# Minnesota 3M PFAS Settlement

## Notes for Combined Working Group Meeting

**Wednesday, April 19, 2023**
9 a.m. – 12 p.m.

Hybrid Webex and in-person meeting

## Combined working group members in attendance

* Brian Bachmeier
* Clint Gridley
* Chris Volkers
* David Filipiak
* Jack Griffin
* Jamie Wallerstedt
* Jeff Holtz
* Jennifer Levitt
* Jess Richards
* Jessica Stolle
* Jim Westerman
* Jon Herdegen
* Kevin Chapdelaine
* Kirk Koudelka
* Kristina Handt
* Laurie Elliot
* Lucas Martin
* Mark Jenkins
* Mary Hurliman
* Melissa Kuskie
* Mike Madigan
* Monica Stiglich
* Ron Moorse
* Stephanie Souter
* Steve Johnson

## Presenters

* Kirk Koudelka, Minnesota Pollution Control Agency (MPCA)
* Jess Richards, Minnesota Department of Natural Resources (DNR)
* Debra Fleischer, Abt Associates
* Sarah Fossen-Johnson, Minnesota Department of Health (MDH)
* Lucas Martin, MDH
* Liz Kaufenberg, MPCA

## Welcome and updates

Debra Fleischer (Abt Associates) welcomed the work group members to the meeting and reviewed the agenda. Kirk Koudelka (MPCA) provided updates on key Settlement items, including:

* The next Priority 1 meeting is expected to be in Fall 2023, after which Priority 1 will move to a biannual meeting schedule. Topics for the Fall 2023 meeting may include MDH’s new Health-Based Guidance Values (HBVs) depending on when they are released (expected to be released later in 2023).
* Priority 2 is moving forward. The first work group meeting will be on May 3 from 9 a.m. to 12 p.m. The public and Priority 1 members who are not part of Priority 2 are welcome to join. The meeting will cover the organizational process for Priority 2 and will provide background on the Minnesota-3M Settlement (Settlement) for people who were not involved with Priority 1.
* The State posted a new video that provides an overview of the Settlement at a high level and showcases some of the great work currently underway in several East Metro communities: <https://youtu.be/h-aJ-ZDOK6o>.
* In addition, the State provided an update on the drinking water protection work through a video posted on the Project 1007 website about the surface activated foam fractionation system, or SAFF, pilot study that aims to test removal of PFAS in groundwater and surface water: <https://www.youtube.com/watch?v=3DiJhtODkXA>.

## Release of the U.S. EPA draft MCLs

Lucas Martin (MDH) provided an overview of the Environmental Protection Agency’s (EPA) draft Maximum Contaminant Levels (MCLs). In March 2023, EPA released a draft rule with Maximum Contaminant Level Goals (MCLGs) and MCLs for PFOA and PFOS. They also released a Hazard Index for GenX, PFBS, PFNA, and PFHxS. He noted that MCLGs represent the maximum level of a contaminant in drinking water at which no anticipated adverse health effects would occur. They are not enforceable while MCLs are enforceable standards that are set as close as possible to the MCLGs. MCLs consider health risks, costs and benefits, feasibility, and laboratory detection limits. Since EPA’s release, MDH has been examining the draft rule and the associated data. The table below shows the new proposed MCLGs and MCLs. It also shows the Practical Quantification Level (PQL), which is the lowest concentrate that can be reliably measured and detected in water.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Chemical** | **Current MDH Health-Based Guidance (ppt)** | **Maximum Contaminant Level Goals (MCLGs; ppt)** | **Maximum Contaminant Levels (MCLs; ppt)** | **Practical Quantification Level (PQL)\* (ppt)** |
| PFOA | 35 | 0 | 4.0 | 4 |
| PFOS | 15 | 0 | 4.0 | 4 |
| PFBS | 100 | Hazard Index = 1.0 | Hazard Index = 1.0 | 3 |
| PFHxS | 47 | 3 |
| PFNA | - | 4 |
| GenX | - | 5 |

The Hazard Index for PFBS, PFHxS, PFNA, and GenX is similar to MDH’s Health Risk Index, which divides the concentration of PFAS in water by a health standard. In this case, EPA is setting Health-Based Water Concentrations (HBWCs), which are the levels at which no health effects are expected for PFAS. If this calculation creates a value that is greater than 1.0, then the water is in exceedance of the proposed Hazard Index for these four PFAS. Lucas noted that PFOS and PFOA are not included in the EPA Hazard Index because they may have cancer risks and therefore, are evaluated separately. The other four PFAS have no known risk of cancer and are not as well studied.

Lucas also discussed the monitoring requirements under EPA’s draft rule. In the rule, EPA explicitly states that water systems that acquire monitoring data from the fifth Unregulated Contaminant Monitoring Rule (UCMR 5) will not be required to conduct separate initial monitoring. Currently, all systems for populations above 3,300 are expected to conduct monitoring under UCMR 5. That monitoring started this year and goes through 2025. Additionally, EPA stated that other previously acquired data, such as data from statewide sampling and testing conducted by the State program, may be considered if they use approved EPA methods, which include 533 or 537.1. This could apply to systems that serve populations less than 3,300 that have previously been included in statewide sampling. However, the statewide sampling in Minnesota was only one sampling event. One detail that MDH is still trying to clarify with EPA relates to their initial monitoring requirements. EPA’s proposed rule requires quarterly sampling for 12 months for groundwater systems serving over 10,000 people and all surface water systems. This is an issue that needs clarification from EPA because UCMR 5 monitoring for groundwater systems only requires two sampling events in a 12-month period. MDH needs clarification from EPA to understand if they need to conduct additional monitoring between UCMR 5 sampling events. For smaller groundwater systems that serve populations less than 10,000, EPA requires sampling twice in a 12-month period, at least 90 days apart. Other states are also looking for clarification on sampling.

Lucas then discussed entry points and how they affect monitoring under the draft rule. Samples collected for compliance under the Safe Drinking Water Act are collected at entry points, where treated water enters the distribution system. There are three types of entry points:

* Some individual wells have their own entry points.
* In cases where combined discharge from wells connect at a reservoir, the entry point is where the water from that reservoir enters the distribution system.
* Treatment plants are also considered an entry point because water from one or more wells often receive treatment together. The treated water is tested before it re-enters the distribution system; the water from each individual well is not tested.

Lucas noted that it is important to remember that while the Settlement and the Conceptual Drinking Water Supply Plan (Conceptual Plan) focus on wells, EPA’s rule and the Safe Drinking Water Act focus on entry points.

Lucas then discussed how MDH would comply with EPA’s proposed rule. Compliance with the rule will start three years after the rule is promulgated, which allows for initial monitoring. UCMR 5 is being conducted through the end of 2025. EPA expects the rule to be promulgated at the end of 2023, which means compliance would start at the end of 2026. Compliance with EPA’s rule is based on Quarterly Running Annual Averages, which is an existing standard monitoring framework that EPA and MDH use for other contaminants. However, MDH also needs clarification from EPA on compliance. EPA is proposing to use zero for the compliance value if a sampling result is less than the PQL, which is 4 parts per trillion for PFOS and PFOA. In some applications, this means that the calculated Quarterly Running Annual Average appears lower than the MCL, even if it is actually higher and should receive a Notice of Violation. MDH expects the EPA will receive comments on this topic because it is a challenge for compliance. Public comments on the rule are due by May 30, 2023.

Finally, Lucas then explained the differences between a Notice of Violation versus a Health Risk Advisory. If an entry point exceeds an MCL, MDH will issue a Notice of Violation, which legally requires action to meet the MCL. If an entry point exceeds the State HBVs, they will receive a Health Risk Advisory from MDH. These values are not legally enforceable, so the letter will suggest recommended actions (e.g., notification to residents, shutting off a well, etc.). The MCLs, including the HBWCs used in EPA’s rule, will not be used in MDH’s Health Risk Index calculation.

Sarah Fossen-Johnson (MDH) then discussed the PFAS for which MDH does not currently have HBVs. EPA’s proposed guidance values for PFOA and PFOS are lower than MDH’s current values. Part of this is because when EPA started working on the MCLs, there was sufficient human epidemiological value to calculate these values. The MDH HBVs were calculated before this information was available for risk assessment, so they are based on animal data. Animals are typically much less sensitive than humans. MDH supports EPA’s lower values because they consider the health effects of PFAS on sensitive populations and those highly exposed to PFAS like fetuses, infants, and children.

The values are also different because they take different approaches to additivity equations. MDH uses a standard additivity approach that considers if multiple chemicals affect the same organ system (e.g., thyroid) in the Health Risk Index. The basis of this approach is that while the concentration of a chemical alone may not cause health effects, lower concentrations of multiple chemicals affecting the same organ system could cause health effects. EPA is taking a more conservative approach, where they add the toxicity of all chemicals, even if there is no evidence that they are hitting the same organ systems endpoints. MDH uses six PFAS that are seen in the State that all impact thyroid for their Health Risk Index. EPA uses a different suite of PFAS, including PFAS that are not typically seen in Minnesota. In addition, EPA is using different PFBS and PFHxS values. This is because when determining risk for these PFAS, EPA and MDH used different studies that examined the health effects of PFAS in different animals (e.g., one study examined PFAS effects in adult animals and the other examined PFAS effects in pregnant rats).

Sarah provided additional details on MDH’s HBVs. MDH is currently reviewing guidance values for PFOS and PFOA and the evolving science, including data from EPA and California. MDH is undertaking a rigorous process to review and develop updated values that serve Minnesota’s unique populations and communities, with a goal of completing the values in 2023. There have been some delays based on information from EPA. The largest issue is the carcinogenicity of PFOS. While there has been clear carcinogenic data on PFOA, the data for PFOS is relatively weak. Therefore, MDH is unclear why EPA has designated PFOS as a carcinogen. MDH is still looking into detailed EPA PFOS data and may change this opinion as they gather more information. MDH expects that their HBVs will be similar or lower than EPA’s values. MDH will use the updated PFOA/PFOS values in the PFAS Health Risk Index equation. MDH will also ensure there is a coordinated effort for communication with partners as MDH recognizes that there are consequences to rules that they publish.

### Feedback

During Lucas Martin's presentation, several work group members and one community member provided feedback:

* One work group member asked which sampling method was currently being used in the East Metro. Lucas explained that MDH uses method 533 for municipal wells, which is considered a more recent and accurate method. Although some states use 537.1 for statewide sampling, it is an older method. Another work group member asked if MDH’s guidance values were stricter than the Federal standards. Lucas responded that some of MDH’s values are stricter, and some Federal standards are stricter; the State will be required to follow the Safe Drinking Water Act. Therefore, Minnesota will be required to comply with the EPA rule.
* A work group member asked if the State could change the way they calculate the quarterly average since they are planning to release their own rules later this year. Lucas responded that for Minnesota’s State Health-Risk Index, MDH would use any non-qualified data from the laboratory to compare to EPA’s Health Standards. MDH would not round to zero when calculating the Health Risk Index like EPA’s draft rule is proposing. The work group member also asked if MDH plans to submit a public comment on the proposed EPA rule and asked if the State could provide their letter or language to the East Metro communities to help them draft and submit similar public comments. Lucas explained that MDH would be working internally on their public comments but encouraged communities to submit public comments as well. Kirk (MPCA) added that MPCA also plans to submit a letter and could share that letter or language with communities. The work group member would appreciate the State’s help because the community drafts a lot of letters and often run out of time to submit.

One community member asked if Woodbury’s new water treatment plant would have the treatment technology to treat water to these new standards. Lucas explained that Woodbury uses a granulated activated carbon (GAC) system, which is extremely effective for removing PFAS. He also explained there are other media that provide treatment for different types of PFAS that can be considered. During Sarah Fossen-Johnson’s presentation, several work group members and community members provided feedback:

* One work group member asked if MDH’s values for PFOA and PFOS would come out together and the release date for the values. Sarah explained that the values will be released at the same time to avoid confusion and reduce the amount of communication that communities need to send to residents. There is no set date for the release, but MDH expects the values will come out in late 2023 due to the large amounts of epidemiological data to analyze.
* Another work group member asked if MDH expects their values to be lower than EPA’s values. Sarah explained that they do expect the MDH values to be lower; MDH values have historically been lower than the federal MCLs because MDH does not take into account costs, technology, etc.
* Another work group member asked if MDH is aware of the language about PFAS in the new State House Omnibus Bill, HF 2310. The Bill requires MDH amend the health risk limit for PFOS to not exceed 0.015 parts per billion by July 1, 2025. Sarah explained that one State Representative proposed this language, but MDH was not part of that discussion. She explained that this rulemaking will happen but cannot be done by the date stated in the bill. Kirk added that MPCA’s Legislative Director has had conversations about this topic, and it is something MPCA is looking at more closely.
* Another work group member asked for clarification on why some PFAS are not being examined by MDH. Sarah explained that PFOS and PFOA are being examined; however, MDH is not creating HBVs for GenX and PFNA because they are not found in Minnesota. MDH recently reevaluated PFBX and PFHxS; therefore, MDH is not updating these values at this time. EPA does not deem them to be carcinogens at this stage.
* Another work group member asked if MDH would establish separate carcinogenic endpoint values for PFOS and PFOA. Sarah explained that anytime MDH does a review, they look for carcinogenicity. Typically, MDH uses non-cancer endpoints in their additivity calculation because cancer endpoints can be zero, and if you try to divide by zero, the result is zero. MDH can also do separate carcinogenic risk assessment additivity separately, which is what they are doing with PFOS and PFOA. They agree with EPA that PFOA has carcinogenic properties but need to look at the data more closely for PFOS.
* One work group member asked for clarification on how MDH determines if a PFAS is related to cancer outcomes. Sarah explained that researchers or companies that produce PFAS do a two-year chemical bioassay in rats and mice. This means the rats or mice are given a dose for two years and researchers see if cancers or tumors develop. MDH has known for a while that PFOA is carcinogenic. They are now looking further at epidemiological studies, which is the next part of a risk assessment. Data showing PFOS causes cancer in animals has been non-convincing. Only one human study has shown a risk of cancer from PFOS. Typically, more data is considered before EPA would deem something as carcinogenic. EPA has a policy to set the MCLG at zero for any chemicals that are considered to be carcinogenic.
* One member of the public expressed concern over selling their home in Lake Elmo given PFAS contamination. They were concerned that wells would be shut down. Kirk explained that this would be discussed further. Sarah added that water is only one PFAS exposure and there are other exposures to PFAS. She also encouraged the public to call their legislators and express their support for a PFAS ban.
* Another member of the public was concerned about PFAS plumes in aquifers in the East Metro. They were concerned that a large clean-up had not been done to remove the source of PFAS contamination. Kirk explained that in 2007, the agencies and 3M created an agreement called the 2007 Consent Order, which required cleanup at the three PFAS disposal sites. Some cleanup actions were taken at each of the disposal sites including placing wells around the facilities to try and keep lingering PFAS out of the water; however, additional actions are needed to further mitigate risks. Unfortunately, once PFAS leaves the disposal sites, it enters the groundwater, and it is not possible to remove all PFAS from groundwater. Therefore, the Settlement is focused on treating all water before it gets to the tap. Efforts, such as Project 1007, are examining key spots to treat water so that the cycle of PFAS entering groundwater can be broken. Despite these efforts, PFAS does not breakdown in the environment so there will be at least some PFAS in the environment for generations. It is a multi-pronged approach to reduce PFAS in the environment and treat drinking water.

## Potential Impact of the U.S. EPA draft MCLs to the Conceptual Plan

Kirk Koudelka (MPCA) began the presentation by introducing Megan Holthaus, a new team member at MPCA. She will be working on Settlement implementation and doing project management for some of the communities on their projects.

Kirk began the discussion about the potential impact of the EPA MCLs on the East Metro and the Conceptual Plan. He explained that despite these changes from EPA, the Conceptual Drinking Water Supply Plan (Conceptual Plan) is comprehensive, safe and sustainable, flexible, and resilient. PFAS is the most studied contaminant right now, and the MPCA and the other agencies involved in creating the Conceptual Plan knew that PFAS standards could change. The Co-Trustees built a cushion into the Conceptual Plan for this reason and, for the most part, that cushion has ensured flexibility. For example, the Conceptual Plan’s buffer covered two changes in health based values previously implemented. Although The MCL changes may be more than what the Conceptual Plan’s buffer can handle, the Conceptual Plan does include a designated contingency allocation for future changes and unknowns (Chapter 9.5 of the Conceptual Plan). Furthermore, the Conceptual Plan says that wells receiving a health advisory would already be addressed through the Settlement. There are two drinking water systems in East Metro communities that were already in design before the new MCLs were released. Co-Trustees previously stated that treating additional wells with these systems will be covered under the Settlement if they have a health advisory in the future because of changing MCLs. Overall, the Co-Trustees feel the Conceptual Plan is still applicable and does not need to be updated.

Kirk also discussed future funding for well treatment. If additional wells need to be treated due to lower guidance values, beyond what funds are in the contingency allocation, Settlement funds will likely deplete faster than initial estimates in the Conceptual Plan. Once Settlement funds are depleted, the 2007 Consent Order remains in place to address impacts to public and private drinking water wells from PFAS releases from the 3M disposal sites that result in a health advisory.

Liz Kaufenberg (MPCA) then discussed wells potentially impacted by the new MCLs and cost considerations. She focused on wells that are potentially impacted by the draft MCLs, recognizing there some communities (e.g., Cottage Grove, Lake Elmo, Woodbury) have plans to drill new wells in the future and seal and abandon some existing wells. The first column shows the existing 29 wells covered under the Conceptual Plan to receive treatment. With EPA’s new MCLs, two additional municipal wells would need treatment and eight municipal wells need more sampling. **Potential community wells impacts, with information current as of April 2023**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Community** | **Existing wells covered in the Conceptual Plan** | **Additional wells that would need treatment\*** | **More sampling needed\*\*** | **Total number of wells in the community\*\*\*** |
| Cottage Grove+ | 8 | 1 | 1 | 12 |
| Cimarron Park | 0 | 0 | 2 | 2 |
| Lake Elmo+ | 0 | 1 | 0 | 3 |
| Lakeland | 0 | 0 | 0 | 2 |
| Newport | 0 | 0 | 2 | 2 |
| Oakdale+ | 2 | 0 | 0 | 9 |
| Prairie Island Indian Community | 1 | 0 | 0 | 1 |
| St. Paul Park | 3 | 0 | 0 | 3 |
| Woodbury+ | 15 | 0 | 3 | 19 |
| *Total* | *29* | *2* | *8* | *53* |
| + The table does not include treatment for wells that haven't been drilled yet.\* Wells not already included in the Conceptual Plan for treatment and have 4 quarters of samples with PFOA and/or PFOS concentrations above 4 ppt\*\* More sampling is needed because PFOA and/or PFOS has been detected (above or below 4ppt) and there are fewer than 4 quarters of samples with newer sampling method (EPA 533) \*\*\*Not all wells in the total number of wells may be in use (some are/will be abandoned or taken out of service, etc.), and the sum of the first three columns may not add up to the total number of wells (fourth column)  |

Liz then focused on private wells. When looking at private wells in the East Metro, around half of the 7,000 to 8,000 private wells have been sampled. Of those sampled, approximately 231 private wells have PFOA and/or PFOS above 4 ppt and would be eligible for treatment. Approximately 1,360 private wells need additional sampling because, when the samples were collected, the reporting limit was too high (above 4 ppt for PFOA and PFOS). More sampling needs to be completed.

Because of the impacts of EPA’s MCLs on wells in the East Metro, there are cost implications for the Conceptual Plan. The Conceptual Plan’s Annual Review, which was released in January 2023, provides a summary of costs from the preceding year, and identifies if there is a need for reallocation. The Annual Review discusses additional costs due to project components, inflation, and potential additional treatment for private and public wells due to the updated health-based values. Liz reiterated that there is contingency included into multiple sections of the Conceptual Plan including in capital costs (25% contingency built into capital costs as well as $16M included for inflation) and in a contingency allocation ($183 of the total Settlement). The contingency allocation may be used for capital cost overruns for all communities. The Conceptual Plan also includes a reallocation strategy (Chapter 10.1). By having this strategy, Co-Trustees can see where more funds might be needed and can be taken from areas where less funding was required. The Conceptual Plan is also earning interest which can help offset higher construction costs.

Liz discussed next steps for implementation of the Conceptual Plan. She explained that the Co-Trustees would continue to evaluate Priority 1 funds as community projects are implemented across East Metro communities. The Co-Trustees will also identify and discuss additional treatment needs and cost implications of the final EPA MCLs and MDH HBVs with individual communities and work group members. Lastly, the Co-Trustees will discuss the Annual Review and any reallocation needs with work group members.

### Feedback

One work group member said that the State has done a good job of funding a portion of the community grants up front. They believe that with these changes, more cities will need cash up front so that they do not have to burden their residents. They asked if they could start receiving design funds up front versus using a pay-as-you-go method. Kirk explained that the Co-Trustees talked about providing money upfront for construction. They have not done this for design because design has been smaller dollar amounts. Unless there are huge expenses for design, the focus has been on using this tool for construction projects.

Another work group member asked if the Co-Trustees and communities should begin to plan to use the new MCLs since they are currently draft, and the final numbers will not be adopted until 2026. Kirk said that some communities are currently incorporating the new numbers into their design. Co-Trustees are having conversations with communities and encouraging communities to use these numbers as a guide moving forward.

Another work group member asked for clarity on the private wells that need testing and asked if there was a map or spreadsheet that showed where testing still needs to be completed. Liz said that there are over 1,000 wells that need to be resampled, with most of the wells that need to be sampled are in Woodbury, West Lakeland, and Lake Elmo. The Co-Trustees put together an interactive map that shows the treatment plan for individual wells. Kirk also mentioned that the Co-Trustees could share a spreadsheet with work group members that lists the wells that need to be tested. Another work group member said that posting links to both the Settlement’s interactive map and the MDH PFAS Dashboard in the same place would be helpful so that communities have information in one location. Work group members expressed concern about the number of wells that needed to be sampled. Kirk explained that there were entire teams dedicated to sampling and Liz added that some private wells would not need to be sampled because they are slated to be connected to municipal systems. Another work group member asked the Co-Trustees to continue reevaluating where sampling is done because they have found PFAS in areas of their community where they did not expect it to be.

A member of the public asked if the 2007 Consent Order covered both private and municipal wells and, if Lake Elmo has a well to treat, does the cost to treat come from the contingency or the 2007 Consent Order. Kirk explained that there was money allocated to communities like Lake Elmo and Oakdale that are dealing with water quantity issues. The Co-Trustees have meetings set up with the communities to discuss this further and there is money in the capital and contingency funds as well as the 2007 Consent Order as a backup. Another member of the public asked if individual homes will still need soft water treatment in Woodbury. A work group member from Woodbury explained that Woodbury will not be adding softening at this point in the project. They are doing 30 percent design for softening so they will be well situated to add it in the future.

## Next Steps

Debra Fleischer (Abt Associates) reviewed the next steps and key dates. MDH’s updated HBVs for PFOA and PFOS are expected in 2023. Co-Trustees will hold a work group meeting for Priority 1 after the values are released. Moving forward, Priority 1 work groups will move to a biannual schedule; the next planned meeting is Fall 2023.

## Public comments and questions

Debra opened the floor for public comments. Comments from the public included:

* A community member has lived in the East Metro for 30 years and feels the issue of PFAS is causing anxiety in the community. Residents do not know if their water is safe when they turn on their faucets. Some mothers are worried about implications for their children and are considering filtering systems they can add to their sinks. This resident only drinks bottled water because they are nervous. Communities need to know that the issue is under control and that the water is safe to drink. Sarah Fossen-Johnson (MDH) assured the community member that their water is safe and added that she drinks water directly from the tap. Sarah added that drinking bottled water is not necessarily safer because while it is regulated by the Food and Drug Administration, they are not required to check for PFAS. Lucas Martin (MDH) also added that the science of PFAS is ever-changing, but Minnesota is very proactive about adapting to any changes. MDH tests public drinking water with the best methods available and have a team of toxicologist focusing on PFAS.
* A work group member said that there is still a communication gap related to PFAS and the Settlement, even though great efforts have been made. They asked if the Co-Trustees could pay for a mailer to go to all residents that explains what is happening in plain language and includes links to relevant information and Settlement resources. Kirk Koudelka (MPCA) said that the Co-Trustees will talk with the MPCA Communications Team. Another work group member added that localized community meetings where MDH and MPCA were present were very effective. They recommended that happens again in the fall.
* A community member said that Mayor Burt in Woodbury recently released a video about PFAS that was very informative. He recommended videos like it be shared with residents and work group members.