

Minnesota 3M PFAS Settlement

Notes for Project 1007 Update Meeting

Wednesday, December 6, 2023

9:00 a.m.–11:00 a.m.

Webex meeting

Presenters

- Debra Fleischer, Abt Associates
- Elizabeth Kaufenberg, Minnesota Pollution Control Agency (MPCA)
- Rebecca Higgins, MPCA
- Amanda Lanning, Architecture, Engineering, Construction, Operations, and Management (AECOM)
- Hanna Temme, AECOM

Welcome

Debra Fleischer (Abt Associates) opened the meeting by walking through hybrid meeting logistics, conducting roll call, and discussing the meeting agenda. Liz Kaufenberg (MPCA) provided opening remarks and explained that the meeting would cover an overview of Project 1007 work.

Project 1007 Update

Rebecca Higgins (MPCA) and Amanda Lanning and Hanna Temme (AECOM) presented updates on Project 1007. Their presentation covered eight topics: (1) the site area and source assessment, (2) the evolving conceptual site model, (3) particle tracking, (4) the feasibility study process, (5) an example area of concern, (6) solutions to limiting the spread, (7) a surface active foam fractionation (SAFF) pilot study, and (8) destruction technologies. After each topic, the presenters took questions, and this discussion is summarized below.

Site Area and Source Assessment

There were no questions on this topic.

Evolving Conceptual Site Model

One participant asked whether the presentation would be posted on the website, and Debra Fleischer (Abt Associates) responded that both the PowerPoint and the recording will be posted.

Particle Tracking

One participant asked whether the 50- and 100-year modeling was done with the presumption that nothing would change regarding engineering, policy, pumping conditions, etc. Amanda Lanning (AECOM) confirmed that this was correct. The models were made with current pumping conditions with current supply wells, and were based on the 2021 extraction rates.

One participant asked whether animal migration had been factored into the assessment. Rebecca Higgins (MPCA) responded that a baseline ecological risk assessment had been conducted as part of the assessment

work, and that the Department of Natural Resources (DNR) is building out the findings from this assessment into additional analysis. This work will come out in the next several months and will provide additional information regarding impacts to animals in assessment areas.

One participant asked whether the presenters could address plume movement in the north Afton area. Amanda responded that planned mitigation options would be addressed later in the presentation, but noted that particle tracking does show some movement from the West Lakeland Area into the north Afton area in the future.

One participant asked whether the tools (e.g., Leapfrog) mentioned in the presentation would be available for the public to use for assessments of possible new wells. Amanda indicated that the particle tracking tool is from the groundwater model, which is still in the process of final refinement and review. Once the model is complete and has been presented with the feasibility study, in the spring, all of the data and information needed to run a model will be available. Rebecca added that the MPCA is working to create a site with all of the model inputs. Amanda noted that the Leapfrog viewer application is free, so the MPCA could post viewer files that allow the public to view the model. However, she noted that there is no transient or flow component to the Leapfrog model; it is a visualization tool that shows whether contaminants are present.

Feasibility Study Process

One participant asked whether there is a similar presentation and projection for surface water concentrations. Hanna Temme (AECOM) responded that surface water results were not the focus of this presentation, but they have been highlighted in previous presentations and there are maps for surface water concentrations available on the Project 1007 website. (Some remedial actions that will address surface water were discussed later in the presentation.) Amanda Lanning (AECOM) added that AECOM is in the process of a surface and groundwater model to incorporate both.

Example Area of Concern

One participant asked whether there had been sampling on the northwest side of Horseshoe Lake, given the golf course that exists on that side. Hanna Temme (AECOM) indicated that AECOM was able to do on-site sampling on the golf course. The participant added that the golf course uses retention ponds for irrigation. Hanna explained that the Project 1007 flow path does go through some of those retention ponds, but not all of the ponds are connected to the flow path and are of concern.

One participant asked why Per- and polyfluoroalkyl substances (PFAS) were found so far north in West Lakeland township, and if that was associated with the Project 1007 drainage system or another source. Hanna said this was based on the conceptual site model and would be the result of infiltration of water from Horseshoe Lake. This flow primarily starts with the Oakdale Disposal Site.

Solutions to Limiting the Spread

One participant asked whether the presenters had considered that some of the proposed Multi-Benefit Well Array (MBWA) locations might be within the Lake Elmo Park Reserve. Amanda Lanning (AECOM) indicated that most of the wells are positioned on the side of roads for piping and access convenience, and there are several wells positioned near or within the Lake Elmo Park Reserve. The participant followed up by asking when the impacts from the White Bear Lake lawsuit would be considered. Amanda said there have been some conversations with the DNR regarding this restriction, and Rebecca Higgins (MPCA) followed up to highlight that it is still early in the MBWA, and the proposed locations are not final. While ongoing conversations will have to

consider a number of issues related to supply and long-term projections for demand, at this point the Project 1007 Team wanted to focus on technical feasibility, and they understand there will be more policy-focused discussions.

Another participant asked about the source areas for PFAS contamination around St. Paul and Battle Creek Park. Amanda indicated that the Project 1007 Team has not studied that area, but the Pig's Eye Landfill is a source of PFAS and is located in that area. Rebecca added that there will be new investigation wells coming into this region, which will try to fill those data gaps.

One participant asked what pumping rates are planned for the wells. Amanda said the Prairie du Chien aquifer has slightly lower rates at 400 gallons per minute (gpm). The other wells are from the Jordan aquifer and are extracting between 600 and 800 gpm. The injection wells are between 500 and 900 gpm.

One participant asked whether the groundwater-surface water modeling effort would estimate any potential changes in baseflow to Valley Creek caused by the MBWA option. Amanda responded that there likely would not be any changes in baseflow, but that this can be monitored in the surface/groundwater model.

One participant noted that the Met Council will be doing water demand projections for the Northeast and East Metropolitan areas through 2050 as part the updated Master Water Supply Plan for the metro region. Rebecca noted that the MPCA is involved with the multiple efforts for drinking water supply plans.

One participant asked whether the Project 1007 Team had considered the possibility of well interference problems with existing private wells near the extraction well locations. Amanda said they are aware of many clusters of domestic wells, in particular around West Lakeland. The Project 1007 Team plans to look at drawdown in aquifers that are used for private wells to ensure water levels are not drawn down too low, and will work with the community to understand where wells are and to avoid unintended consequences.

Another participant asked whether the Project 1007 Team is considering other alternatives beyond no action in the MBWA. Hanna Temme (AECOM) noted that the MBWA is only one of the options being considered, which include a full range of actions that would traditionally be incorporated into a feasibility study (engineering, administrative controls, etc.) for surface water and groundwater beyond a pump and treat option.

One participant asked whether, with the MBWA, there would be emergency response areas that would prohibit stormwater infiltration. Rebecca responded that the Project 1007 Team will have to work with all partners to find solutions that are well-timed and appropriate.

SAFF Pilot Study

One participant asked whether a cost analysis would come from the field study. Hanna Temme (AECOM) confirmed that the Project 1007 Team is considering costs, and highlighted that the biggest cost associated with operating the SAFF, besides the operator's time, is energy. Energy costs are highly dependent on factors such as how high pumps are run and how much air must be injected. The Project 1007 Team is working to optimize the SAFF to understand how to minimize cost per treatment volume while maximizing total PFAS mass removal. Rebecca Higgins (MPCA) added that currently available cost data will be incorporated into the feasibility study.

Destruction Technologies

One participant asked whether, with destruction technologies, there is an end product that still has to go to a landfill. Hanna Temme (AECOM) noted that the goal is that there is no end product but, in reality, it may not be

completely gone. The treatment train approach allows the PFAS-contaminated media to be recycled back into SAFF or granular activated carbon, which would create a smaller mass. The Project 1007 Team is also looking at possible options for regeneration and is aware that landfill and incineration costs may be limiting in the future. Rebecca Higgins (MPCA) added that destruction is really transformation, and the goal is to get the PFAS media down to the smallest mass and least-harmful PFAS possible to manage it more easily.

One participant asked how the PFAS-loaded filters removed from homes through the annual filter change-out are destroyed. Rebecca clarified that the destruction process discussed during this meeting is focused on liquid PFAS concentrate from the foam fractionation system and that management of filters from residential wells is different. Filters from residential homes typically go back to vendors who are under a separate contract with the state, and the vendors dispose of them properly at landfills or, in some cases, incinerate them.

General Questions

One participant asked whether there had been any surveillance for deeper formations or aquifers, specifically the St. Lawrence or Tunnel City formations. Amanda Lanning (AECOM) responded that particle tracking has been run for these deeper formations, which shows that there is some migration into those formations. She added that AECOM has collected analytical data for every aquifer available; but the data is limited for these deeper aquifers across the region. After remedial actions are implemented, the deeper formation units will be included in project monitoring.

Another participant asked how the changes to the state health-based values will be communicated. Elizabeth Kaufenberg (MPCA) noted that the Co-Trustees will send an email to the work group members with the information, and that there will be a Priority 1 work group meeting following the announcement to talk through these changes and their potential impacts in more detail. The participant asked whether the Minnesota Department of Health (MDH) plans to hold major regional public meetings and encouraged them to do so. Hannah Sabroski (MPCA), noted that the MPCA is not the lead on this communications effort, but offered to share contact information for the MDH communications.

One participant asked where the particles in the particle tracking model start. Amanda said they start in the Prairie du Chien aquifer.

One participant noted that they believe there are PFAS in the Tunnel City formation. Amanda responded that although there are detections in that area, the levels are acceptable under the current drinking water standards. Remedial actions to overlying aquifers would likely reduce additional infiltration; however, the Tunnel City formation is not a target right now because it is not currently a primary drinking water aquifer.

One participant asked why the remedial action objectives did not include anything directly about the remediation of natural resources under Priority 2 of the Settlement. Rebecca Higgins (MPCA) clarified that the Project 1007 investigation is entirely under Priority 1 of the Settlement, so natural resource investigation is not the focus of the feasibility study.