

City of Madisonville Waste Water Treatment Plant Proposed Direct Discharge into Tellico Lake (2014)

(Tellico Lake WATeR's Organization Position Document)

Background

Madisonville, Tennessee has applied for a NPDES discharge permit for a new waste treatment plant and the state is required to either accept the permit application in the near future, or ask for additional information. In our opinion, the permit application is based on an inadequate study resulting in the selection of the wrong option.

The Madisonville, TN Wastewater Treatment Plant (WWTP) has a poor record of compliance to their wastewater discharge permit (NPDES). During the past 3 yrs they have 61 documented violations resulting in 12 out of 12 non compliance quarters. In spite of this extended period of dumping improperly treated sewage into Bat Creek, they have had only 2 plant inspections in the past 5 yrs and no fines for this serious non compliance.

The city contracted McGill Associates to design solutions to fix the problems and submit a NPDES permit for implementing their preferred alternative. The permit application was submitted on March 5, 2014.

We have serious concerns with the submittal:

- The application does NOT consider the environmental impact of proposed alternatives. For example, there is no consideration of the negative effect of secondary treated effluent on the Tellico Lake. A properly maintained and operated treatment plant with tertiary treatment will raise the current quality of Bat Creek and allow for future growth of the community. In addition, available data show that Bat Creek has a significant ability to recover from the poor quality near Madisonville to acceptable quality nearer Tellico Lake.
- The problems with operating the current plant were not addressed in the permit request. These problems include constant violations, lack of quality control samples run with reported data and not regularly participating in the required EPA performance evaluation program. These reflect facility management problems which must be recognized and addressed.
- In follow-up calls by our committee, we found that many downstream, affected parties were not contacted by McGill or Madisonville to discuss potential impacts on communities, businesses, recreational organizations and individuals.
- The selected option in the NPDES application proposal is based on the cheapest capital cost without considering the operating cost. This is an important consideration since it appears failure to spend for capital repair, maintenance and operation were major causes of the problems with the existing plant.

McGill (Consultant) Proposal

The NPDES permit submitted by McGill includes 5 options:

1. No Action
2. New WWTP with discharge to Tellico Lake
3. New WWTP with discharge to constructed wetlands
4. New WWTP with discharge to water reuse
5. New WWTP including tertiary treatment with continued discharge to Bat Creek

Madisonville's wastewater treatment consultant selected option 2 for the NPDES permit application, changing the discharge point of the Madisonville wastewater plant to Tellico Lake. The analysis does not consider that pollutants discharged into Tellico Lake tend to remain in the lake due to "stratification". (TVA Report WR28-1-65-100) The TVA study showed relatively low oxygen content due to a stagnant lower layer in the lake. The increased organic and nitrogen compounds that would result from the direct Madisonville discharge will consume oxygen as they break down. Aggravating the low oxygen issue in the Tellico Lake can lead to a stressed ecosystems, including fish kills.

Our concern is that the impact on Tellico Lake has not been fully evaluated. In a recent article in the "Monroe County Buzz", Eric Goodman(McGill) is quoted as saying "Into a body of water as big as Tellico Lake, there will be no problem..." We believe a thorough study of this would show otherwise.

Alternatives Not Considered

A proper problem solving exercise must start with a root cause failure analysis. The NPDES application suggests this was not done. An obvious question from the NPDES application is why the current WWTP that, as McGill says is "properly designed" does not meet NPDES permit limits. McGill's executive summary, first sentence states that the current WWTP is in poor condition. If poor condition is really the problem, that suggests the root cause might be the management, operation and/or maintenance funding. Building a new plant will not solve these problems and the result will be a new plant in poor condition with pollution directly into Tellico Lake..

If WWTP operation is determined to be the problem, several options may solve that problem. These involve outsourcing the wastewater treatment to one of several proven WWTP's. Both TASS and TRDA operate systems with excellent records and have extra capacity. In fact, Federal stimulus funding has already installed a pipe line from Madisonville to TRDA for this purpose. Madisonville has apparently chosen not to consider this as a viable option.

Conclusion and Recommendations

We are concerned about potential future economic development in the area. Members of the Tellico Lake WATeR organization believe accepting the recommendations in the Madisonville NPDES permit will have significant negative quality of life and commercial impact on Loudon County residents and businesses. The current NPDES permit application needs significantly more work in order to make a fact-based decision on the best alternative for correcting the current discharge problems.

We believe that locating a new discharge point in the immediate vicinity of an existing major discharge (TRDA) would lead to difficulty identifying and resolving the cause of future discharge problems.

We recommend that Madisonville goes back to the drawing board to complete a thorough analysis. Based on our preliminary assessment, we believe the best choices for fixing the Madisonville WWTP problems would be:

1. McGill Option 5 with resolution of management, operation and/or maintenance funding issues
2. Outsource treatment to TRDA, as already allowed by contractual agreement between Madisonville and TRDA