests that levels should not exceed 0.3 mg/L for short-term exposure (up to 10 days) and recommends even lower levels for long-term exposure, especially for infants.

The EPA has set a lifetime health advisory level for manganese in drinking water at 0.3 mg/L for adults and a more protective level of 0.05 mg/L for children younger than six months.

WHEREAS, while low levels of manganese are essential for health, elevated concentrations in drinking water can pose significant risks, particularly to vulnerable populations such as infants and young children. Regular monitoring and treatment can help manage and reduce these risks.

WHEREAS, the medical term, “Weathering,” refers to the cumulative impact of chronic stress, particularly from forms of social disadvantage, on the physical and mental health of individuals over time. According to the medical and scientific literature, this condition is the result of repeated exposure to stressors, particularly those related to systemic inequalities, accelerates the aging process and leads to premature decline in physical health. This can manifest in a variety of ways, including increased risk and incidence of chronic diseases like hypertension, diabetes, and heart disease, as well as poorer birth outcomes for women, such as higher rates of infant mortality and low birth weight. Those so affected may experience accelerated aging and earlier onset of chronic health conditions compared to unaffected persons, largely due to the chronic stress associated with the challenges presented by the triggering mechanism, such as chronic exposure to hazardous substances, such as drinking water that is perceived as unfit for consumption in a household. These conditions, illnesses and social situations are all part of a public health crisis within the purview of the Board and subject to the nuisance jurisdiction of Massachusetts Boards of Health.

WHEREAS Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts provides the people with a right to clean water.

WHEREAS, G.L. c. 111, § 122 provides, in relevant part: “The board of health shall examine into all nuisances, sources of filth and causes of sickness within its town, ... which may, in its opinion, be injurious to the public health, shall destroy, remove or prevent the same as the case may require, and shall make regulations for the public health and safety relative thereto and to articles capable of containing or conveying infection or contagion or of creating sickness

brought into or conveyed from the town Whoever violates any such regulation shall forfeit not more than one thousand dollars.”

WHEREAS, it is the determination and opinion of the Board of Health of the Town of Great Barrington (Board) that the Respondent has failed to protect the public health of its customers and others exposed to its public water supply through reasonable means, thereby creating a public health nuisance.

WHEREAS, at its meeting held on August 8, 2024, after a discussion and deliberation were conducted in an open meeting, at which the Board heard testimony of 18 members of the public, and considered certain technical advice and input from a consultant duly licensed by the Commonwealth as a Drinking Water Supply Facilities Operator, and upon consideration of the various scientific, regulatory, and anecdotal evidence and information available to it, together with its past and current experience with test results and other reports, the Board voted its determination and opinion that Respondent is perpetuating a public health nuisance by operating a public water supply system in a manner that presents a present and future risk to the public health of the residents of Great Barrington, and is in contravention of Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts, which specifically gives the people of the Commonwealth “[t]he right to clean ... water ... and the protection of the people in their right to conservation, ... of the ... water... and other natural resources.”

WHEREAS, at its meeting held on August 15, 2024, a continuation of the discussion and deliberation begun at the Board’s meeting of August 8, 2024 was conducted in an open meeting, at which time the Board received counsel from Town Counsel, received input from the Director of Strategies for the Massachusetts Association of Health Boards, received input from counsel for Respondent, and then heard a statement from an officer of the Respondent, James J. Mercer, Treasurer and Director. At the same meeting, the Board received 10 testimonial statements from 8 members of the public, and considered certain technical advice. Upon consideration of the various scientific, regulatory, and anecdotal evidence and information available to it, together with its past and current experience with test results and other reports, the Board set the date of August 22, 2024, for a vote upon a determination and opinion that Respondent is perpetuating a public health nuisance by operating a public water supply system in a manner that presents a present and future risk to the public health of the residents of Great Barrington, and is in contravention of Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts, which specifically gives the people of the Commonwealth “[t]he right to clean ... water ... and the protection of the people in their right to conservation, ... of the ... water... and other natural resources.”

WHEREAS, at its meeting held on August 22, 2024, the Board voted to adopt this **ORDER**, which reflects revisions from the draft orders reviewed at the August 8 and August 15 meetings.

WHEREAS, it is the determination and opinion of the Board that selective testing of the water supplied and distributed by Respondent, in intervals and locations selected by Respondent or its agents, at which locations representatives of the Respondent, including senior management and/or owners, are present may produce subjective, and scientifically unreliable data as to the

quality, potential health risks and aesthetics of the water supplied and distributed by Respondent, and that such testing is, thereby, unreliable and/or inappropriate.

WHEREAS, it is the determination and opinion of the Board that the continued distribution of public water supply by Respondent, without adequate, independent, third-party monitoring for contaminants, toxic substances, compounds, and/or solvents, constitutes a nuisance under and within the scope of G.L. c. 111, §§ 122 and 123, which may be injurious to the health of the customers of Respondent and other users of water supplied by Respondent.

WHEREAS, in addition, it is the determination and opinion of the Board that the distribution of contaminated water by a Public Water Supplier, such as Respondent, may constitute a violation of the Federal Safe Drinking Water Act, 42 U.S.C. c.6A; various federal regulations including, without limitation, 42 C.F.R. Part 141 (National Primary Drinking Water Regulations); and the *Standards and Guidelines for Contaminants in Massachusetts Drinking Waters* (Winter 2020, <https://www.mass.gov/doc/2020-standards-and-guidelines-for-contaminants-in-massachusetts-drinking-waters/download>), as well as other applicable statutory and regulatory provisions.

NOW, THEREFORE,

Pursuant to G.L. c. 111, §§122, 123, Respondent is hereby **ORDERED TO CEASE AND DESIST** from violating the above-described Constitutional protections, laws and regulations, and from creating and/or furthering a public health nuisance.

And, Respondent is hereby **ORDERED** to appear before the Board at its next regular meeting, September 5, 2024, or at an earlier date, upon reasonable notice thereof, if such a special meeting is convened, in order to establish a timetable for retaining a water systems operating consultant and an independent testing laboratory (Laboratory) of the Board's choosing, and which is certified by the Mass DEP, to begin a program of testing of the water supplied by Respondent, the frequency, duration and extent of which is to be determined by the Board upon the advice of said Laboratory and consultant, to be carried out at the expense of the Respondent for a period of time to be determined by said Laboratory and consultant or until such time as the Board has determined that the water supplied by Respondent either does or does not constitute a continuing risk to the public health of the customers of Respondent in Great Barrington.

It is **FURTHER ORDERED** that, after the initial testing, based upon sound reasoning and the results of the initial baseline testing, such tests shall be conducted at intervals and locations determined by the consultant or an agent of the Board, with not more than ten days from and after the preceding test. In the event that a test sample is taken at a residence or business, there shall be a corresponding test taken at the source of that supply, to be delivered to the testing laboratory simultaneously. In the event of any deviation from the schedule established hereunder in the absence of a declared weather-related emergency or by permission of an agent of the Board, Respondent shall be subject to a penalty of up to One Thousand Dollars (\$1,000.00) per calendar day until such subsequent test is conducted.

1. It is **FURTHER ORDERED** that no employee or agent of Respondent may impede or otherwise interfere with the collection or analysis of any testing sample taken on the property owned or controlled by Respondent.
2. It is **FURTHER ORDERED** that said samples may be collected in accordance with generally accepted laboratory practices by an agent of the Board and transported to the Laboratory's testing facility by that or another agent of the Board. The agent(s) of the Board shall maintain "chain of custody" documentation.
3. It is **FURTHER ORDERED** that the Respondent provide each household within the Town of Great Barrington that is a water service customer of the Respondent, and which so desires, with an alternative supply of safe, potable water, through the distribution and supply of bottled water in containers which are larger than "single use containers" yet of such size as can be safely handled by the end user taking physical condition and ability of said end user into account, on a daily basis, and an adequate means of dispensing said water, within 7 days of this **ORDER** and at the expense of the Respondent, until further order of the Board. Such distribution shall consist of a supply of water equal to or greater than 1.5 gallons per day, per inhabitant in each such household. The distribution shall be accomplished in such a way as to allow easy access to the supply by each such household with a minimum of inconvenience.
 - a. In the event of a violation of this condition, the Respondent shall be subject to a penalty of up to \$1000.00 per day. The Board deems a violation as to any one household on any day to be a separate violation, subject to a separate penalty for each such household.
4. It is **FURTHER ORDERED** that Respondent shall designate and provide a means of 24 hours per day, seven days per week, communication, for the Board's Health Agent or other duly appointed and designated agent of the Board, as well as the Laboratory, to contact a duly authorized agent or employee of said Respondent in the event of any emergency or violation of the terms of this **ORDER**.
5. It is **FURTHER ORDERED** that Respondent, its designated agent, employee or attorney, shall attend any meeting of or with the Board upon reasonable notice from the Health Agent or the Board requesting such attendance.
6. It is **FURTHER ORDERED** that Respondent shall submit a work plan with date milestones for compliance with all of the terms of this within 14 days of the date of this **ORDER**.
7. It is **FURTHER ORDERED** that Respondent shall document, on a daily basis, all work performed for purposes of compliance with this **ORDER**, and supply that documentation to the Board every 7 days. If such report date falls on a weekend or holiday, it is to be rendered the following business day.

8. It is **FURTHER ORDERED** that Respondent shall appear before the Board at each of its regular meetings, notice of which shall be provided, to report on the progress and the expected date of completion of the actions taken for purposes of compliance with this **ORDER**.
9. It is **FURTHER ORDERED** that Respondent shall provide the Board with written notice of any circumstances or conditions of which Respondent becomes aware and which may impair Respondent's ability to comply with this **ORDER**, so the Board may take reasonable and appropriate action in response.
10. It is **FURTHER ORDERED** that, except as otherwise provided herein, Respondent shall be subject to a penalty of up to One Thousand Dollars (\$1,000.00) per calendar day for any violation of this **ORDER**.
11. It is **FURTHER ORDERED** that service of this **ORDER** on the Respondent will be completed within 24 hours of the said vote of the Board of Health on August 22, and all dates and deadlines for performance of conditions in this **ORDER** will be effective upon service.

ENFORCEMENT:

The Board or its Health Agent may be assisted by the Massachusetts Department of Public Health and the Department of Environmental Protection for matters that fall within the statutory purview of those departments, together with local Police or State Police in the enforcement of this **ORDER**.

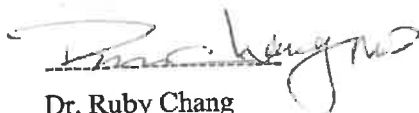
APPEAL:

If you are aggrieved by this **ORDER**, you have the right to request a hearing before the Board. This request must be made by you, in writing, and filed within seven (7) days after the date this **ORDER** was served on, or actually received by, you. Any affected party has a right to appear at said hearing.

SO ORDERED, by the Board of Health, this 22nd day of August, 2024.



Michael Lanoue,
Chair



Dr. Ruby Chang



Peter Stanton,
Vice Chair

Attachment A

Scientific Literature and sources that were reviewed in support of
Order to Correct in the Housatonic Water Works matter.

MANGANESE Primary Sources:

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