

November 21, 2016

Mr. Vojin Janjic
Tennessee Department of Environment & Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

Subject: Draft NPDES Permit TN0028827 (Franklin STP)

Dear Mr. Janjic,

The Tennessee Clean Water Network (TCWN) is submitting the following comments in response to the public notice regarding the proposed NPDES permit renewal for the Franklin STP (TN0028827). We appreciate the opportunity to provide these comments for your consideration and look forward to hearing from the Division.

This segment of the Harpeth River is impaired for total phosphorus and low dissolved oxygen,¹ and as such has “unavailable parameters” preventing further degradation of water quality.² As the following comments will prove, this permit allows for an increased discharge of total phosphorus.

- 1. The proposed total phosphorus limit does not cap the facility’s loading.**
 - a. The facility’s *overall* treatment capability is treated as an *average* capability.**

Until a wasteload allocation (WLA) is developed in a revised TMDL the Division proposes capping the total phosphorus (TP) discharging from the Franklin STP. The draft permit states the proposed TP effluent limit “will prevent the POTW effluent from contributing additional nutrient loading...”³ The TP limit is calculated based upon what the facility can meet 95 percent of time. However, by setting this number as an average, the facility is only required to meet its historical loading highs 50 percent of the time. This allows for significant exceedances of previous loading amounts. The Franklin STP could literally

¹ TDEC. *Final Version, Year 2014 303(d) List*. May 2016.

² Tenn. Comp. R. & Regs. 0400-40-03-.06(2).

³ Draft TN0028827, Franklin STP. September 2016. Page R-56.

double any previous daily loading amount and still comply with the proposed limit. Therefore, the proposed limit does not prevent the facility from contributing additional loading into the Harpeth River. To accurately cap the facility when employing the 95th percentile calculation, the value must be imposed not as an average, but as a limit which must be met 95 percent of the time.

b. There is no basis to employ the 95th percentile calculation.

For years the Division has calculated nutrient limits in NPDES permits by calculating the 95th percentile of historic loading. The basis for this calculation is EPA's TSD for Water Quality-based Toxics Control. However, as the permit notes, nutrients aren't toxics: "Besides the fact that phosphorus is not considered toxic in concentrations and chemical form found in the wastewater treatment plant effluent..."

Since the Division has solely based the use of the 95th percentile calculation on EPA's TSD for toxics, but has now recognized nutrients are not toxics, there is no basis for the use of this calculation to set a TP effluent limit.

c. The proposed effluent limit will permit an increase in TP loading.

According to the Division's calculations⁴ since November 2010 the Franklin STP has averaged 115.6 lbs/day. However, the draft permit imposes a limit that would allow for an average of 174.5 lbs/day. When analyzing the past two years of data provided by the Division (June 2016-May 2016) the Franklin STP has averaged 93.11 lbs/day⁵ (see Attachment A). The draft permit proposes allowing the Franklin STP to almost double its average loading from the previous two years. Even taking the past three years of data,⁶ the facility has averaged 97.77 lbs/day (see Attachment A). The range of historical data combined with creating an average limit from the 95th percentile of data results in a limit that does not represent improvements to the discharge quality in the more recent years and permits a loading representative of a time when greater degradation occurred. A limit based upon 174.5 lbs/day clearly permits an increase in loading.

d. The flow rate used in the calculation should represent actual flow.

According to the facility's DMR summary, the average flow of the facility is 8.217 MGD⁷ and the proposed TP limit is to be calculated based upon the "average effluent flow rate for the date of the sample."⁸ However, the proposed limit of 63,393 average lbs/year (174.5 lbs/day * 365) is based upon the design flow of the facility. Using the Franklin STP's average flow, the 95th percentile is 119.3 lbs/day resulting in an annual average of 43,545

⁴ TDEC. Email correspondence with Vojin Janjic. November 2, 2016.

⁵ Ibid.

⁶ Ibid.

⁷ Draft TN0028827, Franklin STP. September 2016. Page R-71.

⁸ Ibid. Page 5.

lbs/year (see Attachment B).⁹ The use of the design flow rather than the actual flow results in a limit almost 20,000 lbs/year greater than the true conditions.

Using the same time period referenced in comment 1b, in the past two years the Franklin STP has averaged 63.6 lbs/day TP at average flow. For the past three years at average flow, the facility has averaged 66.8 lbs/day TP (see Attachment B). This equates to 23,214 and 24,382 lbs/year respectively. 63,393 lbs/year is approximately 40,000 lbs/year greater than what is actually occurring at the plant on average.

It is contradictory to develop the limit based upon design flow and then require it be reported based upon actual flow. It clearly results in a limit far greater than actual conditions. Average flow more accurately represents the historical conditions at the facility and provides a more precise value on which to cap loading.

e. The Franklin STP has not come near 63,393 lbs/yr.

The Franklin STP has not discharged anywhere near 63,393 lbs/year recently. This can be shown through various analyses of the data. First, using the average loading of 115.6 lbs/day (at 12 MGD design flow), multiplied by 365, results in 42,207 lbs/year (see Attachment A). Alternatively, using the average loading of 79 lbs/day at average flow, the annual average loading result is 28,835 lbs/year (see Attachment B).

Also, employing the calculation provided by the Division,¹⁰ since January 2014 the Franklin STP has averaged only 36,854 lbs/year since at design flow (see Attachment A) and 25,184 lbs/year at average flow (see Attachment B).

Regardless of which calculation is used, the Franklin STP has been nowhere near 63,393 lbs/year of TP. Therefore, this proposed effluent limit exceeds historical loading and results in increased loading to the Harpeth River.

In order to actually cap the Franklin STP, a permit limit of an average must be based upon averages: the average TP discharge and the average effluent flow.

2. A proper water quality based effluent limit must be imposed now and cannot be put off until a TMDL for the Harpeth River is completed.

TDEC has delayed establishing a proper water quality based effluent limit for TP in the Franklin STP permit as required by 40 CFR 122.44(d) on the basis that a TMDL is to be prepared. However, the lack of a TMDL is no defense for a permitting agency's failure to find reasonable potential and to establish a WQBEL.

⁹ Using the actual average monthly flow from the DMR summary when available (Jan 2014 – April 2015),⁹ results in a 95th percentile of only 138.5 lbs/day.

¹⁰ TDEC. Email correspondent with Maybelle Sparks. November 4, 2016.

As the United States Court of Appeals for the First Circuit has explained in upholding the U.S. EPA Environmental Appeal Board:

TMDLs take time and resources to develop and have proven to be difficult to get just right; thus, under EPA regulations, permitting authorities must adopt interim measures to bring water bodies into compliance with water quality standards. *Id.* § 1313(e)(3); 40 C.F.R. § 122.44(d); *see also, e.g.*, 43 Fed. Reg. 60,662, 60,665 (Dec. 28, 1978) (“EPA recognizes that State development of TMDL’s and wasteload allocations for all water quality limited segments will be a lengthy process. Water quality standards will continue to be enforced during this process. Development of TMDL’s . . . is not a necessary prerequisite to adoption or enforcement of water quality standards . . .”). *Upper Blackstone Water Pollution Abatement District v. U.S. EPA*, 690 F.3d 9, n 8. (1st Cir. 2012)

Likewise, the United States Environmental Appeals Board recently held:

Where TMDLs have not been established, water quality-based effluent limitations in NPDES permits must nonetheless comply with applicable water quality standards. In discussing the relationship between NPDES permitting and TMDLs, EPA has explained that the applicable NPDES rules require the permitting authority to establish necessary effluent limits, even if 303(d) listing determinations and subsequent TMDLs lag behind. 54 Fed. Reg. 23,868, 23,878, 23,879 (June 2, 1989); *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 604-05 (EAB 2010) (expressly rejecting the idea that the permitting authority cannot proceed to determine permit effluent limits where a TMDL has yet to be established), *aff’d*. 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013). *In re: City of Taunton* at 11.

The Division is not allowed to delay developing and issuing a permit because a wasteload allocation has not already been developed and approved.¹¹ TDEC should establish limits necessary to prevent violations of Tennessee’s water quality standards using its *Development of Regionally-based Interpretations of Tennessee’s Narrative Nutrient Criterion* and other available science.

3. Permitting an increase in TP loading violates the anti-degradation policy.

Since the Harpeth River is impaired at the point of the Franklin STP’s discharge, the Division cannot permit an “...increased discharge that would cause measurable degradation of the parameter that is unavailable...”¹² The proposed TP limit will result in increased loading in violation of the anti-degradation regulations.

¹¹ 40 C.F.R. § 122.44 (d)(1)(vii)

¹² Tenn. Comp. R. & Regs. 0400-40-03-.06(2)(a).

4. The TP limit must be imposed immediately.

The draft permit provides one year before the limit for TP is effective.¹³ The practice of imposing a nutrient limit after 12 months of monitoring is typical for permits in which the permittee has never conducted nutrient sampling, and therefore has nothing on which to base an annual limit. However, in this case the permittee has an abundance of nutrient sampling data, and there is no justification for delaying the imposition of any TP limit for 12 months. A TP effluent limit must be imposed immediately.

5. The total nitrogen limit is not imposed in compliance with the TMDL.

The WLA for total nitrogen (TN) set in the Harpeth River Watershed TMDL for organic enrichment and low dissolved oxygen is not properly implemented in this permit. The Franklin STP WLA for TN is 290 *total* lbs/day.¹⁴ However, the draft permit imposes a limit of 290 lbs/day TN as an *average*.¹⁵ The TN discharged into the Harpeth River from the Franklin STP cannot exceed 290 lbs/day. By imposing the effluent limit as an average, the Division is permitting an exceedance of the WLA and a violation of the TMDL.

Both the 377 lbs/day semi-annual average for the summer and the 290 lbs/day average fail to implement the TMDL. The TN limit can be imposed with a different value as a monthly average, but the permit must ensure the loading does not exceed 290 lbs/day.

6. Nutrient limits should be stated in accordance with federal regulations and TDEC policy.

TCWN requests the TP and TN effluent limits for this facility be enforced by the Division not only as loading limits, but as monthly average concentrations as well. Federal regulations require monthly concentration effluent limits for wastewater treatment plants. 40 C.F.R § 122.45(d):

Continuous discharges. For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:

- (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and
- (2) Average weekly and average monthly discharge limitations for POTWs.

¹³ Draft TN0028827, Franklin STP. September 2016. Page 5. (“The limit applies beginning the 12th month of permit effectiveness...”)

¹⁴ TDEC. Final Organic Enrichment/Low Dissolved Oxygen Total Maximum Daily Load (TMDL) For Waters in the Harpeth River Watershed (HUC 05130204). September 2004. Page 55.

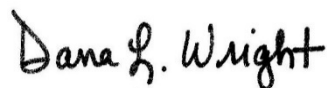
¹⁵ Draft TN0028827, Franklin STP. September 2016. Page 1.

A monthly average concentration would also be consistent with TDEC's Reasonable Potential Procedures¹⁶ and nutrient translator document,¹⁷ both of which call for application of monthly average concentration limits to protect chronic criteria. There is no reason to claim imposition of the nutrient limits would be impracticable as a monthly average.

Recognizing the seasonal effects of nutrients, these limits can be different for different seasons. The Division has noted the value of imposing seasonal limits for nutrients since they offer greater opportunity for pollutant removal and because TMDLs will likely develop seasonal WLAs.

We appreciate the opportunity to comment on this draft permit and the Division's consideration of these concerns. Please send the final permit and response to comments to dana@tcwn.org.

Sincerely,



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¹⁶ Tennessee Division of Water Pollution Control. *Reasonable Potential Procedures*. Page 1. June 1, 2004: "The Division will apply limits based on the chronic water quality criterion as monthly averages and those based on the acute criterion as daily maximums."

¹⁷ Denton, Gregory M., Arnwine, Debbie H., and Wang, Sherry H. *Development of Regionally-Based Interpretations of Tennessee's Narrative Nutrient Criterion*. Nutrient Translator, Page 55. August 2001: ("...since the effect of nutrients is considered to be chronic, in our view permit limits should be based on a monthly average concentration.").