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Wastewater Treatment Workgroup Conference Call

October 17, 2016

Meeting Minutes

Summary of Actions and Decisions

DECISION: The WWTWG agreed to a draft proposed E3 scenario. The proposed E3 scenario will not change from the previous definition, with the exception that the septic BMP will be updated to the "50% Denitrification Unit with Enhanced In-Situ" BMP.

E3 Scenario Definition

- Dave Montali (WV DEP): If you go to the Chesapeake Bay TMDL (TMDL) documentation, it specifically says that the E3 scenario is an estimate of the application of management actions to the extent possible, this is not the limit of technology.
- Tanya Spano (MWCOG, Chair): I think there is work we need to do in terms of how to express this. Going with the fullest extent practical definition, that starts to introduce constraints. My thought was, when we had discussion of the limit of technology (LOT), it defines what is technically possible, while E3 is the application of that technology.
    - Jeff Sweeney (EPA, CBPO): E3 according to the TMDL is to represent the maximum extent possible, even though it is not doable.
- Montali: The documentation does have a lot of contradictions, but if we said what we did last time was LOT, why didn't we apply the same definition for non-significant facilities (non-sigs). Was there some kind of characterization that the LOT couldn't be applied on anything less than a certain flow?
    - Ning Zhou (VT, Coordinator): There was concern about the technology education at the smaller sites as far as operator skills. Because the TMDL doesn't require removal for non-sigs, we thought the best they could do was voluntary reductions, which previously was BNR.
- Spano: If we recognize there are discrepancies in language and we used a different logic last time, what are we proposing to do now? For non-sigs, if we said before that BNR numbers were appropriate, would we keep that same logic, or step up and say that whatever we agree the LOT might be, that is appropriate to apply to non-sigs as well?
    - Dave Schepens (DE DNREC): Our concern would be that, whatever we put out there, people might pick and choose their interpretation of this E3 scenario. Some will point to this number and say we have to bring treatment levels down to these E3 numbers and it will end up written into our permits. I don't see that we can redo this whole thing. After talking with our staff and directors, I am sticking with the position that Delaware does not want to see any changes to the Wastewater E3 definition at this time.
    - Allan Brockenbrough (VA DEQ): I am struck by the disconnect between what a technology might be able to achieve versus what is written in the permits. In many cases, the current LOT will achieve 2mg/L of TN because they are designing to meet the 3mg/L concentration in the permits all the time. That doesn't mean facilities could design to 2mg/L TN and be able to get below that. Is it worth acknowledging that a LOT defined at 3mg/L will likely achieve a concentration lower than that?

        - Sweeney: There is nothing to define the difference between regulatory and non-regulatory sectors for the E3 scenario. In the urban sector, for example, MS4s are not treated differently than non-regulated urban.
- Spano: If we just talk about LOT and what values we see, taking off my hat as chair, it kind of aligns with Allan's point. The difference between BMPs in other sectors and wastewater treatment is those performance requirements. The equivalent would be us applying the LOT at all non-sigs for the E3 definition. The conclusion that the facilities are meeting 2mg/L TN is false because those who were running below 3mg/L were running at roughly half of their capacity. If you have a limit of 3mg/L, you will never operate at that concentration. I think basing what the E3 definition should be on data that has come in below 3mg/L would be premature, not complete and not justifiable. The discussion should be based on the technology.
- Montali: I think if we apply a certain technology as the maximum practical extent (ENR on sigs, and BNR on non-sigs) everywhere, I think that is consistent with the E3 definition. If the technology is better than that, ok, but the analogy is with BMP implementation. We are giving them the approved BMP efficiency, which is an average performance.
- Janice Vollero (PA DEP): We are very concerned about the proposed numbers that we're seeing and the capacity that is still available for the plants. We don't want to see a change to the wastewater E3 definition. I don't think we want to apply 3mg/L TN to the non-sigs either at this point.
- Rashid Ahmed (NYSDEC): We have concern that New York can't go to the proposed E3 level of treatment because of weather conditions.
- Spano: Regardless of the number, do we believe that we are justified in having a different treatment level for the non-sigs? It is not practical, but the same technology could in fact could be applied to non-sigs.
    - Brockenbrough: We would not support using the LOT on non-sigs.
        - Sweeney: You can't get below 8mg/L TN at current flow conditions?
        - Brockenbrough: We are talking about hundreds of small facilities without trained operators. It goes beyond what is technically feasible. I think it is worth saying that an average annual TN limit of 3mg/L on average gets us treatment at a 2mg/L concentration. So you acknowledge 100% compliance and going below 3mg/L is needed in order to maintain compliance.
- Spano: There is a lot more diversity in terms of BMPs in other sectors. We have lumped together a lot of technologies for the non-sigs. Because the vast majority are more like what Allan described, non-sigs represent a wide range of facilities. They are not just small wastewater treatment plants.
    - Montali: In West Virginia we have individual home aeration systems lumped in with non-sigs. We heard early on that we need one treatment level for sigs and one for non-sigs. We can't parse out bigger non-sigs from smaller ones at this time, right?
        - Spano: Correct. There might be some facilities that fall under non-sigs that you could parse out and say they are more like wastewater treatment plants, while others are not and BNR is the only thing they can accomplish. If we can't parse those out at this point, what fraction do we think could get to ENR treatment levels?
- Spano: Does anyone believe we should change the non-sig definition for E3?

    - No comments were raised.
- Spano: On sigs, do members believe that a TP of .08 is inappropriate?
    - Montali: I don't think we have any evidence to suggest why it should change from the previous definition.
    - Zhou: In the 1998 model documentation, LOT for P was .075mg/L. Last time, we felt .075mg/L TP was too precise, so we rounded up to 0.1mg/L. Now, many facilities are below 0.1, and some are below 0.08. That means 0.1 as the E3 definition is not that defensible anymore.
- Spano: Looking at the 2015 numbers from the wastewater treatment plants, part of my concern is that the values we had were not averages, they were "not to exceed" numbers. Inherently, we get numbers below those concentrations. Whether we intended or not, they were not annual averages.
- George Onyullo (DOEE): What is the threshold for changing the numbers? If we make a determination that the threshold for sigs is 30% of wastewater treatment plants achieving the E3 concentration, that needs to be documented.
    - Zhou: For TN, 35% of total wastewater flow is below 3mg/L. For TP it is similar, but about 30% is below 0.08mg/L.
        - Spano: The problem is, most of the plants are operating at about 50% of design capacity. That explains the N, but the P we would need to do more digging. Are we willing to explore the numbers more thoroughly in the future?
- Montali: I think George is suggesting that we have a rule. If, for example, 50% of ENR plants are operating at reasonable flow and are below the E3 concentration, then the rule would say to change the definition. We are basing this on performance. Until we get to the point where a big chunk of facilities, operating at design flow, are actually doing better, then we shouldn't change it. At this point, the technology for ENR hasn't changed to get us better concentrations at design flow.
    - Spano: Any disagreement with that summary?
        - Brockenbrough: I agree conceptually. I am wary of defining a threshold that would trigger a change.
        - Spano: Maybe we'd say it be a threshold to trigger a re-evaluation.
            - Brockenbrough: I agree with that.
- Spano: Do we have consensus agreement that for significant municipal plants, we keep the previous E3 definition for both the TN (3mg/L) and TP (0.1mg/L) concentration?
    - No objections were raised.
- Spano: We are confirming we have evaluated the previous E3 definition for non-sigs as well. Do we feel it is still appropriate?
    - Marya Levelev (MDE): In Maryland we use 60,000gpd as the cutoff for funding ENR at minor facilities.
- Spano: For how many plants is Maryland proposing to support ENR?
    - Levelev: 52 plants.
- Spano: My view on earlier comments is that if there are 52 plants that Maryland has identified and we know there are up to 5000 non-sig plants across the whole watershed, it is not worth changing the definition.

    - Montali: I wouldn't object to saying for non-sigs, that those greater than *x* gpd should have E3 set at ENR and those less than that are set at BNR treatment levels. I just don't know what the cutoff would be. I think it might need to be 100,000gpd in WV rather than 60,000. If this group agreed on a certain design flow of non-sigs for E3, is that doable?
        - Zhou: I think that is doable. We can create another category in-between sig and non-sig.
            - Montali: I would only want it done behind the scenes, not creating a different model category.
                - Zhou: We can do that.
- Montali: I can see a way where we could call out two different BMPs within the non-sig category. If states are agreeable to that, we would just need to squabble about what the flow cutoff would be.
    - Brockenbrough: I don't have a problem with that proposal from a scoping perspective. I'm leery of it because the terminology often ends up in state regulations and WIPs.
    - Schepens: Delaware is not amenable to that. We want to leave the definition the same as it has been.
    - Ahmed: I think the proposal is a good idea.
    - Vollero: I don't think Pennsylvania would be comfortable with this either.
- Spano: Since we do not have consensus, we will move forward with no change to the non-significant municipal plans E3 definition.
- Spano: Ning, can you please explain the proposed change for the significant industrial plants?
    - Zhou: We used to use the Tributary Strategy values last time. Now we have the state WIPs, so we will use the state WIP values.
    - Levelev: We are concerned with the "if less" language. There is no default, there is just the state WIP data.
        - Zhou: In the previous E3 definition, we used the municipal standard as the minimum concentration. If the state WIP defined a lower concentration for significant industrial facilities, we used that instead.
            - Levelev: But if they had a concentration of 20 or 30mg/L, then we were saying we could use municipal standards. We already did a lot of work to include loads in the WIPs that were based on our analysis of the data. It should be the state WIPs, with no default to the municipal standards.
        - Montali: If a state, in its WIP, gave an allocation to an industrial facility that is lower than 3mg/L TN or .1mg/L TP, we have said that for those facilities, we would replace 3 or .1 with what was defined in the WIP. So, the question is what about the other end, if a state took a facility and gave it something more lenient that 3 or .1, is that E3 definition or is that an allocation decision?
- Spano: For septic systems, I think the previous definition was that all septics could be converted to nitrogen reducing practices.
    - Sweeney: In the previous definition, 10% of septics were connected to sewer. The remaining 90% had the highest level of denitrification. You have a new report from the expert panel, so that would now be changed to the most effective BMP, applied to all non-connected systems.

- Spano: Does the workgroup want any changes to the 10% connections?
    - Montali: My gut is to leave it alone for now.
- Spano: Any objections to updating the septic E3 definition to include the most efficient BMP?
    - Montali: I don't think we have a choice in that. We should put the highest performing BMP on all available systems.
- Spano: Any disagreement on what is proposed for septics?
    - No objections were raised.
- Levelev: I don't think we used current flow for the E3 definition last time. I have concerns with that.
    - Spano: My concern is that using current progress year flow for E3 artificially depresses your loads, because it assumes that your flow would never exceed currently progress. If E3 has anything to do with the TMDL, it has to be based on design flow. Otherwise, you're taking that capacity and flow and saying it will go away.
    - Montali: I think flow has to be the same as what you're using for the "no action" scenario. I would assume the flows would be exactly the same.
        - Zhou: Correct, they should be the same.

DECISION: The WWTWG agreed to a draft proposed E3 scenario. The proposed E3 scenario will not change from the previous definition, with the exception that the septic BMP will be updated to the "50% Denitrification Unit with Enhanced In-Situ" BMP.

Adjourned

List of Call Participants

Name	Affiliation
Tanya Spano (Chair)	Metropolitan Washington Council of Governments
Ning Zhou (Coordinator)	Viginia Tech, CBPO
David Wood (Staff)	CRC, CBPO
Dave Schepens	DE DNREC
Tony Hummel	DE DNREC
George Onyullo	DOEE
Jeff Sweeney	EPA, CBPO
Joel Blanco	EPA, R3
Greg Busch	MDE
Marya Levelev	MDE
Rashid Ahmed	NYSDEC
Janice Vollero	PA DEP
Allan Brockenbrough	VA DEQ
Dave Montali	WV DEP
Megan Browning	WV DEP