

## PUBLIC NOTICE

Notice is hereby given that the Massachusetts Department of Environmental Protection (MassDEP), under authority granted by the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26 – 53, is proposing to: (1) issue a federal Clean Water Act (CWA) section 401 certification for the U.S. Environmental Protection Agency's (EPA) proposed 2020 Draft NPDES Permit (Federal Permit) (MA Permit No. MA0040483) to Polar Corporation for their Worcester facility's pollutant discharges to the Middle River (MA51-02) in the Blackstone River Basin; and (2) issue the 2020 Draft Massachusetts Permit to Discharge Pollutants to Surface Waters (State Permit) and Antidegradation Review and Determination for the same discharge pursuant to the Massachusetts Clean Waters Act. Polar Corporation is located at 40 Walcott Street in Worcester. The proposed section 401 certification, proposed State Permit, Tentative Antidegradation Review and Determination, and proposed Federal Permit are all available at <https://www.mass.gov/service-details/massdep-public-hearings-comment-opportunities>. Alternatively a copy of the documents can be obtained by contacting Claire Golden, MassDEP Surface Water Discharge Program, at 978-694-3244 or [claire.golden@mass.gov](mailto:claire.golden@mass.gov). Written comments on the proposed section 401 certification, the proposed State Permit, and the tentative antidegradation review and determination will be accepted until 5:00 p.m. on September 19, 2020. During the state of emergency, MassDEP strongly encourages written comments to be submitted by email to [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov); subject line: Polar Corporation. If not possible, please send by mail to Claire Golden, MassDEP, Surface Water Permitting Program, 205 B Lowell Street, Wilmington, MA 01887.

Following the close of the comment period, MassDEP will issue a final CWA section 401 certification, final State Permit, and final Antidegradation Determination and forward copies to the applicant and each person who has submitted written comments or requested notice.

For special accommodations, please call the MassDEP Diversity Office at 617-292-5751. TTY# MassRelay Service 1-800-439-2370. This information is available in alternate format upon request.

By Order of the Department

Martin Suuberg, Commissioner

**MASSACHUSETTS PERMIT TO DISCHARGE POLLUTANTS TO SURFACE WATERS**

In compliance with the provisions of the Massachusetts Clean Waters Act, as amended (M.G.L. Chap. 21, §§ 26 - 53) and the implementing regulations at 314 CMR 3.00 and 4.00,

Polar Beverages  
1001 Southbridge Street  
Worcester, MA 01615

is authorized to discharge from the facility located at

Polar Beverages  
40 Walcott Street  
Worcester, MA 01603

to receiving water named

Middle River (MA51-02)  
Blackstone River Basin  
Class B (Warm Water Fishery)

in accordance with the following effluent limitations, monitoring requirements and additional conditions:

1. This permit shall become effective on [DATE].<sup>1</sup>
2. This permit shall expire five years after the effective date.
3. This permit supersedes the permit issued on April 7, 2015.
4. This permit incorporates by reference Part IA., Effluent Limitations and Monitoring Requirements, Part IB., Unauthorized Discharges, Part IC., Special Conditions, Part ID. Reporting Requirements, and Part IIE., Standard Conditions, as set forth in the 2020 draft NPDES Permit No. MA0040483, issued by the United States Environmental Protection Agency (EPA), Region 1, issued to Polar Corporation on August 17, 2020 (the 2020 Draft NPDES Permit) and attached hereto as Appendix A; provided, however:
  - a. that the notification required by Part IA.8. shall also be provided to MassDEP;
  - b. that the reporting required by Part IB.1 shall be in accordance with 314 CMR 3.19(20)(e) (24 hour reporting);
  - c. that discharges of a new chemical or additive authorized under Part IC.1. are only authorized under this permit 30 days following written notification to MassDEP, unless otherwise notified in writing by MassDEP;
  - d. that a copy of the requests, reports, and information required by Part ID.3. to be submitted to EPA shall also be submitted to MassDEP electronically to [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov);
  - e. that, if there is a conflict between the definitions in 314 CMR 3.02 and/or 314 CMR 4.00 and the definitions in Part IIE, the definitions in 314 CMR 3.02 and/or 314 CMR 4.00 shall control, as applicable;

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<sup>1</sup> If no comments objecting to the issuance or terms of the permit were received by the Department during the public comment period, then this permit shall be effective upon issuance. If comments objecting to the issuance or the terms of the permit are received by the Department during the public comment period, then this permit shall become effective 30 days after issuance.

- f. that the notifications required by 4.a. and 4.c. above shall be provided as follows:

Susannah King, NPDES Section Chief  
Division of Watershed Management  
Department of Environmental Protection  
1 Winter Street – 5<sup>th</sup> Floor  
Boston, MA 02108

5. This permit incorporates by reference the Standard Permit Conditions set forth in 314 CMR 3.19.
6. This permit includes the following additional conditions:
- Within six (6) months of the effective date of the permit, the permittee shall submit to MassDEP an evaluation of whether the facility uses any products containing any per- and polyfluoroalkyl substances (PFAS) and whether use of those products can be reduced or eliminated. The analysis shall be submitted electronically to [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov).
  - Within six (6) months after EPA's multi-lab validated method for wastewater is made available to the public on EPA's Clean Water Act methods program website<sup>2</sup>, or two (2) years from the effective date of the NPDES permit, whichever is earlier, the permittee shall conduct monitoring of the effluent for PFAS compounds as detailed in the table below. If EPA has not issued a validated test method by twenty (20) months after the effective date of the NPDES permit, the permittee shall contact MassDEP ([massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov)) for guidance on an appropriate analytical method.

**Effluent (Outfall 002)**

Parameter	Units	Measurement Frequency	Sample Type
Perfluorohexanesulfonic acid (PFHxS)	ng/L	Quarterly <sup>3</sup>	24-hour Composite
Perfluoroheptanoic acid (PFHpA)	ng/L	Quarterly	24-hour Composite
Perfluorononanoic acid (PFNA)	ng/L	Quarterly	24-hour Composite
Perfluorooctanesulfonic acid (PFOS)	ng/L	Quarterly	24-hour Composite
Perfluorooctanoic acid (PFOA)	ng/L	Quarterly	24-hour Composite
Perfluorodecanoic acid (PFDA)	ng/L	Quarterly	24-hour Composite

Notwithstanding any other provision of the 2020 Federal NPDES permit to the contrary, monitoring results shall be reported to MassDEP electronically ([massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov)) within 30 days after they are received. Those results do not need to be reported to EPA through NetDMR unless EPA establishes a requirement through a future permitting action.

- After completing one year of monitoring, if four (4) consecutive samples are reported as non-detect for all six PFAS compounds, then the permittee may submit a request to discontinue PFAS monitoring. Any such request shall be made in writing and sent to: [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov). The permittee shall continue such monitoring pending written approval from MassDEP to discontinue it.

<sup>2</sup> See <https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-chemical> and <https://www.epa.gov/cwa-methods>.

<sup>3</sup> Quarters are defined as January to March, April to June, July to September, and October to December. Samples shall be taken during the same month each quarter and shall be taken 3 months apart (e.g., an example sampling schedule could be February, May, August, and November).

August 20, 2020

2020 DRAFT PERMIT

MA Permit No. MA0040483

Signed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_

Lealdon Langley, Director  
Division of Watershed Management  
Department of Environmental Protection

**MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**FACT SHEET SUPPLEMENT**

**MASSACHUSETTS PERMIT TO DISCHARGE POLLUTANTS TO SURFACE WATERS**

**MA PERMIT NUMBER:** MA0040483

**NAME AND MAILING ADDRESS OF APPLICANT:**

Polar Corporation  
1001 Southbridge St  
Worcester, MA 01610

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Polar Corporation  
40 Walcott St  
Worcester, MA 01603

**RECEIVING WATER AND CLASSIFICATION:**

Middle River (MA51-02)  
Blackstone River Basin  
Class B (Warm Water Fishery)

**SIC CODE:**

2086 (Bottled and Canned Soft Drinks and Carbonated Waters)

**PER – AND POLYFLUROALKYL SUBSTANCES**

MassDEP is implementing a number of actions to address the potential health effects of exposure to per- and polyfluoroalkyl substances (PFAS).<sup>1</sup> According to the United States Environmental Protection Agency (EPA),<sup>2</sup> PFAS are a group of man-made chemicals that includes perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they do not break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

PFAS can be found in:

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<sup>1</sup> To learn more about Per- and polyfluoroalkyl substances (PFAS) in the environment and what Massachusetts is doing to address them, go to: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>.

<sup>2</sup> For basic information on PFAS provided by EPA, go to: <https://www.epa.gov/pfas/basic-information-pfas>

- **Food** packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- **Commercial household products**, including stain- and water-repellent fabrics, nonstick products, polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- **Workplace**, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- **Drinking water**, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- **Living organisms**, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase-outs including the PFOA Stewardship Program, in which eight major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics.

Scientific information and regulatory actions on PFAS are rapidly evolving. Currently, there are no enforceable federal standards for these substances in public drinking water. However, in May 2016, EPA issued a lifetime drinking water Health Advisory (HA) of 70 nanograms per liter (70 ng/L, which equals 70 parts per trillion or ppt) for any combination of PFOA and PFOS. In June 2018, MassDEP extended this advisory to include three additional related PFAS chemicals - perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS) and perfluoroheptanoic acid (PFHpA). This Massachusetts value, called a MassDEP Office of Research and Standards Guideline (ORSG), is a maximum recommended level for drinking water. It is set to be protective against adverse health effects for all people consuming the water for a lifetime and also applies to shorter-term exposures of weeks to months during pregnancy and breast-feeding.

In December 2019, MassDEP promulgated final regulations at 310 CMR 40.0000 establishing groundwater and soil limits at waste cleanup sites for 6 PFAS compounds - PFOS, PFOA, PFHxS, PFNA, PFHpA, and perfluorodecanoic acid (PFDA). At the same time, MassDEP proposed revisions to the Massachusetts drinking water regulations that would establish a regulatory drinking water standard or Massachusetts Maximum Contaminant Level (MMCL) for PFAS. These revisions would establish a MMCL of 20 ng/L (or parts per trillion) for the sum of the concentrations of the same six PFAS included in the waste site clean up regulations. The proposed standard is supported by recent scientific developments in understanding the health effects of PFAS and is aligned with PFAS cleanup standards promulgated by the Waste Site Cleanup Program. For information on the proposed MMCL see: <https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations>. The ORSG and the technical support document explain the basis of both the MassDEP revised cleanup standards and the proposed MMCL for drinking water.

In January 2020, MassDEP updated the ORGS, which is now 20 ng/L for the sum of 6 PFAS compounds. The updated ORSG replaces the June 2018 guideline for PFAS in drinking water. See the updated ORSG and technical support document here: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas#health-advisories-and-downloadable-fact-sheets->

Based on the current ORSG, MassDEP recommends that:

- 1) consumers in sensitive subgroups (pregnant women, nursing mothers, and infants) not consume water when the level of the six PFAS substances, individually or in combination, is above 20 ppt; and,
- 2) public water suppliers take steps expeditiously to lower levels of the six PFAS, individually or in combination, to below 20 ppt for all consumers.

Given that PFAS are persistent in the environment and may lead to adverse human health and environmental effects, MassDEP has identified a comprehensive approach for addressing PFAS in wastewater discharges. Additionally, based on review of data collected by other states for residuals produced from wastewater treatment and other processes, MassDEP has concerns regarding the levels of PFAS in residuals land applied in Massachusetts. All residuals products sold, distributed, and applied in Massachusetts are subject to an Approval of Suitability (AOS), which classifies residuals for different uses based on the chemical quality and treatment to reduce pathogens. Therefore, MassDEP began including a requirement for PFAS testing in all new or renewed AOSs in January 2019, and as of July 2020, MassDEP will be requiring all AOS holders to test their products for PFAS.

MassDEP is also concerned about the potential impacts PFAS discharges from wastewater treatment plants may have on downstream drinking water, recreational, and aquatic life uses. The Massachusetts Surface Water Quality Standards do not include numeric criteria for PFAS. However, the narrative criterion for toxic pollutants at 314 CMR 4.05(5)(e) states:

*All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.*

In addition, this narrative criterion is further elaborated on at 314 CMR 4.05(5)(e)2 which states:

*Human Health Risk Levels. Where EPA has not set human health risk levels for a toxic pollutant, the human health-based regulation of the toxic pollutant shall be in accordance with guidance issued by the Department of Environmental Protection's Office of Research and Standards. The Department's goal is to prevent all adverse health effects which may results from the ingestion, inhalation or dermal absorption of toxins attributable to waters during their reasonable use as designated in 314 CMR 4.00.*

To assess whether PFAS discharges from the Polar Corporation are occurring and whether they may be contributing to a violation of the narrative toxics criteria, MassDEP is including conditions in the Massachusetts Surface Water Discharge Permit for the facility to require the permittee to monitor its discharges for PFAS and to conduct an evaluation of its use of PFAS-containing products.

DRAFT

Clean Water Act Section 401 Certification  
For the Proposed 2020 Federal NPDES Permit  
For the Polar Beverages  
MA Permit No. MA0040483

The Massachusetts Department of Environmental Protection (MassDEP), having examined Polar Corporation's National Pollutant Discharge Elimination System (NPDES) permit application for the Polar Corporation at 40 Walcott Street in Worcester, reviewed the United States Environmental Protection Agency (EPA) – Region 1's draft 2020 Federal NPDES permit (MA Permit No. MA0040483) for the Polar Corporation issued August 17, 2020, and considered the public comments received on MassDEP's proposed Clean Water Section 401 Certification for the draft 2020 Federal NPDES Permit for the Polar Corporation, and in consideration of the relevant water quality considerations, hereby certifies:

1. that the following conditions, together with the terms and conditions contained in the proposed 2020 Federal NPDES permit for the Polar Corporation, are necessary to assure compliance with the applicable provisions of the Federal Clean Water Act Sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law, including, without limitation, the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the Massachusetts Water Quality Standards published at 314 CMR 4.00:
  - a. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, within six (6) months of the effective date of the 2020 Federal NPDES permit, the permittee shall submit to MassDEP an evaluation of whether the facility uses any products containing any per- and polyfluoroalkyl substances (PFAS) and whether use of those products can be reduced or eliminated. The analysis shall be submitted electronically to [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov).
  - b. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, within six (6) months after EPA's multi-lab validated method for wastewater is made available to the public on EPA's Clean Water Act methods program website<sup>1</sup>, or two (2) years from the effective date of the 2020 Federal NPDES permit, whichever is earlier, the permittee shall conduct monitoring of the effluent for PFAS compounds as detailed in the table below. If EPA has not issued a validated test method by twenty (20) months after the effective date of the 2020 Federal NPDES permit, the permittee shall contact MassDEP ([massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov)) for guidance on an appropriate analytical method.

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<sup>1</sup> See <https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-chemical> and <https://www.epa.gov/cwa-methods>.

**Effluent (Outfall 002)**

Parameter	Units	Measurement Frequency	Sample Type
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Perfluorooctanesulfonic acid (PFOS)	ng/L	Quarterly	24-hour Composite
Perfluorooctanoic acid (PFOA)	ng/L	Quarterly	24-hour Composite
Perfluorodecanoic acid (PFDA)	ng/L	Quarterly	24-hour Composite

Notwithstanding any other provision of the 2020 Federal NPDES permit to the contrary, monitoring results shall be reported to MassDEP electronically ([massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov)) within 30 days after they are received. Those results do not need to be reported to EPA through NetDMR, unless EPA establishes a requirement through a future permitting action.

- c. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, after completing one year of monitoring, if four (4) consecutive samples are reported as non-detect for all six (6) PFAS compounds, then the permittee may submit a request to MassDEP to discontinue PFAS monitoring. Any such request shall be made in writing and sent to [massdep.npdes@mass.gov](mailto:massdep.npdes@mass.gov). The permittee shall continue such monitoring pending written approval from MassDEP to discontinue it.
2. that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable state water quality standards.

To meet the requirements of Massachusetts laws, each of the conditions cited in the draft permit and this certification shall not be made less stringent unless new data or other information is presented and MassDEP determines modification of this certification is appropriate in consideration of the relevant water quality considerations.

If any condition in the draft 2020 Federal NPDES permit for the Polar Corporation is changed during EPA's review in any manner inconsistent with this certification, the Department reserves the right to modify this certification in consideration of the relevant water quality considerations. In addition, the Department reserves the right to modify this certification if there is a change in Massachusetts law or regulation upon which this certification is based, or if a court of competent jurisdiction or MassDEP Office of Appeals and Dispute Resolution stays, vacates or remands this certification, as provided by 40 C.F.R. § 124.55.

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<sup>2</sup> Quarters are defined as January to March, April to June, July to September, and October to December. Samples shall be taken during the same month each quarter and shall be taken 3 months apart (e.g., an example sampling schedule could be February, May, August, and November).

Signed this \_\_\_\_ day of \_\_\_\_\_, 2020.

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Lealdon Langley, Director  
Massachusetts Department of Environmental Protection  
Bureau of Water Resources  
Division of Watershed Management



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

# Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Kathleen A. Theoharides  
Secretary

Martin Suuberg  
Commissioner

## Attachment A

### TENTATIVE ANTI-DEGRADATION REVIEW AND DETERMINATION

#### Permittee

Polar Corporation  
40 Walcott Street  
Worcester, MA 01603  
NPDES Permit MA0040483

#### Receiving Water

Middle River  
Blackstone River Basin  
Segment: MA51-02  
Classification: B, Warm Water Fishery

#### Introduction

Polar Corporation ("Polar"), a domestic for-profit corporation, manufactures beverages, primarily carbonated and non-carbonated soft drinks and bottled water.

The current permit, most recently issued in 2015, authorizes the discharge of reverse osmosis (RO) reject water from Outfall 001, an internal outfall, at up to a monthly average flow of 100,000 gallons per day (gpd) to a storm drain system that eventually discharges to the Middle River. The effluent is routed to the facility's roof leader system and connects to the City of Worcester's storm drain system that eventually discharges to the Middle River.

Polar has requested a permitted flow increase based on its anticipated production schedule. Specifically, Polar has requested to increase this discharge rate by an additional 50,000 gpd for a total of up to 150,000 gpd (0.15 MGD). The increased discharge will go through the same internal outfall as the existing permitted RO discharge.

#### NPDES Permit History

Polar has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of its NPDES permit to discharge RO reject water to the Middle River through Outfall 001. The current permit

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

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was issued and became effective on April 7, 2015 and expired on March 31, 2020. EPA received a complete permit renewal application from the permittee in two separate submittals dated November 20, 2019 and January 21, 2020. The renewal application was deemed timely and complete by EPA and has been administratively continued pursuant to 40 CFR § 122.6.

### **Applicability**

This proposed discharge constitutes an increased discharge to a surface water of the Commonwealth. In accordance with the State's Antidegradation Provisions contained in 314 CMR 4.04, the increased discharge is subject to this Antidegradation Review and Determination.

### **Technology-Based Review**

The technology-based review ensures that the discharge is provided with a level of treatment equal to or exceeding the requirements in 314 CMR 3.00 for technology-based effluent limitations. This is an existing beverage manufacturer seeking to increase the volume of its existing RO reject water discharge to an existing storm drain. In the absence of effluent guidelines for RO reject water, technology-based requirements have been made on a case-by-case basis based on best professional judgment.

Polar requires that its municipal water supply be pretreated prior to use in its beverage manufacturing process. A backflow preventer separates the municipal influent source from the first pre-treatment 10-micron filter. Preliminary filtration is followed by treatment with water softening and anti-chlorination solutions prior to additional filtration through a 3-micron filter. The permittee currently utilizes two RO units to treat Worcester municipal drinking water to achieve the required water purity for its beverage production process. Only one of the two units is run full time while the second unit cycles on and off depending on the demand.

### **Determination of Applicability of Specific Antidegradation Designations**

Federal antidegradation policy established three tiers of protection. The first tier established a standard that is applicable to all waters and requires that all "existing uses" of a water body and level of water quality necessary to protect those existing uses be maintained and protected [See 40 CFR 131.12(a)(1)]. Under Massachusetts antidegradation requirements in 314 CMR 4.04, "in all cases existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Existing uses are defined as, "Those designated uses and any other uses that do not impair the designated uses that are actually attained in a water body on or after November 28, 1975; except that in no case shall assimilation or transport of pollutants be considered an existing use."

The *Implementation Procedures for the Antidegradation Provisions of the Massachusetts Water Surface Water Quality Standards*, 314 CMR 4.00 may be found at <https://www.mass.gov/doc/antidegradation-implementation-procedures-0/download> and require the following:

- (1) An identification of existing uses;
- (2) A determination of water quality impact; and
- (3) A comparison with criteria.

The applicable Massachusetts Water Quality Standards (MA WQS), at 314 CMR 4.00, identify the entire length of the Middle River, which in its entirety is segment MA51-02) as a Class B water that is designated to support aquatic life and recreational uses. According to the MA WQS, these waters

are designed as habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. These waters have consistently good water quality. In addition, Middle River's classification includes a further qualifier as a warm water fishery, which indicates special considerations and uses that may affect the application of criteria or antidegradation provisions of 314 CMR 4.00.

*The Massachusetts Year 2016 Integrated List of Waters Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act* (the "2016 Integrated List") includes this waterbody as a Category 5 water, which are those classified as "Waters requiring a TMDL." Specifically, the 2016 Integrated List identifies Middle River as impaired for nutrient/eutrophication biological indicators, turbidity, *Escherichia coli*, aquatic macroinvertebrate bioassessments, and debris/floatables/trash. One 0.2 mile reach is culverted underground, thereby impairing aquatic life. The rest of the river is channelized with natural substrate.

This water is impaired (i.e., not supporting one or more intended use) as noted above. The impairment was related to the presence of one or more "pollutants," and the source of those pollutants was not considered to be natural. Therefore, the proposed increased discharge is subject to a Tier I review for these impairments and a Tier II review for other pollutants that are not causing impairment to the Middle River.

### **Tier I Review**

The general area around the discharge is an urban river environment that is partially culverted. The effluent from the facility is essentially tap water, containing the typical chemical parameters of the source water, but at higher concentrations. The proposed flow increase will not increase the concentration of the discharge. The effluent limits in the permit are based on the MA WQS for Class B waters and will ensure that the discharge does not cause or contribute to the lowering of water quality and, in fact, contain total residual chlorine (TRC) limitations to ensure water quality is maintained.

### **Tier II Review**

High quality waters are protected and maintained for the existing level of quality. Discharges are permitted to these waters only when there will be no significant lowering of water quality, or an Antidegradation Authorization is granted for to allow for the lowering of water quality. MassDEP may determine that a discharge is insignificant "because it does not have the potential to impair any existing or designated water use and does not have the potential to cause any significant lowering of water quality." See 314 CMR 4.04(2). Based on the existing monitoring results from the facility and the proposed flow increase, MassDEP finds that the discharge will not further impair the Middle River, and is therefore deemed insignificant.

### **Authorizations**

In accordance with 314 CMR 4.04(5), an authorization to discharge to the waters designated for protection under 314 CMR 4.04(2) may be allowed by MassDEP where the applicant demonstrates that:

1. *The discharge is necessary to accommodate important economic or social development in the area in which the waters are located;*

The applicant/permittee, Polar Corporation produces waters and beverages at this location and is a major employer in the Greater Worcester area.

2. *No less environmentally damaging alternative site for the activity, receptor for the disposal, or method of elimination of the discharge is reasonably available or feasible;*

Polar discharges RO reject water to a roof leader system that discharges to a storm drain system and eventually to the Middle River. Based on previous sampling of Polar's discharge, TRC is present at low levels. However, an analysis incorporating the increased flow found that discharges of TRC have reasonable potential to cause or contribute to an excursion above the chronic and acute aquatic life water quality criterion. As a result, TRC limitations are incorporated into the permit to maintain water quality standards.

3. To the maximum extent feasible, the discharge and activity are designed and conducted to minimize adverse impacts on water quality, including implementation of source reduction practices; and

The design of the system utilizes reverse osmosis filters that will be maintained and replaced on a scheduled basis.

4. The discharge will not impair existing water uses and will not result in a level of water quality less than that specified for the Class.

As described above, the effluent characteristics of the RO reject water will not impair the designated uses of the Middle River. To the maximum extent feasible, the discharge and activity, combined with the associated effluent limitations for TRC are designed and conducted to minimize adverse impacts on water quality.

### **Determination**

The Department has determined that the proposed discharge meets the requirements of the Antidegradation Provisions of the MA WQS and complies with the policy document entitled *Implementation Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, effective 10/21/2009.*

Signed: \_\_\_\_\_  
Lealdon Langley, Director  
Division of Watershed Management  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

Date: \_\_\_\_\_