FWEA Utility Council

Protecting Florida's Clean Water Environment

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June 27, 2012

Jan Mandrup-Poulsen, Administrator
Watershed Evaluation and TMDL Section
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Re: FDEP's Draft Mercury TMDL Report

Dear Mr. Mandrup-Poulsen:

The Florida Water Environment Association (FWEA) Utility Council appreciates the opportunity to provide comments on the Florida Department of Environmental Protection's (FDEP's) draft mercury total maximum daily load (TMDL) report. By way of background, the FWEA Utility Council is the statewide umbrella organization for Florida's domestic wastewater treatment and reclamation utilities. Our members collectively treat the sewage waste of over 8 million Floridians. Our membership is highly diverse, both in terms of the communities served and the way utility members serve them, but Utility Council members share a commitment to environmental protection and scientifically sound environmental policies.

While our utility members help make Florida the national leader in the beneficial reuse of reclaimed water, a number of our members must discharge their highly treated reclaimed water to surface waters as either a primary means of disposal or as a backup to a functioning reuse system. Also, some members provide reclaimed water to electric power generation facilities for use in cooling and industrial processes, and the electric utility subsequently discharges this reclaimed water to surface waters. All of these surface water discharges are regulated under the National Pollutant Discharge Elimination System (NPDES) program.

Municipal wastewater treatment utilities regulated under the NPDES program will likely be impacted by the draft statewide Waste Load Allocation ("WLA") of 8.8 lbs/yr proposed in the draft mercury TMDL report. The FWEA Utility Council thus has a significant interest in assuring that the mercury TMDL has a sound scientific underpinning and establishes sensible environmental policy for Florida's domestic wastewater treatment community.

Based on our initial review of FDEP's draft mercury TMDL report, we have a number of concerns regarding the statewide WLA. Namely, we are concerned about the methods FDEP

used to derive the WLA and the absence of any apparent environmental benefits associated with its attainment. Despite the extremely low contribution of mercury to the environment from domestic wastewater treatment utilities, the WLA appears likely to impose extraordinarily burdensome and unnecessary mercury load reductions on Florida's domestic wastewater treatment sector.

The WLA is based on an arbitrary mercury water column concentration target.

The draft TMDL report proposes a statewide WLA of 8.82 lbs/year. FDEP arrived at this WLA by multiplying the permitted flow rates of domestic wastewater treatment utilities and industrial facilities by a mercury water column concentration of 1.25 ng/L. The selection of the 8.82 lbs/year WLA and the1.25 ng/L water column target is critical to Utility Council members, because water quality based effluent limits must be "consistent with the assumptions and requirements" of the WLA.[1]

FDEP's decision to utilize1.25 ng/L as a water column target is curious. As an initial matter, this target is extraordinarily low and is best characterized as a trace level of mercury. In order to even detect 1.25 billionths of a gram of mercury in a liter of water, highly sensitive testing equipment must be used and rigorous testing protocols must be followed. As FDEP staff noted at public workshops, simply breathing on a test sample can drastically alter results when attempting to detect these trace levels.

The 1.25 ng/L mercury target is also wholly unrelated to (and substantially lower than) FDEP's adopted mercury water quality criteria of 12.0 ng/L for freshwater and 25.0 ng/L for marine water.[2] Rather than use these existing EPA-approved criteria, FDEP chose to derive a water quality target based on a series of highly speculative assumptions. First, FDEP assumes that drastic global reductions in mercury air emissions will be achieved at some point in the future (including from the world's largest anthropogenic sources, China and India).[3] Second, FDEP assumes that if the air emission reductions are indeed achieved, then mercury fish tissue concentrations of top predator fish species will be the desired mercury TMDL target of 0.3 mg/kg. Third, FDEP assumes that when this mercury fish tissue concentration is met, the water column concentration should be 1.25 ng/L. Fourth, FDEP assumes that all discharges to surface waters presently need to have effluent mercury concentrations at 1.25 ng/L to ensure that no fish exceeds the mercury TMDL's 0.3 mg/kg fish tissue concentration target (i.e. Florida waters have no assimilative capacity for mercury discharged to surface waters, regardless of the likely relative insignificance of point source discharges of mercury when compared to global atmospheric mercury sources).

Interestingly, FDEP seems to conclude that utilizing this series of assumptions is an acceptable approach, because the outcome is holding point sources to an effluent mercury concentration of 1.25 ng/L, which "should be more than sufficient for achieving the ambient water criteria." In other words, because FDEP's extremely low mercury target is several times lower than the

[1] 40 C.F.R. § 122.44(d)(vii)(B).
[2] Rule 62-302.530(41), F.A.C.
[3] Draft mercury TMDL report at 20.

state's actual adopted mercury water quality criteria, this approach must be ok. The law suggests otherwise.

Under the Clean Water Act, TMDLs must be "established at a level necessary to implement the applicable water quality standards."[4] Similarly, the Florida Watershed Restoration Act provides that the TMDL "calculation shall establish the amount of a pollutant that a water body or water body segment may receive from all sources without exceeding water quality standards"[5] The only water quality standards Florida has adopted for mercury are 12.0 ng/L for freshwater and 25.0 ng/L for marine water.[6] This TMDL is not implementing those criteria. Instead, the draft mercury TMDL report purports to implement the unadopted fish tissue target of 0.3 mg/kg via the unadopted water column target of 1.25 ng/L. This approach appears to directly contravene Clean Water Act and the Florida Watershed Restoration Act directives that TMDLs must implement and attain water quality standards.

In addition to this threshold legal flaw, there appears to be no linkage between this restrictive ambient water quality target and the goals of the mercury TMDL. FDEP's own draft mercury TMDL report states that "no relationship is observed when comparing total mercury in the water column to total mercury in fish tissues."[7] The draft TMDL report also provides no evidence of a correlation between elevated mercury levels (in surface waters or fish tissue) and proximity to point source discharges. This is unsurprising, since the research underlying FDEP's mercury TMDL report tends to correlate elevated anthropogenic mercury levels in the environment with global air emissions, not surface water discharges. Indeed, surface water discharges -- particularly including discharges from domestic wastewater treatment utilities -- are generally assumed to be insignificant sources. Our analysis of discharge data from a collection of Florida domestic wastewater treatment utilities indicates that utilities are in fact a *de minimis* source.

Casting this information aside, FDEP derives a mercury target for point sources that implicitly assumes point sources are causing or contributing to exceedences of the unadopted 0.3 mg/kg fish tissue target and that Florida waters lack any assimilative capacity for point source discharges with mercury concentrations surpassing the unadopted 1.25 ng/L target. This is not sound environmental policy.

In setting TMDLs, FDEP is to ensure that its decisions are "scientifically based" and to "fairly and equitably allocate pollutant loads to both nonpoint and point sources."[8] FDEP's derivation and use of the 1.25 ng/L water column target falls short of this requirement. FDEP has not demonstrated that the discharge of mercury from domestic wastewater utilities or other point sources is environmentally relevant. Consequently, FDEP has not and cannot demonstrate that imposing a 1.25 ng/L mercury limit will benefit the environment,[9] much less help attain the draft mercury TMDL.

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[4] 33 U.S.C. § 1313(d)(1)(C) (emphasis added).
[5] § 403.067(6)(a)2, F.S. (emphasis added).
[6] Draft mercury TMDL report at 4 ("Florida has not yet adopted criteria limiting the amounts of mercury in fish tissue.")
[7] Id. at 58.
[8] § 403.067(1), F.S.
[9] FDEP has not even demonstrated that reducing point source discharges to 0.0 ng/L Hg would improve the environment.

FDEP must reconsider its decision to derive a WLA based on the 1.25 ng/L mercury water column target.

The WLA is based on an incorrect volumetric discharge target.

The proposed statewide WLA of 8.82 lbs/year is based in part on the combined permitted flow rates of domestic wastewater treatment utilities (1353 MGD) and industrial facilities (785 MGD). The total permitted flow rate is 2138 MGD. This calculated flow rate is flawed.

The calculated flow rate of industrial facilities incorrectly excludes all power plant discharges, regardless of the nature of the discharge. Obviously, this exclusion would significantly impact the WLA allocation derived for point sources. Based on a conversation with a FDEP staffperson on June 19, 2012, it is our understanding that this error will be corrected and the calculated total flow rate will be revised. The FWEA Utility Council appreciates FDEP's acknowledgment of this error and commitment to correct it.

The WLA allocation appears to be divorced from the goals of the draft mercury TMDL.

The draft mercury TMDL report includes no analysis as to whether the WLA will require reductions from municipal wastewater treatment utilities or any other point source discharges. Given the overall focus of the draft TMDL report on reducing global atmospheric deposition of mercury, there appears to be an implicit assumption that point source discharges (including domestic wastewater utilities) will not be impacted. At a recent rulemaking workshop, however, a Department representative acknowledged that he did not know whether or to what degree achieving the statewide WLA of 8.82 lbs/year would require a reduction in mercury discharges from point sources.

Based on our initial analysis, it appears likely that the combined discharges of a few non-municipal sources of wastewater will likely exceed the total WLA. Further, data voluntarily generated by a collection of Florida domestic wastewater treatment utilities demonstrates that reclaimed water discharges occasionally exceed the extraordinarily low 1.25 ng/L mercury target (even though all of the municipal utilities routinely achieve the state's adopted ambient water quality criteria for mercury). This information tends to indicate that the proposed terms of FDEP's draft mercury TMDL will require domestic wastewater utilities in Florida to reduce mercury levels in treated reclaimed water. Again, FDEP has not explained how these reductions would occur or what the attendant environmental benefits would be. At a minimum, this information would need to be generated when FDEP evaluates the regulatory costs of this mercury TMDL.[10]

The FWEA Utility Council appreciates the opportunity to provide these comments and hopes continue a dialogue with FDEP regarding this important regulatory issue to Florida's domestic wastewater treatment utility community.

[10] *See* § 120.541, F.S.

Sincerely,

David Richardson, P.E.
President, FWEA Utility Council

CC: Trina Vielhauer, FDEP
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