# 3M Chemical Operations LLC's Comments to December 18, 2024 Draft NPDES/SDS Permit No. MN0001449 for 3M Cottage Grove Facility Cottage Grove, Washington County, Minnesota

**February 3, 2025**

## I. Executive Summary

3M Chemical Operations LLC (3M) appreciates the opportunity to provide comments on the revised Draft National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit MN0001449 (December 2024) (Revised Draft Permit) for 3M's Cottage Grove Facility. 3M adopts and incorporates herein its previous comments submitted with respect to the July 2024 Draft National Pollutant Discharge Elimination System/State Disposal System Permit MN0001449 (July Draft Permit) on August 30, 2024 (August 2024 Comments), as well as all prior correspondence between 3M and the Minnesota Pollution Control Agency (MPCA) related to the reissuance of National Pollutant Discharge Elimination System/State Disposal System Permit MN0001449.

In its August 2024 Comments, 3M identified two key shared objectives for a final permit. Those continue to guide its comments here. First, the final permit should reflect 3M's and MPCA's shared goals of reducing discharges of PFAS from the Cottage Grove facility. Second, the final permit should establish a clear and unambiguous path for the facility to achieve and maintain full compliance with its terms, consistent with the requirements of the federal Clean Water Act (CWA) and the State of Minnesota's Water Pollution Control Act. 3M appreciates that MPCA has made certain changes to the July Draft Permit in response to comments from 3M and others. However, the Revised Draft Permit continues to impose certain requirements for the facility's wastewater discharges and the operation of the state-of-the-science advanced wastewater treatment system being constructed at the facility that are legally impermissible, unsupported by the record, and factually and technically unsupportable, and, therefore, arbitrary and capricious.

3M's August 2024 Comments also discuss the history and background of the Cottage Grove facility in some detail. Some key aspects bear repeating here. The MPCA-approved advanced wastewater treatment system currently under construction at Cottage Grove is atypical, both with respect to its innovative use of technology and as to the characteristics of the water that will be treated by the system. The system itself will be a $300 million state-of-the-science advanced wastewater treatment system that is purposefully designed to treat PFAS in wastewater, stormwater and groundwater through the deployment of three separate technologies—granular activated carbon (GAC), reverse osmosis (RO), and ion exchange (IX). To 3M's knowledge, the only other state-of-the-science facilities of the nature and size of Cottage Grove's advanced wastewater treatment system in the United States are at 3M's Cordova, Illinois facility, and the one currently under construction at 3M's Decatur, Alabama facility.

3M announced in December 2022 that it would exit the manufacture of PFAS by the end of 2025 and it is on track to meet that goal. Accordingly, by the time the advanced wastewater treatment system has completed the initiation of operations, the Cottage Grove facility will have exited the manufacture of PFAS. At that time, with respect to PFAS, all of the water that will be treated by the advanced wastewater treatment system comes from PFAS-containing groundwater from the Cottage Grove facility extraction wells that control migration offsite of PFAS and the Woodbury disposal site,

which 3M treats pursuant to a 2007 settlement agreement with the MPCA.[1] Groundwater is, and will remain, the primary contributor of PFAS to be treated at the facility. 3M strongly urges MPCA to consider this context as it determines its next steps with respect to the Revised Draft Permit.

With that in mind, in the sections following this Executive Summary, 3M details the primary legal and technical issues with the Revised Draft Permit, which are briefly outlined below:[2]

- The WQBELs for PFOA, PFOS and PFHxS continue to be arbitrary and capricious and inconsistent with applicable law. While the MPCA did modify its methodology for deriving the site-specific water quality criteria upon which the WQBELs are based, significant issues remain including: (1) MPCA's continued failure to follow its own regulations and guidelines in deriving the Revised Draft Permit's WQBELs for PFOA, PFOS and PFHxS; and (2) MPCA's continued failure to follow applicable law in setting the WQBELs that are "reasonable, feasible, and practical."
- With respect to limits for PFOA, PFOS and PFHxS, the July Draft Permit introduces a new issue, which is the derivation of mass-based WQBELs for PFOA, PFOS and PFHxS that are not known to be achievable at design flow levels, negate the purpose of the concentration-based Compliance Limits for these PFAS, and that – if finalized – could limit 3M's ability to treat the volume of groundwater required for remedial activities. As discussed herein, that is because the mass limits are so low that any detection of PFOA, PFOS and PFHxS – even a detection below the concentration-based Compliance Limits for those substances – could result in a violation of the monthly mass limit. If that occurs, 3M would have to consider its options for ensuring compliance moving forward. Those could include operational changes to the advance wastewater treatment system. But, if those are unsuccessful, another change 3M would have to consider to ensure compliance is to reduce the flow of water entering the system, including of groundwater.
- The Revised Draft Permit also fails to address MPCA's arbitrary and capricious determination of the 7Q10 flow of the Unnamed Creek, which impacts effluent limits for a number of parameters.
- The Revised Draft Permit purports to apply a new definition of "believed to be present" in connection with the development of the permit analyte list. As discussed herein, that definition is inconsistent with applicable law and past practices, and results in the arbitrary and capricious inclusion of certain analytes without any reasonable basis to believe they would be present in the facility's discharge.
- The Revised Draft Permit establishes "daily maximum threshold values" for PFHxS, PFOS and PFOA (along with other PFAS) that are below currently available analytical capabilities

[1] Settlement Agreement and Consent Order, *In the matter of Releases and Discharges of Perfluorochemicals at and From Sites in Washington County, Minnesota, and Certain Related Matters* (May 22, 2007) (hereinafter SACO). The SACO is attached to 3M's August 2024 Comments as Exhibit L and is incorporated herein.

[2] This comment letter identifies issues in addition to those discussed in this Executive Summary and 3M reserves all rights with respect to the issues raised in these comments as well as 3M's August 2024 Comments.

and, even if they could be measured, will not provide for "vigilant operation" of the advanced wastewater treatment system.[3]

- 3M also proposes revisions to some of the conditions of the Revised Draft Permit, including (1) an alternative to the newly imposed requirement that flow monitoring equipment be installed on each process wastewater stream prior to commingling in the next 24 months, and (2) clarification of certain terms in the compliance schedule.

For the reasons set forth in this comment letter and its exhibits, as well as 3M's August 2024 Comments (and exhibits attached thereto), 3M respectfully requests that MPCA modify the Revised Draft Permit to achieve consistency with federal and Minnesota law and provide regulatory certainty to the facility. 3M stands ready to work with MPCA to advance our common objectives – *i.e.,* to reduce PFAS in wastewater and stormwater discharges from Cottage Grove and to ensure that the permit conditions are clear, unambiguous and meet the requirements of federal and state law.

## II. WQBELs for PFOA, PFOS and PFHxS

### A. Flaws Remain in MPCA's Derivation of WQBELs for PFOA, PFOS and PFHxS

3M and its experts from Gradient[4] previously commented extensively on the flaws in MPCA's derivation of the ultra-low WQBELs for PFOA, PFOS and PFHxS in the July Draft Permit, which were based on site-specific water quality criteria that MPCA developed for pool 2 of the Mississippi River in May 2024 (May SSC).[5] Those flaws resulted in ultra-low WQBELs for PFOA, PFOS and PFHxS in the July Draft Permit that were arbitrary and capricious and inconsistent with Minnesota law.[6]

In connection with the Revised Draft Permit, MPCA also issued a revised site-specific water quality criteria for pool 2 of the Mississippi River dated December 2024 (Revised SSC).[7] Gradient reviewed both the Revised Draft Permit and the Revised SSC, and a supplemental report discussing its review is attached.[8] 3M appreciates that MPCA has addressed one of the process flaws it identified in its comments – MPCA's incorrect use of the regression on order statistics (ROS) method for calculating

---

[3] *See* MPCA, *National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit Program Fact Sheet, Permit Reissuance, MN0001449* (Dec. 18, 2024) (hereinafter the "Revised Fact Sheet" and incorporated herein) at p. 123.

[4] *Report Related to Reissuance of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit MN0001449 for the 3M Cottage Grove Center Facility in Cottage Grove, Minnesota*, prepared by Robyn Prueitt, Ph.D., DABT, and Tim Verslycke, Ph.D. (hereinafter the "Gradient Expert Report") attached to 3M's August 2024 Comments as Exhibit G and incorporated herein.

[5] *See* MPCA website at Developing water-quality criteria for PFAS. The abbreviation "SSC" used throughout shall mean "site-specific water quality criteria".

[6] *See* August 2024 Comments at pp. 10-20.

[7] MPCA, 2024. *Human Health Protective Water Quality Criteria for Per- and Polyfluoroalkyl Substances (PFAS) in Mississippi River, Miles 820 to 812*, at Tbl. 2-2. Online,https://www.pca.state.mn.us/sites/default/files/wq-s6-69a.pdf.

[8] *Comments of Robyn Prueitt, Ph.D. DABT, and Tim Verslycke, Ph.D., Related to Reissuance of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit MN0001449 for the 3M Cottage Grove Center Facility in Cottage Grove, Minnesota* (Jan. 31, 2025) (hereinafter the "Suppl. Gradient Report" and incorporated herein as Exhibit 1).

bioaccumulation factors (BAFs) for PFOA and PFHxS.[9] MPCA's remedy of this error has resulted in a slight increase to the WQBELs for PFOA and PFHxS in the Revised Draft Permit.[10]

However, neither the Revised Draft Permit nor the Revised SSC remedy the errors in the May SSC and the July Draft Permit identified by 3M and Gradient related to:

- MPCA's arbitrary treatment of certain non-detect samples, which results in detection frequencies for certain PFAS that are not supported by the data; [11]
- MPCA's use of an arbitrary, non-site-specific FCR;[12]
- MPCA's failure to comply with applicable regulations requiring MPCA to either: (1) obtain RfDs from MDH; or (2) develop the RfDs according to the definitions of carcinogen and reference dose found in Minn. R. 4717.7820, subparts 5 and 21, and 7050.0218, subpart 3;[13]
- MPCA's arbitrary and capricious approach to developing fish-tissue-based criteria for PFOA and PFHxS;[14] and
- MPCA's arbitrary reliance on unsupported toxicological values and exposure parameters.[15]

In light of the issues raised above and in the Suppl. Gradient Report (as well as 3M's August 2024 Comments and the Gradient Expert Report), 3M respectfully requests that the December SSC and the WQBELs in the Revised Draft Permit for PFOA, PFOS and PFHxS be recalculated consistent with the requirements of Minnesota and federal law.

---

[9] *Id.* at 2 (Sec. 2.1), and MPCA, *Public Notice of intent to reissue, Wastewater Permit and TMDL Wasteload Allocation Permit MN0001449* (Dec. 18, 2024) (hereinafter "December 2024 Public Notice" and incorporated herein) at p. 2.

[10] It also resulted in the removal of WQBELs for PFHxA at SD 001 and SD 002, and increased WQBELs for PFBA (SD 001) and PFBS. [*See* December 2024 Public Notice at p. 2 that contains conflicting statements regarding the impact that the incorrect use of the ROS had on the WQBEL for PFOS. ("SSC and WQBELs were re-calculated for all six PFAS parameters with limits in the previously public noticed draft permit (*except for PFOS, which had no values below detection, so it was not impacted by the use of ROS*). (emphasis supplied). MPCA then states that this recalculation resulted in the removal of the limits for PFHxA at both SD 001 and SD 002 and *increased limits for the remaining five PFAS parameters* (PFBA (SD 001 only), PFBS, PFHxS, PFOA, and *PFOS*"). (emphasis supplied)

[11] August 2024 Comments at pp. 14-15; Gradient Expert Report at pp. 11-12 (Sec. 3.3).

[12] August 2024 Comments at pp. 15-16; Suppl. Gradient Report at pp. 3-5 (Sec. 2.3).

[13] August 2024 Comments at pp. 17-20; Gradient Expert Report at pp. 5-9 (Sec. 3.1) and Suppl. Gradient Report at p. 3 (Sec. 2.2).

[14] Gradient Expert Report at pp. 12-13 (Sec. 3.4).

[15] Gradient Expert Report at pp. 15-27 (Sec. 3.6).

### B. The WQBELs for PFOA, PFOS, and PFHxS are Not Reasonable, Feasible, and Practical as Required by Minnesota Law

3M and its experts from Arcadis[16] previously commented extensively that the ultra-low concentration-based WQBELs for PFOA, PFOS and PFHxS in the July Draft Permit were not reasonable, feasible and practical, as required by Minnesota law, including because there was no evidence in the record that the state-of-the-science advanced wastewater treatment system under construction at Cottage Grove could achieve those limits.[17]

As noted above, in the Revised Draft Permit, MPCA recalculated the SSC and the resulting WQBELs for PFOA and PFHxS, resulting in slight increases in those discharge limits.[18] The WQBEL for PFOS did not change. Arcadis reviewed the revised WQBELs for PFOA and PFHxS and concluded that, as was true for the WQBELs for those parameters in the July Draft Permit, there is no evidence in the record (including the Treatability Study for the advanced wastewater treatment plant[19]) supporting a finding that the advanced wastewater treatment system (or any other treatment system operating at the scale requires for the Cottage Grove facility) can achieve the revised WQBELs for PFOA and PFHxS.[20]

Accordingly, and for the reasons discussed in 3M's August 2024 Comments, the Arcadis Expert Report and the Suppl. Arcadis Report, 3M respectfully requests that the December SSC and the WQBELs in the Revised Draft Permit for PFOA, PFOS and PFHxS be recalculated consistent with the requirements of Minnesota and federal law.

## III. 7Q10 Unnamed Creek

MPCA's failure to modify the 7Q10 value for Unnamed Creek, its disregard of Unnamed Creek watershed data, and its failure to apply the United States Geologic Survey's (USGS) established methodology for determining stream flow is arbitrary and capricious. As such, the effluent limitations it calculated for the parameters identified in 3M's August 2024 Comments[21] based on the assumption that Unnamed Creek has no flow ("zero") are arbitrary and capricious. As outlined in 3M's August 2024 Comments it is incumbent upon MPCA to apply Unnamed Creek data.

---

[16] *Technical Review of 3M Cottage Grove Advanced Wastewater Treatment System*, prepared by Corey Theriault, PE, Keith Foster, PG and Lauren March, PE (hereinafter the "Arcadis Expert Report") attached to 3M's August 2024 Comments as Exhibit E and incorporated herein.

[17] *See* August 2024 Comments at pp. 20-26; Arcadis Expert Report at pp. 26-27 (Sec. 5.3).

[18] Revised Draft Permit at Section 6.

[19] *PFAS Treatability Study Alternatives Identification Plan*, 3M Cottage Grove, MN Facility (May 2021) and Montrose Environmental Group and Barr Engineering, and *PFAS Treatability Study Alternatives Identification Plan (Updated)*, 3M Cottage Grove, MN Facility (July 2021) (collectively the "Treatability Study"). The Treatability Study is attached to 3M's August 2024 Comments as Exhibit A-1 and A-2, respectively, and incorporated herein.

[20] *Supplemental Technical Review 3M Cottage Grove Advanced Wastewater Treatment System PFAS Treatment System*, prepared by Joseph Quinnan, PE, PG, and Keith Foster, PG (Feb. 3, 2025) (hereinafter the "Suppl. Arcadis Report" and incorporated herein as Exhibit 2) at pp. 2-3, *see also* MPCA, *Report to the Legislature: PFAS Removal Report, Strategies and funding options to address PFAS removal in drinking water and wastewater* (January 2025), available at https://www.pca.state.mn.us/sites/default/files/lrc-pfc-4sy25.pdf, at p. 20 (noting that only one wastewater treatment facility in Minnesota has permitted concentration limits for PFOA and PFOS, which are many orders of magnitude higher than the WQBELs in the Revised Draft Permit).

[21] *See* August 2024 Comments at pp. 49-50.

The Revised Fact Sheet incorrectly states that the 7Q10 flow in Unnamed Creek is zero.[22] The correct 7Q10 flow for Unnamed Creek is 7.22 cubic feet a second (CFS). 3M determined the correct value for the 7Q10 using the USGS StreamStats application. The methodology considers drainage area, percentage of storage based on the National Wetland Inventory, and hydrologic soil type. For ungaged streams, StreamStats calculates a 7Q10 flow from several inputs, including precipitation data, drainage area, soil types, and water storage capacity from the National Wetlands Inventory.[23]

MPCA's reliance upon an unpublished alternative method known as "Equal Yield" to reach its conclusion that Unnamed Creek has a zero 7Q10 flow is arbitrary and capricious.[24] According to MPCA, it evaluated flow regimes in two neighboring watersheds – Battle Creek and Fish Creek – even though those watersheds are not comparable to the Unnamed Creek watershed. The Unnamed Creek watershed drains an area of approximately 18.86 square miles, while the Battle Creek and Fish Creek watersheds have a much smaller drainage area of 9.49 square miles and 4.56 square miles, respectively. More importantly, Unnamed Creek is considered a controlled watershed as it receives flow from an upstream lake, while the Battle Creek and Fish Creek watersheds are uncontrolled. Based on the foregoing, MPCA's extraordinary efforts to find a rationale to support its conclusion that Unnamed Creek has zero flow is arbitrary and capricious. To remedy this error, 3M requests that MPCA apply the USGS 7Q10 generated value for Unnamed Creek of 7.22 CFS to calculate the effluent limitations for the parameters referenced in its August 2024 Comments,[25] as well as make the changes to Revised Fact Sheet identified here:

- Page 36: "Added chronic WET testing (to protect the unnamed creek) since the dilution ratio of the stream flow to the maximum design flow is less than 20:1. Since the 7Q10 is ~~0.0~~ 7.22 cubic feet per second (cfs) for the unnamed creek . . . ."
- Page 55: "SD 001: Process and Sanitary Effluent. The receiving water lowest average seven-day flow with a once in ten-year recurrence interval (7Q10) low flow at outfall SD 001 is ~~zero~~ 7.22 cfs, thus no dilution factors were used in determining the discharge limits in relation to the immediate receiving waters."
- Page 94: "SD 002: NCCW, GW, and Stormwater Runoff. The receiving water lowest average seven-day flow with a once in ten-year recurrence interval (7Q10) low flow at outfall SD 002 is ~~zero~~ 7.22 cfs, thus no dilution factors were used in determining the discharge limits in relation to the immediate receiving waters."
- Page 119: "SD 003: Combined Discharge from SD 001 and SD 002. The receiving water lowest average seven-day flow with a once in ten-year recurrence interval (7Q10) low flow at

[22] *See* Revised Fact Sheet at p. 106.

[23] *See* https://streamstats.usgs.gov/ss/; Ziegeweid, J.R., Lorenz, D.L., Sanocki, C.A., and Czuba, C.R., 2015, *Methods for estimating flow-duration curve and low-flow frequency statistics for ungaged locations on small streams in Minnesota: U.S. Geological Survey Scientific Investigations Report 2015–5170*, 23 p., http://dx.doi.org/10.3133/sir20155170.

[24] *See* Low Flow Determination Notes, Bruce Henningsgaard, July 17, 2023 (attached hereto as Exhibit 4 and incorporated herein).

[25] *See* August 2024 Comments at pp. 49-50 and *StreamStats Report Unnamed Creek* (attached hereto as Exhibit 5 and incorporated herein).

outfall SD 003 is ~~zero~~ 7.22 cfs, thus no dilution factors were used in determining the discharge limits in relation to the immediate receiving waters."

- Page 120: Reasonable Potential for Whole Effluent Toxicity (WET) . . . . To protect the unnamed creek, the Permittee is now (in addition to the above) required to perform chronic WET testing since the dilution ratio of the stream flow to the maximum design flow is less than 20:1. Since the 7Q10 is ~~0.0~~ 7.22 cfs for the unnamed creek, the Permittee will need to meet the chronic WET monitoring value of 1.0 Toxic Unit chronic (TUc) at SD 003."
- Page 130: "Whole effluent toxicity . . . To protect the unnamed creek, the Permittee is now (in addition to the above) required to perform chronic WET testing since the dilution ratio of the stream flow to the maximum design flow is less than 20:1. Since the 7Q10 is ~~0.0~~ 7.22 cfs for the unnamed creek, the Permittee will need to meet the chronic WET monitoring value of 1.0 Toxic Unit chronic (TUc). This is a monitoring threshold value, not a limit."
- In addition, each of the sections of the Revised Fact Sheet (identified below) state that "site-specific criterion was met at the confluence of the unnamed creek and at the stream's confluence with the Mississippi River under a *zero 7Q10 low flow condition*." (emphasis supplied). Each of those references to a zero 7Q10 value should be changed to reflect the actual flow for Unnamed Creek of 7.22 CFS.
    - Page 72 and 108: PFBS Reasonable Potential Analysis
    - Page 72: PFBA Reasonable Potential Analysis
    - Page 73: PFHxA Reasonable Potential Analysis
    - Page 73 and 108: PFHxS Reasonable Potential Analysis
    - Page 73 and 108: PFOA Reasonable Potential Analysis
    - Page 73 and 108: PFOS Reasonable Potential Analysis

## IV. PFAS Mass Loading Limit Provisions

### A. Summary

The Revised Draft Permit establishes mass-based effluent limitations (mass loading limits) for PFOA, PFOS, and PFHxS that, without adjustments of the provisions addressing how to determine compliance with those limits, are unworkable and potentially disruptive to other actions of interest to MPCA. As discussed in more detail below, the mass limits for PFOA, PFOS, and PFHxS require meeting effluent concentrations that are orders of magnitude below the concentration-based Compliance Limits established in the Revised Draft Permit for those same constituents. Thus, the Revised Draft Permit is internally inconsistent and needs further adjustment.

The mass limits and the Compliance Limits for PFOA, PFOS and PFHxS are inconsistent for the simple reason that, to meet the mass limits at expected flow rates (discharge rates), the concentration of PFOA, PFOS, and PFHxS must be far below the Compliance Limits. The Compliance Limits were established by MPCA because the water quality-based limits (WQBELs) for PFOA, PFOS, and PFHxS are too low to measure with current analytical methods. The Revised Draft Permit calculates mass by multiplying the concentration of a constituent by the volume (flow) of water over a unit of time to get mass units per unit of time (e.g., grams per day). As demonstrated below and in the Declaration of

Michael J. Parent, Ph.D.,[26] the concentration required to meet the mass limits for PFOA, PFOS, and PFHxS at the design flow for each outfall (SD 001 and SD 002) is equal to the concentration-based WQBELs for those constituents.[27] Since the determination of compliance with a mass limit uses the same sampling results used to determine whether the Compliance Limits have been met, not using the same approach for both types of limits is arbitrary and capricious. 3M respectfully requests that MPCA address this issue as suggested below.

The issue of how to properly calculate mass limits takes on added urgency because the PFOA, PFOS, and PFHxS in the water that will be treated in the advanced wastewater treatment system primarily originates from groundwater that 3M is required to treat to control the migration of PFAS at and near the Cottage Grove facility and under an agreement with MPCA.[28] As MPCA is aware, 3M is on track to exit the manufacturing of PFAS at Cottage Grove by the end of 2025. While some remedial work will be required to address legacy PFAS in things like the chemical sewers, if optimization of the advanced wastewater treatment system cannot consistently achieve discharge limits, 3M will need to consider options for coming into compliance. That could include operational changes to the advanced wastewater treatment system, but if those are not successful 3M could be forced to consider reducing the mass of PFAS entering the treatment system by limiting the volume of groundwater treated. 3M respectfully requests that MPCA revise the permit to ensure that it does not impair the important groundwater remediation work that will be the primary use of the advanced wastewater treatment system going forward.

### B. Background

The WQBELs in the Revised Draft permit for PFOA, PFOS, and PFHxS are orders of magnitude less than any current laboratory technology can measure. These WQBELs are based on SSC established for a portion of the Mississippi River that includes the Cottage Grove facility's discharge points. These WQBELs are expressed in the Revised Draft Permit as concentration-based limits which, when applied to the flow of water through the advanced wastewater treatment system, produce mass loading limits.

The July Draft Permit included final mass loading limits for PFBS, PFBA, PFHxS, PFOS, and PFOA, expressed as calendar monthly average mass effluent limitations in grams per day (g/day) for SD 001 and SD 002. In the Revised Draft Permit, the MPCA includes revised mass limits for the five PFAS parameters to account for a unit conversion error in the July Draft Permit. In the December SCC, MPCA also revised the mass limits to reflect updated SSC for PFBS, PFBA, PFHxS, and PFOA.

The universal equation to calculate a daily mass loading value is:

**Equation 1:**

$$Mass\ Loading\ Value\ \left(\frac{g}{day}\right) = Sample\ Concentration\ \left(\frac{ng}{L}\right) * \frac{3.785\ L}{1\ gal} * \frac{1\ g}{10^9\ ng} * Flow\ rate \left(\frac{gal}{day}\right)$$

[26] Declaration of Michael J. Parent, Ph.D. (hereinafter "Parent Declaration") (attached hereto as Exhibit 3 and incorporated herein).

[27] *Id.*

[28] See SACO.

MPCA used the above equation to calculate the daily mass loading for PFBS, PFBA, PFHxS, PFOS, and PFOA by applying their respective WQBEL and the design flow rates for SD 001 and SD 002 (6.5 MGD and 8.7 MGD, respectively) as shown here in Equation 2:

**Equation 2:**

$$Mass\ Loading\ Limit\ \left(\frac{g}{day}\right) = WQBEL\ \left(\frac{ng}{L}\right) * \frac{3.785\ L}{1\ gal} * \frac{1\ g}{10^9\ ng} * Design\ flow\ rate\left(\frac{gal}{day}\right)$$

Table 1 and Table 2 present a summary of the final monthly average mass-based limits, concentration-based limits, and Compliance Limits for PFBS, PFBA, PFHxS, PFOS, and PFOA at SD 001 and SD 002.[29] As noted above, the MPCA has established Compliance Limits for PFHxS, PFOS, and PFOA because the WQBELs "are below the conventional (<2-4 ng/L) reporting limit for currently available analytical technology." To address this, the Revised Draft Permit provides: "Therefore, a separate compliance limit . . . has been established for the purpose of reporting limit compliance data to the MPCA."[30]

**Table 1: SD 001 PFAS Mass Limits Summary, Extracted from the Revised Draft Permit**

| Parameter | Final Mass Limit (monthly average) g/day | Final Concentration Limit (monthly average) ng/L | Final Compliance Limit (where applicable) ng/L |
|---|---|---|---|
| PFBS | 189.8 | 7,715 | -- |
| PFBA | 1,829 | 74,344 | -- |
| PFHxS | 0.0003 | 0.012 | 2.1 [1] |
| PFHxA | None (monitoring only) | | |
| PFOS | 0.00093 | 0.038 | 2.2 [1] |
| PFOA | 0.0011 | 0.046 | 2.1 [1] |

**Table 2: SD002 PFAS Mass Limits Summary, Extracted from the Revised Draft Permit**

| Parameter | Final Mass Limit (monthly average) g/day | Final Concentration Limit (monthly average) ng/L | Compliance Limit (if not WQBEL) ng/L |
|---|---|---|---|
| PFBS | 254 | 7,715 | -- |
| PFBA | None (monitoring only) | | |
| PFHxS | 0.0004 | 0.012 | 2.1 [1] |
| PFHxA | None (monitoring only) | | |
| PFOS | 0.0012 | 0.038 | 2.2 [1] |
| PFOA | 0.0015 | 0.046 | 2.1 [1] |

[29] Summary information represented in Table 1 and Table 2 are from Section 6, Limits and monitoring, of the Revised Draft Permit (*see* pp. 131 and 158 (PFBS), 132 and 158 (PFBA), 134 and 160 (PFHxS), 134-135 and 161 (PFHxA), 136 and 162 (PFOS), 137 and 163 (PFOA)).

[30] *See* Revised Draft Permit at pp. 134 and 136 ("Notes" column).

### C. Illustration of Mass Limit Compliance Issue

In this section, we present plausible scenarios to illustrate the problem with the mass limits.

To simplify these scenarios, we will focus on one parameter and discharge station. For these illustrative examples, we will use SD 001 and PFOA. The overall outcomes are similar for any combination of SD 002, PFHxS, PFOS, and PFOA.

For the first scenario, assume a month with four sampling events at SD 001 (as required by the Revised Draft Permit) in which all the PFOA values were reported as ≤2.1 ng/L. Each of these samples would demonstrate compliance with the daily maximum and monthly average Compliance Limit for PFOA of 2.1 ng/L. However, considering the permitted flow rate of 6.5 MGD for SD 001, the monthly average mass discharge (calculated to be 0.0517 g/day) would significantly exceed the mass-based limit for SD 001 (0.0011 g/day). Please note that this calculation assumes that averaging for mass-based values is similar to averaging for concentration-based values as described in the 5.70.83 of the Revised Draft Permit. The following table[31] shows this scenario for the permitted flow rate of 6.5 MGD and several reduced flows. To reach a point of compliance, the flow rate would need to be reduced to 0.14 MGD or less, which is only 2.2% of the design flow rate for SD 001 and 3.2% of the design flow rate for the Woodbury wells.

**Table 8 (Parent Declaration)**

| Samples | 6.5 MGD | | | | 3.25 MGD | | | |
|---|---|---|---|---|---|---|---|---|
| | Concentration (ng/L) | | Mass (g/day) | | Concentration (ng/L) | | Mass (g/day) | |
| 1 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 2 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 3 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 4 | < | 2.1 | < | 0.0517 | < | 2.1 | < | - |
| Monthly Average: | < | 2.1 | < | - | < | 2.1 | < | - |
| In Compliance? | | Yes | | No | | Yes | | No |

| Samples | 1.6 MGD | | | | 0.14 MGD | | | |
|---|---|---|---|---|---|---|---|---|
| | Concentration (ng/L) | | Mass (g/day) | | Concentration (ng/L) | | Mass (g/day) | |
| 1 | < | 2.1 | < | 0.0127 | < | 2.1 | < | - |
| 2 | < | 2.1 | < | 0.0127 | < | 2.1 | < | - |
| 3 | < | 2.1 | < | 0.0127 | < | 2.1 | < | - |
| 4 | < | 2.1 | < | - | < | 2.1 | < | - |
| Monthly Average: | < | 2.1 | < | - | < | 2.1 | < | 0.0011 |
| In Compliance? | | Yes | | No | | Yes | | Yes |

As another example, assume there is a month with four sampling events at SD 001 (as required by the Revised Draft Permit). Out of those four samples, three PFOA values were reported as ≤2.1 ng/L and one sample with a value reported as 2 ng/L. Each of these samples would demonstrate compliance with the daily maximum and monthly average Compliance Limit for PFOA of 2.1 ng/L. However, assuming the design flow rate for SD 001 (6.5 MGD) the calculated monthly average mass discharge (0.0123 g/day) would significantly exceed the mass-based limit for SD 001 (0.0011 g/day). The

[31] *See* Parent Declaration at p. 5, ¶9.

following table[32] shows this scenario for the permitted flow rate of 6.5 MGD and several reduced flows. To reach a point of compliance, the flow rate would need to be reduced to 0.6 MGD or less, which is only 9.2% of the design flow rate for SD 001 and 13.2% of the design flow rate for the Woodbury wells.

**Table 9 (Parent Declaration)**

| Samples | 6.5 MGD | | | | 3.25 MGD | | | |
|---|---|---|---|---|---|---|---|---|
| | Concentration (ng/L) | | Mass (g/day) | | Concentration (ng/L) | | Mass (g/day) | |
| 1 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 2 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 3 | < | 2.1 | < | 0.0517 | < | 2.1 | < | 0.0258 |
| 4 | | 2 | | 0.0492 | | 2 | | 0.0246 |
| Monthly Average: | | 0.5 | | 0.0123 | | 0.5 | | 0.0062 |
| In Compliance? | | Yes | | No | | Yes | | No |

| Samples | 1.6 MGD | | | | 0.6 MGD | | | |
|---|---|---|---|---|---|---|---|---|
| | Concentration (ng/L) | | Mass (g/day) | | Concentration (ng/L) | | Mass (g/day) | |
| 1 | < | 2.1 | < | 0.0127 | < | 2.1 | < | 0.0048 |
| 2 | < | 2.1 | < | 0.0127 | < | 2.1 | < | 0.0048 |
| 3 | < | 2.1 | < | 0.0127 | < | 2.1 | < | 0.0048 |
| 4 | | 2 | | 0.0121 | | 2 | | 0.0045 |
| Monthly Average: | | 0.5 | | 0.0030 | | 0.5 | | 0.0011 |
| In Compliance? | | Yes | | No | | Yes | | Yes |

### D. MPCA's Proposed Mass - Limits Threaten Groundwater Remediation Activities

Failing to provide the above-requested clarification risks unintended consequences such as an impact on important groundwater remediation operations. As MPCA is aware, 3M is already extracting and treating groundwater at the Cottage Grove facility to control the migration of PFAS to the river. As demonstrated in the Declaration of Mike Parent, Ph.D., the Woodbury Disposal Site also contributes a very substantial mass of PFOA, PFOS, and PFHxS to the water entering the advanced wastewater treatment system.

To illustrate the situation presented by the mass limits in the Revised Draft Permit, assume that the water from the Woodbury Disposal Site is the only source of PFAS that would enter the advanced wastewater treatment system. Comparing the calculated mass for each analyte shown in the tables above to the mass limits for PFOA, PFOS, and PFHxS listed in the Revised Draft Permit for 3M's Cottage Grove facility, we can calculate the degree of treatment, expressed in percent (%) removal, that would be needed in order to treat the water from the Woodbury wells and comply with the mass limits in the draft NPDES permit for the 3M Cottage Grove site. The following table shows the low and high estimates for these degrees of treatment needed.

[32] *Id.* at p. 6, ¶10.

**Table 6 (Parent Declaration)**

| | PFHxS | | PFOS | | PFOA | |
|---|---|---|---|---|---|---|
| Outfall | Low | High | Low | High | Low | High |
| SD 001 | 99.9997% | 99.99994% | 99.995% | 99.9997% | 99.994% | 99.9993% |
| SD 002 | 99.9995% | 99.99993% | 99.994% | 99.9996% | 99.992% | 99.9990% |

For PFHxS for both SD 001 and SD 002, a degree of treatment of at least >99.999% would be needed and a degree of treatment of >99.9999% may be needed.[33] Similarly, for both PFOS and PFOA for both SD 001 and SD 002, a degree of treatment of at least >99.99% would be needed and a degree of treatment of >99.999% may be needed.[34]

Although currently available analytical technology cannot measure PFOA, PFOS, and PFHxS at the concentrations required to demonstrate compliance with the mass limits in the Revised Draft Permit, data submitted to MPCA in support of the establishment of the Compliance Limits for PFOA, PFOS and PFHxS demonstrate that, although it cannot be done consistently, on occasion the analytical method required for sample analysis is able to measure concentrations slightly below the Compliance Limits. As shown above, a single such result would cause an exceedance of the average monthly mass limit, even when that sample result is below the Compliance Limit. Given the significance of a monthly average violation, it would be imperative to take action to prevent recurrence, and 3M is concerned that the most effective response a system adjustment does not solve the issue is to evaluate whether a reduction of the mass of PFAS entering the treatment system by curtailing groundwater extraction is required.

### E. Proposed Changes to Permit

3M respectfully suggests that there are two changes required to address the conflict between the Compliance Limits and the mass-based limits. The first change is to modify the permit language establishing Compliance Limits to make clear that they apply to the compliance demonstration for concentration limits (daily and monthly) and the mass limits (monthly average) for PFHxS, PFOS, and PFOA. The second change is to revise the DMR reporting guidance to include mass-based calculations. The proposed language for each suggested change is set out below. The redlines that MPCA published are preserved. Further suggested edits are indicated in purple.

**Revision 1**

**Section 6 Limits and monitoring**

For each PFAS subject to a Compliance Limit established because the WQBEL is below measurement capabilities, the language would be modified as follows:[35]

*The final WQBELs are 0.021 ng/L as a daily maximum and 0.012 ng/L as a calendar month average. These limits are below the conventional (<2-4 ng/L) reporting limit for currently available*

[33] *See* Parent Declaration at p. 3, ¶6.

[34] *Id.*

[35] Here, and throughout this document, 3M's suggested edits to the Revised Draft Permit language are indicated in purple.

*analytical technology. Therefore, a separate compliance limit (2.1 ng/L) has been established for the purpose of reporting limit compliance data to the MPCA. Similarly, because mass limits are calculated by multiplying the calendar monthly average concentration limit times the design flow at each permitted outfall, a separate compliance limit as set out in 5.70.130 has been established for the purpose of reporting mass limit compliance data to the MPCA.*

Line 5.70.130 would be modified as follows:

5.70.130 *Compliance Limits*

*"Compliance limit (CL)" shall mean: The value deemed as compliance with the Daily Maximum and Monthly Average PFAS limits. The monthly average and daily maximum PFOS, PFOA, and PFHxS WQBELs are below the reporting limits (limits of quantitation) achievable when analyzing treated effluent at Cottage Grove. For PFOS, a statistical analysis of the actual reporting limit wastewater at Cottage Grove sampling stations SD 001 and SD 002 is 2.2 ng/L. For PFOA and PFHxS, the actual reporting limit is 2.1 ng/L. For these three parameters, any effluent value less than or equal to the numbers above will be considered to be in compliance with the daily maximum limit; and any monthly average effluent value reported above a reporting limit per 5.70.83 (A) that is equal to or below the numbers above will be considered to be in compliance with the monthly average limits.*

*This permit also contains mass discharge effluent limitations for these parameters. These mass limitations are different for SD 001 and SD 002 as the two discharge locations' authorized flow rates are different. At SD 001, the authorized mass discharge of PFOS calculated from the compliance limit is 0.0541 g/day. The authorized mass discharges of PFOA and PFHxS calculated from the compliance limit are 0.0516 g/day. At SD 002, the authorized mass discharge of PFOS calculated from the compliance limit is 0.0723 g/day. The authorized mass discharges of PFOA and PFHxS calculated from the compliance limit are 0.0691 g/day. Any monthly average mass of PFOA, PFOS, or PFHxS equal to or below the values in this subparagraph will be considered to be in compliance with the monthly average mass limits. [Minn. R. 7001]*

For ease of review, 3M is providing the equations illustrating the proposed changes in the preceding paragraph.

**Equation 3:**

$$Mass\ Loading\ Limit\ \left(\frac{g}{day}\right) = Complaince\ Limit\ \left(\frac{ng}{L}\right) * \frac{3.785\ L}{1\ gal} * \frac{1\ g}{10^9\ ng} * Design\ flow\ rate\left(\frac{gal}{day}\right)$$

*Substituting for the PFOS Compliance Limit and Design flow rate for SD 001*

$$Mass\ Loading\ Limit\ \left(\frac{g}{day}\right) = 2.2\left(\frac{ng}{L}\right) * \frac{3.785\ L}{1\ gal} * \frac{1\ g}{10^9\ ng} * 6{,}500{,}000\left(\frac{gal}{day}\right) = 0.0541\ g/day$$

**Revision 2**

To further clarify proper calculation for mass-based average limitations, 3M requests the following edits:

5.70.83 *DMR Requirements*

*An individual sample result that is below a) its reporting limit or b) the compliance limit in 5.70.130 is considered to be in compliance with the associated daily maximum compliance limit. A monthly average concentration or mass result that is below a) its reporting limit (calculated per 5.70.83 (B), below) or b) below the Compliance Limit in 5.70.130 is in compliance with the associated monthly average compliance limit. [Minn. R. 7001]*

A. *Use the following instructions to determine a reportable value where sample values are less than the RL and the permit requires reporting of an average. The following instructions apply to mass and if some values are less than (<) the RL (non-detectable), substitute zero for all non-detectable values to report the average or summed concentration. Concentration eExample: The values for the month are: 5.0 ng/L, 4.0 ng/L, 3.0 ng/L and <2.0 ng/L. Report the monthly average or sum as (5.0 + 4.0 + 3.0 + 0.0) = 12.0 divided by 4 = 3.0 ng/L. Mass example: The concentration values for the month are 5.0 ng/L, 4.0 ng/L, 3.0 ng/L, and <2.0 ng/L. The corresponding flow rates are 2.0 MGD, 3.0 MGD, 4.0 MGD, and 5.0 MGD. The individual sample results are 0.0379 g/day, 0.0454 g/day, 0.0454 g/day, and <0.0379 g/day. Report the monthly average as (0.0379 + 0.0454 g/day + 0.0454 g/day + 0 g/day) = 0.1287 divided by 4 = 0.0321 g/day.*

B. *If all values are less than (<) the RL, use the RL for all non-detectable values to calculate the average or sum and report as < the RL calculated average or summed concentration. Concentration eExample: The values for the month are <0.2 ng/L, <0.4 ng/L, <0.2 ng/L, <2.0 ng/L. Report the monthly average or sum as (0.2 + 0.4 + 0.2 + 2.0) = 2.8 divided by 4 = < 0.7 ng/L. Mass limit example: The concentration values for the month are <0.2 ng/L, <0.4 ng/L, <0.2 ng/L, and <2.0 ng/L. The corresponding flow rates are 2.0 MGD, 3.0 MGD, 4.0 MGD, and 5.0 MGD. The individual sample results are <0.0015 g/day, <0.0045 g/day, <0.0030 g/day, and <0.0379 g/day. Report the monthly average as (0.0015 + 0.0045 g/day + 0.0030 g/day + 0.0379 g/day) = 0.0469 divided by 4 = <0.0117 g/day.*

C. *For calculating the average reporting limit: Average the numeric reporting limit for each PFOS or PFOA sample over the calendar year. If the average reporting limit is less than 4 ng/L, then the reporting limit is in compliance for that year. Example: The reporting limits for four PFOS samples at SD 001 for a given year are: 1.8 ng/L, 3.2 ng/L, 4.0 ng/L, and 5.0 ng/L. This averages out to 3.5 ng/L as a yearly average and would be in compliance with the 4 ng/L value. [Minn. R. 7001]"*

The scenarios suggested above for inclusion in the permit were developed using the same or similar illustrative concentrations as the Revised Draft Permit. However, the concentrations are likely not realistic with respect to the expected performance of the advanced wastewater treatment system in removing PFAS constituents. To illustrate 3M's understanding of the averaging requirements, two additional examples are provided below.

First, assume a month with four sampling events at SD 001 (as required by the Revised Draft Permit), wherein the flow rate from SD 001 was half of the design flow rate (3.25 MGD). Out of those four samples, all four PFOA values were reported as ≤2.1 ng/L. As all values are below the reporting limit, the monthly average would be calculated per 5.70.83(B). The individual sample results would all be <0.0258 g/day, and the monthly average daily mass of PFOA would be reported as <0.0258 g/day. Based on the proposed revisions to 5.70.130, this would be considered "in compliance".

For the second scenario, assume a month with four sampling events at SD 001 (as required by the Revised Draft Permit), wherein the flow rate from SD 001 was half of the design flow rate (3.25 MGD). Out of those four samples, three PFOA values were reported as ≤2.1 ng/L and the fourth was reported as 2 ng/L. As one value is above its reporting limit, the monthly average would be calculated

per 5.70.83(A). The individual sample results would all be <0.0258 g/day, <0.0258, <0.0258 g/day and 0.0246 grams/day. The monthly average daily mass of PFOA would be reported as 0.0062 g/day ((0 + 0 + 0 + 0.0246)/4). Based on the proposed revisions to 5.70.130, this outcome would also be considered "in compliance."

In conclusion, construction of the advanced wastewater treatment system is still in progress and system optimization is scheduled to last into 2027. The full performance capabilities of the new system have yet to be demonstrated. Moreover, current analytical methods do not provide a way to measure performance anywhere near the levels of the WQBELs. MPCA has addressed the measurability issue for the concentration limits in the permit in alignment with the guidance from the U.S. Environmental Protection Agency, setting a Compliance Limit that, while very low, is measurable. 3M respectfully requests that MPCA use the same approach to the mass limits.

## V. PFAS Compliance Schedule (Revised Draft Permit Conditions 5.69.54 and 5.69.61)

### A. Compliance Schedule

3M appreciates MPCA's attention to its August 2024 Comments on the proposed schedule for completion of construction and optimization of the advanced wastewater treatment system and achieving compliance with the final effluent limitations or, as applicable, the Compliance Limits for PFBS, PFHBA, PFOA, PFOS and PFHxS.[36]

3M remains committed to working diligently to achieve the interim and final compliance milestone dates set forth in Conditions 5.69.54 to 5.69.61 of the Revised Draft Permit (Compliance Schedule), and to keeping MPCA apprised of its progress. 3M reiterates that construction and optimization of the advanced wastewater treatment system at Cottage Grove is a complex process and there is the potential for delays that are beyond 3M's control.[37] Accordingly, 3M requests that MPCA clarify that any potential changes made to the interim dates in the Compliance Schedule constitute a minor modification to the permit, provided such changes do not impact the final compliance date of April 30, 2027.[38] Such a provision is consistent with Minn. R. 7001.0190 Subp. 3(B), which expressly allows the Commissioner to make certain minor modifications to a permit without public notice and comment, including "to change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the permit and does not interfere with the attainment of the final compliance date."

In support of the points raised above, 3M requests consideration of proposed changes to the Compliance Schedule. A proposed change (shown below) has been made to Section 5.69.60 to provide this requested clarification. For similar reasons, 3M requests that the definition of "completion of construction" be modified to reflect that construction may be considered complete where all work is complete "except for minor components which do not interfere with initiation of start-up operations, and conforms to the approved plans and specifications and change orders."[39] This will prevent 3M and the

[36] *See* August 2024 Comments at pp. 33-36.

[37] *See Id.* at pp. 35-36.

[38] *See Id.* at pp. 33-34.

[39] MPCA's defines "Construction of Completion" to mean "all the construction is complete except for minor weather-related components and conforms to the approved plans and specifications and change orders." That

MPCA from having to expend resources modifying the PFAS Compliance Schedule for minor construction-related delays that do not impact the April 30, 2027 final compliance date, or the interim deadlines for initiation of start-up operations. Finally, we have proposed to define "initiation of start-up operations" to clarify the difference between the April 30, 2027 deadline for start-up of the advanced wastewater treatment system as a whole once it has been fully optimized and the interim deadlines for commencing stabilization, optimization, and reliability testing activities for each subsystem described in Condition 5.69.54.

Other proposed clarifications to the language and commitments in the draft Compliance Schedule are reflected in the below in purple along with MPCA's redlined edits in the Revised Draft Permit:

| | **Compliance Schedule** |
|---|---|
| 5.698.545 | ~~**Proposed**~~ **Advanced Wastewater Treatment System**<br>As soon as possible, but no later than April~~December~~ 301, 20276, the initiations of operations of the advanced wastewater treatment system shall be complete and the Permittee shall comply with the final effluent limitations for PFBS, PFBA, PFOA, PFOS and PFHxS as set forth in Section 6 (Limits and monitoring), or as applicable, Compliance Limits ~~all PFAS Effluent Limits listed in the Limits and Monitoring section of this permit~~as that term is defined in 5.70.130. In addition, the Permittee shall meet the following interim commissioning milestone dates:<br>*[3M has no proposed changes to items 1-6 in this Condition and therefore, did not include that language.]* |
| 5.698.556 | As soon as possible and no later than April 30~~March 31~~, 2025, the Permittee shall complete construction of the ~~proposed~~ advanced wastewater treatment system. The Permittee shall submit a notice of initiation of start-up operations no later than~~within~~ 90 days ~~of~~from initiating startup operations. ~~The Permittee shall submit notice of initiation of operation: Due 06/30/2025.~~ [Minn. R. 7001] |
| 5.698.567 | The Permittee shall submit an annual progress report: Due annually following permit issuance. The progress report shall discuss actions taken during the calendar year ~~in order~~ to meet the final compliance schedule date in 5.69.54. Submission of this annual progress report is no longer required once ~~the compliance schedule date has been met.~~all requirements of Section 5.69.54 have been met. [Minn. R. 7001] |
| 5.698.578 | The Permittee shall notify the MPCA in writing no later than~~at least~~ 14 days ~~before~~ prior to the ~~planned~~ anticipated completion of construction of the advanced wastewater treatment system. The MPCA may complete a final inspection. [Minn. R. 7001] |
| 5.698.58~~60~~ | No later than one year from the initiation of operations of the advanced wastewater treatment system, the Permittee shall submit as-built drawings for treatment components 1-6 described in ~~the Proposed Advanced Wastewater Treatment System s~~Section 5.69.54 (Advanced Wastewater Treatment System). ~~The Permittee shall submit as-built drawings: Due 1006/2730/2027. [Minn. R. 7001]~~ |

definition is ambiguous, however, as MPCA fails to offer a definition in, or record information in support of, either the Revised Draft Permit or the Revised Fact Sheet that would assist in understanding the meaning of the phrase "minor weather-related components."

| | |
|---|---|
| 5.698.5961 | **Final Effluent Limits for PFBS, and PFBA~~, and PFHxA~~**<br>The Permittee shall attain compliance with final effluent limitations for PFBS and PFBA~~, and PFHxA~~ (Phases 3 and 4) at SD 001 and PFBS at SD 002 ~~as prescribed by the conditions in this permit~~set forth in Section 6 (Limits and monitoring) as soon as possible and by no later than April~~December~~301, 20276. The Permittee shall attain compliance with final effluent limits: Due 412/301/20276.<br><br>Prior to final effluent limits becoming effective, the Permittee shall meet the applicable interim limits ~~established for~~ set forth in Section 6 (Limits and monitoring) for PFBS and PFBA~~, PFHxA~~ (Phases 1 and 2). [Minn. R. 7001] |
| 5.698.602 | **Final Effluent Limits for PFOS, PFOA, and PFHxS**<br>The Permittee shall attain compliance with final effluent limitations for PFOS, PFOA, and PFHxS (Phases 3 and 4) at SD 001 and SD 002 ~~as prescribed by the conditions in this permit~~set forth in Section 6 (Limits and monitoring) or, as appliable, Compliance Limits as that term is defined in 5.70.130, as soon as possible and by no later than April~~December~~301, 20276, unless the Permittee requests by no later than November~~October 3~~1, 2026, a modification of this compliance schedule or other appropriate provisions of the permit (with supporting documentation), based on its determination that the limits and associated compliance demonstration for PFOS and/or PFOA and/or PFHxS are not consistently attainable with the advanced wastewater treatment system. This compliance schedule and all other provisions of the permit remain in effect unless and until MPCA formally modifies (following receipt of the Permittee's application for permit modification) the permit in accordance with 40 CFR pt. 124.5, with the exception of minor modifications pursuant to 40 C.F.R. 122.63 and Minn. R. 7001.0190 Subp. 3. The Permittee shall attain compliance with final effluent limits: Due 412/301/20276.<br><br>Prior to final effluent limits becoming effective, the Permittee shall meet the applicable interim limits ~~established for~~ set forth in Section 6 (Limits and monitoring) for PFOS, PFOA, and PFHxS (Phases 1 and 2). [Minn. R. 7001] |
| 5.69.61 | By no later than 12 months after permit issuance, the Permittee shall report progress made in attaining compliance with the final effluent limitations for PFBS, PFBA, PFOS, PFOA, and PFHxS (Phases 3 and 4) at SD 001 and SD 002. The Permittee shall submit a progress report: Due by one year after permit issuance. [Minn. R. 7001] |
| *Revised Draft Permit Conditions 5.69.62 to 5.69.72* | *No request for changes by 3M to the redlined updates in the Revised Draft Permit* |
| 5.69.73 | ~~When t~~The Permittee ~~determines that it has attained~~ shall notify the MPCA in writing no later than 14 days after achieving compliance with each interim and final compliance ~~schedule~~ milestone date in ~~this permit~~Section 5.69.54 and with the final effluent limitations for PFBA, PFBA, PFOA, PFOS and PFHxS as set forth in Section 6 (Limits and monitoring) or, as applicable, Compliance Limits as that term is defined in 5.70.130~~they shall notify the MPCA in writing by no later than 14 days of the attainment~~. This notification is required for each compliance notification requirement above and for each final limit for the specified parameters listed above. |
| 5.698.742 | **Definitions.** [Minn. R. 7001] |

| | |
|---|---|
| 5.698.753 | "Initiation of operation" or "initiate operations" means the date on which ~~that MPCA determines~~ all components of the wastewater treatment system and all individual sewage treatment systems within a project service area are complete and functioning and the project begins operating for the purposes for which it was planned, designed, and built. [Minn. R. 7001] |
| 5.69.76 | "Initiation of start-up operations" or "initiate start-up operations" means the date after completion of construction on which the Permittee commences stabilization, optimization and reliability testing activities. |
| 5.69.776 | "Completion of construction" or "complete construction" means all the construction is complete, except for minor ~~weather-related~~ components which do not interfere with initiation of start-up operations, and conforms to the approved plans and specifications and change orders. [Minn. R. 7001] |

Finally, the term "initiation of operation" as defined by MPCA in the Revised Draft Permit is vague and ambiguous and 3M respectfully requests that MPCA clarify its meaning. As set forth above, that term is defined in Revised Draft Permit Condition 5.69.75 to mean "the date on which all components of the wastewater treatment system *and all individual sewage treatment systems within a project service area* are complete and functioning and the project begins operating for the purposes for which it was planned, designed, and built." (emphasis added). The addition of the italicized phrase renders the definition ambiguous because nowhere else in the Revised Draft Permit are the terms "individual sewage treatment systems" or "project service area" used. 3M's educated guess is that MPCA actually intended to refer to an "individual subsurface/sewage treatment systems" when referring to an individual sewage treatment system. 3M does not have an understanding of what the term "project service area" is intended to refer as it is only used in the definition of initiation of operation. Based on the foregoing, 3M respectfully requests that MPCA clarify the meaning of the term "initiation of operation" as stated in the Revised Draft Permit.

**B. As-Built Drawings (Revised Draft Permit Condition 5.69.58)**

The Revised Draft Permit Condition 5.69.58 provides that "[t]he Permittee shall submit as-built drawings for treatment components 1-6 described in the Proposed Advanced Wastewater Treatment System section above." Revised Draft Permit Condition 5.69.54 (Proposed Advanced Wastewater Treatment System), however, uses the term "subsystem" not the term "component" when referring to the six treatment elements of the advanced wastewater treatment system. To clarify Condition 5.69.58, MPCA should substitute the word "subsystem" for the word "component."

Revised Draft Permit Condition 5.69.58 requires that as-built drawings for the advanced wastewater treatment system subsystems 1–6 be submitted by October 27, 2027, which is a period of only five months from completion of initiation of operation of the treatment system. 3M requests that the compliance due date be extended to afford 3M one year from the completion of the activities in Condition 5.69.54 (Proposed Advanced Wastewater Treatment System) to submit the required as-built drawings. Simply stated, it is not possible to complete the preparation of as-built drawings for a system of the size and complexity as the advanced wastewater treatment system within the five month period proposed by MPCA because 3M cannot complete the as-built drawings until the system is up and running.

| | |
|---|---|
| 5.698.5860 | No later than one year from the initiation of operations of the advanced wastewater treatment system, the Permittee shall submit as-built drawings for treatment |

| | |
|---|---|
| | components 1-6 described in ~~the Proposed Advanced Wastewater Treatment System s~~Section 5.69.54 (Advanced Wastewater Treatment System). ~~The Permittee shall submit as-built drawings: Due 10~~06/~~27~~30/2027. ~~[Minn. R. 7001]~~ |

## VI. Incorrect Description of Off-Site Disposal (Revised Draft Permit at pp. 4 and 15 (Figure 5))

3M renews its request made in the August 2024 Comments that MPCA ensure that the facts and the figures recited in the Revised Draft Permit are fully accurate. To that end, the "Permitted facility description" section (p. 4) ("Phase 1 and 2 sludges are disposed of at a non-hazardous waste landfill) and Figure 5 of the Revised Draft Permit (p.15) ("Dewatered Solids and Sludge to Non-Haz. Waste Landfill") incorrectly state that WWTP sludge and dewatered solids are transported off-site to a non-hazardous waste landfill. 3M is disposing of all dewatered solids and WWTP sludges off-site at permitted hazardous waste disposal facilities. Accordingly, the above-quoted language is incorrect and should be removed before issuing a final permit for the Cottage Grove facility.

## VII. Organic Chemicals, Plastics and Synthetic Fibers Effluent Guidelines Process Flow Monitoring (Revised Draft Permit Conditions 5.69.69, 5.69.70, and 6.62.14)

3M is committed to meeting the requirements of the Organic Chemicals, Plastics and Synthetic Fibers Effluent Guidelines (OCPSF), 40 C.F.R. Part 414, to monitor wastewater flow from each process, operation, or production area covered by the OCPSF. Newly proposed Revised Draft Permit Condition 5.69.69 would require that within "24 months after permit issuance, the Permittee shall sufficiently install and operate flow monitoring equipment to monitor the flows generated by each of the process wastewater streams prior to comingling [sic]." As explained below, 24 months is not sufficient time to meet this requirement. 3M currently estimates that it has approximately 60 batch reactor systems each of which would require new "flow monitoring equipment . . . capable of indicating, totalizing, and recording flow data . . . ."[40]The siting of flow monitoring equipment is not a plug-in and play exercise. 3M must first identify and establish locations within its processes that will ensure that a flow monitor is able to obtain representative flow readings. Once that is done, 3M will need to identify suitable flow monitoring equipment. Because of the differences in processes, it is unlikely that the same flow monitoring equipment can be used for each process.[41] Additionally, the implementation of flow monitoring for only certain products on shared equipment introduces a range of risks associated with human error in the scheduling, activating/deactivating of the flowmeter, and recording of data that have the potential to negatively affect the outcome. To that end, 3M wants to ensure that it can do what is necessary and appropriate to minimize some of the risks associated with installation and operation of permanent flowmeters to measure flows subject to OCPSF regulations and explore alternative methods of flow monitoring that can be used to meet OCPSF requirements. Even with 3M's best efforts, the foregoing cannot be completed within the 24-month period proposed in Condition 5.69.69.

Accordingly, for the reasons stated above and as described below, 3M respectfully requests that the process flow monitoring conditions of the Revised Draft Permit be modified to add a necessary preliminary step requiring 3M to submit to MPCA no later than one year after permit issuance a Process

[40] Revised Draft Permit at Condition 5.69.69.

[41] Not all 3M products are subject to OCPSF, and in some cases products that are covered by OCPSF share process equipment with products that are not covered by OCPSF.

Flow Measurement Plan for the processes, operations, and production areas covered by OCPSF as well as a proposal for how it will conduct flow monitoring measurement for each of those processes to meet the requirements of 40 C.F.R. Part 414. Under 3M's proposal, it would complete the characterization of the flows from each process, operation, and production area by no later than four years after permit issuance and annually submit a report to MPCA describing its progress. 3M's proposal is set for the below:

| | |
|---|---|
| New Condition | **Process Flow Monitoring Plan**<br>No later than one year after permit issuance, the Permittee shall submit a Process Flow Measurement Plan that provides details of an assessment of products subject to organic chemicals, plastics, and synthetic fibers (OCPSF) requirements in 40 CFR Part 414, and a proposal for the implementation of flow measurement techniques to be utilized for each product (or family of products) to meet USEPA's OCPSF regulations. The Permittee shall submit plan of flow measurement techniques: Due by one year after permit issuance. |
| 5.69.69 | **Process Flow Monitoring**<br>By no later than ~~24 months~~ four years after permit issuance, the Permittee shall sufficiently ~~install and operate flow monitoring equipment to monitor the flows generated by each of its process wastewater streams prior to any comingling. The flow monitoring equipment must be capable of indicating, totalizing, and recording flow data from each of the Permittee's process wastewater streams. The types and locations of flow monitoring equipment must be sufficient to~~ characterize the flows contributed by the organic chemicals, plastics, and synthetic fibers (OCPSF) waste stream and each type of process, operation, or production area which contributes wastewater to the effluent for each outfall (40 CFR pt. 414). In accordance with 40 CFR pt. 122.21(g)(3) and Section 3 of EPA form 3510-2C, flow information shall be included in the next permit application for reissuance. The Permittee shall submit notice of equipment installation: Due by ~~two~~ four years after permit issuance. [Minn. R. 7001] |
| 5.69.70 | By no later than twelve months after permit issuance and every year thereafter, the Permittee shall submit a Process Flow Monitoring Progress Report detailing the progress made toward characterizing its flows subject to the USEPA's OCPSF regulations~~installing the flow monitoring equipment described above~~. The Permittee shall submit a progress report: Due by one year after permit issuance, and every year thereafter until OCPSF flows are characterized and measured. [Minn. R. 7001] |

## VIII. PFAS Daily Maximum Thresholds Added to Annual O&M Deviation & WWTP Optimization Report (Revised Draft Permit Conditions 5.70.113 and 6.63.35)

### A. PFHxS, PFOS, and PFOA

In the Revised Draft Permit, MPCA adds upstream operation and maintenance daily maximum threshold values for PFBS, PFBA, PFHxS, PFOA and PFOS to Conditions 5.70.113 and 6.63.35 (which are identical). In particular, MPCA requires that 3M submit an Annual O&M Deviation & WWTP Optimization Report, and that the report include, among other things, "an evaluation of the WS 001 and WS 002 PFAS treatment performance relative to the following compounds [13 PFAS] and thresholds [Daily Max]." However, MPCA's newly-proposed daily maximum threshold values for PFHxS, PFOS, and PFOA 1) are more stringent than the end of the pipe Compliance Limits, and 2) cannot be accurately and precisely measured using EPA Method 1633. MPCA offers no record support for its

conclusory statement in the Revised Fact Sheet that the daily maximum threshold values for PFHxS, PFOS, and PFOA will "promote vigilant operation by providing data that will be useful in optimizing the Permittee's sophisticated treatment system."[42]

MPCA's proposed daily maximum threshold values for PFHxS, PFOS and PFOA are 0.112, 0.352 and 0.426 ng/L, respectively, which are not quantifiable using EPA Method 1633. The proposed values are considerably lower than the Method 1633 detection limits identified in multi-lab validation study for those PFAS -- 0.535 ng/L for PFHxS, 0.629 ng/L for PFOS, and 0.542 ng/L for PFOA.[43] Because the threshold values for these three PFAS cannot be measured they cannot serve MPCA's stated purpose for including them - to assist 3M in making operational decisions that optimize the performance of the advanced wastewater treatment system.

Even assuming PFHxS, PFOS and PFOA threshold values could be measured, consideration of those thresholds will not at all aid in the vigilant operation of the advanced wastewater treatment system because the ultra-short chain and short-chain PFAS will break through IX and GAC well before PFHxS, PFOS and PFOA. In support of its August 2024 Comments, 3M offered the uncontradicted opinion of Mr. Kaczynski:

> [T]he ultra-short and/or short-chain PFAS will dictate the timing for change-out of the GAC or regeneration of the IX resin. Because the ultra-short and short-chain PFAS will break through IX and GAC months before PFOA, PFOS, and PFHxS, the focus on removal of the shorter-chain PFAS means that we reasonably expect that the removal of the longer-chain PFAS will be continuously at or near the high-end of the capability of the Advanced Wastewater Treatment System (i.e., a very high removal rate).[44]

As such, the daily maximum threshold values for PFHxS, PFOS, and PFOA should be struck entirely.

### B. TFA and 2233-TFPA

Similarly, MPCA offers no record justification for inclusion of daily maximum threshold values for TFA and 2233-TFPA, the inclusion of which also does not promote the vigilant operation of the advanced wastewater treatment system. As discussed in the August Arcadis Report, the MPCA-treatability study does not provide a basis to believe that these compounds are appropriate "sentinel compounds" for evaluating system performance. *See* Arcadis Rep. at p. 23 ("Arcadis recommends monitoring compounds that were shown to have low BVs before break through and detected at high concentrations in the influent stream (i.e., TFMS, PFPA, and PFBA) to drive the media changeout schedule. "). Thus, establishing daily maximum threshold values for these PFAS do not and cannot

---

[42] *See* Revised Fact Sheet at p. 123.

[43] *PFAS Multi-Laboratory Validation Study Report Aqueous Media: Wastewater, Surface Water, and Groundwater,* Table 5-1 (July 25, 2023), prepared under contract to the Department of Defense (DoD) Strategic Environmental Research and Development Program (SERDP), as part of a joint effort joint effort between the SERDP and the U.S. Environmental Protection Agency (EPA) https://www.epa.gov/system/files/documents/2023-07/MLVS Aqueous Draft 07252023 508.pdf and Appendices, https://www.epa.gov/system/files/documents/2023-07/MLVS%20Appendices%2007252023%20508%20lite.pdf

[44] *Impact of Intervention Limits on Advanced Wastewater Treatment System Performance*, (Aug. 28, 2024) (hereinafter the "Kaczynski Expert Report"). The Kaczynski Expert Report is attached to 3M's August 2024 Comments as Exhibit E and is incorporated herein.

offer insight into treatment systems operation as they readily breakthrough. Accordingly, the daily maximum threshold values for TFA and 2233-TFPA should be struck entirely from the Revised Draft Permit.

## IX. Analytical Requirements

In its August 2024 Comments on the July Draft Permit, 3M provided a series of justifications and explanations for its request that a number of PFAS analytes be deleted from the permit as they are not "believed to be present" in water monitored at the Cottage Grove facility. In the Revised Draft Permit, MPCA has not deleted the PFAS analytes that 3M requested be deleted or provided any further justifications for including those analytes.[45] Therefore, 3M briefly summarizes below the substance of its August 2024 Comments on the analyte list included in July Draft Permit, and briefly summarizes below the substance of those comments.

In addition, MPCA has introduced into the Revised Draft Permit a fundamentally flawed and arbitrary and capricious definition of the concept of "believed to be present." For the reasons discussed below, MPCA should modify the definition or delete the definition from the permit.

Finally, MPCA has arbitrarily inserted into the Revised Draft Permit an unworkable requirement for laboratory accreditation, and has unreasonably refused 3M's request for an explicit exemption for 3M laboratories. 3M again requests that MPCA grant the exemption requested in 3M's August 2024 Comments and revise its requirements for laboratory accreditation, which will ensure that 3M is able to submit timely and accurate results.

### A. MPCA's Flawed Definition of "Believed to be Present"

The Revised Draft Permit requires that 3M "analyze for all PFAS believed to be present . . . . in all water required to be monitored at all locations in this permit."[46] MPCA then inserted for the first time the following definition of "believed to be present": "the parameter is required in this permit, has been observed on a non-target analysis, or 3M has other reason to believe that the parameter be present."[47] The third element of this definition is consistent with applicable law, but the first and second elements of the definition are arbitrary and capricious and should be removed.

The third element of MPCA's definition is consistent with conventional NPDES practice. 3M fully supported this element in its August 2024 Comments on the July Draft Permit. In its August 2024 Comments, 3M reviewed the history of prior communications in which MPCA directed 3M to provide lists of the PFAS compounds that 3M believes to be present in the Cottage Grove effluent. These MPCA directives included the January 22, 2021 Notice of Violation (January 2021 NOV) and the December 14, 2022 Administrative Order (December 2022 AO).[48] To compile the lists required by MPCA, 3M applied EPA's instructions to Form 2C of the NPDES standard application forms: "Base your determination that a pollutant is present in or absent from your discharge on your knowledge of

[45] *See* August 2024 Comments at pp. 37-43.

[46] Revised Draft Permit at Condition 5.70.78.

[47] *Id*.

[48] *See* January 22, 2021 Notice of Violation, *In the Matter of 3M Cottage Grove Center, Cottage Grove, Washington County* (January 2021 NOV) and December 14, 2022 Administrative Order, *In the Matter of 3M Company* [Cottage Grove Stormwater] (December 2022 AO)

your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent."[49] As we noted in 3M's August 2024 Comments on the July Draft Permit, 3M created a monitoring list of 84 PFAS compounds required pursuant to the January 2021 NOV and the December 2022 AO, as adjusted through the addition of compounds subsequently identified through non-target analysis (NTA) conducted by 3M. That list includes compounds 3M believes to be present, but it also includes 19 PFAS compounds that MPCA required 3M to include, but which 3M does not believe to be present in the Cottage Grove effluent. Those 19 compounds are not "believed to be present" consistent with the third element of MPCA's definition and consistent with NPDES permitting guidance.

The first element in MPCA's definition of "believed to be present" ("the parameter is required in this permit") is illogical and legally flawed, and 3M requests that this element be deleted from the definition. MPCA cannot justify a purported belief that a compound is present through the mere act of listing that compound in the permit without anything in the record providing a basis of support for that belief. To do so is arbitrary and capricious. In addition, because MPCA's fact sheets supporting the July Permit and the Revised Draft Permit are devoid of any rationale or evidence supporting inclusion of numerous PFAS compounds (as outlined in 3M's August 2024 Comments), to the extent compounds are listed in the Revised Draft Permit based on this first element of the definition, MPCA has departed from its required regulatory procedures by failing to provide an opportunity for comment on MPCA's rationale or factual basis for listing those compounds.

The second element of MPCA's definition of "believed to be present" (inclusion of PFAS compounds observed in NTA) is also flawed and should be deleted from the definition. As 3M observed in its August 2024 Comments regarding NTA, which are adopted here and incorporated herein, "NTA can result in the identification of both known and unknown compounds[,]"[50] and it is sometimes the case that such observed compounds can be assigned neither a molecular structure nor a CASRN number. Moreover, it is frequently the case that PFAS compounds observed through NTA analysis are only identified through extraordinary laboratory efforts to concentrate samples (sometimes a hundredfold). PFAS that are observed only through such extraordinary efforts occur only in very, very low concentrations making them unsusceptible to the standardized monthly sampling and analytical testing program required by the Revised Draft Permit. PFAS only observed through the above-described extraordinary NTA efforts, and for which there is no record evidence that such compounds are otherwise believed to be present, should not be included in the final permit. Should MPCA continue to insist to define "believed to be present" to include PFAS observed by NTA, the second element of that definition should read as follows: ". . . , a parameter has been observed through non-target analysis that has a defined molecular structure verifiable against a known reference standard for which a CASRN is assigned." In its August 2024 Comments, 3M provided a list of specific compounds that should be deleted from the permit on the above-described basis. MPCA's action in publishing the Revised Draft Permit without deleting those compounds is arbitrary and capricious.

[49] Available at *NPDES Permitting Program: Existing Manufacturing, Commercial, Mining, and Silvicultural Operations, Application Form 2C* (epa.gov)

[50] August 2024 Comments at p. 44.

### B. PFAS Compounds That Should be Deleted Based Upon Evidence They are Not Present in the Cottage Grove Effluent

As noted, MPCA has compounded the problem presented by its inclusion of unjustified PFAS monitoring parameters and redundant parameters such as total organic fluorine (TOF) and adsorbable organic fluorine (AOF), by declining to accept and act on the detailed justifications for deleting specific PFAS compounds that were provided in 3M's August 2024 Comments. Briefly, those justifications were as follows:

#### 1. Compounds Never Produced or Used at Cottage Grove

As 3M explained in its August 2024 Comments, 38 PFAS compounds included in the July Draft Permit are not believed to be present because those compounds are not related to PFAS chemistries ever manufactured, processed or used at 3M Cottage Grove. These compounds are not covered by the third element of MPCA's definition (or by EPA's Form C instructions) and have not been identified in NTA. 3M requests that these 38 compounds be deleted from the permit.

#### 2. Compounds Not Identified in NTA

In its August 2024 Comments, 3M provided a list of compounds included in the July Draft Permit that had not been identified in the extensive NTA work MPCA had previously required 3M to perform. For all but one of those compounds (PFODA), there also is no evidence of manufacturing, processing or use at Cottage Grove. These compounds therefore are not covered by either the second or third element of MPCA's definition, leaving only MPCA's unjustifiable first element. 3M again requests those compounds be deleted from the permit based upon strong evidence that they are believed to be absent and no evidence in the record that they are believed to be present.

#### 3. Compounds Not Detected in Effluent Sampling

As 3M described in its August 2024 Comments, in 2024 3M analyzed for a number of compounds in effluent and stormwater at Cottage Grove that are not required to be monitored under the current permit. 3M listed five compounds that were not detected in any samples and requested that these five compounds be deleted from the permit. Given this strong evidence that these compounds are not believed to be present at Cottage Grove, and in the absence of any evidence in the record to the contrary. 3M requests that these compounds be deleted.

### C. Laboratory Accreditation (Revised Draft Permit Condition 5.80.386)

In its August 2024 Comments, 3M explained the myriad problems with MPCA's requirement in the July Draft Permit that only certified or accredited laboratories may conduct analyses required by the permit.[51] 3M therefore requested an exemption pursuant to Condition 5.79.384 (now 5.80.386) to allow 3M laboratories to conduct the required analyses while 3M pursues accreditation from the Minnesota Department of Health.

In response, MPCA declined to grant the requested exemption and instead requires in the Revised Draft Permit that 3M laboratories may conduct the required analyses so long as 3M is pursuing

[51] *See* August 2024 Comments at pp. 42-25.

accreditation, but that once accredited laboratories become available analyses must be conducted at certified/accredited laboratories, either 3M laboratories or outside laboratories.

This formulation presents several difficulties. First, 3M laboratories will pursue accreditation for analytes believed to be present at Cottage Grove, but it is arbitrary and capricious (and wasteful) to require that 3M pursue accreditation for analytes that are not believed to be present. Method development and validation are not trivial exercises, and the accreditation requirement should be confined to only the necessary analytes.

Second, 3M has no influence over outside laboratories' plans for certification, and is concerned that few such laboratories will seek certifications for all of the required analytes. If few laboratories (or no laboratories) seek certification for some of the required analytes, 3M likely will experience serious problems with availability and significant delays in turn-around times required by the permit.

For these reasons, 3M renews its request for an exemption from the accreditation requirement to take effect upon permit issuance.

## X. Non-Targeted Analysis (Revised Draft Permit Conditions 5.70.89, 5.70.90, 5.70.91, 6.63.22)

In its August 2024 Comments, 3M requested that MPCA strike the NTA conditions of the July Draft Permit in their entirety as beyond the scope of MPCA's authority.[52] MPCA declined 3M's request to do so, and the Revised Draft Permit includes a number of the NTA conditions proposed in the July Draft Permit.

3M acknowledges and appreciates that MPCA did change the frequency of NTA sampling and analysis from once a year to once every five years, and excluded WS 001, WS 002, WS 003, WS 004, WS 005, WS, 006, and WS 007 from such analysis.[53] In addition, MPCA appears to now acknowledge that not every PFAS observed through NTA will have a CASRN, and now only requires submission of a CASRN "if possible."[54] However, the Revised Draft Permit continues to fail to reflect that not all PFAS observed through NTA will have a known or understood molecular structure. In such a circumstance it is not possible to develop a standard (or any) laboratory analytical method or assign a CASRN. For the reasons stated above, and in the August 2024 Comments, the NTA conditions in the Revised Draft Permit should be stricken in their entirety.

## XI. Instream PFAS Characterization Study (Revised Draft Permit Conditions 5.70.92, 5.70.93, 5.70.94, 5.70.95)

In its August 2024 Comments, 3M requested that MPCA remove the Instream PFAS Characterization Study (IPCS) from the July Draft Permit as such an extensive scientific study is more appropriately conducted outside the four corners of an NPDES/SDS permit.[55] In addition, 3M offered a number of comments regarding the scope of the IPCS many of which were accepted by MPCA and are

[52] *See* August 2024 Comments at 43-44.

[53] Revised Draft Permit at Conditions 5.70.91 and 6.63.22.

[54] *Id*.

[55] *See* August 2024 Comments at pp. 44-49. 3M adopts here and incorporates herein by reference its August 2024 Comments on the IPCS conditions.

reflected in the IPCS conditions of the Revised Draft Permit. However, it appears that MPCA does not agree with 3M's recommendation that the requirement that 3M collect minnows from the East Cove, West Cove, and Upper East Cove not be required as part of the IPCS. Specifically, the Revised Draft Permit states: "Minnows and other prey species do not need to be collected in the main channel. Minnows must be collected from East Cove, West Cove, and Upper East Cove."[56] However, MPCA has not in the past used minnows to calculate water quality criteria (WQC) because they were not historically sampled and analyzed for the presence of PFAS, minnows were only historically collected in the East Cove. Trophic level 3 and trophic level 4 fish species were used by MPCA to calculate WQC in Minnesota since fish at those trophic levels are the fish typically consumed by humans.[57] For the above-stated reasons, the requirement that minnows be sampled and analyzed for the presence of PFAS should be stricken.

## XII. Modification of Permit (Revised Draft Permit Conditions 5.70.88 and 5.74.200)

Revised Draft Permit condition 5.70.88 is substantively unchanged from the version of the same provision in the June 2024 Draft permit.[58] The provision as proposed in the Revised Draft Permit provides: "This permit may be reopened to include modified reporting limit~~evel~~ and/or method detection limit~~evel~~ requirements for parameters as appropriate. The modification of reporting limit~~evels~~ and/or method detection limit~~evels~~ would be considered a minor modification. [Minn. R. 7001]"

In the August 2024 Comment Letter, 3M commented that a change to a reporting limit does not qualify as a "minor modification" within the meaning of Minn. R. 7001.0190(3). In the context of the Revised Draft Permit a change in a reporting limit has the potential to impact numerous substantive underlying provisions directly impacting 3M's compliance obligations. For example, the unilateral lowering of a reporting limit could impact 3M's ability to achieve the daily maximum threshold requirements of Revised Draft Permit Condition 5.70.113 (Annual O&M Deviation & WWTP Optimization) triggering reporting, optimization, and operation and maintenance requirements. Hence, the changing of a reporting limit, which thereby alters 3M's permit compliance obligations, is a major modification requiring public notice and comment. 3M renews its request that this be made clear in the final permit.

The Revised Draft Permit also provides, in Condition 5.74.200:

[56] Revised Draft Permit, Appendix A at p. 437.

[57] MPCA 2017. *Human Health-based Water Quality Standards Support Document. Water Quality Standards Amendments*, Minn. R. chs. 7050 and 7052 [Final] https://www.pca.state.mn.us/sites/default/files/wq-s6-12a.pdf; MPCA December 2024. *Human Health Protective Water Quality Criteria for Per- and Polyfluoroalkyl Substances (PFAS) in Mississippi River, Miles 820 to 812* https://www.pca.state.mn.us/sites/default/files/wq-s6-69e.pdf.

[58] *See* July Draft Permit at Condition 5.69.85.

| | |
|---|---|
| 5.743.200198 | **Additional Effluent Limitations and Requirements**<br>The effluent limitations contained in this permit are based on water quality standards for a discharge to a Class 2B, C, and D water body. As such, the MPCA is not prohibitedestopped from establishing more or less stringent limits and/or monitoring if necessary to protect the receiving water for its designated use(s). Water quality-based effluent limits shall be dependent on receiving water, discharge volume, in-stream flow volume, and discharge time, duration and location.<br>The MPCA shall notify the Permittee if it is determined that additional requirements, more or less stringent limits and/or monitoring are appropriate for a specific water body. The MPCA's letter notifying the Permittee of these additional requirements, more or less stringent limits and/or monitoring shall then become a part of the enforceable requirements applicable through this permit for the specific discharge point and the Permittee shall comply with these requirements. [Minn. R. 7001] |

The second paragraph of this provision appears to unilaterally allow the MPCA to modify the effluent limits and monitoring requirements set forth in the permit based solely on the submission of a letter to 3M. This process is nowhere authorized in Minn. R. Ch. 7001, and in fact directly conflicts with a number of regulatory provisions, including 7001.0170, 7001.0190[59] and 7001.1150.

3M has been unable to locate similar language in other permits, and this unlawful provision in Condition 5.74.200 must be stricken from any final permit.

## XIII. Annual Average Reporting Limit (Revised Draft Permit Condition 5.70.78)

In its August 2024 Comments, 3M observes that meeting the annual average reporting limit requirement is technically infeasible due to the high variability of the quality and quantity of PFAS in wastewater from outfall-to-outfall. 3M further highlighted that these technical infeasibility issues are exacerbated at stormwater outfalls where the "target analytes can be present at a large range of concentrations and vary month-to-month based on the scale of the rain event."[60] For these reasons, 3M requested in its August 2024 Comments that the application of an annual average reporting limit not be applied to WS 001, WS 002, WS 003, WS 004, WS 006, and WS 007 and that reference to the WS outfalls be removed from the above-referenced permit condition. 3M renews that request here.

In addition, although Revised Draft Permit Condition 5.70.78 requires that 3M "analyze per- and polyfluoroalkyl substances (PFAS) at all monitoring locations" including SD 003, MPCA did not include PFAS monitoring requirements and limitations (e.g., monitoring tables) for SD 003 in its July Draft Permit or the Revised Draft Permit. Accordingly, the reference to SD 003 should be removed from Revised Draft Permit condition 5.70.78.

[59] While 7001.0190 could be arguably be read to allow permit modifications that result in changes in effluent limits as "minor modifications," this procedure is available only with the "consent of the permittee." This permit provision should not be read as a blanket grant of permittee consent, and for avoidance of doubt, 3M explicitly withholds such consent to any modification of effluent limits in this manner.

[60] *See* August 2024 Comments at p. 51.

## XIV. Report Submission Dates (Revised Draft Permit Conditions 5.70.105, 5.70.109, and 5.70.113)

Revised Draft Permit Conditions 5.70.105 and 5.70.109 contain two potentially conflicting milestone dates: a relative date tied to the completion of a task (e.g., "No later than 60 days after the associated system stabilization…") and a calendar date (e.g., "Due 06/30/2027"). As proposed below, 3M requests the milestone dates for submission of the manuals required by those respective conditions be tied to the completion of the condition precedent task (i.e., system stabilization, optimization, and reliability testing) which will ensure that the manuals reflect the understanding developed during those activities.

| | |
|---|---|
| 5.7069.1052 | **RO & IX O&M Manuals**<br>No later than ~~Within~~ 60 days after the associated system stabilization, optimization, and conduct(s) reliability testing dates in 5.69.54~~advanced wastewater treatment system start up date~~, the Permittee shall submit its ~~i~~on e~~E~~xchange (IX) operations and maintenance (O&M) manuals. The O&M manuals shall contain a dedicated section highlighting the PFAS breakthrough monitoring, procedures, breakthrough thresholds/determination procedure and response procedure. The Permittee shall immediately implement and comply with the IX O&M manuals~~ and submit a revised version within 365 days of any future revisions being made~~. The most up-to-date versions of the manuals shall be available to the MPCA upon request. The Permittee shall submit an operations and maintenance (O & M) manual: Due no later than 60 days after the system stabilization, optimization, and conduct(s) reliability testing dates in 5.69.54~~065/301/20275~~ [Minn. R. 7001] |

| | |
|---|---|
| 5.70.109 | **Building 150/151 GAC O&M Manual**<br>No later than 60 days after the associated system stabilization, optimization, and conduct(s) reliability testing dates in 5.69.54 the Permittee shall submit its GAC O&M manual(s). The O&M manual(s) shall contain a dedicated section highlighting the PFAS breakthrough monitoring procedures, breakthrough thresholds/determination procedure and response procedure. The Permittee shall immediately implement and comply with the GAC O&M manual(s). The most up-to-date versions of the manuals shall be available to the MPCA upon request. The Permittee shall submit an operations and maintenance (O & M) manual: Due no later than 60 days after the system stabilization, optimization, and conduct(s) reliability testing dates in 5.69.54~~03/31/2027~~. [Minn. R. 7001] |

To avoid unnecessary reporting, 3M requests that Revised Draft Permit Condition 5.70.113 (Annual O&M Deviation & WWTP Optimization Report) be modified to indicate that submission of the Annual O&M Deviation & WWTP Optimization Report need not occur until such time as 3M has completed optimization, stabilization and reliability testing of the advanced wastewater treatment system.

| | |
|---|---|
| 5.7069.1131 | **Annual O&M Deviation & WWTP Optimization Report**<br>Following the system optimization, stabilization, and reliability testing dates in Condition 5.69.54, ~~T~~the Permittee shall submit an Annual O&M Deviation & WWTP |

| | |
|---|---|
| | Optimization Report no later than ~~by~~March 31 of each year. The report shall include all instances of effluent ~~and intervention~~limit exceedances in the prior calendar year and what actions, if any, were taken to address them~~at any stations where and when related O&M deviations (e.g. including but not limited to carbon and IX changeouts not occurring prior to breakthrough and other set points established in both the IX and GAC O&M manuals) occurred~~.<br><br>The report shall also contain an evaluation of the WS 001 - WS 002 PFAS treatment performance relative to the following compounds and thresholds (Daily Max):<br><br>PFHpS: 10 ng/L<br>PFHxA: 10 ng/L<br>PFPeS: 9.4 ng/L<br>PFPeA: 10 ng/L<br>PFPrA: 370 ng/L<br>2233-TFPA: 500 ng/L<br>TFA: 10,700 ng/L<br>TFMS: 25 ng/L<br>PFBS: 71,241 ng/L<br>PFBA (WS 001 only): 686,477 ng/L PFHxS: 0.112 ng/L<br>PFOS: 0.352 ng/L<br>PFOA: 0.426 ng/L<br><br>If any of the treatment performance thresholds above are not achieved, the report shall address what, if any (e.g. was the exceedance believed to be a false-positive or is there enough results over the daily maximum to warrant investigation and optimization action), optimization steps the Permittee intends on implementing and in accordance with what timeline to achieve the performance thresholds above. The report shall also address the operational decision points the Permittee is using to optimize treatment (e.g. including but not limited to carbon and ion exchange changeouts, breakthrough considerations, and other setpoints established in both the ion exchange and granulated activated carbon operations and maintenance manuals). This report should also address any potential operational opportunities to improve treatment performance, as well as address any technical or operational obstacles that may be interfering with optimal performance. If the highest result for treatment performance thresholds is below reporting limits then the performance thresholds are considered achieved.<br>The Permittee shall submit an annual report: Due annually, by the 31st of March; prior to all systems in Condition 5.69.54 being optimized, stabilized, and the reliability testing complete, the annual report submitted for Condition 5.69.56 shall also meet the annual report requirement for this condition. [Minn. R. 7001] |

## XV. QA/QC Verification Requirement (Revised Draft Permit Condition 5.70.84)

Revised Draft Permit Condition 5.70.84 requires that "[a]t least once per year . . . [3M] . . . conduct a quality assurance/quality control (QA/QC) verification of its composite sampling equipment to ensure there is no PFAS interference(s) and/or contamination . . . [to] demonstrate that significant analyte loss is not occurring in the composited samples by comparing data from 24-hour flow proportional composite samples to data from mathematically flow weighted sets of 24 grab samples." While 3M appreciates MPCA's interest in understanding whether there is PFAS analyte loss associated with the use of the composite sampling equipment, the annual QA/QC verification research program imposed by this condition would require 3M to re-direct substantial resources from the numerous core

NPDES/SDS monitoring activities required by the permit. A research and development program of this nature cannot be undertaken without substantial logistical planning, capital investment (e.g., plumbing), and dedication of labor (e.g., staff to collect grab samples for a 24-hour period). There is simply no technical reason to repeat the program annually absent a material change in 3M's sampling equipment or procedures. 3M would gladly voluntarily work with MPCA to undertake a study of this nature outside the permit. 3M requests that this requirement be struck from the Revised Draft Permit in its entirety or alternatively to be required to occur once during the permit term.

## XVI. Granular Activated Carbon Systems Condition (Revised Draft Permit Condition 5.70.108)

3M requests that the language of Revised Draft Permit Condition 5.70.180 (BLD 92 & BLD 185 GAC O&M Manual) be revised to clarify that requirement to submit granular activated carbon (GAC) operation and maintenance manuals applies to the Building 92 and Building 185 GACs as the Cottage Grove facility site utilizes GAC systems not associated with wastewater treatment or discharge. 3M proposes the below edits to clarify the scope of Condition 5.70.108, as indicated in purple:

| | |
|---|---|
| 5.70~~69~~.10~~85~~ | **BLD 92 & BLD 185 GAC O&M Manual**<br>No later than~~Within~~ 60 days after~~of~~ permit issuance, the Permittee shall submit its current GAC O&M manual(s) for ~~each building that contains~~ the GAC treatment technology in Building 92 and Building 185. The O&M manual(s) shall contain a dedicated section highlighting the PFAS breakthrough monitoring and response~~.~~ procedure~~s, breakthrough thresholds/determination procedure~~ and the activated carbon changeout procedures. The Permittee shall immediately implement and comply with the GAC O&M manual(s)~~ and submit revised versions within 30 days of any future revisions being made~~. The most up-to-date versions of the manual(s) shall be available to the MPCA upon request. The Permittee shall submit an operations and maintenance (O & M) manual: Due by 60 days after permit issuance. [Minn. R. 7001] |

## XVII. Acute Toxicity Requirements (Revised Draft Permit Conditions 5.6.5 and 5.6.17)

MPCA has included in the Revised Draft Permit annual acute toxicity requirements, which it had omitted from the July Permit. Revised Draft Permit Conditions 5.6.5 and 5.6.17 identify the specific species to be tested using the acute whole effluent toxicity (WET) test: *Daphnia magna* by Method 2021.0, *Ceriodaphnia dubia* by Method 2002.0 and Fathead minnows (*Pimephales promelas*) by Method 2000.0. Method 2021.0 is a method for testing Daphnia as either *Daphnia magna* or *Daphnia pulex* species. 3M recommends that MPCA include *Daphnia pulex* as an alternative test species for *Daphnia magna* for two reasons: 1) allowing the testing of *Daphnia pulex* will fully align the species to be tested with the method required for testing, and 2) not all test laboratories maintain an inventory of both *Daphnia magna* and *Daphnia pulex* species.

## XVIII. Removal of Reference to BML locations in Section 4 (Revised Draft Permit Condition Section 4):

3M's proposes changes below that are intended to clarify the descriptions of monitoring stations SD 009, SD 010, SD 011, SD 025, SD 027 by removing their respective references to BML monitoring stations. The BML stations are designated Minnesota Industrial Stormwater General Permit (MNR050000) (General Permit) monitoring stations. At the time the NDES/SDS permit for the Cottage

Grove Facility becomes effective, the General Permit will cease to apply to the Cottage Grove facility and the BML monitoring stations will no longer be relevant. As such, the references to the BML monitoring stations should be removed from the descriptions of the referenced monitoring stations in any final permit at its fact sheet. For your convenience, 3M includes below the edits we recommended in Appendix 1 (pp. 4-5) of its August 2024 Comments:

- ~~Local name~~; Basin 3U Overflow: 3U-01~~/BML 001~~: Former Incinerator Area
- ~~Local name~~; Basin 2AA~~-01/BML 003~~ Overflow~~: Former D8 Disposal Area~~
- ~~Local name; BML 004/~~Basin AD Overflow: AD-02, AD-03: Wastewater Treatment Plant
- ~~Local name~~; Basin 1E Overflow: AR~~/BML 002/~~1E-01, 1E-02, 1F-01, 1G-02, AM-01: Front Entrance/Building 57/North Access Road

## XIX. Sampling WS 005 as an Internal Waste Stream is No Longer Relevant

Revised Draft Permit Condition 5.39.3 requires sampling at WS 005 to be representative of effluent mid-GAC treatment, and the parameters in Section 6 of the Revised Draft Permit specify weekly sampling for seven volatile organic constituents, a phthalate, and COD to monitor for compliance with OCPSF. Each of these parameters at WS 005 also has been assigned an intervention limit. As MPCA is aware, the Building 185 effluent was discharged directly to the receiving water body but will now be pumped to Building 150 for advanced treatment, and the organic constituents of concern will be removed by RO prior to discharge to the receiving water. Because water treated in Building 185 will be further treated downstream at the advanced wastewater treatment system the WS 005 intervention limits do not serve the purpose for which they were intended – i.e., to be protective of instream ecological toxicity. Accordingly, 3M requests Condition 5.39.3 be removed in its entirety.[61]

| | |
|---|---|
| ~~5.398.3~~ | ~~Samples for Station WS 005 shall be taken at a point representative of the effluent from the lead vessels of the Phase 1/2 GAC system in Building 185. Samples at this station shall be rotated sequentially each sampling event through the multiple GAC vessel pairs. [Minn. R. 7001.0150, subp. 2(B)]~~ |

## XX. The Underground Piping Integrity Plan (Revised Draft Permit Conditions 5.70.101 and 5.70.102)

Without any record support, MPCA re-orders, re-prioritizes, and compresses 3M's underground pipe inspection schedule for the Cottage Grove site. Revised Permit Condition 5.70.101 (Underground Piping Integrity Plan) expressly cites to 3M's "Cottage Grove Sewer Operations and Maintenance Manual, dated July 28, 2023 Revision 0" (Sewer O&M Manual) as its basis for the inspection schedule required in Condition 5.70.101, but mis-states the Sewer O&M Manual's inspection frequency. Significantly, the Revised Permit Condition requires 3M to compress many of its underground inspections into a three-year window. For the reasons outlined below, 3M requests the that Revised Draft Permit Conditions 5.70.101 and 5.70.102 be modified to reflect an adaptive management approach to piping inspections.

[61] Revised Permit Conditions 5.39.1 – 5.39.10 (WS 005 Internal Waste Streams) and Section 6 (Limits and monitoring) at pp. 351-353 should be modified to reflect that the Building 185 discharge will now receive advanced treatment causing the WS 005 GAC sampling to be unnecessary.

The grouping, sequencing, and frequency of pipe inspections outlined in Appendix C to the Sewer O&M Manual reflects a piping risk assessment and ranking determined in reference to well-accepted industry factors, including the potential for chemicals to erode sewer line materials, leak detection and containment, the age of sewer, the potential of a leak to impact groundwater (i.e., depth and ease of flow to groundwater), the pipe material, pipe diameter, condition of the pipe based on its most recent inspection, accessibility, status of preventative maintenance, and the potential for plugging. 3M's underground pipe program must account for the above-identified factors and be capable of being modified and adapted to ensure that 3M continues to prioritize the highest risk pipes. Simply stated, Revised Permit Condition 5.70.101 does not allow for any adjustments to the schedule or frequency of pipe inspections, which risks 3M having to expend resources on pipes that are not a high priority.

Condition 5.70.102 requires 3M to prepare and submit an Annual Underground Piping Report by no later than March 31 of each calendar year. Underground pipe inspections at the Cottage Grove site occur annually during the late-May Memorial Day weekend facility shutdown. Consistent with past experience, 3M would expect to have to make adjustments to the inspection schedule from year-to-year based on conditions identified in the field and other site activities and developments. To ensure that MPCA remains abreast of the Cottage Grove site's underground pipe inspection efforts, 3M proposes that it identify any changes to the sequence and frequency of planned inspections in the annual report required by revised Permit Condition 5.70.102. 3M's proposed changes to Conditions 5.70.101 and 5.70.102 to account for the foregoing is outlined below in purple:

| | |
|---|---|
| 5.70~~69~~.101~~98~~ | **Underground Piping Integrity Plan**<br>The Permittee shall submit an implementation plan no later than 90 days after permit issuance detailing the following:<br>A. Timeline (~~maximum of three years for high priority/high risk pipes and~~ maximum of ten years for all ~~other~~ pipes) for assessing condition of all underground piping conveying water at the facility;<br>B. Timeline (maximum of one year) for restoring integrity of any underground piping found to have defects allowing either infiltration or exfiltration of water; and<br>C. Maps, drawings, and diagrams along with methods for both pipe assessment and restoration of integrity.<br>~~High priority/high risk pipes include but are not limited to~~Tentative Inspection frequency (Reference: Cottage Grove Sewer Operations and Maintenance Manual dated July 28, 2023 Revision 0):<br>Three Year Inspection Cycle:<br>Chem Sewer Phase 1 Group 3<br>Five Year Inspection Cycle:<br>Sanitary Sewer Group 1<br>Sanitary Sewer Group 2<br>Sanitary Sewer Group 3<br>Chem Sewer Phase 1 Group 2<br>Storm Sewer Group 2<br>Storm Sewer Group 3<br>Chem Sewer Phase 2 Group 3<br>Seven Year Inspection Cycle:<br>Storm Sewer Group 4<br>Storm Sewer Group 1<br>Chem Sewer Phase 2 Group 1 |

| | |
|---|---|
| | Chem Sewer Phase 2 Group 2<br>Chem Sewer Phase 2 Group 4<br>Chem Sewer Phase 1 Group 4<br>Nine Year Inspection Cycle:<br>Chem Sewer Phase 1 Group 1<br>The Permittee shall submit a plan: Due by 90 days after permit issuance. [Minn. R. 7001] |
| 5.7069.10299 | **Annual Underground Piping Report**<br>The Permittee shall submit an Annual Underground Piping Report no later thanby March 31 of each year. The report shall include findings (e.g. including but not limited to televising footage) and summaries of actions taken responsive to the Underground Piping Integrity Plan, including changes to inspection frequency. The Permittee shall submit an annual report: Due annually, by the 31st of March. [Minn. R. 7001] |

## XXI. Conventional Wastewater Treatment O&M Manual Section on Breakthrough Monitoring is Inapplicable

Revised Permit Condition 5.70.111 includes a requirement that O&M Manuals for Phases 1, 2, and 3 contain a dedicated section highlighting breakthrough monitoring and response procedures. No monitoring of PFAS is planned or required for conventional wastewater treatment at the site. All PFAS monitoring associated with this permit will occur at discharge locations and in the Water Quality Buildings 150 and 151. 3M requests Condition 5.70.111 be modified to remove the requirement related to PFAS breakthrough monitoring in the WWTP O&M Manual as indicated in purple.

| | |
|---|---|
| 5.7069.11107 | **WWTP O&M Manual**<br>No later than 180Within 60 days afterof permit issuance the Permittee shall submit its Wastewater Treatment Plant (WWTP) O&M manual covering the treatment units that comprise the Phase 1, Phase 2, and Phase 3 treatment trains. The WWTP O&M manual shall contain a dedicated section highlighting the PFAS breakthrough monitoring, procedures, breakthrough thresholds/determination procedure and response procedure. The Permittee shall immediately implement and comply with the WWTP O&M manual. and submit a revised version within 30 days of any future revisions being made The most up-to-date version of the manual shall be available to the MPCA upon request. The Permittee shall submit an operations and maintenance (O & M) manual: Due by 1860 days after permit issuance. [Minn. R. 7001] |

## XXII. Conclusion

3M offers the foregoing comments to ensure that the final permit establishes a clear and unambiguous path for the facility to achieve and maintain full compliance consistent with the requirements of the federal Clean Water Act and the State of Minnesota's Water Pollution Control Act.

For the reasons set forth in this comment letter, and exhibits, as well as 3M's August 2024 Comments and exhibits, 3M respectfully requests that the final permit be modified to be consistent with MPCA's statutory authority and responsibility to ensure 3M's compliance obligations are clearly defined and demonstrated to be reasonable, feasible, and practical.