DRAFT CALL SUMMARY

Wastewater Treatment Workgroup (WWTWG) Teleconference

Tuesday, February 6, 2018, 10:00 AM – 12:00 PM

Calendar Page: Link

Summary of Actions and Decisions:

DECISION: The WWTWG November minutes were approved.

ACTION: Ning Zhou will develop a scenario using estimates of population on sewer and septic service to project 2025 wastewater loads. Preliminary results will be distributed to the WWTWG for review Feb 16, and the WWTWG will be asked to review and approve the scenario at the March 6 WWTWG conference call.

DECISION: The WWTWG acknowledges that the second proposed scenario to project 2025 wastewater loads will require a large data collection and analysis effort. The WWTWG will recommend WQGIT approval of a longer time frame to gather the data inputs needed to develop this projection.

ACTION: The WWTWG will continue to review the SSO and bypass flows/loads issue and consider the issue's applicability for a future input category for the Watershed Model. Additional review will include review of wet weather flows in other tributaries across the Bay watershed, and the individual aspects of the SSO and CSO bypass issue. The WWTWG will consider a recommendation to the WQGIT to approve the SSO and bypass flows/loads for incorporation into a future watershed model at the March WWTWG call.

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

DECISION: The WWTWG November minutes were approved.

2025 Forecasted Conditions for Wastewater Loads – Ning Zhou, Consultant

Ning discussed two proposed methods to forecast wastewater loads, including septic and municipal WWTP loads, to reflect 2025 expected conditions. This forecast will be used by the watershed jurisdictions in their baseline 2025 conditions for development of the Phase III WIPs. Mr. Zhou presented the two proposed methods, and discuss key features and data needs. The timeframe for providing any data inputs is Friday, March 2, 2018.

- Dave Montali: This is alarming some people, since it seems like we are not using the waste load allocation (WLA) for the TMDL as the target for the Phase III WIPs. If you give this presentation to others, I would revise the purpose statement in your slide.
    - Ning Zhou: We want this to be voluntary—if some states find this forecasting useful, they can use it.
    - Tanya Spano: Capturing the load reductions for wastewater in the WIPs out to 2025, we are assuming that that WLA is built in. We know that the plants are not going to be at

capacity. If we have to change the term "baseline condition" to something else, we can do that.
    - Montali: We should be framing this as information that would be useful for jurisdictions to consider in their Phase III WIPs—no mandatory directives to the states to use this information.
    - Spano: We will revise that language to make it clearer—take off the "baseline conditions" language.
    - Zhou: Agreed on the rephrasing.
- Allan Brockenbrough: Why don't you use the upgraded treatment level for the forecast and use that?
    - Zhou: We can't apply the population factor here if we don't have an established baseline. We can talk about how to do the baseline for the expanding plants. For the new facilities, we don't have that baseline at all, which is why we are using the design flow.
- Spano: I have issues with this approach for Blue plains. If folks have better data, like we have for Blue Plains, we encourage you to use that data. This forecast would be used in the absence of having that data.
- Zhou: The bottom line is that we don't want to go over our WIP II loads.
- Brockenbrough: Are you saying that these are default assumptions and we can override if we have better data?
    - Zhou: Yes. We have default values but if you have better data you should use that.
    - Mohsin Siddique: That would take care of our concerns for Blue Plains.
- Montali: From a rural perspective, I think flow is the most important factor here. There might be some value in doing a rolling 3-year average to get trends, rather than a fixed 3-year period. With population, there is an issue with the projections for population on sewer vs septic in WV—we've seen some bad numbers there from Peter Claggett's projections. Those two variables have to be coupled together for this 2025 forecast. We have some information on a case by case basis, and we may have to just do that case by case. For progress years, we have some facilities that were upgraded during the year and spent some months on one technology before spending the remainder of the year on another technology.
    - Tanya: In the COG region, we have some difficulties in projecting loads. This is something that should also be part of our consideration as we develop calculations.
- Greg Busch: I think a 3-year rolling average would not work for developing the WIPs. If we use for milestone development, a rolling average would be a good idea. We also think that 3 years is not a good period for an average—we should go to between 5 and 10 years to get an average. When would we need to provide numbers to CBP?
    - Spano: Friday, March 2, 2018 is the date we put on the agenda. We would like to inform the WQGIT that we will be taking this approach in mid-February.
    - Greg Busch: This is population data for current day and population our to 2025 for each plant in each state?
    - Spano: Alternatively, what we'd like to show is data that shows the design capacity will be reached by some point in time and this is where it will be in 2025.
    - Zhou: We have two populations—one on septic and one on sewer. We will be taking the pop on sewer to do the plant projections.
    - Busch: You can see a lot of variation across counties for facilities, which may not be accurate.
- Peter Claggett: In our land change model, we simulate pop on sewer and septic. We use SSAs to determine where there are those pops on sewer and septic. The issue is that we don't have a good estimate to divide the SSA population among the plants in those areas, and we would need that for a more accurate forecast of 2025 population effects on load at each plant. This is easier

for rural areas than in developed areas. In developed areas, we need to carve the SSAs by where the flow goes to each plant. We've started that with the EPA Clean Water needs survey, but that's the only info we are missing that we'd need to do that analysis—which area goes to which plant.

- Dave Montali: What is driving this time frame to have these projections ahead of the Phase III WIPs?
- Pete Claggett: Our forecasts are due in CAST by the end of March, so we want to include this projection with those updates to CAST.
- Busch: Will we have the population numbers before that at the beginning of March or not for the areas that serve which plants?
- Claggett: We will have to take those numbers and carve those up by plant service area, which will take a little while.
- Spano: There is a lot of detail and work described here. This load transference issue is far more complex than just carving up the SSAs. COG has all of that modeled for the Blue Plains region, and we don't need the CBP to recreate that for us. If the states want information about where the plants' flow concentration will be in 2025, you only have to ask COG and we can provide that information. To feed CAST, population is not a good predictor of wastewater load growth on the local level. It's all about flows and concentrations, and population growth does not grow linearly with flows due to water conservation. COG uses employment and household size to determine wastewater flows. We have a regression analysis to get base flows, which is more useful information than using population numbers for flow projections. I think some of these assumptions are leading to flawed numbers if we use this method to get projections into CAST.
- Brockenbrough: I don't have a problem with the approach in the whole, with a few tweaks. We need to acknowledge population loss in rural areas. If the CBP can provide these calculations and data in a spreadsheet for review, and allow states to edit the spreadsheet with their own data as they have that information, I think we could come up with something reasonable for planning purposes. Maybe not in the March time frame but having CBP provide those projections for review would be useful.
    - Tanya: I like that approach.
    - Montali: Population isn't a surrogate for flow, but might be for load, which is what we are getting at in the model.
- Claggett: we have households and employment and we were asked to translate that into population, but we could revert it back to households and employment if you'd rather see that data.
- Rashid Ahmed: Could we use the history of the last seven years for population and flows and just use that trend line to extend out to 2025?
    - Spano: It depends. It might work for some plants and might be wrong for other plants. That would have to be subject to some QA/QC.
    - Siddique: Agreed, that would have to be done on a case by case basis.
- Spano: Could we recommend that CBP develop a tool or spreadsheet that could supplement our current understandings, and allow the jurisdictions to add more accurate information to that tool as needed?
    - Montali: I think WV would be fine with a voluntary tool for states to use, but I don't know how we'd use that tool. For WV, we will simply take the WLA first in the WIP and then decide what to do with the rest of our load reductions from there. It's not clear to me yet how this will be valuable to us.
    - Spano: My biggest concern is getting this done and into CAST by the end of March—I don't know that that timeframe is enough to do this projection and provide this tool.
- Montali: WV would need some time to reach out to our local plant representatives. We would need more time than March 2.

    - Busch: MD agrees. Before we submit data, we would need to do extensive review. Maybe half a year, maybe longer would be realistic.
- Spano: We will recommend a longer time frame, and recommend the general concept. We would not be able to get this done for the Phase III WIP development period.
- Zhou: I can do the supporting work. We can have these scenarios done—the first one with just population doesn't need other input and can be done now. The second one needs a lot more information. For the second scenario, I don't know that there is a set deadline for that so we could extend the timeline.
    - Spano: For the first scenario, it's essentially a back of the envelope calculation, and I would be cautious about inputting that to CAST given the unreliability of that projection. We need to make sure that the numbers are good enough before we think about putting anything into CAST.
- Spano: When would states be able to get us their data?
    - Zhou: I should have a draft projection for the first scenario by February 16.
    - Spano: We can distribute that data to the Workgroup for review Feb 20 and review. At our March 6 call, we can decide If it is good enough to put into CAST.
    - Montali: We need to see flows, loads, and concentrations in that review.
    - Zhou: I have the regular progress runs spreadsheet and will use the same format for that.
    - Spano: I'd like to see the formulas used and I would like to see a comments column where you have put notes, and where states can add notes in their review. Documentation is critical.
    - Marya Levelev: 2 weeks for review will be tight but MD will try to get that done.
    - Brockenbrough: If we get the spreadsheet and decide that the projections are good enough, it should be similar across plants. It should be a reasonable projection.
    - Brockenbrough: I also suggest you add a column with TMDL WLAs for comparison.
        - Zhou: For most plants that's the same as the WIP II load, but some are different. I can include that.
    - Zhou: I will have that scenario ready no later than the end of next week, February 16.
    - Levelev: When you send out the data, please also include guidance for what to look for in the review.

ACTION: Ning Zhou will develop a scenario using estimates of population on sewer and septic service to project 2025 wastewater loads. Preliminary results will be distributed to the WWTWG for review Feb 16, and the WWTWG will be asked to review and approve the scenario at the March 6 WWTWG conference call.

DECISION: The WWTWG acknowledges that the second proposed scenario to project 2025 wastewater loads will require a large data collection and analysis effort. The WWTWG will recommend WQGIT approval of a longer time frame to gather the data inputs needed to develop this projection.

Draft Recommendation to Include SSO and Bypasses in a Future Watershed Model—Ning Zhou (Consultant)

Mr. Zhou provided a quick overview of the WWTWG's previous discussions to include bypass and Sanitary sewer overflows (SSOs) as an input category in a future phase of the Watershed Model.

- Zhou: I introduced this in April last year, brought back in August for further consideration, and asking the WWTWG to officially approve this memo to go to the WQGIT as a recommendation to consider these issues in a future Watershed Model.
- Allan Brockenbrough asked for a refresher. Are these total N loads in the river—modeled vs observed?
    - Zhou: This is in pounds per month.
- Zhou: The current model has issues in that it underestimates loads during storm events. We think that adding SSO, CSO and bypass loads will help to improve the model in this area.
- Brockenbrough: You're showing the Potomac now. Is not capturing the wet weather loads are an issue in all the major basins?
    - Zhou: The Potomac is the worst, but the Patuxent also has that issue. This issue is associated with older developments, like Baltimore. The contribution from CSOs and SSOs is a major factor in those areas.
- Spano: I'm still concerned that we are chasing something that may have a daily local impact, but will it affect the water quality/watershed model and the TMDL? Are we using the TMDL and the model in ways that they weren't intended for?
    - Zhou: One reason we want to do this is to improve the model simulation. This is one problem we have with the model is that it underestimates during storm events. If the WWTWG wants to attack this missing load, then the workgroup needs to take this on, but it is the decision of the workgroup.
- Zhou: I would like to ask the workgroup if they are ready to bring this to the WQGIT for review?
- Spano: We as a workgroup would recommend to the WQGIT that we recognize this is a charge, and while there are not significant load changes to nail down here, we want to find a way to better describe loads to make the model more accurate.
- Montali: Would the amount of work needed to generate this information generate the value in the model that we want? Theoretically, these flows are illegal and should be dealt with directly in the NPDES permit. If we are trying to make the model more accurate at the local level, then I could see where the value is in capturing these loads.
- Spano: This would be something that we'd be asking for in the Phase 7 model, whenever that is developed. Can the WWTWG recommend that we take this to the WQGIT?
- Brockenbrough: I think we should be encouraging improvement in these loads, but I wonder if this is worth the lift, watershed wide when these issues are mainly present in Baltimore and DC? Are we saying that this could be a representation of an illegal WLA in the watershed model? That is an important consideration.
- Spano: We would need to get other information from other sectors for this issue. This isn't a case of a one size fits all approach. Can we hold on making a decision at this point until we get more information, and make a decision after review at the next WWTWG call? We would also need to look at the wet weather signature for the other tributaries, and the individual aspects of this. If the WWTWG is ok with holding off on a decision, we will gather more information on the legal concerns and the wet weather loads in other tributaries.
- Brockenbrough: We also need to think about issues that are systemic, like Baltimore that happens all the time, vs others that may be unexpected bypasses during an unanticipated storm event. That would change how we address this issue.

ACTION: The WWTWG will continue to review the SSO and bypass flows/loads issue and consider the issue's applicability for a future input category for the Watershed Model. Additional review will include review of wet weather flows in other tributaries across the Bay watershed, and the individual aspects of the SSO and CSO bypass issue. The WWTWG will consider a recommendation to the WQGIT to approve

the SSO and bypass flows/loads for incorporation into a future watershed model at the March WWTWG call.

Updates

- Finalizing documentation of 2010 No-Action & E3 Decision Rules – T. Spano
- State updates on wastewater aspects of Phase III WIP developments – Next WWTWG call
- WWTWG Vice Chair – Calling for nominations
- Other WWTWG topics?

- Spano: We've run out of time for these updates, but will cover them at the March 6 WWTWG call. Please also contact me if you are interested in helping with a leadership role in the WWTWG.

12:00 PM **Adjourn**

Next conference call:
Tuesday, March 6, 2018

Call Participants:

Rashid Ahmed, NYS DEC
Maria Schumack, PA DEP
Marya Levelev, MDE
Greg Busch, MDE
George Mwangi, DNREC
Mohsin Siddique, DC Water
Matt Richardson, WA DEQ
Allan Brockenbrough, VA DEQ
Marsha Day, VDH
Will Hunley, HRSPCCD
Megan Browning, WV DEP
Mindy Ramsey, DV DEP
Dave Montali, TetraTech
Tanya Spano, MWCOG
Lana Sindler, MWCOG
Nasser Ameen, MWCOG
Michelle Williams, CRC
Ning Zhou, Chesapeake Bay Program Contractor