

37887 Minnesota Pollution Control Agency Request for Comments

Closed Feb 14, 2022 · Discussion · 14 Participants · 1 Topics · 14 Answers · 0 Replies · 0 Votes

14

PARTICIPANTS

1

TOPICS

14

ANSWERS

0

REPLIES

0

VOTES

SUMMARY OF TOPICS

SUBMIT A COMMENT

 14 Answers · 0 Replies

Important: All comments will be made available to the public. Please only submit information that you wish to make available publicly. The Office of Administrative Hearings does not edit or delete submissions that include personal information. We reserve the right to remove any comments we deem offensive, intimidating, belligerent, harassing, or bullying, or that contain any other inappropriate or aggressive behavior without prior notification.

BROOKE DAVIS · Citizen · (Postal Code: unknown) · Dec 17, 2021 1:31 pm

 0 Votes

To protect the environment everyone should come together. check this out By reducing energy and water consumption, we can conserve natural resources. Above all pollution is one of the main causes of various environmental concerns. Here discuss such things.

Valerie Neppi · Citizen · (Postal Code: unknown) · Jan 28, 2022 11:28 am

 0 Votes

Please see attached Dakota County Comments on MPCA Rule Update

Chel Anderson · Citizen · (Postal Code: unknown) · Feb 08, 2022 8:09 pm

 0 Votes

Thank you for the opportunity to comment on the Minnesota Pollution Control Agency's (MPCA) concepts for changes to drinking water Class 1 rules.

The MPCA's mission is to protect all Minnesota drinking water as one of our State's most unique and priceless resources, not just for today, but for future generations.

Our water must be drinkable and safe. Local residents shouldn't have to risk their health, buy bottled water, or pay high costs for water treatment because commodity agriculture is misusing pesticides and fertilizers or because industrial polluters are releasing toxic chemicals.

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The MPCA should take these steps to protect drinking water and the public interest and to fulfill its mission as a regulatory agency:

1. Keep both National Primary and Secondary Drinking Water Regulations as Class 1 water quality standards. Proposed changes to existing Class 1 rules will limit MPCA's authority to stop contamination in excess of federal Secondary Maximum Contaminant Levels--this is unacceptable. Minnesota Class 1 water quality standards should, without exception, be at least as strict as the most protective national drinking water standard.
2. Add water quality standards for all pollutants that the Minnesota Health Department has already researched and then adopted Health Risk Limits to prevent cancer and non-cancer health effects. This change would protect Minnesota drinking water from pollution containing pesticides, PFCs, toxic metals, and many other dangerous contaminants.
3. Control nitrates in surface water with a Class 2 standard that both protects aquatic life and reduces the threat to human infants when surface water enters groundwater. The MPCA has done the research needed to adopt this standard.
4. Oppose any changes in current rules that apply drinking water standards to Class 2A waters. These standards are needed to protect trout and other sensitive cold water species.
5. Significantly strengthen the MPCA's enforcement of existing rules that protect Class 1 drinking water. The best way to protect Minnesota drinking water is to enforce the rules that are already on the books.

Protecting Minnesota's drinking water and the public interest should be MPCA's priority.

Margaret Watkins · Citizen · (Postal Code: unknown) · Feb 09, 2022 10:10 am

 0 Votes


Dear Denise Collins:

Please find attached comments from Grand Portage regarding MPCAs proposed 2022 Class 1 waters revisions.

Sincerely,


Margaret Watkins
Grand Portage Water Quality Specialist

Emily Onello · Citizen · (Postal Code: unknown) · Feb 11, 2022 11:39 am

 0 Votes

Please see attached letter for comments from physicians.

Tony Kwilas · Citizen · (Postal Code: unknown) · Feb 11, 2022 2:05 pm

 0 Votes

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Attached are the Minnesota Chamber of Commerce comments

Chrissy Bartovich · Citizen · (Postal Code: unknown) · Feb 14, 2022 10:09 am
👍 0 Votes

Attached are comments from U. S. Steel

Maureen Johnson · Citizen · (Postal Code: unknown) · Feb 14, 2022 12:04 pm
👍 0 Votes

Please find my comments attached.

Paula Maccabee · Citizen · (Postal Code: unknown) · Feb 14, 2022 3:16 pm
👍 0 Votes

Dear Ms. O'Dell, MPCA Staff,

Attached please find the following:

1) Comments of WaterLegacy joined by seven other conservation organizations regarding Possible Class 1 Rule Amendments (Minnesota Rules chapters 7050, 7052, 7053, 7060) Revisor's ID Number R-04727, OAH Discussion 37887.

2) Exhibit List and Exhibits 1-16 in support of these Comments.

Respectfully submitted,
Paula g. Maccabee
WaterLegacy Advocacy Director and Counsel

Sophia Patane · Citizen · (Postal Code: unknown) · Feb 14, 2022 3:34 pm
👍 0 Votes

Dear Ms. O'Dell, MPCA Staff,

Attached as a PDF document, please find 358 comments (at least 47 of which are personalized) from members of the public who request the Minnesota Pollution Control Agency (MPCA) to take the following steps to protect drinking water, the public interest, and fulfill its mission as a regulatory agency:

- Keep both National Primary and Secondary Drinking Water Regulations as Class 1 water quality standards,
- Incorporate Minnesota Health Department Health Risk Limits as Class 1 water quality standards to prevent cancer and non-cancer health effects,
- Control nitrates in surface water with a Class 2 standard that both protects aquatic life and reduces the threat to human infants when surface water enters groundwater,
- Oppose any changes in current rules that apply drinking water standards to Class 2A waters,

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-Strengthen the MPCA's enforcement of existing rules to protect Class 1 drinking water.

Thank you for considering the views of members of the public across the State of Minnesota.

Respectfully yours,
Sophia Patane

Community Engagement Coordinator,
WaterLegacy

Megan Withroder · Citizen · (Postal Code: unknown) · Feb 14, 2022 3:53 pm

👍 0 Votes

We submit the following comments on behalf of 3M.
Thank you.

Eric Lindberg · Citizen · (Postal Code: unknown) · Feb 14, 2022 3:59 pm

👍 0 Votes

The attached comments and cited references are submitted on behalf of Minnesota Center for Environmental Advocacy.

Lloyd Hansen · Citizen · (Postal Code: unknown) · Feb 14, 2022 4:11 pm

👍 0 Votes

Dear Ms. O'Dell, MPCA Staff,

One year ago the Minnesota Supreme Court ruled that all National Primary and Secondary Drinking Water Standards can be enforced to protect Minnesota groundwater under existing Class 1 rules. The MPCA should, therefore, maintain both primary and secondary standards, clarifying and strengthening the language as necessary to assure absolute protection of drinking water.

I concur with acting to protect drinking water from agricultural pollution and by the release of toxic waste by mines and others industrial polluters. These contaminates are known to cause cancer, brain damage, and other tissue disease, particularly in infants, children, the elderly, and other vulnerable populations. The reason for protecting drinking water is foremost to protect the health of the citizens of Minnesota, and that should be the primary consideration in any rule changes.

Respectfully,
Lloyd B. Hansen
Resident of Bloomington, MN

Nancy Schuldt · Citizen · (Postal Code: unknown) · Feb 14, 2022 4:21 pm

👍 0 Votes

Please see attached comments on behalf of the Fond du Lac Band of Lake Superior Chippewa.

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Sincerely, Nancy Schuldt, FDL Environmental Program



Dakota County Comments on MPCA Rule Update

Amendments being Considered to Rules Governing Water Quality Standards – Use Classification 1

Section 1 Comments (Improve and clarify Class 1 beneficial use)

MPCA may want to clarify that MPCA is not responsible for addressing geologically-sourced (naturally occurring) contaminants such as arsenic (where not associated with a release) or manganese.

Section 2 Comments (Improve and clarify Class 1 designation)

Water connectivity should consider drain tiles, as they are a significant source of nitrates and other nutrient pollutants in local surface water and groundwater. At a minimum, it would be helpful to consider proposing that new tile drainage be tracked (parcel #, locations in the field, size of pipe, etc.) as this would be helpful in identifying potential practices that could collect or treat tile water.

Section 3 Comments (Update numeric and narrative Class 1 WQS)

Class 1 WQS should be at least as restrictive as the lowest applicable drinking water standard. Referencing MDH values are recommended vs updating MPCA Rules when MDH values are updated or changed.

Section 4 Comments (Consider adding Groundwater Contaminant Management Zones (GWCMZs) to Minn. R. ch. 7060)

It is unclear if there is any value in adding the “concept of Groundwater Contamination Management Zones”. If just presenting a concept, it does not lead to improvement of contamination. Having updated and current information on a separate website is much more valuable.



Grand Portage Band of Lake Superior Chippewa
Environmental Department
P.O. Box 428, Grand Portage, MN 55605

Denise Collins
Office of Administrative Hearings
Submitted via email to:
<https://minnesotaoah.granicusideas.com/>

Feb. 8, 2022

Re: REQUEST FOR COMMENTS REQUEST FOR COMMENTS on Amendments being Considered to Rules Governing Water Quality Standards – Use Classification 1, Minnesota Rules chapters 7050, 7052, 7053, and 7060, Revisor’s ID Number R-04727.

Dear Denise Collins:

Please find below the Grand Portage Band’s comments regarding MPCA’s proposed request for comments on amendments being considered to the above Class 1 rules. MPCA states that the revisions to the rule language in chapters 7050 and 7060 are proposed to address gaps and inconsistencies in their application to surface and groundwater. But we have not been provided with information to determine how MPCA is proposing to improve the alignment of Class 1 rules with the goals and provisions of the 1989 Minnesota Groundwater Protection Act (Minnesota Statutes, ch. 103H). We ask that MPCA provide clarification before proceeding further.

MPCA must continue to protect all groundwater in the state as a source of drinking water. This is protective of both municipalities and individual homeowners who may rely on groundwater as their drinking water source. MPCA’s statement regarding “clarifying which waters need to be protected for the domestic consumption/drinking water use” is vague and should itself be clarified.¹ Drinking water sources can vary over time based on both surface and groundwater elevations and water quality, it is imperative that MPCA protect any source of surface water that may in the future be needed for drinking water in addition to protecting all of Minnesota groundwater as a drinking water source. This means any surface waters capable of supporting a community drinking water source should be protected as such whether or not the community is actually currently using it for such purposes.

¹ MPCA Amendments to Water Quality Standards Use Classification 1 [Amendments to Water Quality Standards: Use classification 1 | Minnesota Pollution Control Agency \(state.mn.us\)](#); MPCA Amendments to Water Quality Rules for Class 1 waters (domestic consumption) Minn. R. chs. 7050 and 7060 Potential changes to Minn. R. chs. 7052 and 7053 Rule Concepts/Narrative [Concepts for Amending Water Quality Standards Rules – Use Classification 1 \(wq-rule4-24b\) \(state.mn.us\)](#)

It is also imperative that MPCA expand Class 1 designations to include surface waters that are adversely impacting groundwater to comply with existing Minnesota rules. Broadening the Class 1 designation for those surface waters that are impacting downstream surface water sources of drinking water is one approach to limit upstream impacts to downstream surface water that already have the Class 1 designation. However, another approach that does not require a water quality standards (WQS) amendment would be to enforce existing WQS by identifying the sources of impairments to Class 1 waters and applying waste load allocations to the appropriate dischargers NPDES permits to ensure compliance with downstream use designations. Why isn't MPCA simply pursuing enforcement with existing standards as a means of ensuring Class 1 compliance?

The best way to ensure that MPCA numeric criteria are up-to-date with current science is not to proceed with the current proposal but to simply adopt all of the Minnesota Department of Health's (MDH's) Health Risk Limits for drinking water in addition to EPA's Safe Drinking Water Act (SDWA) criteria including limits set for secondary drinking water contaminants. Health Risk Limits are developed using risk assessment methods and toxicologic data from the EPA. EPA risk assessment methods undergo extensive review by EPA scientists and have a robust public review process. This is particularly important because many criteria that do not have maximum contaminant levels listed in the SDWA, or that are listed under Secondary Drinking Water Regulations, can still have serious human health impacts.

A good example of this is manganese. In the SDWA, it is considered a secondary contaminant with a limit of 50 micrograms per liter ($\mu\text{g/L}$). Above a concentration of 100 $\mu\text{g/L}$, manganese can cause Parkinson's Disease-like nervous system symptoms.

Chloride is another example of a pollutant that at low concentrations is not generally harmful to human health. But at concentrations above the 250 milligrams per liter (mg/L) set in the SDWA Secondary Criteria, chloride can adversely impact people suffering from heart and kidney disease.

Sulfate is also considered a secondary contaminant with a SDWA limit of 250 mg/L to protect people from its "laxative effect." This is a particularly important limit to protect formula-fed infants. Simply put, no parent would ever choose to give their child water that is widely known to cause chronic diarrhea. Furthermore, where the Minnesota Supreme Court in the *Minntac* decision just last year confirmed the enforceability of this same 250/ mg L sulfate standard, and MPCA's authority to interpret it, what scientific or legal reason does MPCA have to change it?

Adding new Class 1 WQS for emerging pollutants of concern, including per-and polyfluoroalkyl substances (PFAS), can and should be part of any planned amendment—but they are currently absent or unclear in the MPCA's proposal. What exactly is MPCA proposing in terms of regulating algal toxins, bacteria, viruses, and disinfection by-products?

Again, the best sources for pollutant limits are existing EPA and MDH standards. EPA and MDH both have some pesticide concentration limits. The SDWA also has some maximum contaminant levels listed for *Cryptosporidium*, *Giardia Lambia*, *Legionella*, Heterotrophic Plate

Count, Total Coliforms, and viruses, as well as requiring specific treatment techniques to reduce these contaminants in the public water supply.

Disinfection by-products, primarily Trihalomethanes, are also limited under the SDWA. MPCA should rely on MDH and EPA to determine what the maximum drinking water contaminant levels for pharmaceuticals and industrial chemicals that do not yet have drinking water limits should be to protect human health.

Additionally, MPCA's proposal to "[p]otentially adding Groundwater Contaminant Management Zones as a mechanism to inform decision makers and the public about the presence and status of groundwater contaminant plumes" is described so minimally that it is impossible to determine what the outcome might be. If Groundwater Contaminant Management Zones would be used to re-name, describe or delineate superfund sites, we do not support the proposed change. Can MPCA clarify the proposal here, too?

Thank you for the opportunity to provide an early assessment of proposed rule amendments to Class 1 waters. In summary, all groundwater within the boundaries of the State must continue to be protected as a drinking water source. Grand Portage supports the idea of amending existing Class 1 Use Designations to be inclusive of surface waters that may be used as a drinking water source in the future. However, we do not support *amending* the rules without first enforcing *existing* rules. Grand Portage also supports ensuring that MPCA numeric criteria are up-to-date with current science by adopting all of the MDH Health Risk Limits and EPA's SDWA criteria including limits for secondary drinking water contaminants. Grand Portage will wait until more information is provided by MPCA regarding the purpose behind creation of Groundwater Contaminant Management Zones to assess the value and reasonableness of that proposal. We also ask for responses to questions as noted throughout.

Sincerely,



Margaret Watkins
Grand Portage Water Quality Specialist

February 11, 2022

RE: MPCA Water Quality Standards for Drinking Water (Class 1 Rules)

Dear Ms. O'Dell, MPCA Staff, and Commissioner,

The undersigned Minnesota medical professionals, all of whom either practice or have practiced medicine in the state's water-rich region of the Arrowhead, appreciate the opportunity to comment on the Minnesota Pollution Control Agency's (MPCA) concepts for changes to drinking water Class 1 rules.

The MPCA's mission is to protect all Minnesota drinking water as one of our State's most unique and priceless resources, not just for today, but for future generations.

Our water must be drinkable and safe. Local residents shouldn't have to risk their health, buy bottled water, or pay high costs for water treatment because commodity agriculture is misusing pesticides and fertilizers or because industrial polluters are releasing toxic chemicals.

The MPCA should take these steps to protect drinking water and the public interest and to fulfill its mission as a regulatory agency:

1. Keep both National Primary and Secondary Drinking Water Regulations as Class 1 water quality standards. Minnesota Class 1 water quality standards should, without exception, be at least as strict as the most protective national drinking water standard.
2. Add water quality standards for all pollutants that the Minnesota Health Department has already researched and then adopted Health Risk Limits to prevent cancer and non-cancer health effects. This change would protect Minnesota drinking water from pollution containing pesticides, PFCs, toxic metals, and many other dangerous contaminants.
3. Control nitrates in surface water with a Class 2 standard that both protects aquatic life and reduces the threat to human infants when surface water enters groundwater. The MPCA has done the research needed to adopt this standard.
4. Oppose any changes in current rules that apply drinking water standards to Class 2A waters. These standards are needed to protect trout and other sensitive cold-water species.
5. Strengthen the MPCA's enforcement of existing rules that protect Class 1 drinking water. The best way to protect Minnesota drinking water is to enforce the rules that are already on the books.

Please make protecting Minnesota's drinking water and the public interest your agency's priority.

Sincerely,

Emily Onello MD, Duluth MN

Kris Wegerson MD, Duluth & Ely, MN

John Ipsen MD (retired), Duluth & Ely, MN

Jennifer Pearson MD, Duluth MN

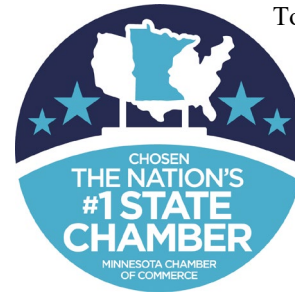
Debbie Allert MD (retired), Two Harbors MN

Steve Bauer MD, Duluth MN

Margaret Saracino MD, Duluth MN

Steve Sutherland MD, Duluth MN

Sandra Stover MD, Duluth & Grand Marais, MN



February 14, 2022

Cathy O'Dell
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

RE: Proposed Class 1 Water Quality Standards Amendments

Dear Ms. O'Dell:

The Minnesota Chamber of Commerce (Chamber) represents approximately 6,200 businesses across the State of Minnesota. Our members include industrial companies, utilities, iron and steel industries, paper, agriculture, municipal entities, agricultural parties, and trade associations that are directly affected or have members that are directly affected by regulatory decisions made by EPA, tribes, and states under the CWA.

General Comments:

- Several years ago, the Minnesota Pollution Control Agency (MPCA) began evaluating whether the Class 1B designation should remain for trout waters. The Minnesota Department of Natural Resources (MDNR) restricts appropriations in trout waters; thus, it is not appropriate to designate trout waters as Class 1B. The Chamber recommends MPCA remove Class 1B designation from trout waters. Alternatively, MPCA should continue to evaluate Class 1B/2A disassociations on a case-by-case basis if sufficient Use and Value Demonstration supporting material has been submitted to MPCA.
- The Chamber requests MPCA define and differentiate the terms Class 1 beneficial use (proposed change no. 1), designated beneficial use (second paragraph of narrative for proposed change no. 1), and Class 1 designation (proposed change no. 2).
- The Chamber recommends adding explicit allowances for the use of a site-specific standard for groundwater in both sets of regulations. While Minn. Admin. R. 7050.0218 addresses site-specific standards, it is geared toward surface water protection. There is no such rule in Minn. Admin. R. 7060.

The Chamber also offers the following comments on the specific comments as requested by the MPCA:

- **Proposal 1.a.** – Minn. Statutes 115.01 defines groundwater as water contained in "...regolith, or in rock formations deeper underground," among other underground features. Regolith and deep rock formations may not be accessible or yield sufficient water to be considered a water supply. In such cases, there would be no need to protect those waters for domestic consumption. Additionally, MPCA is presuming that all groundwater is suitable for use as a water supply. The groundwater in and around contaminated soil and groundwater remediation sites should not be classified as a source of domestic consumption. The MPCA should not generalize all groundwaters as Class 1, rather, they should develop a way to identify usable groundwater that has sufficient quantity and quality as Class 1 or make case-by-case determinations during the permitting process. Alternatively, the Chamber recommends that MPCA should provide clarity on when groundwater can be considered a source of "domestic consumption."
- **Proposal 1.b.** – MPCA plans to expand Class 1 protections to all surface waters impacting downstream Class 1 waters but only provided one example. The Chamber recommends that the amended rule should not expand Class 1 designations to waters that are not currently used for domestic consumption or do not have the potential to be used

for domestic consumption. This is a misapplication of the designated use because upstream waters must be sources for domestic consumption to be classified as Class 1 waters.

- **Proposal 1.c and 2.a.** – The Chamber recommends that MPCA provide clarification on proposals 1.c. and 2.a., which appear to be conflicting with proposal 1.c. stating that MPCA will “improve or remove Class 1 subclasses,” while proposal 2.a. states they will “maintain all current Class 1 designations.” If MPCA removes the Class 1 subclasses, then the designations will need to change as well. The Chamber recommends the MPCA clarify its intent with these statements and how they will reconcile this in the rulemaking.
- **Proposal 2.d.** – The MPCA previously stated that the rule is being updated to remove the “drinking water” standards and replace them with “domestic consumption” standards. For clarity and consistency, The Chamber recommends disassociating drinking water from Class 2A. As previously mentioned, the MDNR restricts appropriations in trout waters; therefore, these waters are not legally authorized to be sources of domestic consumption. Alternatively, MPCA should continue to evaluate Class 1B/2A disassociations on a case-by-case basis if sufficient Use and Value Demonstration supporting material has been submitted to MPCA.

There is also a statement that the Class 2A standards must be protective of the underlying groundwater, essentially meaning that all streams contribute to groundwater quality and must be protective of the domestic consumption standards; thus, all streams could be designated as Class 1. The Chamber does not believe this is an appropriate application of the designation and cautions MPCA in generalizing all waters under certain classes.

- **Proposal 3.a.** – The MPCA plans to update the Class 1 water quality standards (WQS) using their own risk-based approach. The Chamber agrees with this approach. However, MPCA further states that they will “[m]aintain existing Class 1 WQS for pollutants that have an existing standard but for which there is no current MDH toxicological value.” As MPCA has already acknowledged, it is not appropriate to implement primary and secondary drinking water standards from the Safe Drinking Water Act (SDWA) as water quality standards under the Clean Water Act. The Chamber recommends that MPCA remove all references to the primary and secondary drinking water standards and all standards generated from those SDWA regulations.
- **Proposal 3.a.** – The MPCA states that they will update the numeric and narrative WQS to include per- and polyfluoroalkyl substances (PFAS). EPA plans to evaluate and develop ambient water quality criteria and industrial effluent limitations guidelines for PFAS in the coming years. Based on their PFAS Strategic Roadmap¹, EPA will conduct a thorough study of PFAS through 2024. Therefore, the Chamber recommends MPCA should wait to make any decisions regarding PFAS WQS until EPA has published its proposal to avoid any potential conflict between the state and federal regulations.

The Chamber appreciates the opportunity to submit these comments on the rulemaking effort. Please let me know if you have any questions regarding these comments or if you would like to meet to discuss these comments further.

Sincerely,



Tony Kwilas
Director, Environmental Policy

¹ U.S. Environmental Protection Agency. *PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024*. [PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 | US EPA](#).



U. S. Steel Corporation
Minnesota Ore Operations
P.O. Box 417
Mt. Iron, MN 55768

February 14, 2022

Cathy O'Dell
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Re: Proposed Class 1 Water Quality Standards Amendments Comments

Dear Ms. O'Dell:

The United States Steel Corporation (U. S. Steel) is respectfully submitting the following comments on the public notice of the Proposed Amendments being Considered to Rules Governing Water Quality Standards – Use Classification 1. The general and specific comments that follow pertain to the concept document found on the Minnesota Pollution Control Agency (MPCA) web page for the Class 1 Amendments.

- **General Comment** – Several years ago, MPCA began evaluating whether the Class 1B designation should remain on trout waters. The Minnesota Department of Natural Resources (MDNR) restricts appropriations in trout waters; thus, it is not appropriate to designate trout waters as a drinking water source or for domestic consumption. U. S. Steel recommends that MPCA remove Class 1B designation from trout waters. Alternatively, MPCA should continue to evaluate Class 1B/2A disassociations on a case-by-case basis if sufficient Use and Value Demonstration supporting material has been submitted to MPCA.
- **General Comment** – U. S. Steel requests MPCA to define and differentiate the terms *Class 1 beneficial use* (proposed change no. 1), *designated beneficial use* (second paragraph of narrative for proposed change no. 1), and *Class 1 designation* (proposed change no. 2).
- **General Comment** – U. S. Steel recommends adding explicit allowances for the use of a site-specific standard for groundwater in both sets of Minnesota water quality regulations. While Minn. Admin. R. 7050.0218 addresses site-specific standards, it is geared toward surface water protection. There is no such rule in Minn. Admin. R. 7060.
- **Proposal 1.a.** – Minn. Statute 115.01 defines groundwater as water contained in "...regolith, or in rock formations deeper underground," among other underground features. Regolith and deep rock formations may not be accessible or yield sufficient water to be considered a water supply. In such cases, there would be no need to protect those waters for domestic consumption. Additionally, MPCA is presuming that all groundwater is suitable for use as a water supply. In some areas groundwater may contain naturally-occurring elements or constituents making the water inappropriate for use as a drinking water source. In addition, the groundwater in and around contaminated soil and groundwater remediation sites should not be classified as a source of domestic consumption. The MPCA should not generalize all groundwaters as Class 1, rather,

MPCA should develop a way to identify usable groundwater that has sufficient quantity and quality as to be considered as Class 1 waters or make case-by-case determinations during the permitting process. Alternatively, MPCA should provide clarity on when groundwater can be considered a source of "domestic consumption."

- **Proposal 1.b.** – MPCA plans to expand Class 1 protections to all surface waters impacting downstream Class 1 waters but only provided one example. U. S. Steel recommends that the amended rule should not expand Class 1 designations to waters that are not currently used for domestic consumption or do not have the potential to be used for domestic consumption. This is a misapplication of the designated use because any given water must first be considered as a source for domestic consumption in order to be classified as Class 1.
- **Proposal 1.c and 2.a.** – U. S. Steel also recommends that MPCA provide clarification on proposals 1.c. and 2.a., which appear to be conflicting with proposal 1.c. stating that MPCA will "improve or remove Class 1 subclasses," while proposal 2.a. states they will "maintain all current Class 1 designations." If MPCA removes the Class 1 subclasses, then the designations will need to change as well. U. S. Steel recommends the MPCA clarifies its intent with these statements and how they will reconcile this in the rulemaking.
- **Proposal 2.d.** – The MPCA previously stated that the rule is being updated to remove the "drinking water" standards and replace them with "domestic consumption" standards. For clarity and consistency, U. S. Steel recommends disassociating drinking water from Class 2A. As previously mentioned, the MDNR restricts appropriations in trout waters; therefore, these waters are not legally authorized to be sources of domestic consumption. There is also a statement that the Class 2A standards must be protective of the underlying groundwater, essentially meaning that all streams contribute to groundwater quality and must be protective of the domestic consumption standards; thus, all streams could be designated as Class 1. U. S. Steel does not believe this is an appropriate application of the designation and cautions MPCA in generalizing all waters under certain classes.
- **Proposal 3.a.** – The MPCA plans to update the Class 1 water quality standards (WQS) using their own risk-based approach, which U. S. Steel commends. However, MPCA further states that they will "[m]aintain existing Class 1 WQS for pollutants that have an existing standard but for which there is no current MDH toxicological value." As MPCA has already acknowledged, it is not appropriate to implement primary and secondary drinking water standards from the Safe Drinking Water Act as water quality standards under the Clean Water Act. U. S. Steel recommends that MPCA remove all references to the primary and secondary drinking water standards and all standards generated from those SDWA regulations. Any water quality standards for Class 1 waters should be solely based on human health criteria.
- **Proposal 3.a.** – The MPCA states that they will update the numeric and narrative WQS to include per- and polyfluoroalkyl substances (PFAS). EPA plans to evaluate and develop ambient water quality criteria and industrial effluent limitations guidelines for PFAS in the coming years. Based on their PFAS Strategic Roadmap¹, EPA will conduct a thorough study of PFAS through 2024. Therefore, MPCA should wait to make any decisions regarding PFAS WQS until EPA has published its proposal to avoid any potential conflict between the state and federal regulations.

¹ U.S. Environmental Protection Agency. *PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024*. [PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 | US EPA](#).

U. S. Steel recognizes the difficult task MPCA is undertaking and appreciates the opportunity to submit comments on this rulemaking. Please let us know if you have any questions regarding these comments or if you would like to meet to discuss these comments further. U. S. Steel plans to review the second round of public notice of the rulemaking and may submit additional comments at that time.

Sincerely,



Chrissy Bartovich
Director, Environmental
United States Steel Corporation
clbartovich@uss.com

Denise Collins
Office of Administrative Hearings
Submitted via email to:
<https://minnesotaoah.granicusideas.com/>
Feb. 14, 2022

Re: REQUEST FOR COMMENTS REQUEST FOR COMMENTS on Amendments
being Considered to Rules Governing Water Quality Standards – Use Classification 1,
Minnesota Rules chapters 7050, 7052, 7053, and 7060, Revisor’s ID Number R-04727.

Your Honor,

As a biologist, I have worked in water quality research before I spent 21 years at MPCA, cleaning up contaminated drinking water sources. I have included most of my comments within the copied text of the MPCA’s Concepts for Amending Water Quality Standard Rules.

It is important to understand the vulnerability of our waters and ground water. Even the Ely bedrock has cracks that allowed dry cleaner waste pollutants to travel hundreds of feet down to drinking water wells’ sources, as evidenced by the Superfund site near Brisson’s Point at Shagawa Lake.

Many proposals by MPCA here are not spelled out, reducing the ability to comment.

MPCA Concepts

Purpose of rulemaking: The main purpose of this rulemaking is to improve protection of Minnesota waters used for domestic consumption, which are all groundwater and Class 1 surface waters that are specifically identified in rule.

Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare. The rules that apply to Class 1 waters have not been significantly revised since first adopted in the 1960s through the 1970s; updates are needed to incorporate current science and to better align Minn. R. ch. 7050 with Minn. R. ch. 7060, which address the protection of Class 1 waters and waters used for domestic consumption, including groundwater. The amendments being considered are expected to significantly update and clarify protections for Class 1 waters.

The MPCA’s specific goals in this rulemaking are to:

- Clarify and revise where the Class 1 water quality standards (WQS) apply. MPCA is considering how to ensure the rule language clearly conveys that the standards apply to all groundwater.

MJ: I agree with the importance of retaining standards that apply to all ground waters and Class 1 surface waters.

MPCA is also considering whether and how to expand the Class 1 designation to surface waters that: 1) are strongly connected to and impacting the quality of underlying/nearby groundwater, and 2) flow into and impact the quality of a designated Class 1 surface water. These additions are being considered to better protect sources of drinking water. Other additions may also be considered.

MJ: To protect ALL surface waters and ground water that may be used for drinking, the wording should be : “1) are strongly in any way connected to and impacting may impact the quality of underlying/nearby groundwater, and 2) flow into and may impact the quality of a designated Class 1 surface water.” Without these changes, not all surface waters and ground waters that could be used for drinking now and in the future will be protected.

- Revise the numeric and narrative WQS. This includes updating existing values to be more health protective and adding WQS for some emerging pollutants of concern, including per-and polyfluoroalkyl substances (PFAS), and potentially pesticides, pharmaceuticals, algal toxins, disinfection by-products, and/or additional industrial chemicals.
- Consider whether to add the concept of Groundwater Contaminant Management Zones (GWCMZs) – a mechanism to identify contaminated groundwater and inform decision makers and the public of contamination.

MJ: There is already a federal requirement for public drinking water supplies to be tested by the suppliers and inform the public of the results. If MPCA is concerned about industrial contamination of water, MPCA should require that industries monitor the water(s) downgradient of their positions even if they do not have a NPDES discharge. This requirement would certainly discourage illegal waste dumping at those locations.

| Change being considered | Summary of reasons for change |
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| <p>1) Improve and clarify Class 1 beneficial use Includes potential revisions to Minn. R. chs. 7050 and 7060, to clarify the rule language therein and also better align it with the directives in Minn. Stat. ch. 103H (the 1989 Ground Water Protection Act).</p> | <p>The existing language regarding the designation of groundwater as Class 1 is inconsistent and needs clarification. Also, the Class 1 subclasses (1A, 1B and 1C) included in Minn. R. 7050.0221 are poorly defined and their usefulness is unclear, such that MPCA is considering removal of the subclass designations. Other clarifications are also under consideration.</p> |

1) Improve and clarify Class 1 beneficial use.

Minn. R. chs. 7050 and 7060 consolidate the policies and language from historical water pollution control rules that included protections for water used for domestic consumption. Minn. R. chs. 7050 and 7060 also reflect the requirements of Minn. Stat. ch. 115, which provides important authorities, definitions and concepts for protecting waters of the state for their assigned beneficial uses. This history has led to the use of varying terms and inconsistencies in Minn. R. chs. 7050 and 7060, and also with Minn. Stat. ch. 115. Examples include the way the beneficial use is referenced (i.e., domestic consumption versus potable water use),

MJ Domestic consumption is not the same as potable water use. See Minn. R. 7050.0140, subp. 2 : “used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.” Removing these non-drinking uses from the rules will weaken the ability to protect waters where drinking is not a current use. .

the way protections are articulated (i.e., nondegradation versus prevention of pollution), and how the protections are stated, specifically with regard to whether they apply to surface water, groundwater (also called underground water), or both. Accordingly, MPCA is looking at improving the language in Minn. R. chs. 7050 and 7060 to add consistency and clarity, thereby ensuring the protections they provide are not subject to misinterpretation.

MJ: As further evidence of the need, MPCA should state when misinterpretation occurs, how often have these rules been misinterpreted, by whom, and what are the ramifications? MPCA must be careful to retain the most protective language.

Another area where clarification is needed regards the connection in Minn. R. ch. 7050 between protection of Class 1 water and the need for treatment of that water to make it suitable for domestic consumption (i.e. safe for drinking).

Minn. R. 7050.0140, subp. 2 describes Class 1 waters, domestic consumption, as follows: “Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.” MPCA’s authorities are focused on protecting waters of the state for their designated beneficial uses – in this case as the *source of supply* for domestic consumption. MPCA does not have authority or responsibility for determining the safety of water that is withdrawn from Class 1 waters for domestic consumption. Thus, MPCA seeks to clarify that this authority does not reside with MPCA, and to specify that MDH is the state agency authorized to administer the federal SDWA.

MJ: The rules should clarify that MDH is the state agency authorized to administer the federal SDWA, *BUT* the MPCA is the state agency authorized to protect and enforce the standards for the waters which have designated uses described in Minn. R. 7050.0140, subp. 2 as: “used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.”

MPCA’s enforcement of the standards would enable the waters to be used under federal SDWA *IN ADDITION TO* the other uses described in the previous sentence, including unforeseen uses that require that level of quality included in “or other domestic uses”. MPCA is responsible for the quality of the water before the intake of a domestic system, the same as it is responsible for waste system permitting for pollutants entering state waters. MDH would be responsible for requiring the potable water supplier to verify that the water supplied to consumers is actually potable and to meets SDWA requirements including required public notices.

Reason for change

| | Change being considered | Reason for change |
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| 1.a. | <p>Clarify inclusion of groundwater as a Class 1 water in Minn. R. ch. 7050.</p> | <p>In Minn. R. ch. 7050, “domestic consumption” is identified as a beneficial use under Class 1. This use classification applies to all “underground water” (i.e., groundwater) and some surface waters. Minn. R. ch. 7060 only applies to underground water; however, both rules set the foundation for protection of waters of the state that are or may be used as a source of supply for domestic consumption. This is also referred to as potable water protection.</p> <p>MJ: “Domestic consumption” uses is broader than “potable water” uses, since in addition to the “drinking” use, 7050.0221 Subp. 1. A. discusses “domestic consumption designated public uses and benefits” which is more than just potable water, and is supported by 7050.0140: Subp. 2. “Class 1 waters, domestic consumption. Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.”</p> <p>This broader specification <u>requires</u> MPCA to use its authority to protect Class 1 waters for specified and unidentified uses <u>in addition to</u> “drinking” use regulated by SDWA.</p> |
| 1.b. | <p>Add rule language specifying that MDH</p> | <p>Currently, only Minn. R. ch. 7060 specifically cites</p> |

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| | <p>is the state agency that oversees drinking water treatment under the federal SDWA.</p> | <p>the role of MDH in setting treatment and other requirements to ensure, “the potability of underground water.” MPCA is considering adding similar language into Minn. R. ch. 7050.</p> <p>MJ: This statement misinterprets the MDH versus MPCA responsibilities under this rule. 7060 is clearly a MPCA responsibility designated by the Legislature “to preserve and protect the underground waters of the state by preventing any new pollution and abating existing pollution” (7060.0100 PURPOSE) .</p> <p>The <u>only</u> mention of MDH occurs as follows: “...the waters <u>in their natural state</u> can be used for such purposes [source of drinking, culinary, or food processing] after such purification or treatment processes as may be prescribed by the Minnesota Department of Health or the Minnesota Department of Agriculture.” (7060.0400)</p> <p>This makes it clear that <u>MPCA is responsible to keep state waters in their natural state pursuant to its rules</u>, and if that is not sufficient to be drinking water, then MDH/MDA may prescribe treatment.</p> <p>SDWA (Safe Drinking Water Act) sets the primary and secondary Maximum Contaminant Level standards for drinking water, which the MDH uses in its monitoring of public drinking water supplies under SDWA. <i>And MPCA <u>adopted</u> these primary and secondary MCL standards in its rules for Class 1 Waters and its uses. The MPCA has <u>also</u> made rules that Class 1 Waters that are <u>underground waters are not to be polluted</u> at all: “[No] ...effluent or residue therefrom, upon reaching the water table, may actually or potentially preclude or limit the use of the underground waters as a potable water supply, nor shall any such discharge or deposit be allowed which may pollute the underground waters.” (7060.0600 Subp. 2). <i>In contrast</i>, MPCA <u>may allow pollution</u> into surface water under permit with such requirements as MPCA may deem necessary as long as the receiving water continues to meet rules requirements.</i></p> |
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| I.c. | Improve or remove Class 1 subclasses. | The Use Class 1 subclasses in Minn. R. 7050.0221 |
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| | | <p>(1A, 1B, and 1C) are distinguished according to the perceived need for treatment and the sensitivity of the groundwater and surface water to potential contamination, and have not to date been implemented in groundwater or offered any meaningful or additional protection to surface water.</p> <p>MJ: Class 1 subclasses 1A, 1B, and 1C do not appear to be needed, since the federal primary and secondary drinking water standards are specifically stated in each of all three to apply (7050.0221, Subp. 2, 3, and 4), and MDH handles the treatment standards.</p> <p>In addition, the existing language about the subclasses lacks clarity in conveying that Class 1 WQS apply to these waters in their untreated state, regardless of subclass.</p> <p>MJ: The rules are clear enough about standards applying to waters in their untreated state: 7050.0221 Subp. 2, 3, and 4 each state the federal standards apply to the untreated state. 7050.0221 Subpart 1. A. "The numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the domestic consumption designated public uses and benefits."</p> <p>Both surface and underground waters are included here per Minn. Stat. 115.01, Subd. 22: "Waters of the state" means "all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof."</p> <p>The existing rule clearly states "treatment technique standards" are not included in state rule and so do not apply to MPCA in protecting Class 1 surface waters and ground waters. (7050.0221 Subp. 1 B.) The treatment technique standards are standards available for MDH to use in its governance of public water supplies.</p> |
| 1.d. | <p>Address additional inconsistencies and ambiguities in Minn. R. chs. 7050 and 7060 and Minn. Stat. ch. 103H.</p> | <p>The purpose and approach to protection of waters of the state for domestic consumption should be, to a reasonable degree, consistent and clear.</p> <p>MJ: So far the rules are consistent and clear to me. Just read them. The rules in Class 1 apply to both</p> |

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| | | <p>surface and underground waters. After that, the underground waters are much more susceptible to pollution and more difficult to clean up than surface waters, so they have additional stricter rules about pollution.</p> <p>Other areas of inconsistency or ambiguity may be identified, and a proposed revision may be advanced as part of this rulemaking.</p> |
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Stakeholder input needed:

- Are there improvements or clarifications needed to more easily understand protections to waters used for domestic consumption?

MJ: As opposed to just potable water, use the definition of Domestic consumption as in the rule. See 7050.0140, Subp. 2. Class 1 waters, domestic consumption. “Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.” In this definition, domestic consumption includes but is not limited to potable water, because there are other uses of this Class 1 quality of water in addition to potable water. 7050.0140 Subp. 1. also clarifies: “The classifications should not be construed to be in order of priority, nor considered to be exclusive or prohibitory of other beneficial uses.”

- Are there specific goals missing in Minnesota’s regulations that protect groundwater or surface water for domestic consumption?

MJ: Nitrate, chloride and sulfate are increasing in concentration in our waters. Enforcement of standards including Class 1 standards is necessary but does not appear to be occurring. A better understanding is needed of the meromixis consequences of these contaminants on the quality of Class 1 waters, including effects on ground waters.

protect the underlying groundwater.

| Change being considered | Reason for change | |
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| 2.a. | <p>Review and update surface waters that have Class 1 designations.</p> <p>Better define why and how MPCA considers and designates Class 1 surface waters across the state. Maintain all current Class 1 designations.</p> | <p>The designation of Class 1 waters began in the first water quality rule in 1963 and continued into the 1970s, with the rationale for these designations not well documented. MPCA is considering how to better define when a Class 1 designation is appropriate and to review and update the list of existing Class 1 waters, based on potential new and clearly stated existing rationale.</p> |

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| 2.b. | <p>Specify application to surface waters that are impacting the quality of Class 1 surface waters.</p> <ul style="list-style-type: none"> • Expand Class 1 protections to include surface waters | <p>MPCA is aware of certain upstream surface waters (not designated Class 1) that are impacting the water quality and attainment of Class 1 WQS. This could be due to natural poor water quality, nonpoint source runoff, or an upstream source or</p> |
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| | <p>directly impacting Class 1 surface waters.</p> | <p>sources of pollution. The MPCA is considering where expanded Class 1 designations may be needed to ensure that drinking water is protected. <i>Example: Fairmont, MN and Budd Lake</i> In 2016, high concentrations of nitrate were detected in the city's drinking water resulting in an advisory. The data on nitrate were limited in Budd Lake, which is a Class 1 surface water, but were very robust on tributaries entering Budd and Hall Lakes. However, because these tributaries are not Class 1, they were not subject to Class 1 WQS or managed to protect the downstream domestic consumption use.</p> |
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MJ: This is because MPCA chose NOT to enforce the existing rule that says a water may not cause a failure to meet standards in downstream waters, or the MPCA has forgotten it has a rule for this situation:

7050.0155 PROTECTION OF DOWNSTREAM USES.

All waters must maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the waters of another state.

Adding Class 1 protections to include surface waters directly impacting Class 1 surface waters is a good idea, though it may not always be possible or reasonable.

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| <p>2.c.</p> | <p>Specify application of Class 1 to surface waters that are impacting the quality of groundwater. Currently, MPCA is considering two options to designate surface waters that have the potential to negatively influence the quality of the underlying groundwater:</p> <ol style="list-style-type: none"> 1) Use accepted criteria associated with sensitive areas (defined in Minn. Stat. ch. 103H as... "<i>natural features where there is a significant risk of groundwater degradation from activities conducted at or near the land surface</i>") to identify surface water and groundwater connections that are necessary to protect. This option focuses on known geology and landscape features in addition to employing limited water quality datasets to identify groundwater influenced by surface waters. 2) Use water quality data to demonstrate a connection between surface waters and the impacted groundwater. Examples of acceptable monitoring data would include biologicals like algae and pathogens, or changes in pH, turbidity, temperature, etc. and would need to be sufficient to show the occurrence of these or other conditions in groundwater can be correlated with surface water conditions. More simply, this option would require monitoring data of both groundwater and surface water conditions to demonstrate the connection. <p>Both of these approaches would help MPCA meet statutory authority to protect groundwater for domestic consumption, but have different pros and cons. The</p> | <p>Currently, no defined criteria exist to designate surface waters as Class 1 when said waters are acting as a conveyance or source of contaminants to groundwater. To adequately protect this groundwater for domestic consumption, MPCA is considering two different approaches, described at left. Example: Mankato, MN and Blue Earth River Through study by the City of Mankato and MDH, there are multiple water quality parameters that reflect that the quality of the groundwater wells used by the city for public water supply that are influenced by the adjacent/overlying Blue Earth River. This dataset can be used to define known contamination of groundwater based on surface water pollution. This example fits the area sensitivity definition according to the DNR (option 1), but also uses more specific monitoring data beyond just the known geology/hydrogeology of the area (option 2).</p> |
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| | MPCA is seeking practicable ways to further prevent groundwater contamination. | |
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| <p>2.d</p> <ul style="list-style-type: none"> • | <p>Consider removal of designations where drinking water use is not occurring (e.g., Class 2A: cold-water, aquatic communities).</p> <p>MPCA is unlikely to pursue the disassociation of drinking water protections from Class 2A in this rulemaking.</p> | <p>All Class 2A designated cold waters are protected for domestic consumption (drinking water) (Minn. R. 7050.0222, subp. 2). However, Class 2A designations that align with DNR’s list of trout waters have restrictions against certain appropriations, including public drinking water intakes, per Minn. R. 6115.0670, subp. 3 (B)(3). Thus, Class 2A streams or rivers generally will not have drinking water intakes on them. (Note, there are Class 2A lakes that have public drinking water usage occurring.)</p> <p>While these restrictions constrain domestic consumption use on many Class 2A surface waters, there are Class 2A surface waters that are not trout streams. In addition, there is not enough information to demonstrate that the Class 1 designation should not apply, particularly when considering the need to protect the underlying groundwater, as described above in 2.c., in these areas where there is likely to be a strong surface water and groundwater connection.</p> <p>MPCA’s preliminary decision is not to move forward with a categorical disassociation of the Class 1 domestic consumption use and associated protections from Class 2A waters.</p> |
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MJ: I agree that removal of Class 1 or Class 2A, or even Class 2Bd, designations is not a good solution to non-compliance with the standards. Increasing populations, climate change consequences on people, and other factors demonstrate the need to restore and protect these waters for future needs. Superfund tells us it is easier and less costly to act now than act later when conditions become worse.

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| <p>Stakeholder input needed:</p> <ul style="list-style-type: none"> • <i>Are there other surface waters that should be designated as Class 1? Please include your rationale.</i> <p>MJ: Where an area has little or no drinkable ground or surface water, the cleanest surface waters in that area may be candidates for consideration of restoration to Class 1 waters.</p> <ul style="list-style-type: none"> • <i>MPCA is interested in your comments on these approaches for determining surface water connection to groundwater. Are these the right conditions?</i> <p>MJ: Tracer chemicals are also available; rotamine may be outdated but hydrologists should know where to find out what is available and safe for Class 1 waters.</p> <ul style="list-style-type: none"> • <i>Are there other circumstances of water connectivity that should be evaluated to better protect Class 1 water quality?</i> <p>MJ: The worst circumstances of water connectivity are NPDES permits which have some or no or inappropriate limits, and little or no or unreasonably extended enforcement of violations if they do have limits. An example is the Duluth Complex “stockpiles” toxic seepages at Dunka Mine which are not monitored as rules require, but a mile downstream, which travel in an undercurrent in Bob Bay out into Birch Lake and are not tracked as the contamination ultimately flows into the Class 1 part of Kawishiwi River and the Boundary Waters Canoe Area Wilderness. This has been occurring since the</p> |
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1970's. In my calculations, "wetland treatment" is no more than adding precipitation dilution to the contamination, and there is no "treatment" when wetlands are frozen but the seepages continue.

3) Update numeric and narrative Class 1 WQS.

Class 1 WQS apply to all groundwater and specific, listed surface waters in Minnesota. The Class 1 WQS provide the regulatory means to protect surface waters used as sources of drinking water and food processing;

MJ: Not only drinking water and food processing: "Domestic consumption uses" is broader than "potable water" uses, since in addition to the "drinking" use, 7050.0221 Subp. 1. A. discusses "domestic consumption designated public uses and benefits" which is more than just potable water, and is supported by 7050.0140: Subp. 2. "Class 1 waters, domestic consumption. Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare." This broader specification requires MPCA to use its authority to protect Class 1 waters for specified and unidentified uses in addition to "drinking" use. We can acknowledge that the *standards* for Class 1 (developed for drinking water) do provide the protections needed for the other uses. Where these other uses are occurring, Class 1 protections are still needed, even though the drinking use may not be utilized.

for groundwater, additional regulations apply. These include regulations that require the remediation of contaminated groundwater originating from contaminated industrial and other properties, as well as rule language in Minn. R. ch. 7060 (underground waters) and Minn. Stat. ch. 103H (the 1989 Ground Water Protection Act), the latter of which specifies that groundwater is to be protected for present and future generations through a policy of non-degradation.

The preservation of Minnesota's water resources for drinking water consumption is often considered its highest and best use; for groundwater, this is explicit policy (Minn. R. 7060.0200). Accordingly, the Class 1 WQS that protect this use should: 1) be appropriate for this purpose, 2) reflect current science, and 3) incorporate standards for pollutants of concern, including those that have more recently been recognized as real or potential concerns to human health, such as the per- and polyfluoroalkyl substances, commonly known as PFAS, and potentially pharmaceuticals, chemicals in personal care products, pesticides, a variety of industrial chemicals, and cyanotoxins associated with harmful algal blooms. MPCA is thereby considering updating the Class 1 numeric WQS in line with these considerations.

Narrative WQS are statements that describe the conditions that the water must meet to attain the beneficial use. The narrative WQS for Class 1 waters in Minn. R. 7050.0221, subp. 6, reads as follows:

In addition to the standards in subparts 2 to 5, no sewage, industrial waste, or other wastes from point or nonpoint sources, treated or untreated, shall be discharged into or permitted by any person to gain access to any waters of the state classified for domestic consumption so as to cause any material undesirable increase in the taste, hardness, temperature, chronic toxicity, corrosiveness, or nutrient content, or in any other manner to impair the natural quality or value of the waters for use as a source of drinking water.

Narrative WQS may be implemented by development of a site-specific water quality criteria for toxic pollutants to address a concern at a specific location or group of locations; or, by development of a narrative translator that results in an implementable numeric permit limit.

MJ: A standard or watershed standards is/are much more clear than a narrative translator and is much more time efficient. MPCA does not have time nor staff to develop Site-specific criteria.

Considerable new scientific data are now available to improve the Class 1 narrative WQS, including the science related to microbiological pathogens, and precursors to disinfection-by-product (DBP) formation (a large class of carcinogenic chemicals). MPCA seeks to improve the Class 1 narrative WQS, as feasible given the timeline for the Use Class 1 rulemaking.

The MPCA also seeks comment as to whether changes need to be made to Minn. R. ch. 7053 to support implementation of these WQS in permits.

MJ: 7053 needs to require MPCA to place limits beginning with the first permit issued to the permittee. Each limit should be below the standard taking into consideration all the other dischargers and a portion of the water for itself. 7053 also needs to require enforcement and put a time limit on the length of negotiations, enabling MPCA staff to make final decisions on a timely basis. Penalties should be calculated on the basis of EPA’s BEN program, which includes damages to the water and how much gain the violator made on his violations.

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| <p>3.a.</p> | <p>Revise numeric standards (update and add pollutants) Adopt new method to derive numeric Class 1 WQS for toxic pollutants (Minn. Stat. § 115.01, subd. 20) that reflects Minnesota-specific risk assessment scenarios.</p> <p>MJ: Any Minnesota-specific risk assessment scenario must include the most strict need considering all Minnesota’s immigrants’ races and Native Americans.</p> <p>Update existing Class 1 WQS using new method and pollutant toxicological values developed by the MDH since 2009.</p> <p>Add new Class 1 WQS for pollutants that do not have an existing standard for which there is a current MDH toxicological value. Maintain existing Class 1 WQS for pollutants that have an existing standard but for which there is no current MDH toxicological value</p> | <p>The federal CWA is clear that WQS must protect the use for which a water body is intended, and that WQS to protect drinking water should be fully human health-based, without any consideration of economics or treatment technology (note: the CWA and Minnesota Rules include other mechanisms to deal with economics that are outside application of the WQS).</p> <p>In 2015 MPCA addressed this concern by updating the human-health methods that are used in connection with Class 2 waters, which protect people who are recreating in and eating fish caught in those waters. MPCA is considering using this method as the basis for deriving Class 1 WQS, either by reference (Minn. R. 7050.0218 through 7050.0219) or by adopting it directly into the Class 1 rules (Minn. R. 7050.0221).</p> <p>MJ: Use of the “new method” is not necessary – Use the MDH Health Risk limits. Do not incorporate by reference, it is too confusing, and over time it will become difficult to access.</p> <p>The risk equation for Class 1 waters would only address exposure via the drinking water pathway.</p> <p>MPCA is also considering using pollutant toxicological values developed by MDH since 2009 to derive Class 1 WQS. This would facilitate: 1) updating the existing Class 1 WQS, using the new method and MDH’s toxicological value for the pollutant, and 2) the addition of new Class 1 WQS for pollutants that do not currently have a Class 1 WQS for which MDH has developed a toxicological value, such as for certain PFAS chemicals.</p> <p>There are approximately 15 pollutants with SDWA MCLs that MDH has not developed toxicological values for; the existing Class 1 WQS for these pollutants will be retained, as will the SDWA secondary standards, which apply to Class 1 surface water and groundwater as specified in Minn. R. 7050.0221, subp. 1.B</p> |
| <p>3.b.</p> | <p>Update and revise narrative standards Specify the inclusion of microbiological pathogens and DBP potential to the list of characteristics included in the narrative standards in Minn. R. 7050.0221.</p> | <p>Under existing rules, there are no WQS for microbiological pathogens such as E. coli/ Giardia lamblia/Cryptosporidium in Class 1 surface water. The MPCA anticipates that microbiological pathogens will</p> |

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| | <p>MJ: what is DBP?</p> | <p>become a larger and more compelling concern as climate change continues to impact Minnesota’s environment. Also, the intensified rainfall and runoff that is a signature of climate change can lead to greater concentrations of total organic carbon in surface water, which, when used for drinking water supply, makes treatment more challenging and can result in higher DBP levels in the treated drinking water.</p> <p>MJ: If these pathogens and organic carbon increases occur with a new standard in place, who will be responsible for the cleanup of the water – so that treatment is less challenging?</p> |
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Stakeholder input needed:

- Are there specific pollutants that MPCA should consider adding as a Class 1 WQS?

MJ: Existing Minnesota rules lack water quality standards setting numeric limits for many toxic contaminants polluting Minnesota drinking water, including nitrate fertilizers, pesticides, perfluorochemicals (PFCs) like PFOA and PFOS, and toxic metals. Many of these chemicals have been studied in depth by the Minnesota Department of Health (MDH). For chemicals already researched by the MDH, the MPCA should adopt the Health Risk Limits set by the MDH as enforceable water quality standards to protect both all groundwaters and surface waters to which Class 1 standards apply.

MPCA and the Minnesota Department of Agriculture have been establishing a record of protecting industry and agriculture instead of people. This clear pattern needs to be reversed to protect people and especially children with standards based on Minnesota Department of Health recommendations who has already done the risk work.

We have sufficient scientific knowledge of how sulfate in sulfide form acts on mercury (<https://twin-cities.umn.edu/news-events/researchers-use-wild-rice-predict-health-minnesota-lakes-and-streams>) to create methylmercury which is magnified in the food chain and has permanently damaged children even recently (MDH), so MPCA should establish a low standard for sulfate for Class 1 waters that will PROTECT Class 1 waters from creation of additional methylmercury in these waters before they are consumed. An email from MPCA’s respected Ed Swain to MPCA staff as early as March 30, 2006 stated about his research, “This paper is solid evidence that we need to be cautious about releasing additional sulfate to wetlands, lakes and rivers—places where additional sulfate could enhance the methylation of mercury.”

- Are there specific pollutants that MPCA should not consider adding as a Class 1 WQS?
- Other comments, concerns or suggestions you have regarding revising Minnesota’s numeric or narrative Class 1 WQS, including implementation?

MJ: If MPCA is now proposing to change existing Class 1 rules so that MPCA can’t stop contamination in excess of federal Secondary Maximum Contaminant Levels, these changes would make Minnesota water undrinkable and unsafe, especially in rural areas of our state. The Minnesota Supreme Court upheld the MPCA’s authority under existing Class 1 rules to enforce both Primary and Secondary National Drinking

Water Standards to protect groundwaters and surface waters. MPCA should not try to get rid of these Minnesota water quality standards that incorporate Secondary Drinking Water Standards. These standards are needed to protect human health, to make sure that water from wells is not undrinkable, and to ensure that polluters pay the costs to control their pollution, rather than shifting costs to taxpayers in local communities to pay for more water treatment. Minnesota Class 1 WQS should, without exception, be at least as restrictive as the lowest applicable national drinking water standard.

4) Consider adding Groundwater Contaminant Management Zones (GWCMZs) to Minn. R. ch. 7060

The addition of GWCMZs to Minn. R. ch. 7060 is an improvement MPCA has been considering to address rule language that applies to groundwater in Minn. R. chs. 7050 and 7060, and also in Minn. Stat. ch. 103H. This language includes the, "...preventing of any new pollution and abating existing pollution," statement in Minn. R. 7060.0100 and the intent described in Minn. R. 7060.0400 to, "...maximize the possibility of rehabilitating degraded groundwater," to be usable for domestic consumption.

For the purposes of this RFC, a GWCMZ is a geographic area that extends into the subsurface (i.e., below ground), within which the groundwater is known to be contaminated. Important functions of GWCMZs are to identify and inform the public about known areas of degraded groundwater in which the domestic consumption use is not being met; to enable tracking of the rehabilitation of degraded groundwater over time, consistent with language in Minn. R. 7060.0400; and potentially to enable the implementation of appropriate goals when groundwater is being remediated.

The concept of GWCMZs also provides improved transparency regarding the management and remediation of contaminated groundwater, which is governed by differing rules and statutes. For example, MPCA and the Minnesota Department of Agriculture (MDA) have authorities for the investigation and cleanup of contaminated groundwater under Minn. Stats. chs. 115B and 115C, as well as Minn. Stats. chs. 18B, 18C, and 18D, but these statutes have different goals to address environmental contamination.

MPCA recently launched its [Groundwater Contamination Atlas](#), which provides information that closely resembles what is envisioned for GWCMZs: a map-based, three-dimensional portrayal of groundwater contaminant plumes that are being remediated in connection with MPCA programs. Since the Atlas provides much of the information and functionality that GWCMZs are intended to provide, MPCA is unlikely to proceed with development of the GWCMZ concept.

Still, MPCA is interested in any comments the public may have regarding the GWCMZ concept, particularly how defining such zones in rule may help support implementation of other authorities, such as MPCA's role in groundwater contamination cleanup.

MJ: The use of the Groundwater Contamination Atlas is reasonable. I also note that Superfund groundwater contamination cleanups include notifying the local public and keeping them involved and updated on progress toward cleanup.

I agree with Water Legacy in these assertions to protect our precious resources:

1. Keep both National Primary and Secondary Drinking Water Regulations as Class 1 water quality standards. Minnesota Class 1 water quality standards should, without exception, be at least as strict as the most protective national drinking water standard.
2. Add water quality standards for all pollutants that the Minnesota Health Department has already researched and then adopted Health Risk Limits to prevent cancer and non-cancer health effects. This change would protect Minnesota drinking water from pollution containing pesticides, PFCs, toxic metals, and many other dangerous contaminants.
3. Control nitrates in surface water with a Class 2 standard that both protects aquatic life and reduces the threat to human infants when surface water enters groundwater. The MPCA has done the research needed to adopt this standard.

4. Oppose any changes in current rules that apply drinking water standards to Class 2A waters. These standards are needed to protect trout and other sensitive cold water species.

5. Strengthen the MPCA's enforcement of existing rules that protect Class 1 drinking water. The best way to protect Minnesota drinking water is to enforce the rules that are already on the books.

I also agree completely with Margaret Watkins, representing the Grand Portage Band of Lake Superior Chippewa, whose information I will not repeat because they are best said on her comments.

Thank you for listening, Your Honor.

Maureen Johnson
Stacy, Minnesota

Megan Withroder Attachment



February 14, 2022

Office of Administrative Hearings
Minnesota Pollution Control AgencySubmitted electronically via the Office of Administrative Hearings Rulemaking e-Comments website at <https://minnesotaoah.granicusideas.com>.

Re: Amendments being considered to rules governing water quality standards – Use classification 1, Minnesota Rules chapters 7050, 7052, 7053, and 7060 (Use Class 1 Rule)

Dear Sir or Madam:

The 3M Company (“3M”) appreciates the opportunity to review and comment on the proposed concepts for amending Minnesota Pollution Control Agency’s (“MPCA”) water quality standards (“Proposed Concepts”). According to MPCA, the “concepts described in this document are preliminary and may or may not proceed to the final rulemaking, or may take a different form, based on additional consideration and the comments received from this RFC [Request for Comments].”¹ 3M appreciates that MPCA will take into account these initial comments as it determines whether or how to move forward with the rulemaking process.

MPCA and the Minnesota Department of Health (“MDH”) are proposing to jointly coordinate and address drinking water concerns. The overview presented, however, lacks sufficient detail to properly evaluate potential concerns. Certain aspects of the proposed plan could lead to loss of environmental diversity and function to the detriment of the environment and, ultimately, humans. Specific concerns are described below.

As a general matter, 3M supports updating water quality standards to be consistent with sound science and clarifying statutory or regulatory language to address inconsistencies and/or ambiguities. Proposed Concept number 3 contemplates updating numeric and narrative Class 1 water quality standards (“WQS”), including using pollutant toxicological values to develop water quality standards for pollutants that do not currently have a Class 1 standard, such as certain PFAS compounds. Minnesota’s water quality rules should also be consistent with the Clean Water Act (“CWA”), and apply Class 1 standards only to designated Class 1 water bodies.

MPCA should ensure that it preserves beneficial uses of surface waters in addition to use as drinking water. In so doing, MPCA should avoid defining Class I waters, and those that feed

¹ Proposed Concepts at 1.

Class I waters, so broadly as to sweep in the majority of Minnesota's surface waters. Consistent with these varying uses, MPCA should not apply a human health based drinking water standard to all surface waters, as doing so would be inconsistent with the Clean Water Act. In developing water quality standards for PFAS, 3M encourages MPCA to use the best available science and, for the reasons explained in Section III below, should not regulate PFAS as a class.

Finally, 3M disagrees with using the methodology in the Technical Support Document developed for *Class 2* waters for deriving water quality standards for Class 1 waters. A new methodology specific to Class 1 waters is required in order to be scientifically and technically accurate.

I. THE PROPOSED CONCEPTS LACK DETAIL AND ARE OVERLY BROAD

3M generally supports MPCA's intention to address "inconsistent" existing Class 1 groundwater designation language and the need for related regulatory text "clarification."² However, there is insufficient detail at this stage to determine whether MPCA's proposal will indeed address inconsistencies and clarify regulatory text. Specifically, MPCA states it intends to revise the Minnesota R. chapters 7050 and 7060 to "clarify the rule language therein" because the designation for groundwater as Class 1 is "inconsistent."³ MPCA also notes that the Class 1 subclasses are poorly defined and their usefulness is unclear. There is no detail or other information provided regarding these proposed revisions, which makes it impossible to provide any meaningful input. As MPCA seeks to clarify its designated classes, it should provide some information associated with each water body as to why it was designated to be in a particular class. In addition, 3M respectfully submits that the following considerations should guide any further MPCA action regarding the Proposed Concepts.

The Class 1 designation applies to surface waters specifically identified as such in Minn. R. 7050.0470. MPCA and MDH note that additional surface waters should be considered for Class 1 designation, including (1) those with pollutants that are impacting the quality of groundwater used for domestic consumption (via what is often referred to as surface water – groundwater interaction), and (2) surface waters that flow into Class 1 waters and are impacting the quality of a drinking water source. MPCA and MDH have not provided any characterizations as to the extent of additional surface waters it might consider adding to the list of Class 1 waters other than surface waters that flow into Class 1 waters. According to this description, because St. Cloud draws water from the Mississippi, all waters that drain into the Mississippi at any point upstream could potentially be included in the list of Class 1 waters. This would represent 1/2 to 2/3 of the waterbodies in Minnesota being designated as Class 1 waters, a result that could be extremely problematic.

Some attributes of natural water are not good for humans, such as naturally saline waters and waters with naturally elevated concentrations of arsenic, iron, or radon. On the other hand, water that is acceptable for use as drinking water might lack the sufficient quantity of necessary nutrients required for a healthy ecosystem. At times, chemistries considered hazardous in drinking water are necessary for the biodiversity of aquatic life. Determination of water quality

² *Id.*

³ *Id.*

is typically made relative to the use of the water. This use determination is intended to maintain biodiversity and beneficial uses, while minimizing the potential for unintended adverse effects to the environment. Designating a substantial portion of Minnesota's waterbodies as Class 1 may have the unintended consequence of harming biodiversity and other beneficial uses.

MPCA's conceptual approach also could be harmful to Minnesota's wetlands.⁴ Wetlands in Minnesota have historically been classified into four categories: surface-water depression wetlands, surface-water-slope wetlands, ground-water depression wetlands, and ground-water-slope wetlands (Brown, Stark and Peterson, 1988). Both the nature and degree of ground- and surface-water interactions differ among the four categories. Contamination of the surface water by non-endogenous sources can be readily addressed using established methods such as distributed hydrological modelling and tracking back to the source of contamination, rather than applying drinking water standards to an overly broadly defined set of Class I waters. Wetlands are the "Earth's kidneys" and are critical to maintain a healthy environment. Due to this critical function, wetlands themselves can produce chemistries (e.g. acrolein, cyanide, pyrrolizidine alkaloids) that are biodegradable in the wetland but can be present at levels considered toxic to humans. Rather than focus on the wetland itself, a better methodology would be to work from a contaminated site back up to the source or sources of chemistries of concern. This would preserve the necessary function of the wetland and avoid stressing or altering the chemical and biological properties of the wetlands themselves.

3M looks forward to reviewing and commenting on specific proposed language regarding clarification of Class 1 waters.

II. CLASS 1 WATER QUALITY STANDARDS SHOULD NOT BE UNIVERSALLY APPLIED TO NON-CLASS 1 WATERS

3M understands that Class 1 WQS are specific to human drinking water intake and food production. It also appears, however, that MPCA is considering applying the Class 1 WQS to waters that flow into those that serve as drinking water sources, but are not themselves drinking water sources. MPCA should clearly describe how it intends to determine the most relevant use of such waters and therefore the most applicable WQS, as well as how it will reconcile differences between Class 1 and Class 2 WQS in such cases.

The federal CWA has multiple WQS, as defined in Part 131- Water Quality Standards (48 FR 51405). CWA Part 131.2 explains the purpose of the various water quality standards: "A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria that protect the designated uses. States adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (the Act)."

In addition, the classification of water as Class 1, 2a, 2b, etc. is part of the CWA and functions to "Serve the purposes of the Act" (as defined in sections 101(a)(2) and 303(c) of the Act) means that "*water quality standards should, wherever attainable, provide water quality for*

⁴ To the extent MPCA's action includes study of its wetlands and groundwater, 3M recommends the agency consider collaborating with the United States Geological Survey.

the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value of public water supplies, propagation of fish, shellfish, and wildlife, recreation in and on the water, and agricultural, industrial, and other purposes including navigation."

Human health considerations are *not* the only focus of the CWA, nor would application of only human health standards be compatible with “protection and propagation of fish, shellfish, and wildlife,” “agricultural,” or “industrial” purposes.

III. MPCA SHOULD NOT REGULATE PFAS AS A CLASS

PFAS refers to a broad category of compounds that encompasses thousands of chemicals with distinct and widely varying properties, profiles, and uses. As EPA has noted, “PFAS vary widely in chemical and physical properties, behavior, and potential risks to human health and the environment. Differences in the chemical structure, carbon chain length, degree of fluorination, and chemical functional group(s) of individual PFAS have implications for their mobility, fate, and degradation in the environment, as well as uptake, metabolism, clearance, and toxicity in humans, plants, and other animals.”⁵

Various regulators have proposed multiple different definitions of “PFAS,” reflecting the difficulty in defining PFAS as a group. Different PFAS have different toxicological properties, bioaccumulation potentials, toxicity levels and effects. The relevant analysis requires considering ultimate toxicity, which depends on both the toxicokinetic and toxicodynamic properties and those vary widely among different PFAS.

There are also currently very few validated and published analytical methods available for evaluating PFAS in the environment.⁶ The available validated methods apply only to a limited subset of certain PFAS compounds. For example, EPA recently published Draft Method 1633 for analyzing PFAS in aqueous, solid, biosolids and tissue samples. The method is not yet finalized, and only covers 40 PFAS compounds. Laboratories use Methods 537.1 and 533 for NPDES purposes but neither method is officially approved by EPA outside of the drinking water context. The proposed rule requires the application of EPA’s “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.” However, Method 8327 applies to only 24 PFAS and only in water.

We support a rigorous, science-based dialogue and review among regulators, academic researchers, manufacturers, and others to determine how these materials could be potentially be grouped in a scientifically sound way. Consistent with sound environmental policy, such assessments must not only be based on the best available science, but also specific ways in which these substances may or may not impact human health. Data and analysis used to make these assessments also needs to be made available to the public for input from relevant stakeholders and the scientific community.

⁵ EPA Multi-Industry PFAS Study – 2021 Preliminary Report (September 16, 2021).

⁶ Draft PFAS CAP, App. 2 (describing the EPA-validated methods for testing for a subset of PFAS substances).

IV. MPCA MUST USE THE BEST AVAILABLE SCIENCE IN ANY REGULATORY ACTION

According to the Proposed Concepts, the existing water quality standards need to be updated to account for current science. With respect to PFAS, as noted above, there are significant differences in the availability of toxicological and other data regarding many PFAS compounds. However, there is a vast body of scientific evidence regarding a number of PFAS that does not show that PFAS cause adverse health effects in humans at current exposure levels, or even at the historically higher levels found in blood prior to the U.S. phase out of PFOS and PFOA.

Two authoritative bodies—ATSDR and the Australian Expert Health Panel—recently reviewed the research and concluded that there is not strong evidence of health effects in humans. ATSDR recently concluded regarding perfluoroalkyls: “The available human studies have identified some potential targets of toxicity; however, *cause-and-effect relationships have not been established for any of the effects, and the effects have not been consistently found in all studies.*”⁷

The Australian Expert Health Panel concluded in March 2018 that “there is mostly limited or no evidence for any link with human disease from these observed differences. Importantly, there is *no current evidence that supports a large impact on a person’s health as a result of high levels of PFAS exposure.*”⁸ The report further stated: “After considering all of the evidence, the Panel’s advice ... is that the evidence does not support any specific health or disease screening or other health interventions for highly exposed groups in Australia, except for research purposes.” *Id.* (emphasis added). Like ATSDR, the Australian Expert Health Panel analyzed hundreds of studies when reaching this conclusion.⁹

At the very least, MPCA should carefully review the relevant and recent scientific studies and account for the various finding before adopting health-risk based formulas to derive water quality standards

To the extent MPCA decides to regulate PFAS, it should limit regulation to those PFAS compounds for which there is a substantial base of scientific research and adequate testing and sampling methods.

V. THE TECHNICAL SUPPORT DOCUMENT USED FOR CLASS 2 WATERS SHOULD NOT ALSO BE USED FOR CLASS 1 WATERS

The following comments are provided relative to potential updates to numeric and narrative Class 1 WQS, which is the third potential change under MPCA Amendments to Water Quality Rules for Class 1 Waters. Of the four changes considered to update the Class 1 WQS, the following comments center on the first, i.e., to adopt new method to derive numeric Class 1 WQS for toxic pollutants (Minn. Stat. § 115.01, subd. 20) that reflects Minnesota-specific risk

⁷ ATSDR 2021 at p. 751, <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf> (emphasis added).

⁸ Expert Health Panel for Per- and Poly-Fluoroalkyl Substances PFAS: Summary at 2 (emphasis added).

⁹ Expert Health Panel for (PFAS), March 2018 at 382-403.

assessment scenarios. MPCA notes that it updated the human-health methods used in connection with creating Class 2 WQS, which protect people who are recreating in and eating fish caught in those waters. “MPCA is considering using this method as the basis for deriving Class 1 WQS, either by reference (Minn. R. 7050.0218 through 7050.0219) or by adopting it directly into the Class 1 rules (Minn. R. 7050.0221). The risk equation for Class 1 waters would only address exposure via the drinking water pathway.” The following comments relate specifically to the adoption of the *Human Health-based Water Quality Standards Technical Support Document*¹⁰ (TSD) as the basis for deriving Class 1 WQS.

The TSD describes the methodology for deriving WQS for Class 2 Waters. 3M does not support its application to Class 1 Waters for several reasons. Most importantly, other methods provide a stronger scientific basis for Class 1 WQS than those presented in the TSD. Also, the TSD lacks detail about how key toxicity parameters are derived. Some parts of the TSD are applicable to pathways and exposure assumptions that are not applicable to Class 1 Waters (e.g., fish consumption, incidental surface water ingestion, dermal contact). For the reasons detailed in the following comments, 3M recommends that MPCA draft a TSD specific to Class 1 Waters before proposing new rules related to Class 1 WQS.

A. Application of the Mixture Approach to Class 1 Waters

The Class 2 TSD elaborates on the quantitative assessment of mixtures and presents a high-level overview of certain related regulatory aspects. The TSD proposes a new approach to non-cancer mixture additivity based on a health risk index, i.e., the summation of quotients of concentrations in surface waters and chronic standards. MPCA should clearly state if and how this proposed health risk index has been applied since the implementation of the TSD in 2017.

In the introductory section of the TSD on mixtures assessments, MPCA outlines some, but not all, variables that must be considered for the successful execution of mixtures assessments. Most notably, it is unclear what values MPCA would use for chronic standards when assessing one or more chemicals for which no such standards have yet been finalized. For chemicals with standards, MPCA should clearly state that these standards must be based on common health endpoints. That is, if hazard assessments of two chemicals lead to the conclusion that both compounds can exert the same effect via an identical mechanism of action (MOA), then it must also be confirmed that their respective chronic standards were derived from the respective dose responses for this shared effect – and not from the dose response for another, more sensitive endpoint.

In addition to confirming a common MOA and using chronic standards that are based on each compound’s respective potency, 3M urges MPCA to confirm that each compound’s efficacy (i.e., the quantitative extent to which they can elicit said response) is considered. Summing quotients for chemicals with chronic standards that are based on endpoints that are not elicited via the shared MOA will render the derived health risk index invalid. This distinction is

¹⁰ MPCA. 2017. Human Health-based Water Quality Standards [Technical Support Document](#). Water Quality Standard Amendments – Minn. R. chs. 7050 and 7052 [Final]. June. Saint Paul, MN.

particularly important for the inclusion of PFAS in the water quality rules. The Toxicological Profile for Perfluoroalkyls by ATSDR (2021) details the diversity of effects, both common among certain members of the PFAS family, as well as distinctly different among others. Because of this toxicological complexity, the regulation of PFAS as a class is not possible. It is imperative that compound-specific standards for the same MOA are used, or derived *de novo* if not available.

B. Exposure Assumptions

One key element in the derivation of WQS is the development of a technically defensible drinking water intake rates and relative source contribution (RSC) terms. For Class 1 WQS, the RSC reflects the proportion of total exposure from water intake. More details on both exposure assumptions are required.

1. Drinking Water Intake Rates

MPCA states that despite EPA's standard risk assessment practice of using drinking water intake rate ("DWIR") of 2 liters per day for a 70 kg adult (0.029 l/kg-day), MPCA intends to use a DWIR of 0.043 l/kg-day. These DWIR values are based on a lifetime ingestion rate as shown in Figure 2. The bar heights represent the 95th percentile of all intake rates for an age group range. The use of the 95th percentile is arbitrary and is not explained in the document. For example, if a median value was used in Figure 2 (and each age-specific distribution had sufficient information to statistically determine the cumulative distribution of intake rates for this age grouping, which is not clear from the discussion), then one could reasonably assume that the 0.043 l/kg-day DWIR would be reduced, and would actually approximate the original EPA value of 0.029 l/kg-day (discounting any change due to time weighting). And, the age-dependent adjustment factor (ADAF-) derived ingestion rate would be approximately 0.06 l/kg-day, which is much closer to the EPA standard value, even after application of the ADAF. MPCA should select the EPA standard as the appropriate DWIR. The EPA standard has been in place for many years, and MPCA should remove arbitrary factors like ADAF from any calculations.

In addition, the actual calculations behind the time-weighting of DWIRs are not presented in the TSD. If Minnesota-specific population numbers in each age class were not used in the time weighting approach, then the values presented by MPCA are incorrect and not scientifically defensible.

2. Relative Source Contribution

MPCA proposes using the TSD's guidance on developing RSC terms, which primarily proposes following the EPA's Exposure Decision Tree (U.S. EPA, 2000) approach. This approach has two main limitations that 3M recommends MPCA consider before using EPA's Exposure Decision Tree to assign RSC terms. Neither limitation is sufficiently addressed in the TSD.

First, the criteria (U.S. EPA, 2000) for evaluating data adequacy in support of the Exposure Decision Tree specifies strict sample size and confidence interval determinations that

are rarely obtainable for all exposure sources for a given chemical. EPA does not provide explicit details on what would constitute additional or sufficient information (i.e., peer-reviewed literature) to confidently determine an RSC term other than the default (0.2). 3M recommends that MPCA consider and articulate how it will define adequate exposure data to inform a technically defensible assessment of the relative sources of exposure. 3M also encourages MPCA to specifically discuss alternative types of data (e.g., physicochemical properties) that may be an informative line of evidence in setting an RSC. When considered collectively, current available data for some chemicals may provide sufficient support for determining chemical-specific RSC terms that do not require individual measures of exposure distributions for every potential exposure source, thereby reducing reliance on default values.

Second, the Exposure Decision Tree approach provides two options for calculating chemical-specific RSC terms: the subtraction approach and the percentage approach. EPA does not provide explicit instructions or examples of how to apply either option. 3M recommends that MPCA define the conditions most suited to each method and whether there are advantages and/or disadvantages to each. Some insight may be gained from EPA documentation on development of WQC for specific chemicals (e.g., fluoride (U.S. EPA, 2010)) wherein EPA did not rely on the 0.2 default (U.S. EPA, 2015). Specific to the subtraction approach, which commonly involves use of background population and target serum levels, 3M encourages MPCA to specify what statistic and population basis will be used to characterize background serum levels, and how to address the fact that these values are not consistent in the population or across populations/geographic areas over time (e.g., serum levels are generally decreasing for PFAS).

MPCA states that its “approach for RSCs has historically and will continue to be consistent with MDH’s approach.” MDH’s approach lacks clarity and detail on both of the issues described above. For example, in MDH’s development of a health-based guidance value (also the HRL) for PFOA (MDH, 2018), MDH selected an RSC of 50%, citing the percentage method. MDH stated that this term is based on a “conservative estimate of background, non-water exposures represented by the 95th percentile serum concentration from 2013-14 NHANES (0.00557 mg/L), and the EPA Decision Tree RSC ceiling of 80% to ensure a margin of safety to account for possible unknown sources of exposure” (MDH, 2018). We note that the most recent NHANES data should be used. Further, the reference to having used NHANES serum concentrations suggests the use of the subtraction approach rather than the percentage approach as stated, and a value of 50% suggests either the use of the 50% default (Box 7 of the Exposure Decision Tree) or a ceiling value of 50% (Box 8C), neither of which are consistent with the referenced use of the 80% ceiling. MPCA should provide additional clarity on the MDH RSC development process if it intends to adopt similar methods or use the same RSC for PFOA WQC. Although RSC development via the TSD and MDH’s method (both of which are based on EPA’s Exposure Decision Tree) provides a baseline methodology, the methods lack detail and clarity. In developing a TSD specific to Class 1 Waters, as suggested above, we encourage MPCA to provide explicit justification and process documentation for its RSC selection, particularly when developing criteria for PFAS for which monitoring and exposure data are available.

C. Applicability of Carcinogenicity Adjustment Factors

The reference dose approach to nonlinear carcinogens is as sensible as using lifetime adjustment factors or age dependent adjustment factors for linear carcinogens. However, as emphasized in the TSD, knowledge of toxicokinetic data is a critical factor that prohibits the use of default values and requires a compound-specific approach “to match toxicokinetic *in vivo* data on time for the pollutant to reach steady state and body burden thresholds that elicit an adverse effect” (TSD p.46). This is important for two reasons: 1) the comparability of exposure scenarios with the conditions that were used to derive an existing RfD or other health standard must be confirmed and 2) the applicability of adjustment factors for chemicals with long terminal elimination half-lives must be assessed.

First, health standards are often derived based on a specific sub-population that is most sensitive to the effects of the respective chemical. For these assessments, compound- and age-specific modeling might have been applied that extrapolated inter- and intra-species steady-state levels. When the same sub-population (e.g., toddlers) is then considered in further assessments such as the derivation of drinking water standards, no additional adjustment factors are required.

Second, this emphasis on steady-state especially applies to chemicals with long elimination half-lives. For compounds that follow first order elimination kinetics, steady-state (or rather 90% of the theoretical maximum steady state level) is reached after 3.34 terminal elimination half-lives. This means that compounds with half-lives that are measured in months or years (i.e., some PFAS) rather than hours, days, or weeks cannot achieve steady-state conditions in infants and toddlers. However, most chronic safety standards were derived from studies where steady-state was achieved and/or modeled. As a result, default values may not be used in the assessment of chemicals with long elimination half-lives – specifically for infants and toddlers. Furthermore, growth can be another compounding factor in the determination of toxicokinetics in children and teenagers, further prolonging the time to reach toxicokinetic steady-state. 3M strongly urges MPCA to address this disconnect in the potential rule changes. The derivation of water quality standards should always include toxicokinetic considerations, no matter if referencing established health standards or applying adjustment factors.

D. Derivation of Reference Doses (RfDs)

As previously noted, 3M recommends that MPCA not rely upon the existing TSD for Class 1 WQS and instead develop a new TSD specific to Class 1 WQS. In so doing, 3M recommends revisions related to the derivation of RfDs. In particular, 3M offers several recommendations below related to the criteria used to select critical studies that underpin the RfD, methods for deriving Human Equivalent Doses (HEDs), and the basis for selecting uncertainty factors, as follows.

1. Critical Study Selection

Selection of the critical study and an appropriate point of departure is crucial to completing hazard identification and deriving RfDs. The TSD lacks guidance on study selection criteria to ensure the selected critical study is scientifically defensible and available data are sufficiently robust to form the basis of an RfD. These criteria should be transparent and ensure that studies follow established toxicological principles and quality standards. MPCA should consider guidance such as that proposed by EPA for review of health studies used in IRIS assessments (U.S. EPA 2020). The Class 1 TSD also should assess how uncertainty factors (discussed below) influence the selection of duration-specific RfDs and associated health endpoints. For instance, 3M recommends that the TSD address how studies with different uncertainty factors are prioritized in the selection of a duration-specific RfD.

After reviewing for data sufficiency, MPCA should consider revising Table 2 to reflect the amount and types of studies available for specific substances. For example, the Preconception Lifestage may not have sufficient quality studies for regulatory standard setting for most chemicals of concern. Linking data sufficiency and data quality to specific chemicals and assessing the ability to scientifically and rigorously defend a pre-chronic standard is a critical element of the policy goal discussed in Section IV.A of MPCA's proposal.

2. Derivation of Human Equivalent Doses

Derivation of an HED is an essential step in identification of a point of departure, which accounts for uncertainty when extrapolating doses applied in animal studies to humans. The TSD only briefly defines the HED and notes that this adjustment may incorporate toxicokinetic information specific to the chemical, if available, or use a default procedure based on body weight scaling. The TSD lacks clarity as to what type of specific toxicokinetic approaches are recommended, when the default should be applied, or the scientific basis for the underlying calculation assumptions. MDH (2017) provides updated guidance on deriving HEDs, but it is unclear if this approach is used by MPCA. The Class 1 TSD should reference the most recent guidance and provide clear descriptions of recommended approaches, default assumptions, and scientific basis for derivation of HEDs.

3. Application of Uncertainty Factors

MPCA states that RfDs (daily dose mg/kg/day) includes one or more divisors, applied to a suitable dose level, that account for qualitative uncertainty in the RfD value itself (i.e., uncertainty factors). MPCA does not address the qualitative uncertainty that may derive from estimating a NOAEL or LOAEL from the original experimental data. The use of arbitrary divisors is not scientifically defensible. In practice, for example, an RfD derived from a laboratory-generated NOAEL or LOAEL typically is divided by 10-1000 to account for qualitative uncertainty in the laboratory testing and other types of unknown uncertainty. These divisors are arbitrary. The use of additional divisors, like those provided in Section IV.B.b (age dependent adjustment factors ("ADAF")) are not scientifically derived. For example, a NOAEL of 5 mg/kg-day typically results in a reported RfD between 0.5-0.005 mg/kg/day. Applying an

ADAF of 10 for birth through less than 2 years old, the RfD can range from 0.05-0.0005 mg/kg/day, which is 100-10,000 times less than the original experimentally derived no effect concentration. This approach to uncertainty is not scientifically supportable and may not achieve the goal of establishing a valid protection level for any chemical of concern.

Table 3-1 of the Class 2 TSD provides categories and ranges of magnitude for uncertainty factors used to address deficiencies in the critical study or the available literature. The Class 1 TSD should provide justification for selecting a specific 1-, 3-, or 10-fold uncertainty factor for each category. The TSD also states that a separate uncertainty factor may be applied when a noncancer Human Risk Limit (HRL) is derived for a chemical that demonstrates strong evidence of carcinogenicity, but lacks sufficient evidence to derive a cancer slope factor (CSF). MPCA should provide guidance on the magnitude of this uncertainty factor, as well as specific scientific rationale for its basis.

The TSD also notes that a separate modifying factor ranging from greater than zero to less than or equal to 10 may be applied based solely on professional judgement to account for additional uncertainties or deficiencies not incorporated using other uncertainty factors. Such modifying factors introduce the possibility of subjectivity and inconsistency across toxicity values. Modifying factors based on professional judgment should not be used unless clear and specific scientific justification is provided. The Class 1 TSD should establish clear recommendations for their application and magnitude and require that supporting evidence be provided.

E. Elements of the TSD Not Applicable to Class I Waters

The proposed changes to the Class 1 WQS pertain only to potable water consumption and food production. Sections of the Class 2 TSD that are unrelated to potable water consumption and food production include II.B, D. and E., IV.C.c. through g., IV.D.b., IV.E., V.C., VII.B., and Appendices A4, A5, portions of B1, B2, B3, C, and D1. Together, portions of the Class 2 TSD that are not applicable to Class I Waters represent more than half of the overall TSD. For clarity and ease of use, as well as to allow for the revisions suggested in the foregoing comments, MPCA should develop a new TSD specific to Class 1 WQS that will detail all methods and assumptions used in the development of Class 1 WQS. MPCA should allow for public comment on the Class 1 WQS TSD, and address comments received, before revising Class 1 WQS to be consistent with the TSD.

3M recommends that Minnesota adopt a scientific-based approach to standard setting. Methods for achieving this goal are described above, and include a focus on data integrity, data selection, reduction in non-defensible safety factors, and chemical-specific review and data selection approaches.

3M appreciates the opportunity to comment on the proposed conceptual approaches under consideration.

REFERENCES

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