Minnesota 3M PFC Settlement
Drinking Water Supply Technical Subgroup 1 Meeting
March 20, 2019 Meeting Notes

Group members in attendance:

Brian Bachmeier	Jim Kotsmith	Sandeep Burman	Jason Moeckel
David Brown	Gary Krueger	Rebecca Higgins	
Ryan Burfeind	Tony Runkel	Elizabeth Kaufenberg	
Stephen Ebner	Stephanie Souter	Gary Kreuger	
Jack Griffin	Jim Stanton	Todd Johsnon	
Chris Hartzell	Ryan Stempski	Tim Lockrem	
Jon Herdegen	Richard Thron	Michele Mabry	
Greg Johnson	Jim Westerman	Cory Mathison	

Presenters:

- Jason Moeckel , (DNR)
- Gary Krueger (MPCA)
- Shalene Thomas, Wood
- Hannah Albertus-Benham, Wood
- Ginny Yingling (MDH)
- Jim Feild (Wood)
- Dave Mills, Abt Associates (Abt)
- Milt Thomas, facilitator (MPCA)

Welcome and Updates

Gary Krueger (MPCA) welcomed the subgroup and introduced new MPCA staff, Cory Mathisen and Rebecca Higgins, who will be helping with the 3M effort among other projects. Jason Moekel (DNR) followed with an overview of the meeting.

Gary and Jason then provided updates including:

- Noting the workgroups did not meet in March.
- The State is planning to move forward and commit funding from the settlement to two projects to address PFAS exposure issues believing both will be consistent with final options recommended in the final Conceptual Drinking Water Supply Plan. The projects are:
    - Lake Elmo: developing a new well to expanded drinking water supply options
    - St. Paul Park: evaluating options for a centralized water treatment system
- Notice of upcoming public meetings:
    - April 3rd, 1-4 PM at the Cottage Grove City Hall: A state-led Information session on the 3M-PFAS work targeting specific water managers (e.g,. watershed districts) and other interested parties. The session will include information on the extent and movement of PFAS contamination in the East Metropolitan area, details of the Settlement, information on expedited project funding requests, and an overview of work on the Conceptual Drinking Water Supply Plan

- April 11th, 7-9 PM at the Cottage Grove Middle School: similar update on the 3M-PFAS work as with the April 3rd meeting.

Check in and Feedback from Subgroup Members

Jason Moeckel introduced this topic noting the state's desire to hear from the subgroup's participants with respect to questions, challenges, successes or requests for information they may have generally or that developed since the February meeting. Issues identified by participants included:

- A question regarding if time and energy needed to prepare data for Wood's use to support modeling can be covered under the grant
  - The state noted that seemed consistent with the intent of the grant
- As a follow-up/response to a question from the February meeting, the Metropolitan Council offered to share information it has been receiving from communities to support an ongoing update of its wastewater
- There was a request for details on rural water systems based on an understanding the workgroups received a presentation on this topic in February
  - Wood staff noted this might be better addressed after seeing some of the preliminary information from their modeling efforts
- Shalene Thomas of Wood provided a quick review of the subgroup's Sharepoint site addressing:
  - The site's benefits for sharing/requesting information (RFI) among the subgroup
    - Details of using the ***Reply*** option to respond to RFIs
  - Reference to the calendar of upcoming activity
  - The ability to add support others beyond original SG1 designees (e.g., backups, support staff)
    - Contact Shalene or Hannah Albertus-Benham at Wood do this

Update on Drinking Water Modeling and Initial Model Creation

Hannah Albertus-Benham of Wood provided some details of the data being collected and processed to produce community profiles for the drinking water modeling. Remaining gaps are being addressed with Wood working directly with the relevant community contacts.

Initial GIS maps developed from the available data were presented to show populations served by wells or community drinking water systems. Wood is currently working review and finalize data and then expand and verify the models. In response to a question about calibration, Wood noted a quality review plan is being developed while clarifying the calibration effort for this work will focus to see that the best information is being used vs verifying model results.

Overview of the PFAS Plume

Ginny Yingling (MDH) provided a presentation on the sources and pathways of the PFAS contamination currently observed in the East Metropolitan and MDH's historic and ongoing monitoring efforts along with a limited summary of remedial actions. Topics Ginny addressed included:

- History of PFAS manufacture and disposal:
  - Manufactured locally since the 1940s
  - Most of the contamination issues related to land based disposal at three sites (Oakdale Disposal Site, Washington County landfill, Woodbury Disposal site, Pig's Eye Dump) in the East Metropolitan area along with some aerial deposition
  - Land disposal from 1950's to 1980's when production waste started being incinerated

- Remedial PFAS work began in 1980s,
- Expansion in extent of contamination of concern is now primarily driven by improved technology that keeps lowering the drinking water standards
- Recent concern on PFAS focused on potential health impacts to infants and newborns
- MDH takes a combined, health risk index, approach to evaluating the risk of the different contaminants
- Note the extent of the available information varies across the different aquifers in the region
- Models generally good but have some unusual initial results without developing additional information – see PFBA moving with fault blocks – explains pattern of pollution
- MDH operating theory is the chemicals, which are highly water soluble an mobile, were dispersed at same time as the initial disposal at the unlined land-based disposal sites
- Note "PFAS covers a wide range of chemicals". Contamination currently looks to be stable in most areas and following established pathways, but there are still some unknowns

Public Comments and Questions

Members of the public were given the opportunity to ask questions. No questions or comments were offered.

Groundwater Modeling Scope and Execution Plan

Jim Feild (Wood) gave a presentation that provided a summary of the ranking of groundwater priorities from the subgroup's responses since the last meeting, and discussed the integration of other models and the current decision with respect to a groundwater modeling domain.

Key concerns for the modeling effort that were highlighted included:

- How pumping could mobilize contamination and, as a result, affect currently uncontaminated portions of aquifers
- Avoiding negative surface water and wetland impacts
- Achieving aquifer safe yield, defined in a number of ways and noted as being variable year to year

Discussion of the groundwater modeling domain noted the collective nature of the decision based on input from the state (e.g., DNR, MPCA, DOH) in consultation with staff from Wood and the domain's consistency with that in the Northeast Metro Lake-Groundwater (NMLG) model. The associated discussion also noted how the chosen modeling framework supports incorporating additional detail to areas of particular interest if, for example, greater spatial resolution is desired and how some specific features (e.g., the Mississippi and St. Croix rivers) were being addressed.

Responses to questions on the modeling provided some clarifications including that some potential areas/topics of interest (e.g., flows in trout streams) may be addressed qualitatively (e.g., low, middle, high, risk of impacts) vs quantitatively. Expanding on this discussion, Jim noted the modeling should inform trends contaminant flows over time vs providing quantitative measures such as changes in concentrations. Additional questions addressed the model's calibration and verification. In response, Wood noted how it would run the model using historical inputs to check elements such as the model's performance projecting contaminants in areas with observed contamination.

Upcoming Tasks, Interim Deliverables, and Timeline

Hannah Albertus-Benham of Wood gave a presentation reviewing the timing of the different efforts for SG1 for March through June highlighting when text from the Conceptual Drinking Water Supply Plan should be available for the subgroup's review while noting the ongoing collection and processing of geological and hydrological data to build out the groundwater conceptual site model.

No questions we

Next Steps: Upcoming Meetings and Review/Request for Specific Agenda Items

Dave Mills (Abt) noted the next Subgroup 1 meeting is currently scheduled for April 17, 2019. No new topics of particular interest for presentation were identified following a request for input from the subgroup:

Public Comments and Questions

Members of the public were given the opportunity to ask questions. No questions or comments were offered.