

Missouri Clean Water Commission Meeting
Department of Natural Resources
Lewis and Clark State Office Building
LaCharrette/Nightingale Creek Conference Rooms
1101 Riverside Drive
Jefferson City, Missouri

July 13, 2016

Multiple-Discharger Variance Project Update

Issue: The Department is working on a framework document for the Multiple-Discharger Variance (MDV). This is a variance from the water quality standard for total ammonia nitrogen. The MDV would apply to publicly owned treatment works (POTW) with well-functioning lagoon systems that would have a substantial and widespread social and economic impact if required to upgrade their infrastructure to a facility that would consistently meet the water quality-based effluent limit for total ammonia nitrogen or convert to a no-discharge system.

Background: The Department contacted the mayors and wastewater operators of eight municipalities that had the potential to meet the terms and conditions of the MDV. Staff invited them to become pilot applicants for the MDV, and all but one agreed. In the months of December and January, the Department completed seven engineering evaluations to determine if each facility was well-functioning, maintained, and operated, and to gauge the potential to convert the facility to a no-discharge irrigation system. Of the seven facilities evaluated, four facilities potentially fit the terms and conditions of the MDV. The permits for these facilities were placed on a 30-day public notice starting May 6, 2016, along with the MDV framework.

The Department received comments from stakeholders and the U.S. Environmental Protection Agency (EPA). Comments received by stakeholders have been addressed and incorporated into the MDV framework. Comments received by EPA (attached) have been addressed through a series of bi-weekly meetings. The framework is being revised in order to ensure the requirements of the federal rule 40 CFR 131.14 are met.

Recommended Action: Information only.

Suggested Motion Language: None. Information only

List of Attachments: EPA Comments on Missouri MDV Proposal, May 10, 2016.

**EPA COMMENTS ON MISSOURI MDV PROPOSAL
MAY 10, 2016**

Per your email dated April 15, 2016, Region 7 staff has preliminarily reviewed the Missouri Department of Natural Resources (MDNR) multi-discharger variance (MDV) proposal for lagoon ammonia discharges as posted on the State's website. Please note, due to the need to get comments to you quickly and the volume and complexity of the proposal, EPA Region 7 is only able to offer comments on what we believe to be the pertinent portions of the MDV proposal. To that end, please find below a compilation of comments we identified on the proposal to date, and if possible, we would like to discuss the following comments with you in advance of any public notice. Otherwise, we will provide our entire set of comments in response to the public notice.

General Comments

Unfortunately, there appear to be some major structural flaws that would preclude approval of the proposal in its current form. Again, Region 7 staff understand that there will be a need to provide variances for lagoons in small towns that cannot afford the type of treatment necessary to current and future ammonia criteria. Therefore, staff at the Regional Office are prepared to sit down with MDNR staff to discuss those items in greater detail and try to help craft a path forward for developing a proposal that is approvable.

1. MDNR has done a good job in establishing a method to assess affordability. It establishes the economic threshold for identifying those dischargers eligible for receiving a variance. Region 7 staff are acutely aware of the financial challenges faced by small communities and recognize the use of a variance as a tool to assist those communities.

In terms of establishing eligibility outside affordability, we did not find any criteria that would preclude poorly-operating facilities (e.g. excessive infiltration/inflow or sludge build up) from receiving the MDV. There is an anticipation in the 40 CFR §131.14 that only facilities performing at expected levels of treatment based on their technology are afforded a variance. Facilities with obvious structural, mechanical, or operational defects should not be afforded a variance.

2. The MDV proposal cites a Missouri statute, 644.061. That statute was disapproved by EPA on November 17, 2015. Please refer to that letter regarding specifics of the disapproval.
3. EPA remains concerned that Missouri is providing a variance from outdated ammonia criteria. EPA repeats its earlier comment as submitted on August 21, 2015:

When a state adopts a WQS variance, attainability must be considered in the context of a designated use and associated criterion that fully meet the requirements of 40 CFR 131.10 and 131.11. Missouri's current ammonia criteria are based on Clean Water Act section 304(a) recommendations published by the EPA in 1999. These 304(a) recommendations were updated by the EPA in 2013 to be more protective of freshwater mussels

and gill-breathing snails, forms of aquatic life common throughout Missouri. Prior to, or concurrently with, the adoption of a variance as proposed, Missouri should update its ammonia criteria to ensure that the variance is based on a long-term water quality goal that is genuinely protective of the designated use and otherwise compatible with 40 CFR 131.10 and 131.11.

4. Region 7 staff found no discussion as to how the MDV would eventually be adopted into the Missouri Water Quality Standards (WQS). Variances are WQS that must be submitted to EPA for approval. Some explanation of how the proposed "Framework and Recommendations" will be formally adopted into a WQS at 10 CSR 20-7 and submitted to EPA for approval is needed.

Specific Comments

1. The recently enacted federal regulation addressing water quality standards variances found at 40 CFR §131.14 anticipates two pathways for addressing compliance with a "highest attainable condition" (HAC) via permits that are applicable to dischargers – 1) development of a schedule of compliance (SOC) where the HAC will be attained at the end of an initial variance period; and 2) establishing the HAC as an initial permit limit and coupling the HAC with a "pollutant minimization plan" (PMP). MDNR has chosen the former pathway. The SOC included in the example permits provided in the appendices only require an annual reporting of progress and compliance with the HAC at the end of a 10-year period. The federal rule anticipates that if an SOC is used in a permit:
 - a. The permitting authority knows the current effluent quality;
 - b. The water quality based effluent limit need to comply with current criteria is established; and
 - c. The quality of effluent that could be produced given a length of time to improve effluent quality is identified as the HAC.

In the preamble to the rule and set forth in regulations at 40 CFR §122.47, it is then anticipated the permitting authority will take the information listed above and create an SOC that contains "interim requirements and dates for their achievement" (80 FR 162 p. 51036). In other words, the permitting authority would know with some degree of certainty the discharge could move from its current level of effluent quality to an improved effluent quality and specify the interim steps and dates necessary to make that movement.

First, from the MDNR proposal, it does not appear the existing quality of the lagoon effluent in the four example permits included in the appendices is known. While there are some data, MDNR states the amount of data is insufficient to quantify the effluent quality. In addition, the effluent data that are provided are, in most cases, of high enough quality to meet the proposed HAC at the current time. Therefore, without the effluent

quality being adequately quantified, MDNR does not know if facilities in question already meet the HAC.

Second, MDNR does not specify interim steps and dates in the compliance schedule that would lead to compliance with the HAC at the end of the 10 year variance period. The permittee only reports on what they have done each year. This provides little, if any certainty that the HAC will be attained in 10 years since the permittee is not required to take any specific mitigating actions, just reporting on what actions they took.

2. Missouri appears to have three groups of lagoons that need to be addressed in manners pertinent to their individual status:
 - a. Poorly operating facilities. These facilities should be considered for an enforceable schedule to achieve improved operating conditions – e.g. sludge removal, or excessive I/I correction. These facilities would be ineligible for a variance until such time operations were deemed typical of a well-operated facility. Once proper operations were established, the facility could then be eligible for a variance.
 - b. Facilities that exceed the HAC value calculated by MDNR, but are deemed well-operated. Those facilities would follow path 1, outlined in Item 1, above.
 - c. Facilities that perform better than the HAC calculated by MDNR and are deemed well-operated. Those facilities would follow path 2, outlined in Item 1, above.

The current MDV proposal appears to treat all facilities in the same manner when there are three distinctive groups. One option could be to try to incorporate all three scenarios in a single MDV, or develop multiple MDVs depending on facility status. Additionally, Missouri should consider site-specific variances and/or when appropriate consider orders for compliance when a facility is in violation of an existing schedule of compliance.

3. The HAC is computed as an average of lagoon performance from a variety of lagoons. An “average” concentration must mean that some lagoon systems provide better than average performance and some worse. That inherently implies that some lagoons provide better than average effluent, but would be allowed to produce a worse effluent than they are currently producing if they are allowed to only meet the average-based HAC. This runs counter to the requirement at 40 CFR § 131.14(b)(1)(ii) that *“...requirements shall not result in any lowering of the currently attained ambient water quality...”* Thus, any lagoon currently performing at a level better than average would be allowed to lower existing water quality if their effluent was allowed rise to the level of the HAC which represents an average condition. This could not be allowed.

By the same token, some lagoons are producing an effluent of worse quality than the HAC due to the manner in which averages are calculated. For those lagoons, the SOC does not required specific actions that would take place by specific dates in order to assure the HAC was met at the end of the variance 10-year period. This is not acceptable and could lead to 10 years of inaction.

4. Appendix A describes how the HAC is calculated. From the previous iteration of the MDV Proposal (October 2015) Table A-4 - *Percentile Breakdown of Final Ammonia Effluent Concentration Data* provided was. The summer and winter means appear to be somewhere around the 60th percentile, so somewhere around 40% or more of the facilities probably won't meet the HAC at the start of the variance. Likely it is significantly more than 40% since the facilities have two ways to fail – summer or winter. Plus, when you throw the facilities back into the mix whose data were censored (ammonia concentrations >10 mg/L), it is likely that over half of the facilities can't comply with the proposed HAC. That is a large number of facilities that would have no specific SOC requirements as discussed in Item 3, above.
5. MDNR does not believe there is sufficient data to assess current performance of the four facilities included in the MDV proposal. Since the HAC was calculated looking at statewide data, are there any specific lagoon systems MDNR believes have sufficient data to establish current performance? If so, it would appear that pathway 2, discussed in Item 1 might be the better option if the lagoon performance exceeds the HAC.
6. In determining the HAC, the data from all facilities statewide were used in the computation. There are significant climatic differences from north to south in Missouri, so a statewide, one-size-fits-all HAC may be unfair to certain facilities and lead to unreasonable expectations.
7. A variance cannot be supported that provides time to clean out sludge, eliminate I&I, nor to increase residential sewerage rates to make improvements after the term of the variance.
8. The *Additional Considerations* (Page 11) discusses re-evaluation of the variance.
 - a. The re-evaluation includes some good examples of why a re-evaluation would take place, for example grant funding. However, the re-evaluation process is not well-defined and needs more clarification.
 - b. The re-evaluation does not address public input. 40 CRF §131.14(b)(1)(v) requires the state to provide a means for public input of the reevaluation:

“For a WQS variance with a term greater than five years, a specified frequency to reevaluate the highest attainable condition using all existing and readily available information and a provision specifying how the State intends to obtain public input on the reevaluation. Such evaluations must occur no less frequently than every five years after EPA approval of the WQS variance and the results of such reevaluation must be submitted to EPA within 30 days of completion of the reevaluation.”
9. Generally, the MDV provides for a 10-year compliance schedule for each permit. It is not clear whether 10 years is reasonable and as soon as possible as required by EPA and State regulations. Justification for the term of the variance must be provided.

10. The reasonable alternatives analysis seems to only include costly retrofits or new builds. Are there other options for very small lagoons that are relatively cheap and inexpensive (e.g. additional cells, wetland filtration systems, or non-continuous discharge)?

Again, Region 7 staff understand the need for a lagoon ammonia variance for certain small lagoon systems that cannot afford to meet current and future ammonia criteria. The agency is working with a number of states to assist in the effort to establish an appropriate variance where warranted. Region 7 stands ready to assist MDNR in crafting a variance that is compliant with federal statute and regulation.

