

As ACWA rep on the Mercury MDV advisory committee, I am providing additional comments attached to my comments submitted on February 8, 2019. Raj Kapur, who sits on the Mercury TMDL advisory committee and who was in attendance at the last Mercury MDV meeting, prepared these comments to augment my earlier comments to provide further context for ACWA's observations regarding the cross-over between the MDV and TMDL issues and further insight into what mercury reduction data sets may or may not tell us.

You should find the additional considerations Raj raises helpful.

#### General Comments on Approach:

- DEQ's approach for municipal point sources is unnecessarily complicated and onerous; this approach risks resulting in significant administrative burden with no tangible environmental benefit.
- Based on the overall extremely low contributions to Hg levels in the Willamette Basin from municipal point sources, DEQ should take a streamlined approach that closely links the mercury TMDL update and the multi-discharge rulemaking.
- The streamlined approach should be based on the following conclusions from the TMDL:
  - o Primary sources of mercury are from nonpoint sources; most of which is uncontrollable by DEQ.
  - o Recognition in the TMDL of the contribution from municipal WWTFs (1% of the overall mercury load to the Willamette River basin)
  - o Recognition in the TMDL that implementing additional technology and further reducing municipal point sources discharges does not change mercury levels in the Willamette River basin
  - o Given these realities, the TMDL should establish the implementation strategy for municipal point sources. The implementation strategy would consist of the following:
    - Continued use of existing treatment technology for municipal WWTFs: DEQ should include the economic and environmental feasibility discussion in its white paper ("Procedures for determining the appropriate expression of the Highest Attainable Condition...") in the Willamette mercury TMDL update to support the continued use of existing treatment technology for municipal WWTFs; and
    - a recognition that minimization activities are the most effective means to further reduce mercury in the environment
    - A variance would be necessary as point sources will not be able to meet the wasteload allocations in the TMDL. But DEQ can make the necessary findings for the multi-discharge variance based on the information and implementation strategy in the TMDL.
- The variance would focus on the actions that a municipality can take to reduce mercury levels
- The elements of the variance would still include the following:

- o Facilities would be required to develop and implement mercury minimization plans
  - o Mercury monitoring would be required
  - o An interim effluent limit based on the capability of the treatment facility would be established
  - o A re-evaluation of the interim effluent limit and minimization plan efforts would be conducted every 5 years
  - o The variance would sunset after the predefined period (20 years in DEQ's proposal).
    - The permitting approach for point sources would be consistent with approaches used in several states – North Carolina, Florida, Minnesota, and several New England states. See links below:
      - o North Carolina: <https://deq.nc.gov/about/divisions/water-resources/planning/modeling-assessment/special-studies/mercury-tmdl>
      - o Florida: <https://floridadep.gov/dear/water-quality-evaluation-tmdl/documents/mercury-tmdl-state-florida>
      - o Minnesota: <https://www.pca.state.mn.us/sites/default/files/wq-iw4-01b.pdf>
- Specific comments on the DEQ proposal:

- DEQ's issue paper notes that the approach is based on determining that there is "no feasible technology upgrade that would significantly reduce mercury levels in a discharger's effluent", then the highest attainable condition (option 3), which requires the establishment of an interim effluent limit and mercury minimization plan, is the appropriate strategy. As noted above, DEQ should use the Willamette mercury TMDL update to make findings such that terms such as "feasible technology" and "significantly reduce mercury levels" are established in the TMDL and water quality management plan.
- DEQ's process for determining highest attainable condition is based on placing secondary facilities into "bins" based on performance. DEQ does not have adequate data to create the "bins". Only one year of mercury data from 19 of the largest municipal facilities with industrial pretreatment programs were evaluated. There is no data presented that would enable characterization of medium and smaller municipal treatment facilities. Without a robust data set, it is premature to define performance levels and effluent targets for "binning" municipal facilities.
- Some of the bins are based on decreasing effluent concentrations during the first term of the variance by implementing mercury minimization plans. Examples of decreasing influent concentrations in Minnesota and decreasing biosolids concentrations in Clean Water Services' Rock Creek treatment facility are presented as supporting information for this strategy. There are several things that should be noted with this approach:
  - o It is important to note that while Clean Water Services' data shows that biosolids mercury levels have decreased, there has not been a commensurate reduction in effluent levels. Additionally, the data suggests that WWTFs are not as effective at removing mercury at lower influent concentrations. (see attached figures).

o Studies conducted by EPA and others have shown that the primary source of mercury at municipal facilities is from dental offices. The decrease in biosolids concentrations at Clean Water Services' Rock Creek facility occurred over a long period (10 – 15 years) and coincided with mercury minimization efforts focusing on the dental category. The mercury minimization efforts culminated in the 2011 legislation in Oregon requiring the use of amalgam separators at dental offices. EPA also took action in 2016 requiring the use of amalgam separators at dental facilities. So the requirement to install amalgam separators at dental offices has been in place in Oregon for several years. Oregon ACWA has also worked closely with the Oregon Dental Association (an industry group) to communicate these requirements to dental offices. EPA's action requires dental offices to certify that they have the necessary infrastructure to comply with EPA requirements by 2020. While all municipalities do not have a mercury minimization plan, the requirements to control mercury from dental offices has been in place for several years. In implementing a mercury minimization program, municipalities would primarily be verifying that dental offices are complying with state and federal rules. It is unlikely that municipalities will see substantial reduction in mercury level in the future given that the primary source of mercury in municipal systems has already been addressed through State and federal action.

o Other sources of mercury in municipal systems are diffuse – they range from household products, to human waste from amalgam-loaded individuals. Given the actions already taken to reduce the primary source of mercury in municipal systems, it is unlikely that municipal facilities will be able to significantly reduce mercury levels as a result of implementing minimization plans.

o DEQ's approach would require facilities that are not able to reduce effluent mercury concentrations by implementing minimization plans to evaluate environmental and economic feasibility of upgrading treatment facilities. Upgrading treatment facilities to meet a mercury level that makes no difference in the environment is a waste of limited resources for cash-strapped communities. Additionally, there are several concerns regarding the environmental and economic feasibility assessment. These include:

- No specific guidance for conducting an economic and environmental feasibility assessment
- Cost. Without specific guidance, communities would essentially have to define the criteria and conduct the evaluation – a heavy lift and an expensive endeavor for any community.
- The economic feasibility assessment notes that EPA's criteria of cost to households equal to or greater than 2% will be the basis for evaluating the treatment facility upgrade. If DEQ is considering only the cost of the upgrade in the economic assessment, this does not take into consideration the rates the community is already paying for wastewater treatment. It is likely that applying the 2% of median household income as criteria for defining whether an upgrade is economically feasible will result in overall rates that are substantially above 2% MHI.
- Considering that economically disadvantaged members of a community are disproportionately affected by rate increases, communities have used an assessment that evaluates the economic impact to the household income of the lowest 20% of the community. DEQ should consider including this element to its economic feasibility assessment.
- The evaluation of environmental feasibility is fraught with pitfalls as the determination is qualitative and based on "best professional judgment". This approach does not provide certainty regarding the findings that are necessary to demonstrate environmental feasibility.

- As noted above, DEQ should include the economic and environmental assessment in the Willamette mercury TMDL update and use it to define the implementation strategy for point sources.

Summary:

DEQ should closely coordinate the multi-discharge variance rulemaking with the Willamette Mercury TMDL update. DEQ should streamline its approach for the multi-discharge variance by defining the implementation strategy for municipal treatment facilities in the Willamette Mercury TMDL/Water Quality Management Plan. The implementation strategy in the TMDL should support the continued use of existing technology at municipal treatment facilities and the implementation of mercury minimization plans to continue to reduce mercury in municipal systems and in the environment. A variance would be necessary as point sources will not be able to meet the wasteload allocations in the TMDL. The variance would focus on the actions that a municipality can take to reduce mercury levels.

Respectfully submitted,

Todd Miller

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From: MILLER Todd  
Sent: Friday, February 8, 2019 4:46 PM  
To: 'BOROK Aron'  
Cc: LIVERMAN Alex; STURDEVANT Debra; WIGAL Jennifer; mercury2019; BOHABOY Spencer  
Subject: RE: Request for comments and schedule update

Aron:

Comments on the last Mercury MDV meeting

- MDV committee member comments should be addressed to DEQ and DEQ should post those to the web site for best use and reference by other members and stakeholders. We should not burden the committee with threads of email comments which may get lost or unread. Therefore I am presenting these comments to DEQ and not to the entire group.
- Ensure that the MDV procedure is tied into the TMDL, and the TMDL directs point source dischargers directly to the MDV and/or mercury minimization plan pathway.

- The variance term should be 20 years, based on precedent in other states and the requirements of the 5-year variance review for dischargers to assess achievements and adjustments to permit requirements as necessary, which includes opportunity to review technology approaches and minimization strategies. Requiring the MDV be re-evaluated in a shorter time frame, given the scale of atmospheric deposition to the problem, would be unproductive.
- It is premature to set numeric benchmarks for HAC based on insufficient data sets which do not provide enough information to understand mercury reduction across wastewater treatment plants. More data should be gathered and/or data needs to be viewed with a more sophisticated statistical method.
- The MDV should present and hold to the fact that mercury inputs from POTW discharge do not have localized impacts and are a very small part of watershed concentrations which have long term fish tissue exposure impacts. Therefore attempting to hold a numeric TBEL (even for “binning” MDV categories) based on assumed reduction capabilities appears to be rather arbitrary.
- Caution must be expressed in imposing a percent-reduction threshold (e.g. 95% of influent mercury concentration reduced) as understanding of percent reduction is based on current data sets. It is not known how percent reduction will change as influent concentrations are reduced. It is unlikely that there is a direct linear correlation of reduction effectiveness from wastewater treatment with influent concentration. This is especially concerning if there is a perceived noncompliance or anti-backsliding element associated with not achieving a percent reduction threshold.
- I understand DEQ is considering cost-benefit models which look beyond affordability based on MHI indexes, and instead evaluate triple bottom line impacts on environmental, social, and economic costs. We should ensure those considerations weigh strongly in the MDV.

Respectfully,  
Todd Miller  
ACWA representative