BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)
	)
City of Haverhill, Massachusetts	)
	)
Permit No. MA0101621	)
	)

PETITION FOR REVIEW OF
CITY OF HAVERHILL, MASSACHUSETTS'
NPDES PERMIT ISSUED BY REGION 1

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I. INTRODUCTION

The City of Haverhill, Massachusetts ("Haverhill"), operates a wastewater treatment facility (the "facility") that discharges effluent into the Merrimack River. The 117-mile long Merrimack River is the fourth largest river basin in New England and discharges into the Gulf of Maine.

Region 1 of the Environmental Protection Agency (the "Region") and the Massachusetts Department of Environmental Protection ("MassDEP") issued a final National Pollutant Discharge Elimination System ("NPDES") permit to Haverhill on September 25, 2019. The final permit is attached as **Attachment 1.** The final permit, in relevant part, includes a discharge limit for residual chlorine and limits simulated holding time when assessing chlorine contact time in its discharge pipe to no more than 45 minutes. Haverhill submits this petition for review because the Region committed clear error in setting these permit conditions.

First, the Region relied on incorrect, unreliable, and arbitrary data as inputs to the mathematical equation in setting the residual chlorine limit and made fundamental errors in calculating the low flow conditions (known as "7Q10" flow) and dilution factor underlying the limit.

Second, the 45-minute maximum simulated chlorine contact holding time is clear error because the Region provides no rationale for this limit and it is inconsistent with actual plant conditions, resulting in inaccurate samples that overestimate pollutants in its discharge.

II. PERMIT CONDITIONS FOR REVIEW

Pursuant to 40 C.F.R. § 124.19(a), Haverhill petitions for review of the conditions of Permit No. MA0101621 (the "permit" or "final permit") that the Region and MassDEP issued to Haverhill on September 25, 2019 (and mailed on September 26). Any contested permit

conditions and any uncontested conditions that are not severable from contested conditions are stayed pending final agency action. 40 C.F.R. §§ 124.16(a)(2)(i), 124.60(b). Specifically, the residual chlorine effluent limit and 45-minute simulated holding time provisions in Section 1.A.1 of the permit are stayed.

III. FACTUAL AND STATUTORY BACKGROUND

Haverhill submits the following relevant factual, statutory, and regulatory background to assist the Board's review:

A. Factual Background

i. *The Facility*

Haverhill owns and operates the Water Pollution Abatement Facility and thirteen combined sewer outfalls within its service area. Haverhill's facility serves the City of Haverhill, an environmental justice community with 62,000 ratepayers, and the Town of Groveland, where it serves an additional 3,500 ratepayers.

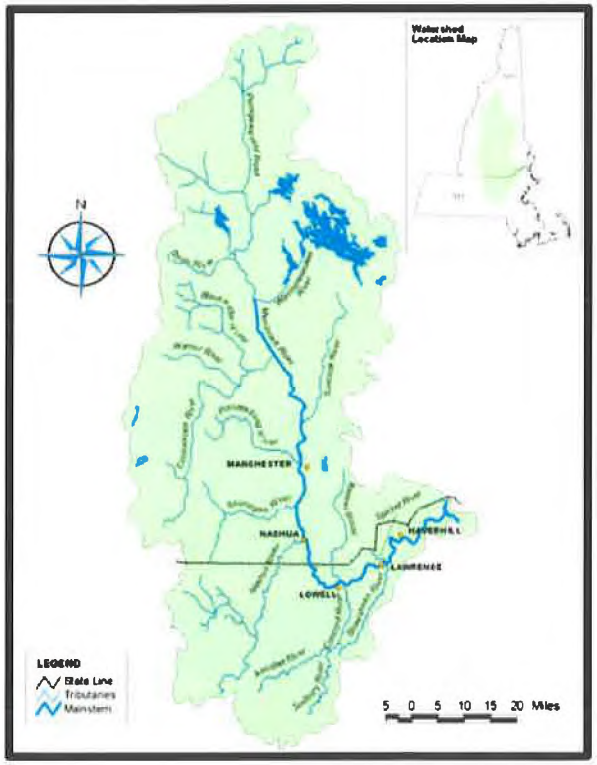
The facility is an activated sludge secondary wastewater treatment facility, designed for a maximum flow of 18.1 million gallons per day ("MGD") and receives an annual average daily flow of 10.3 MGD. Most of the Haverhill system is comprised of separate sewers, with approximately 37% combined sewers.

The facility uses sodium hypochlorite to disinfect its final effluent before discharge to the Merrimack River. The facility outfall is outfall 046 and is not a combined sewer outfall. The facility does not have a chlorine contact tank; instead the outfall pipe itself provides the necessary contact time for disinfection. Three hose pumps deliver sodium hypochlorite to the effluent junction chamber just upstream of the outfall pipe.

ii. ***The Receiving Waters***

The Merrimack River begins in New Hampshire at the confluence of the Pemigewasset and Winnipesaukee Rivers in the Town of Franklin. From Franklin, it flows to the south for about 78 miles in New Hampshire, then turns to the Northeast near the border of Massachusetts for another 50 miles before discharging into the Atlantic Ocean in Newburyport, Massachusetts. Downstream from Haverhill, the river is tidally influenced. The Merrimack River watershed covers about 5,000 square miles, traversing a variety of terrains and climates before arriving at the estuarine coastal basin:

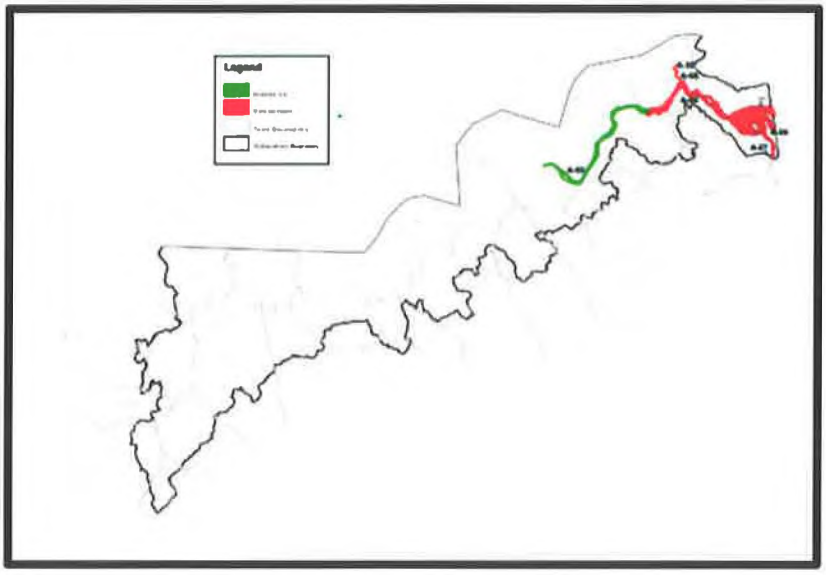
Figure 1
Merrimack River Watershed[1]



[1] Merrimack River Watershed Assessment Study Final Phase I Report, September 2006, prepared by CDM Smith for the US Army Corps of Engineers, at ix.

Haverhill discharges to Merrimack River Segment MA84A-04: Class B- Warm Water Fishery, CSO, to Merrimack River Segment MA84A-05: Class SB- Restricted Shellfishing, CSO, and to the Little River Segment MA84A-09: Class B- Warm Water Fishery, CSO. The outfall from the facility is in Segment MA84A-05. Segment MA84A-05 is 1.8 miles in length extending from the confluence with the Little River, Haverhill to the confluence of the Indian River, West Newbury/Amesbury.

Figure 2
Merrimack River Segment MA84A-05[2]



At the point of discharge, the Merrimack River is tidally influenced, but incoming saltwater does not reach to the point of Haverhill's discharge.

The 2014 Massachusetts Integrative List of Waters (the "2014 Report"), does not list Segment MA84A-05 as impaired, though it does identify enterococcus and PCB in Fish Tissue as "impairment causes." Excerpts of the 2014 Report are included in **Attachment 2.**

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[2] Adapted from the 2004 Report (as defined below).

The most recent MassDEP water quality study available on the MassDEP website is the Merrimack River Watershed 2004 Water Quality Assessment Report (the "2004 Report").[3] Relevant excerpts of the 2004 Report for Segment MA84A-05 are attached as **Attachment 3**. The 2004 Report states that Segment 84A-05 was evaluated for aquatic life and primary and secondary contact. *See* 2004 Report at 39-40. The 2004 Report found that this segment is impaired for primary and secondary contact due to Enterococcus from wet weather discharges. *See* 2004 Report at 40. Segment MA84A-05 was not assessed for fish consumption, shellfishing, or aesthetics. *See* 2004 Report at 39-40. The 2004 Report concluded that the Aquatic Life Use is assessed as "support" based on the good survival test of organisms exposed to river water samples. *See* 2004 Report at 39.

iii. ***Draft Permit***

The Region and MassDEP issued a draft NPDES permit on June 7, 2019. As applicable here, the draft permit contained a total residual chlorine limit of 355 µg/L and provided in footnote 8 that "The Permittee may simulate the chlorine contact time in the outfall pipe prior to discharge into the Merrimack River by holding TRC samples in a dark environment for up to 45 minutes before measuring TRC when flows at the facility are at or below the design flow of 18.1 MGD. When plant flows exceed 18.1 MGD, the allowable TRC holding time is reduced to 15 minutes."

Haverhill requested that the public comment period be extended by four months. The Region agreed to extend the public comment period on the draft permit by two weeks to July 23, 2019.

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[3] MASS. DEP'T OF ENVTL. PROT., MERRIMACK RIVER WATERSHED 2004 WATER QUALITY ASSESSMENT REPORT (2004), https://www.mass.gov/files/documents/2016/08/nz/84wqar09.pdf.

iv. ***Public Comments***

In response to the draft permit, Haverhill submitted comments through Deputy Department of Public Works Director Robert E. Ward, dated July 22, 2019. *See* **Attachment 4** July 22, 2019 Comment.

In its comments, Haverhill raised multiple concerns about the Region's calculation of the dilution factor applicable to the chlorine effluent limit. Haverhill commented that 1) the Region extrapolated 7Q10 flow based on a limited 30-year period of data, causing higher uncertainty in the statistical analysis; 2) the calculation of the 7Q10 at USGS Gage Station #01100000 appeared to be incorrect; and 3) that the Region used the incorrect drainage basin area for USGS Gage Station #01100000. *See* July 22, 2019 Comment at 14-17.

The Massachusetts Water Resources Authority ("MWRA") also submitted comments on the draft permit through its Director of Environmental Quality Department, Betsy Reilly, Ph.D., dated July 23, 2019. *See* Attachment 1 RTC 37 at 52. MWRA challenged the simulated chlorine contact time provision, noting that instead of a rigid 45 or 15 minute simulated chlorine contact time based on plant flow versus design flow, the simulated chlorine contact time should be based on the plant flow at the time of sample, and that samples should be held in a dark environment for the same amount of time as required for wastewater to pass between the point of collection and the outfall. *See* RTC 37 at 52.

v. ***The Region's Permit Decision and Response to Comments***

The Region issued the final permit on September 25, 2019. The Region made no changes to the chlorine effluent limit or the chlorine contact time

B. The Clean Water Act

Congress passed the Clean Water Act ("CWA") in 1972 seeking to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To

achieve this goal, Congress established the National Pollutant Discharge Elimination System ("NPDES") program, which authorized EPA to issue permits for the discharge of any pollutant or combination of pollutants from point sources into the waters of the United States, subject to certain conditions. *See* 33 U.S.C. § 1342.

The CWA and 40 C.F.R. § 131 establish the framework for determining water quality standards. *See* 33 U.S.C. § 1313. Wherever attainable, water quality standards should protect water quality that provides for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water. *See* 33 U.S.C. § 1251. Water quality standards are developed by the individual state and approved by EPA.

When developing water quality standards, the regulatory authority first must classify the waterbody based upon the expected uses of the waterbodies, called "designated uses." *See* 40 C.F.R. § 131.10(a). Once the designated uses are established, the state must then develop water quality standards that support the designated uses of each waterbody. EPA's Water Quality Standards Regulations require states to adopt water quality criteria using sound scientific rationale and to include sufficient parameters or constituents to protect the designated uses. *See* 40 C.F.R § 131.11(a).

As applicable here, the residual chlorine limits are based on the instream chlorine criteria defined in U.S. DEP'T ENVTL. PROT., EPA-822-R-02-047, NATIONAL RECOMMENDED WATER QUALITY CRITERIA: 2002 (Nov. 2002), as adopted by MassDEP into the state water quality standards at 314 C.M.R § 4.05(5)(e). (Attachment 1, Fact Sheet at 20).

IV. STANDARD OF REVIEW

The Board may grant review of a permit decision when the petitioner shows that the decision was based on: "(A) A finding of fact or conclusion of law that is clearly erroneous, or

(B) An exercise of discretion or an important policy consideration that the Environmental Appeals Board should, in its discretion, review." 40 C.F.R. § 124.19(a)(4)(A), (B); *accord In re Broward County, Florida*, 4 E.A.D. 705, 721 (EAB 1993).

In assessing clear error, the Board examines the administrative record that serves "as the basis for the permit to determine whether the permit issuer exercised his or her 'considered judgment.'" *See In re Town of Newmarket, New Hampshire,* 16 E.A.D. 182, 219 (EAB 2013). When the "the administrative record is unclear" as to the factual basis for a determination by the Region in issuing a permit condition, the Board must remand the petition. *In re Broward County, Florida*, 4 E.A.D. at 721.

When an agency exercises discretion, it must "cogently explain why it has exercised its discretion in a given manner." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 48 (1983); *see Ash Grove Cement Co.*, 7 E.A.D. 387, 397 (EAB 1997) ("acts of discretion must be adequately explained and justified"). An agency action also may not be arbitrary and capricious. *See Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43. An action is arbitrary and capricious if:

> [T]he agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Id. If such deficiencies are present, "[t]he reviewing court should not attempt itself to make up for such deficiencies; [it] may not supply a reasoned basis for the agency's action that the agency itself has not given." *Id.* (citation omitted).

When presented with technical issues on appeal, the Board looks "to determine whether the record demonstrates that the Region duly considered the issues raised in the comments and

whether the approach ultimately adopted by the Region is rational in light of all the information in the record." *In re Gov't of the D.C. Mun. Separate Sewer Sys.*, 10 E.A.D. 323, 348 (EAB 2002). "The Region's rationale for its conclusions, however, must be adequately explained and supported in the record." *In re Dominion Energy Brayton Point*, 12 E.A.D. 490, 510 (EAB 2006). The Board "takes a careful look at technical issues and will not hesitate to order a remand when a Region's decision on a technical issue is illogical or inadequately supported by the record." *In re NE Hub Partners*, 7 E.A.D. 561, 568 (EAB 1998); *see In re Austin Powder Co.*, 6 E.A.D. 713, 719-720 (EAB 1997).

V. THRESHOLD PROCEDURAL REQUIREMENTS

Haverhill satisfies the threshold requirements for filing a petition for review under 40 C.F.R. § 124.19, because:

1. Haverhill has standing to petition for review of the permit decision because it is the permittee and participated in the public comment period on the permit. *See* 40 C.F.R. § 124.19(a)(2);
2. The issues raised in this petition were raised during the public comment period or in a timely fashion based on new data or EPA claims made during the issuance process, and therefore were preserved for review. *See* 40 C.F.R. § 124.19(a)(2); and
3. Haverhill has filed the petition for review within 30 days after the Regional Administrator served notice of issuance of the final permit decision. *See* 40 C.F.R. § 124.19(a)(3).

VI. ARGUMENT

Haverhill challenges two aspects of its Permit: The dilution factor used in setting the total residual chlorine limit and the simulated chlorine residual holding time.

A. The Region Clearly Erred by Relying on Incorrect and Arbitrarily Chosen Data in Determining the Dilution Factor Underpinning the Residual Chlorine Limit

Because the Region assumes the upstream chlorine to be zero, the Region determined the total residual chlorine effluent limit by multiplying the chronic criteria in the MassDEP water standards by the dilution factor:

Chronic criteria (11 µg/L) * dilution factor = Chronic limit

Acute criteria (19 µg/L) * dilution factor = Acute limit

Massachusetts's regulations require the dilution factor to be based on the known or estimated lowest average flow that occurs for seven consecutive days with a recurrence interval of once in ten years, known as the "7Q10" low flow rate. *See In re Upper Blackstone Water Pollution Abatement District*, 14 E.A.D. 577, 637 (EAB 2010) (citing 314 C.M.R § 4.03(3)).

7Q10 is calculated by taking the lowest 7-day average flow each year over a period of time and fitting the data points into a log Pearson type III distribution equation to calculate a low flow value that results in a 10% occurrence probability. When fewer data points are used, there is a higher level of uncertainty in the result.

Here, the Region clearly erred in its determination of the dilution factor because it used an incorrect 7-day low flow data set of an arbitrarily selected period in calculating the 7Q10 flow levels.

First, the Region relied on incorrect data in determining the 7Q10 low flow values, which are used in the Region's reasonable potential analysis. In its response to Comment 15, the Region claims it used data from United States Geological Survey ("USGS") gage station

(#0110000) located in Lowell between 1989 and 2017 and provided it in Table 1. The 1995 year had the lowest low flow value on the table:

Figure 3
1995 data as Shown on Table 1 from Region Response to Comment 15

Year	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Average (CFS)	Ln of Average
1995	427	455	485	493	493	618	618	512.714286	6.239719

Using this data, the Region found the applicable 7Q10 is 832 cfs. *See* Attachment 1, RTC 15 at 31.

But this data is incorrect, as Haverhill said in its comments. According to Richard Verdi, the Chief, Hydrologic Surveillance and Surface Water Investigations at the USGS Hydraulic Science Center, there are several errors in the Region's table. For example, Mr. Verdi compared the Region's table to official USGS data for 1995 (which had the lowest flow value in the sample) and found:

> days 2, 3, and 4 all match USGS minimum instantaneous recorded data. Days 1, 5, 6, and 7 are not the minimum, maximum, or mean for those days. The values listed for days 5 and 6 are recorded values during those days, but are not the minimum, maximum, or mean. Finally, the values listed for days 1 and 7 are not recorded values, nor are they minimum, maximum, or mean.[4]

According to USGS, this is the correct data from the Lowell station for 1995:

Figure 4
Actual USGS 1995 Data[5]

Year	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Average (CFS)	Ln of Average
1995	728	609	520	533	507	623	550	581.42857	6.365488

[4] Email from R. Verdi to C. Spero (Oct. 24, 2019). *See* **Attachment 5.**

[5] *Available at:* https://waterdata.usgs.gov/nwis/uv?site_no=01100000

The Region's response to comment 15 also stated that it used a methodology described in a user manual[6] for a legacy computer program ("DFlow") developed in 1990. But this program is outdated: EPA's 2018 Handbook for NPDES Permit Writers[7] recommends using USGS's SWToolbox software program to replace legacy programs, including DFlow. Using the correct data and USGS's SWToolbox software program, the table below summarizes results of 7Q10 flows for USGS gage (#01100000) and dilution factors for the Facility: The analysis result output files are included in Attachment 5.

Figure 5
Corrected 7Q10 Flow Levels and Dilution Factors

Dataset Period	Length of the Dataset (years)	7Q10 Flow (CFS)	Dilution Factor
2004-2018	15	993.26	38.49
1989-2017*	29	837.03	32.59
1924-2018	95	907.33	35.25

*Dataset period EPA randomly picked for 7Q10 analysis

It is black letter law that an agency's decision must be based on correct data. *See Alloy Piping Products, Inc. v. Kanzen Tetsu Sdn. Bhd.*, 334 F.3d 1284, 1291-92 (Fed. Cir. 2003) ("The failure of Commerce to correct an error made by the respondent that was apparent or should have been apparent to Commerce would be arbitrary and capricious."). The Region's failure to do so here is clear error.

Second, in addition to the data values being incorrect, Haverhill commented that the 7Q10 flow data showed be based on the entire 95 years of available data to reduce the uncertainty in the statistical sample. *See* Attachment 4, Comment 15. In response, the Region

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[6] ROSSMAN, L.A., U.S. DEP'T ENVTL. PROT., EPA-600-8-90-051 (NTS-90-225616) (1990)

[7] U.S. DEP'T ENVTL. PROT., EPA 833-B-18-001, LOW FLOW STATISTICS TOOLS, A HOW-TO HANDBOOK FOR NPDES PERMIT (Oct. 2018)

claimed it relied on 29 years of flow data (1989 – 2017) "to account for changing climatic conditions, in addition to recent hydrological changes in the watershed; a model incorporating data from over 30 years ago is likely to be less representative of current conditions." *See* RTC 15 at 30.

The use of exactly 29 years—not more or less—is an abuse of discretion. In prior permits issued for the Merrimack River, the Region used at least 65 years of data. For example, in assessing the 7Q10 in the permit issued to Manchester, New Hampshire, in 2015, the Region used data from 1941-2006 (65 years). And for the permit issued to the facility in Winnipesaukee, New Hampshire in 2016, the Region used data from 1943 to 2014 (71 years).[8] The Region's comments do not acknowledge this past practice or explain its current departure. *See F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 517 (2009) ("An agency may not . . . depart from a prior policy *sub silentio* . . . [and] must show that there are good reasons for the new policy."). The Region's responses simply summarily refer to "changing climatic conditions" and "recent hydrological changes in the watershed" without explaining what they are or how they compared to earlier conditions. *See* RTC 15 at 30. But it is the Region's arbitrary change in the number of years it relies on—not a change of conditions—that drives the lower dilution factor. The recent 7Q10 conditions are far higher than what the Region used in the final permit.

Had the Region truly wanted to account for "recent hydrological changes in the watershed," it would have limited its review to the 15 years, the minimum number of years EPA's Handbook for NPDES Permit Writers[9] recommends for a 7Q10 analysis. Using USGS's

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[8] Excerpts from these permits are included in Attachment 6.

[9] U.S. DEP'T ENVTL. PROT., EPA 833-B-18-001, LOW FLOW STATISTICS TOOLS, A HOW-TO HANDBOOK FOR NPDES PERMIT (Oct. 2018)

SWToolbox program and the most recent 15 years (2004 – 2018) of this dataset, the 7Q10 is 993.260 cfs, resulting in a dilution factor of 38.5 based on the following Environmental Protection Agency ("EPA") approved calculation methodology:

$$\text{Flow factor for USGS \#01100000} = \frac{993.260 \text{ cfs}}{4{,}412 \text{ square miles}} \approx 0.2251 \frac{\text{cfs}}{\text{sq. mi}}$$

Because the drainage area upstream of the Haverhill effluent discharge outfall is about 4,666 square miles, excluding 214 square miles attributed to Boston and Worcester, the 7Q10 flow at the outfall should be 1,050.3 cfs or 678.5 million gallons per day (MGD).

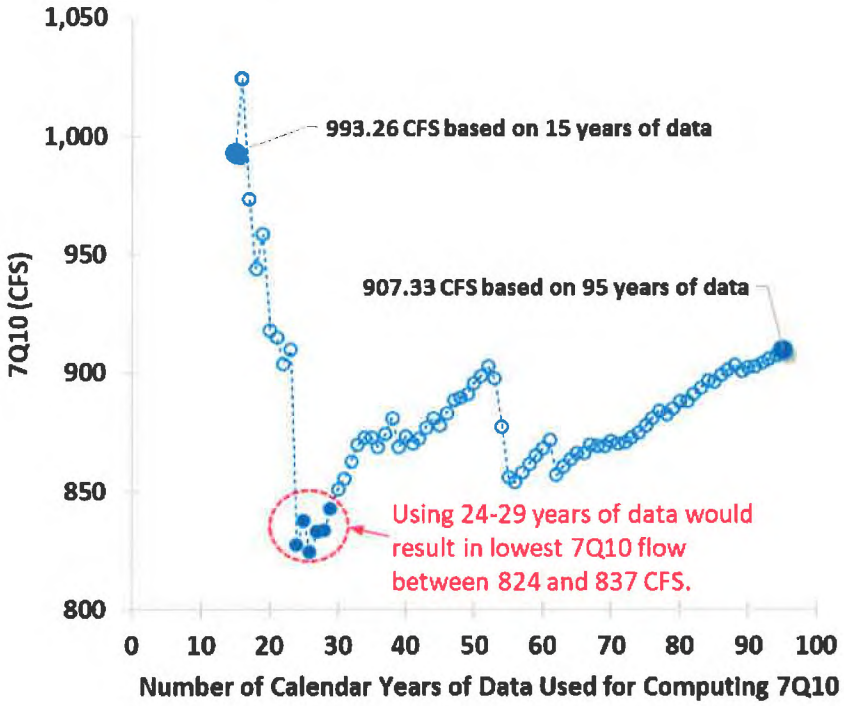
Using the following EPA formula, when using a 7Q10 flow of 678.5 MGD in the receiving water upstream of the discharge (Q_s,) and the Facility's design flow of 18.1 MGD (Q_d,), the resulting dilution factor (DF) is calculated to be 38.5:

$$DF = (Q_s + Q_d)/Q_d = (678.5 \text{ MGD} + 18.1 \text{ MGD})/18.1 \text{ MGD} = 38.5$$

This amount is closer to the 36.7 figure Haverhill suggested in its comments based on 95 years of data. *See* Comment 15. This similarity further shows that using longer historical data better reflects current conditions with a higher degree of scientific certainty.

What is not reflective of current conditions is using exactly 29 years of data (1989 – 2017). This sample excludes the high flow year of 2018 and includes 1995, which is a statistically low outlier. It is no coincidence that this exact number results in one of the lowest 7Q10 figures:

Figure 6
7Q10 Figures Over 15 - 95 years of data



While the Region has discretion in selecting applicable data to rely on, that discretion is not unlimited. And it may not cherry-pick data to arrive at a predetermined outcome or that is not reflective of the intended goal. *See Am. Radio Relay League, Inc. v. F.C.C.*, 524 F.3d 227, 237 (D.C. Cir. 2008) ("there is no APA precedent allowing an agency to cherry-pick a study on which it has chosen to rely in part") (citing *Solite Corp. v. E.P.A.*, 952 F.2d 473, 500 (D.C. Cir. 1991)). But given the unusually low outcome, the lack of explanation for why the Region chose exactly 29 years (without including the most recent 2018 data that would have resulted in a higher 7Q10 level), or what "recent hydrological changes in the watershed" it is attempting to address, the Region abused its discretion.

i. ***Recalculating the Total Residual Chlorine Limit***

Applying the correct 7Q10 dilution factor results in the following total residual chlorine calculations:

Chronic criteria * dilution factor = Chronic limit

11µg/L× 38.5 = 424 µg/L

Acute criteria * dilution factor = Acute limit

19µg/L× 38.5 = 731.5 µg/L

B. The Region Clearly Erred in Limiting the Simulated Chlorine Holding Time to 45 Minutes

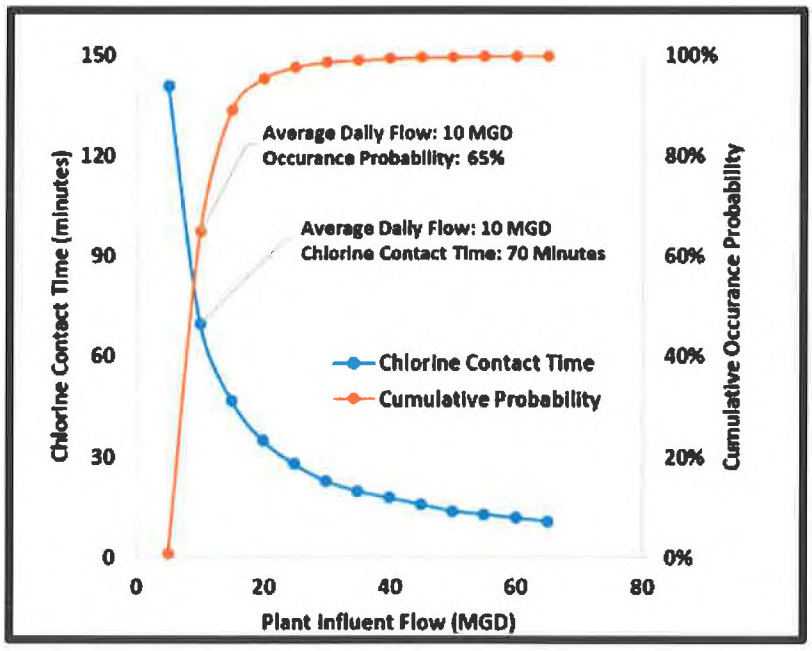
Not only did the Region err in setting the Total Residual Chlorine Limit, the Region also erred in how it requires Haverhill to test for that and other limits. The final permit authorizes Haverhill to monitor total residual chlorine in its effluent by simulating "the chlorine contact time in the outfall pipe prior to discharge into the Merrimack River by holding effluent samples in a dark environment before measuring TRC, enterococci and fecal coliform." Permit Section 1.A.1 at footnote 8. But "at no time shall the holding time exceed 45 minutes." In response to the MWRA's comment challenging the chlorine residual holding time, the Region acknowledged that chlorine sample collections should be held in a dark environment for the same time required for wastewater to pass between the point of collection and the outfall, but it declined to amend the 45-minute limit. *See* Attachment 1 RTC 37 at 52.

This limit is error for two reasons. *First*, the Region provides no rationale for the limit, either in the final permit or the response to comments. Without an explanation, the Board may not infer one, nor can it conclude that the limit is the result of reasoned decision making. *In re Gov't of the D.C. Mun. Separate Storm Sewer System,* 10 E.A.D. at 342-43 ("Without an articulation by the permit writer of his analysis, we cannot properly perform any review

whatsoever of that analysis and, therefore, cannot conclude that it meets the requirement of rationality.")

The limit is also entirely arbitrary because a 45-minute simulated holding time limit is inconsistent with the facility's actual operations. According to the facility's 1978 Operation and Maintenance Manual, the outfall pipe has a length of 1,150 feet and an interior diameter of 102 inches, giving a total volume of approximately 488,000 gallons. Based on the available outfall pipe volume, the chlorine contact time is calculated by the influent flow rate as shown below together with the cumulative occurrence probability (the percentage of time the flow will not exceed its correlated influent flow rate):

Figure 7
Cumulative Occurrence Probability of the Plant Effluent Flow and Chlorine Contact Time from 2010 through 2016



The calculated contact times under average daily flow (10 MGD) conditions is about 70 minutes, and 65% of time the facility will experience such conditions where effluent flow is equal or less than 10 MGD. The data also indicates that over 90% of the time, the average

chlorine contact time is at least 45 minutes. In other words, Haverhill's actual holding time in the pipe routinely exceeds the Region's arbitrarily determined 45-minute simulated limit. These longer actual contact times mean that more bacteria and other pollutants are being removed from Haverhill's effluent than what the simulated results show. Therefore, the Region should have allowed the simulated holding times to estimate actual holding times without the arbitrarily-set 45-minute limit, as the MWRA suggested.

Having accurate data is always important, especially so here. Capping the holding time at 45 minutes restricts Haverhill's ability to dose disinfectants at a proper rate to ensure adequate bacteria removal. Also, the current effluent limits are stringent, and if they remain and are evaluated based on incorrect simulated holding time data, Haverhill may have to unnecessarily explore dechlorination or other facility changes to comply. The facility's 2017 Comprehensive Plant Evaluation estimates $500,000 to evaluate the changes and another $2.5 million in upgrades, all of which might be avoided if Haverhill can simulate holding times consistent with actual practice. The Region has presented no reason for this heavy burden.

It is fundamental that the Region cannot rely on inaccurate data. *See Alloy Piping Products, Inc.*, 334 F.3d at 1291-92. It therefore follows that the Region cannot insist on sampling methodologies that make data inaccurate. The 45-minute simulated holding time limit should be removed in favor of simulated limits that are consistent with the facility's actual holding times.

VII. CONCLUSION

For these reasons, Haverhill respectfully seeks Board review of the terms and conditions of Haverhill's current NPDES permit. After such review, Haverhill requests a remand of the permit to Region 1 with an order to issue an amended NPDES permit.

Respectfully submitted,

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Dated: October 25, 2019

STATEMENT OF COMPLIANCE WITH THE WORD/PAGE LIMITATION

In accordance with 40 C.F.R. § 124.19(d)(1)(iv) & (d)(3), I hereby certify that this Petition does not exceed 14,000 words. Not including the transmittal letter, caption, table of contents, table of authorities, figures, signature block, table of attachments, statement of compliance with the word limitation, and certification of service, this Petition contains 4,517 words.

Matthew J. Connolly

TABLE OF ATTACHMENTS

CERTIFICATE OF SERVICE

I hereby certify that on October 25, 2019 a copy of the foregoing Petition for Review was served on Respondent identified below by U.S. first-class mail and email:

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Regional Administrator
USEPA Region 1
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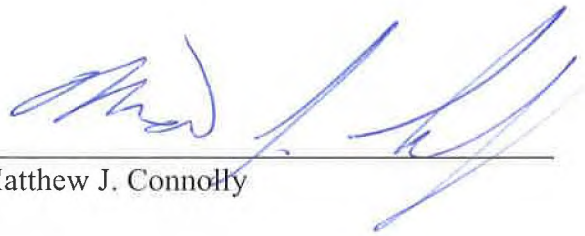
183 Main Street
Groveland, MA 01834



Matthew J. Connolly