



**ANN ARBOR
WATER**

Committed to Excellence

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February 16, 2024

Ms. Jessica Stiles, Water Quality Analyst
Industrial and Storm Water Permits Unit - Water Resources Division
Michigan Department of Environment, Great Lakes and Energy (EGLE)
Constitution Hall
525 West Allegan
P.O. Box 30473
Lansing, MI 48909

**RE: Gelman National Pollutant Discharge Elimination System (NPDES) Draft Permit No. MI0048453
Gelman Sciences LLC**

Dear Ms. Stiles:

Thank you for the opportunity to comment on the draft discharge permit MI0048453, proposed for Gelman Sciences LLC. The City of Ann Arbor (City) has a vested interest in the remediation of the Gelman 1,4-dioxane (1,4-D) contamination due to the potential impacts to its drinking water source from both the migration of the contaminated groundwater plume and from the discharge of pollutants to surface water upstream of the City's source water intake, which includes 1,4-D discharged under the subject permit.

The draft permit retains a discharge allowance of 1.872 million gallons per day (MGD) of treated process water to flow into an unnamed tributary to Honey Creek, which flows into Honey Creek and then to the Huron River. The City's drinking water intake is located in Barton Pond, approximately 2.5 miles downstream of the confluence of Honey Creek and the Huron River. The City supplies water to approximately 125,000 people at an average daily demand of 14 million gallons. The Water Treatment Plant draws 85 percent of its water supply from the Barton Pond intake. Treated water is pumped to homes, schools, and businesses in Ann Arbor as well as to Ann Arbor and Scio Townships for resale to their customers.

Between January 2018 and January 2024, water quality sampling results have shown detectable levels of 1,4-D in Barton Pond on seven occasions, using US Environmental Protection Agency (USEPA) Method 522. Detectable levels of 1,4-D were found in the City's finished drinking water, supplied to customers, on two occasions.¹ Sampling results have also indicated positive detections of bromate in Barton Pond on five occasions.² Any increase in these pollutants could result in additional detections and may require the need

¹ 1,4-D detections occurred in Barton Pond: December 2018; February, April, September of 2019; and February and August 2020. Detections in the finished water supply occurred in March 2018 and September 2019.

² Bromate was detected in Barton Pond: September and December 2021; July, September, and December 2022.

for additional treatment. Dioxane-specific treatment would require substantial capital improvements to the water treatment plant, resulting in significant rate increases across the customer base.

The City recently completed *The Ann Arbor Water Strategic Plan*³ (Plan) that provides a planning framework for the Water Treatment Plant over the next 50 years. The planning process involved a robust community engagement process including surveys, workshops, and community events with members of the public and City staff. 1,4-D was identified as one of the main contaminants of concern by community members and staff. As such, several of the Plan's recommended actions aim to manage the 1,4-D risk.

To protect the source water intake at Barton Pond, the City requests the following changes to the draft permit:

The daily maximum permit limit should be based on actual treatment performance. The Basis for Decision Memo⁴ states that the technology based effluent limits (TBELs) for the monthly and daily maximum permit limits were initially based on the 95th and 99th percentile of the reported effluent data, respectively. Using a period of record between June 2018 through May 2023, the monthly limit was calculated to be 7.0 micrograms per liter (ug/L) and the daily maximum was calculated to be 9.0 ug/L. At the request of Gelman, EGLE retained the 22 ug/L daily maximum limit to allow for operational flexibility of the ozone/hydrogen peroxide pump and treat system, specifically regarding the operation of well TW-24. While the City agrees that the pump and treat volume should be increased to address plume migration, it should not be at the expense of degrading surface water quality that may result from this discharge into the tributary to Honey Creek. Please implement a daily maximum permit limit of 9 ug/L in accordance with the TBEL calculations made by EGLE.

The Best Available Technology selection should be reanalyzed. The current ozone/ hydrogen peroxide treatment system has been in operation since 2005. The City believes there are sufficient concerns with the current treatment technology to warrant a reevaluation of the Best Available Technology (BAT). The Basis for Decision Memo does not mention any potential technological alternatives, let alone contain a BAT analysis. Concerns with Gelman's existing treatment system include harmful biproducts, operability due to site-specific conditions, and treatment performance:

Harmful biproducts: The current treatment technology forms bromate, a suspected human carcinogen that is discharged through the effluent and is regulated in municipal drinking water. This is a significant concern for the City. There are alternate treatment technologies that do not form harmful biproducts.

Operability due to site specific conditions: Site-specific soil conditions contain naturally occurring elevated levels of iron which can result in significant challenges with the effectiveness and operability of a treatment system. A treatment technology that can effectively reduce 1,4-D and not produce a suspected human carcinogen, in the presence of high iron should be considered.

Treatment performance: To the City's knowledge, the selection of the BAT has not been reviewed since 2005. Advancements in 1,4-D treatment technology over the past 19 years may have resulted in other treatment technologies or a combination of treatment alternatives that are more effective at reducing 1-4D levels below 7 ug/L. Improvements in treatment performance could also potentially allow Gelman to increase pump and treat volume without exceeding NPDES permit limits. EGLE should not accept Gelman's existing treatment system without a robust analysis of these issues.

The permit term should be shortened to two years to accommodate uncertainty. The transition of oversight of the Gelman remediation from EGLE to the USEPA could result in a change of management strategy. The City is concerned that a five-year permit term would constrain potential water quality

³ Ann Arbor Water. 2023. Ann Arbor Water Strategic Plan: Water Treatment Plant Facility Plant. Available [here](#).

⁴ EGLE. July 31, 2023. *Basis for Decision Memo*. Permit No. MI0048453; Gelman Sciences LLC (formerly Pall Life Sciences Inc)

improvements. Furthermore, a shortened permit term could be used as a stopgap as EGLE and Gelman reevaluate the BAT, as mentioned in the above comment.

The sampling frequency for 1,4-D and bromate should be increased from five times (5x) per week to daily. The current sampling frequency of 5x per week means that there are times when the system is actively discharging into a tributary leading to the City's water supply during periods when no testing occurs. The City requests that at least daily samples be collected and analyzed (7x per week, 24-hour composite) for 1,4-D and bromate. These adjustments are necessary to ensure the City's water supply is adequately protected.

The discharge location should be moved downstream of the Barton Pond intake. The preferred solution for protecting the City's drinking water source is to not allow discharge to the unnamed tributary to Honey Creek and instead require the discharge location to be downstream of the Barton Pond dam. This would ensure protection of residents' drinking water and could allow for an increase in volume of the pump and treat system. Notably, there are no other water intake facilities on the Huron River **downstream of** Ann Arbor's, and thus no other water supply system would be impacted by this change. The City is open to partnering with EGLE on the identification and selection of downstream discharge locations.

Please consider these comments and requests as you finalize the Gelman NPDES permit. I would be happy to discuss these in detail with you at your convenience.

Respectfully,

Brian Steglitz

Brian Steglitz, P.E.
Public Services Area Administrator
City of Ann Arbor, MI