

Comments for the Presentation on December 15, 2015 Carriage Estate NPDES Permit Challenge

Introduction

This is a hard presentation to develop because there is not any organization which over sees ASU's WWTP and helps to direct its actions. Therefore, I am directing my comments to IDEM.

There are two different approaches that can be used to evaluate this NPDES Draft permit situation. One approach is the legal approach. If the actions are seen as legal (no matter what the consequences are), then these actions are OK (?).

The other approach is the environmental, ethical and/or moral approach. This approach is really to do what one believes is right or correct and is concerned with the longer term consequences, even though the legal rulings may permit you to get by with lessor efforts.

IDEM Errors

1. The minimum flow in Indian Creek (7 day, 10 year low flow) is not 0.1 cubic feet per second as listed on the draft permit but should be 0 cubic feet per second. There have been several weeks during most years like 2015 summer and winter where Indian Creek was dry.
2. The draft permit potentially approves the expansion of the treatment facility from 1.5 MGD to 4.0 MGD (267% increase), but the draft permit does not address many of the following key issues:
 - a. mercury effluent limitations,
 - b. effluent quality to support full body recreational use of Indian Creek,
 - c. the lack of effluent limits for minimal or 0 dilution waters in Indian Creek,
 - d. the lack of an indicator assay for trace chemicals or by-product chemicals being discharged from residential households which are not being destroyed in the Carriage Estate WWTP,
 - e. the lack of biological data for the actual performance of the 4 bio-reactors being used for bio-treatment of the waste waters.
3. The draft permit states that the expanded WWTP will be a parallel facility to the existing Carriage Estates treatment facilities. The current design does not support this parallel design concept.
4. The draft and final permits need to stress that the management for the expanded facility should not be approved by only one person for all of the expanded facilities. This expansion includes:
 - a. plant design,
 - b. plant construction,
 - c. plant operations,
 - d. plant laboratories and
 - e. plant financial operations.
 - f. Also, the current and expanded WWTP facilities need some ties to Tippecanoe County management and planning areas for a check and balance system to help communicate the financial impact on its customers from self-interest decisions by ASU management.

5. The CBOD5 assays should not be the only bio-assay used to regulate the biological quality of the plant effluent. One major issue with CBOD5 is that the plant effluent (with Indian Creek) flows for several days or approximately 5 miles before reaching the Wabash River before the assay is available.. These flows travel through large areas south of the plant that are considered ground water recharge areas. Also, there are many drinking water wells located south of the plant effluent in the ground water recharge areas. (potential contamination issue)
6. This ground water recharge situation needs to become a critical issue for the current and the proposed waste water treatment facilities and planning areas. Who is accountable?
- 7; The draft permit states that if the plant composite sample for the plant effluent is collected by an automatic sampler, then the sample does not need to be flow proportioned. This statement is an acceptable sampling method for most waste water treatment technologies that have fairly consistent flow patterns. But a flow proportional sample for SBR technologies should be required because the actual effluent flow is a plug flow stream that is discharged over a short period of time. To obtain a representative effluent sample fro SBR technologies, the sampling intervals should not be based on equal time. The equal volume sampling technique should produce a representative sample for analysis.
8. There is a high level of concern by the customers concerning the permit enforcement efforts by IDEM for the existing NPDES permit. One example is ASU's ability to properly operate the waste treatment plant for 18 months without an effluent flow meter and to calculate accurate discharge quantities for the past 18 months. This situation should not have been allowed.
9. The monthly permit compliance reports submitted to IDEM are signed and certified and therefore are assumed to be true, accurate and complete to the best of the persons knowledge and beliefs. How (without flow data)?

Summary

I have just identified many of the permitting and/or operating difficulties being encountered by ASU at the Carriage Estate WWTP. A brief summary of these discussions included:

- a. Operating the WWTP without accurate flow data for 18 months
- b. Questions on the reliability of effluent samples collected for assay and therefore, assay results
- c. Questions on the pollutant mass discharges into Indian Creek (flow and assay issues)
- d. Ground water recharge situation by Indian Creek with ASU's WWTP effluent
- e. Lack of metrics for bio-monitoring (bio-reactors and trace effluent pollutants)
- f. Lack of performance reports for use by county officials, planners, and customers

Conclusion

This situation at Carriage Estates WWTP is a sad and embarrassing. The only practical solution we have for this difficult situation is to immediately place a sewer ban on the Carriage Estate's WWTP until a better operated facility and WWTP location can be found and becomes operational.

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