DRAFT

Wastewater Treatment Workgroup Conference Call
December 20, 2016
Meeting Summary

Summary of Actions and Decisions:

Decision: November meeting minutes were approved.
Decision: The WWTWG approved using a hybrid approach, combining estimated CSO data where available, and Tetra Tech model estimations for simulating CSO data in the Phase 6 Model calibration. This decision does not include submitting this data for progress reporting.
Action: Tanya and Ning will confirm with the WQGIT that additional CSO data can be submitted after the 12/31 calibration deadline for use in model calibration before February 1st.
Decision: The WWTWG agreed not to include SSOs, but will continue to understand their relative importance to loading and will revisit the issue in the future.
Action: Ning Zhou, Dave Montali, and Lew Linker will review the work and recommendations of the Septic Attenuation panel to determine if MDE's recommendations on soil data are consistent with the panel findings.
Preliminary Decision: The WWTWG conditionally approved MD's use of an alternative approach for determining soil classifications under the scope of the Septic Attenuation BMP Panel, ensuring that it is consistent with the Septic Attenuation BMP panel's report and recommendations.
Action: WWTWG members should review the drafted BMP scoring matrix, and provide their feedback or alternative scores to Ning Zhou by no later than Thursday December 22nd.
Decision: The WWTWG agreed to cancel their January 3rd meeting, and will hold their next meeting in late January.

Welcome, Introductions, and Announcements—*Tanya Spano (Chair)*

Decision: November meeting minutes were approved.

- Spano: I would like to review the list of action items from our previous meeting to ensure that everything has been, or will be completed in a timely manner.
- Zhou: The CSO lists haven't been distributed yet, but this is not a new list. The workgroup has reviewed it many times before for Phase 5. So it's still just the 64 facilities, but recent CSO eliminations will be incorporated and I will distribute to the workgroup.
- Tanya recommended that a timeline for action items be added to the meeting summary.
- Zhou: I'm still collecting bypass information from Region 3 – I've sent a request but haven't heard back from them yet.
- The status of the Biosolid's Task Force's briefing paper and summary of options is unknown. Ning and Lindsey will check on this.

CSO Data for Phase 6 Model – Ning Zhou, VT

The current simple approach for modeling CSO data uses a formula developed by Tetra Tech to calculate the overflow amount from rainfall data. In the Phase 6 Model, the results of this approach do not match well with the available data from several individual CSOs. Ning presented a summary of the options for simulating CSO data in Phase 6 in November and is now seeking WWTWG decision.

Discussion:

- Tanya Spano: So the proposed method is to use individually predicted or estimated CSO data where available (ie – known data).
    - Ning Zhou: We would use known data if it's provided to us before December 31.
    - Spano: Using this known data would be important both for the historical record, and for progress reporting. If you have any additional information that can be used to update the CSO list that's been posted, then it should be sent to Ning.
- Montali: Are we trying to represent the history (combination of how it was in 1985, and the management actions taken since then through 2013), are we representing progress, or are we looking at both? It seems like both – with the 12/31 deadline for inputs to the model, I assume that we have available a representation of CSOs inclusive of progress that's being generated by the Tetra Tech formulas. Do those formulas recognize the management actions over time?
    - Zhou: The formulas are just a response to rainfall.
    - Montali: So however the jurisdictions report their management actions, that gets built on top of the baseline Tetra tech formula. I don't know if we're over-representing the management actions approach even with the Tetra tech approach because of that 0.01 threshold, and how it both over- and under-represents the Limnotech data.
    - Spano: We're trying to characterize this, and you're understanding of the Tetra tech formula as a no-action instance may not be entirely true. There likely are some management actions being taken into account through this formula, because these actions have phased approaches.
- Montali: I would assume those approaches go on top of this, and thereby decrease the load in the final model calibration. Our little CSOs have achieved almost 0 overflows in the past few years. So I would hope in the future the application of BMPs would represent a big reduction in loads. My main point was if you changed the threshold by an order of magnitude for example, this would magnify the under-representation.
    - Zhou: Yes, and the 0.01 threshold value is simply not accurate enough to represent in our documentation. However, somehow TT developed the formula to match with some known CSO data, such as DC CSO data. If we raise the threshold to 0.1 for the formula, the resulted loads will be reduced about 40%.
- Montali: The overall point is that if you make this fit by adjusting the cut-off within these equations, you may be making a worse representation.
    - Zhou: In my hybrid approach, we would use any available datawith the 0.01 Tetra tech formula to represent the rest of CSOs.
- Montali: For WV, I would assume the Tetra tech 0.01 formula would be our no-action, and then any additional action or progress would essentially lower that line.
    - Zhou: Correct.
    - Spano: I think that we need that type of clarification documented. We of course have to be sure that the date when the data was provided is taken into account when we compare these two different data sources. Some of the CSO information you have that's reported may have management actions embedded in it, and isn't being submitted separately.
    - Zhou: Right. If it's reported data, we'll treat it the same was as wastewater – we don't take BMPs off of that. If it's estimated data, like agricultural loads, then we have to apply BMPs.
- Greg Busch: For MD, we have data back to 2005. It seems like we would have to backcast to get data from before that. So your proposal would use the Tetra tech data up until we have the data available, and then we would transition to using our supplied data. I worry that there may be significant differences here, especially if there is an order of magnitude difference.
    - Zhou: You're right. We of course can make these changes later, but it's difficult.

    - Busch: In MD, we use a binary system for maintaining the CSOs. So if we're not using data from our database, we're not necessarily picking up the gradual effect of implementation. My concern is that we have this coarse approach for estimating management actions, and data before 2005 isn't available, then suddenly we'll be using this new approach for looking at CSOs for 10 years before 2005.
- Spano: Dave – you talked about how if one has an estimated load, then one applies a BMP. A lot of the other sector loads are captured that way. For wastewater, it's different in that one has actual loads to report, so nothing is applied. CSOs get reported in terms of when they occur, they show up with their estimated loads, and are quantified roughly the same way that wastewater loads are. There are other CSOs that don't get captured that are still part of the estimate. This is the case for DC, and most of them are estimated like stormwater. But we're talking about a very different beast here – it doesn't fit nicely into any category. So I would ask VA and MD to consider that question -whether all CSO loads that get reported are measured or estimated.
    - Montali: A lot of jurisdictions have their own models, and if they're designed to cover management actions to predict the load with a specific set of actions being applied.
- Spano: For DC's one major CSO they just reported, their DMR is actually monitored. It's not the entire CSO load that occurs; there are some smaller CSOs that I will have to look at. So there's a lot that's actually not reported.
- Spano: There's also a lot that needs to be verified – the default values for nutrients for example. We also talked about a need to agree on what data or methods should be used for backcasting for the calibration versus what information should be used for reporting progress.
- Zhou: For data submission, we just need anything post-2005 to incorporate for calibration.
- Matt Richardson: Do you have any information for Lynchburg?
    - Zhou: I don't know the current status. The data was last provided by Limnotech – they have individual CSO models for all 3 VA CSOs.
- Spano: So this information may not be available yet, and may not be available in time. But we will provide the data or ensure that it's provided if it's possible, and as soon as it's possible.
    - Zhou: I think that's correct – I don't expect to have it by the end of this year. So if we don't have it, then we use whatever we have at the moment. There's always the chance for improvements down the road, though.
- Montali: Well if we have our approach decided upon by 12/31, then the modeling team needs to implement it by January 31. So that may give us enough time to get it in the calibration.
    - Lew Linker: That's correct – we don't want to violate any protocols of the WQGIT. So procedurally we'd have to check with the GIT if that late incoming data could be used.
    - Spano: So then we will check with the WQGIT that this would be acceptable, procedurally.
- Tanya asked the workgroup if they were comfortable with the hybrid approach specifically for the calibration proposed by Ning.
    - Busch: I'm comfortable with using it for calibration, but do have reservations moving forward with the alignment between historic data, and the fact that there could be significant year-to-year variability. I'm also happy to work with Ning to submit any additional data.
    - No dissenting opinions were voiced.
- Spano: Greg – if we don't use this data, then what else would be use for progress? Can you explain your concern a bit further?
    - Busch: For annual progress, we look at broader long-term trends, and a lot of the modeling tools are set-up to look at those. When we start introducing very small time-step data that may have big year-to-year variability, this makes it difficult to explain

what's going on when you sync it with other, smoother long-term data. So I would prefer what we did in Phase 5.3.2 where we had long-term average CSO loads.
    - Linker: If in some scenarios, you wanted to adopt some version of the hybrid approach (like a hybrid 3-year running average), you could do that too. This would dampen yearly fluctuations.
    - Busch: Thanks – and before we approve something like that we'd want to go through the details. But that sounds logical.
- Zhou: If we don't take the hybrid approach, and only use the Tetra Tech formula, the only variable there is rainfall. So that will have the same variability, if that's your concern.
- Spano: So we've agreed on use of hybrid approach for calibration, and will work on describing the type of data we need and will check with the WQGIT on the legitimacy of this process request. So in terms of progress, are there any other concerns? And do we have to make that decision today? Or can we revisit this at the next conference call to see whether the Tetra Tech data provides a reasonable estimation when applied to MD and VA's facilities?
    - Linker: That would be fine. The hard deadline is for calibration input data, so we have some time before we start putting out management scenarios – this would be around late February.

Decision: The WWTWG approved using a hybrid approach, combining estimated CSO data, where available, and Tetra Tech model estimations for simulating CSO data in the Phase 6 Model calibration. This decision does not include submitting this data for progress reporting.

Action: Tanya and Ning will confirm with the WQGIT that additional CSO data can be submitted after the 12/31 calibration for use in progress reporting before February 1st.

- For the January WWTWG workgroup meeting: the workgroup will spend time looking at options for data reporting and how the group would propose to report CSO progress for official progress reporting, with the timeline for completing this decision mid-late February 2017.
- Busch: Was any decision made on SSOs? I think this may need to be elevated to the WQGIT.
    - Spano: So for the SSOs, at this point, we likely can't meet the Phase 6 deadline with this effort. I would ask everyone to work with Ning to see if we can quantify the SSO data, and we can discuss this at our next call to figure out how we can address it.
    - Montali: I feel like we may be too late with this. One state may have some good data, but I know WV struggles to get that data. And big-picture, I don't think this would shift calibration very much. If we have a continuing, significant SSO source that we want to deal with, then we would have to deal with it at a later point in time.
    - Linker: That makes sense to me. In 2010, our thinking was that they are illegal and are repaired as soon as they are found. So they haven't been a part of management because they're managed through statute – has anything changed on that?
    - Spano: No, they haven't changed. They're blips in the schema, and you can't take credit for reductions from them. And they're order of magnitude is not large enough to constitute as a Bay-wide issue.
- Spano: So I don't hear any support for including SSOs. Is that correct?
    - DE agreed that they do not support inclusion of SSOs.

Decision: The WWTWG agreed not to include SSOs, but will continue to understand their relative importance to loading and will revisit the issue in the future.

MDE Septic Attenuation Panel Review and Recommendations – Greg Busch, MDE

The Onsite Systems Nutrient Attenuation Panel defined attenuation within the septic drainfield (Zone 1) based on soil texture. During discussions about the panel, MDE expressed concern about the approach for spatially defining soil texture across the watershed. Instead of using SSURGO data to define soil texture, MDE proposed collecting data from local jurisdictions to get a better understanding of drainfield soil texture across the state. MDE will present the conclusions from its analysis with the intention of using this information to inform Phase 6 septic attenuation rates within Maryland.

- Lew Linker presented additional information on the Onsite Systems Nutrient Attenuation Panel's analysis of attenuation rates by geographic region.
- Linker: MDE's approach looks reasonable, and we are comfortable with it. But how do we move to specific inputs? Would Ross Mandel be the lead in terms of getting quantification on zone 1?
    - Busch: We can work with Ross and make sure he coordinates with you on getting the final estimated quantification.
- Montali: One thing I noticed was that the panel portrayed zone 1 attenuation contingent upon the system being within a short distance to the surface. It seems like the rationale here is that the structure is much deeper than that, and you want to make these credits even smaller. But have you considered whether you should get zone 1 attenuation if you're going down 6 feet?
    - Busch: That's a valid question that should be considered by a future panel.
- Spano: It seems like there needs to be a revisit of the panel's work to ensure that this isn't inconsistent with the panel recommendations. We need someone to close the loop on this before the workgroup is asked to make a decision.
    - Linker: It seems that this is state-specific information, and we used the zone 1 attenuation guidance from the panel and our best assessment based on SSURGO data. So do you use all of the SSURGO data points, or do you speak with the MD authorities to get information on their average depth and soil type? So it's site-specific information or the database.
- Spano: So Ning – can you go back to the work of the septic attenuation BMP panel, and check to see whether this is a data issue, where we're using more refined data, or whether we've inadvertently created a disconnect in the recommendations on the panel report.

Action: Ning Zhou, Dave Montali, and Lew Linker will review the work and recommendations of the Septic Attenuation BMP panel to determine if MDE's recommendations on soil data are consistent with the panel findings.

- Spano: So if this is consistent with the expert panel's recommendations, does anyone have any concerns with MD's approach?
    - No one voiced concern.
    - Spano: So then this workgroup could conditionally approve MD's use of this approach, with the condition that it is consistent with the Septic Attenuation BMP panel's report and recommendations. If it seems like this approach is inconsistent with the panel's work, then we will take it to the WQGIT as necessary.

Preliminary Decision: The WWTWG conditionally approved MD's use of an alternative approach for determining soil classifications under the scope of the Septic Attenuation BMP Panel, ensuring that it is consistent with the Septic Attenuation BMP panel's report and recommendations.

BMP Co-Benefits Project – Ning Zhou, VT

As part of a project developed by the WQGIT, Tetra Tech is developing a scoring matrix to evaluate the potential co-benefits of the Chesapeake Bay Program's (CBP) approved nutrient and sediment BMPs. Ning will present the rationale for and proposed scores for the septic BMPs and ask for workgroup feedback and endorsement.

- Ning Zhou briefly presented the proposed BMP scoring matrix of the interaction between septic BMPs and other BMPs in the model.
- Spano: So who would be using this, and when would they be using it? I have concerns about how this will be used if best professional judgement was used to inform these scorings, and I worry about instances where there may be a disincentive to implementing a specific BMP that has a negative correlation with other BMPs.

Action: WWTWG members should review the drafted BMP scoring matrix, and provide their feedback or alternative scores to Ning Zhou by no later than Thursday December 22nd.

Updates and other business

- WQGIT update
    - At their November 28th meeting, the WQGIT agreed to the wastewater treatment decision rules for the Phase III WIP planning target methodology. In order to define the two wastewater treatment "hockey stick" lines, total nitrogen concentrations will remain at 4.5 mg/L and 8 mg/L and the total phosphorus concentrations at 0.22 mg/L and 0.54 mg/L. These are the same concentrations used during the development of the Chesapeake Bay TMDL in 2010.

Decision: The WWTWG agreed to cancel their January 3rd meeting, and will hold their next meeting in late January.

Next conference call:
TBD – late January 2017

Participants:

Tanya Spano	MWCOG
Ning Zhou	VT
Lindsey Gordon	CRC
Dave Montali	Tetra Tech
Megan Browning	WV DEP
Kumar	PA DEP
Janice Volero	PA DEP
Greg Busch	MDE
Megan Thynge	EPA
Dave Schepens	DE
Matt Richardson	VA DEQ
Nasser Ameen	MWCOG
Lana Sindler	MWCOG
Lew Linker	EPA
Allan Brockenbrough	VA DEQ