

Chapter 95 – Wastewater Treatment Requirements

John H. Hines
Deputy Secretary for Water
Management

Limited Assimilative Capacity

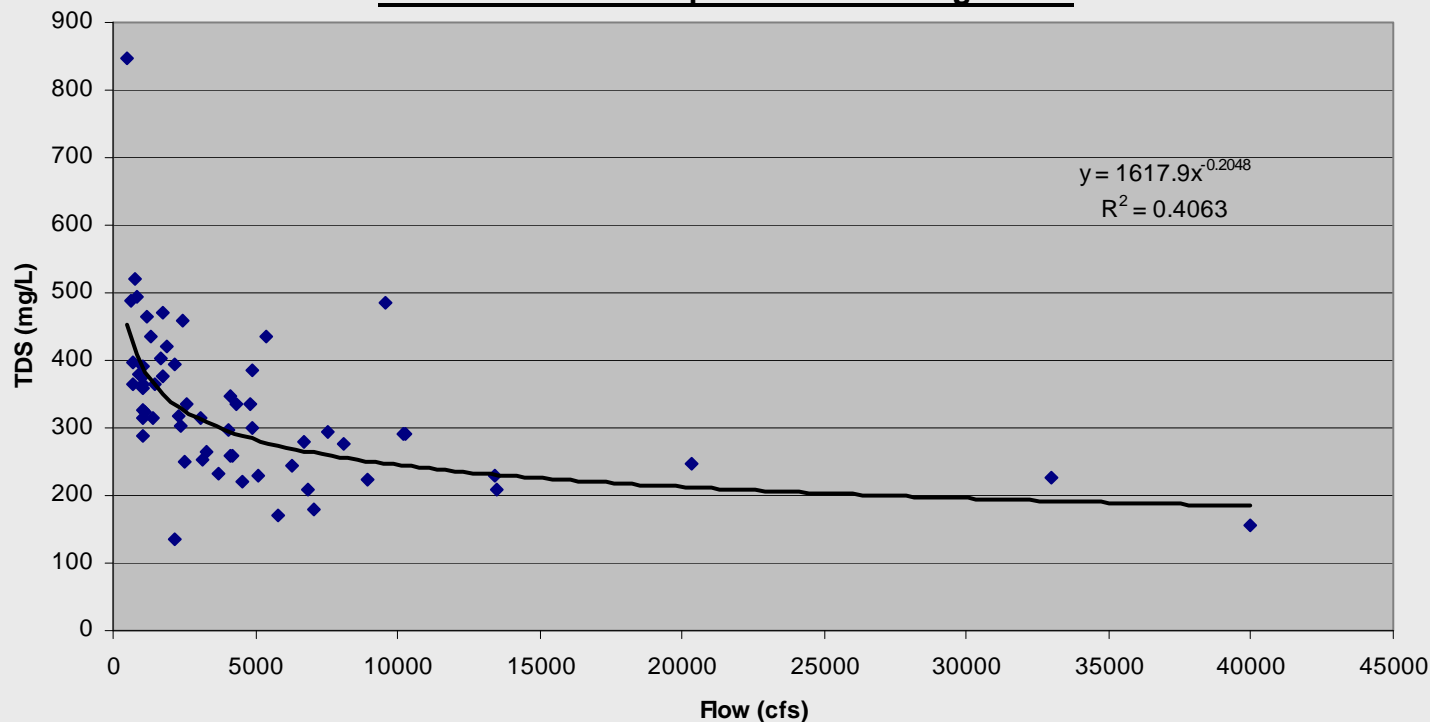
- West Branch of the Susquehanna River and Moshannon Creek– analyses conducted by DEP indicates that they are limited in the capacity to assimilate new loads of TDS and sulfates.
- Similar results for Beaver River, Mahoning Creek, Connoquenessing Creek, Slippery Rock Creek, and Redbank Creek
- Fall 2008 - Monongahela River - As river flows fell off, concentrations of TDS and sulfates in the river increased to historic highs, causing complaints from industrial water users.
- Maximum Contaminant Levels (MCLs) were exceeded at 17 PWS intakes from West Virginia to Pittsburgh.

Limited Assimilative Capacity

- TDS in the Beaver River is already 90% of the 500 mg/L water quality criterion during low-flow conditions.
- There are only 75 tons/day available for allocation.

TDS REGRESSION WQN 905 BEAVER RIVER
FLOW DATA FROM BEAVER RIVER AT BEAVER FALLS, PA

Q7-10 of 530 cfs is equivalent to 448 mg/L TDS



Limited Assimilative Capacity

- The entire West Branch Susquehanna watershed could possibly assimilate up to about 500 tons of salt and other solids.
- Currently DEP has received requests for approximately 12 MGD (million gallons per day) of new treatment capacity in the Commonwealth
- The Commonwealth could need up to 20 MGD in new treatment capacity, which equates to about 7,500 to 12,500 tons per day of salt
- That mass cannot be disposed of via dilution by streams.
- Other treatment and disposal pathways are required.

Comparison to requirements of federal government

- There are no federal government requirements

Purpose of rulemaking

- Existing treatment practice provides for the removal of heavy metals, but does not actually treat for TDS, sulfates and chlorides.
- Control of TDS, chlorides and sulfates is currently through dilution.
- Dilution is not treatment.
- Due to rising levels of TDS in the waters of the Commonwealth, dilution in lieu of treatment is no longer adequate to protect water quality.
- By the effective date of January 1, 2011, new sources of High-TDS wastewaters will be prohibited from Pennsylvania's waters.
- New discharges are those that did not exist on April 1, 2009, and have a TDS concentration of 2,000 mg/L or a TDS loading of 100,000 pounds per day.

Expected results

- The proposed rulemaking will prevent the TDS criteria violations that occurred in the Monongahela River from occurring in other vulnerable streams, such as the Beaver, Moshannon, and West Branch of the Susquehanna.
- The strategy ensures that the cost of treatment will not be passed on to customers of drinking water systems

Expected results

<u>PWS Intakes in watershed</u>	<u>Number</u>	<u>Pop Served</u>
Yough/Monongahela River	26	1,057,405
Beaver River	7	147,258
Mahoning Creek	2	9,271
Moshannon River	3	29,871
Connoquenessing Creek	4	49,985
Slippery Rock Creek	3	18,202
Redbank Creek	5	12,153
West Branch Susq. River	33	216,844
Total	83	1,540,989

Outreach strategy

DEP has conducted sessions to reach out to stakeholders, including:

- October 16, 2008, the DEP sent a letter to existing treatment plants in Pennsylvania explaining the requirements that would apply to each plant that chooses to accept high TDS wastewater.
- April 16, 20, and 21, Marcellus shale application training was held in Williamsport, Canonsburg and Clarion. A Question and Answer document has been posted on the DEP web site.
- In the spring of 2009, a wastewater generation, transportation and disposal powerpoint presentation was posted on the DEP web site.
- In 2009, DEP will be offering Industry Training Workshops at 6 locations throughout the state.

Costs to regulated community

- The regulation will impose new costs on sources of new or increased discharges of high TDS wastewater. It is anticipated that the cost to construct and profitably operate a high-TDS facility is on the order of \$0.25/gallon treated.
- Existing facilities will have minimal additional costs as a result of this proposed rulemaking. The additional costs will be the result of additional monitoring and recordkeeping that will be required to comply with this rulemaking.

Advisory Committee review and input

- The proposed rulemaking was presented to the Water Resources Advisory Committee (WRAC) at a special meeting on June 19, 2009.
- The WRAC reviewed the regulation at their meeting on July 15, 2009.
- Recommendations:
 - DEP not move forward with this rulemaking without further study on the costs to the industries affected, and a better identification those industries and without further analysis of the effects on surface waters of high-TDS discharges
 - A stakeholder's group should be formed to help with this study and analysis

Future steps

- DEP recognizes the Advisory Committee concerns, but timing is critical
- As per WRAC recommendation, a stakeholder group has been formed (1st meeting on August 27, 2009)
- 23 new sources of high-TDS wastewater are currently proposed via NPDES permit applications
- DEP is moving forward with the proposed rule, to be followed by:
 - Review by IRRC and standing committees
 - Publication as proposed rulemaking
 - Public comment period (60 days), including four public hearings
 - Consideration of public comments
 - Finalization of rulemaking by January 1, 2011