

Division of Surface Water

Response to Comments

**Project: City of Warren Wastewater Treatment Plant NPDES Permit
Renewal**

Ohio NPDES Permit Number 3PE00008*ND

Agency Contacts for this Project

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Ohio EPA held a public hearing on January 12, 2012 regarding the NPDES permit renewal for the Warren wastewater treatment plant. This document summarizes the comments and questions received at the public hearing and during the associated comment period, which ended on January 12, 2012.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

List of Commenters

- Thomas A. Angelo, Director, Warren Water Pollution Control
- Susie Beiersdorfer, Citizen
- Leonard Billock, Citizen
- Andy Blocksom, President, Patriot Water Treatment
- April Bott, Bott Law Group
- Jennifer Bowell, Citizen
- John Brown, Warren City Council
- Robert Burns, Superintendent, Wapakoneta Wastewater Treatment Plant
- Enzo Cantalamessa, Director of Public Safety and Service, Warren

- Bill Cleary, Citizen, Wastewater Operator
- Martin Cristo, Environmental, Health and Safety Manager, Delphi Automotive Systems
- Eddie Colbert, Warren City Council
- David Cook, Citizen
- Dan Crouse, Ohio Commerce Center
- Bob Davis, Director of Water, Warren
- Liz Eshenbaugh, Patriot Water
- Jeff Faloba, Patriot Water
- Vince Flask, Warren City Council
- Keith Folman, Warren Wastewater Treatment Plant
- Doug Franklin, Mayor, City of Warren
- Gary Gallogly, Administrator, Village of Fredericktown
- Carol Gottesman, Citizen
- Dave Harrison, Director of Economic Development, Village of Lordstown
- James Andrew Hewitt, Vice-President, Association of Ohio Metropolitan Wastewater Agencies
- Glen Holmes, Mayor, Village of McDonald
- Ralph A. Infante, Mayor, City of Niles
- Tom Letson, State Representative
- Mark J. Livengood, Manager, Montgomery County Department of Environmental Services
- Mike Mastromatteo, Citizen
- Sarah Milicia, Citizen
- Tom Mirante, III, Superintendent, Youngstown Wastewater Treatment
- Alford Novak, Warren City Council
- Sean O'Brien, State Representative
- Michael O'Hara, Environmental Engineer, General Motors, Lordstown Complex
- Tony Paglia, Vice-President of Government Affairs, Youngstown-Warren Regional Chamber
- George Peya, Citizen
- Jim Pirko, Realtor, Citizen
- Jeanne M. Tucker, Citizen
- Luciano Vennitti, Patriot Water

Ohio EPA Timing and Handling of the Warren NPDES Renewal

Comment 1: Several commenters stated that Ohio EPA's process for renewing the Warren NPDES permit was not normal and questioned the Agency's motives for this. Typically, the Agency allows permits to expire and then conducts the renewal process while the facility operates under the expired permit. The Agency typically holds public meetings only when there is significant public

interest shown during the comment period. In the case of Warren, Ohio EPA public noticed the renewal permit before the current permit had expired and scheduled a public meeting, up front, for the last day of the comment period.

Response 1: The renewal process for the Warren NPDES permit did not conflict with any procedural rules.

Water Quality Standards

Comment 2: Ohio EPA does not have a water quality standard for total dissolved solids (TDS).

Response 2: Ohio EPA has an average TDS standard of 1,500 mg/l for the protection of aquatic life. We have standards of 500 mg/l (average) and 750 mg/l (maximum) for the protection of human health in areas designated as a Public Water Supply. These standards apply statewide.

Comment 3: Ohio EPA is not consistent in implementing its TDS standard in different areas of the state. For example: a) The City of Elyria wastewater plant has a limit of 2,860 mg/l. b) The Fairfield County Tussing Road wastewater plant had a limit of 1,646 mg/l, which was removed from the permit on appeal. c) The limit proposed for the Warren wastewater plant is 622 mg/l.

Response 3: The TDS limits for the three municipal wastewater plants cited above provide a good illustration of how permits can have different TDS limits for various reasons.

a) The Elyria NPDES permit had a water quality-based effluent limit for TDS of 1,551 mg/l, which was based on meeting the Ohio 1,500 mg/l standard. Elyria was not able to meet this limit. Three local industries with a total of approximately 420 employees were the primary sources of TDS in the Elyria discharge. These industries were regulated by the City through its industrial pretreatment program. The City applied for and was granted a variance to the TDS standard based on the “substantial and widespread economic and social impact” that would occur if the City had to install treatment at its wastewater plant to meet the limit or if its industrial users had to reduce their TDS discharges to the degree necessary for the Elyria plant to meet the limit. The variance-based limit of 2,860 mg/l represents a TDS level that the City is consistently able to achieve. The variance was approved by U.S. EPA and must be renewed each permit cycle.

b) The 1,646 mg/l water quality-based effluent limit for TDS in the permit for the Tussing Road wastewater plant was based on a wasteload allocation to meet the Ohio standard of 1,500 mg/l. While Fairfield County appealed the permit and it remains under litigation, the limit is still in the Tussing Road NPDES permit.

Wasteload allocations are calculated using the flow of the wastewater plant, the flow of the receiving stream, the background TDS concentration in the receiving stream and the 1,500 mg/l water quality standard. Wasteload allocations to meet the 1,500 mg/l standard can vary quite a bit. For example: 1,551 mg/l for Elyria where there is essentially no upstream flow; 1,646 mg/l for the Tussing Road plant where there is a small upstream flow; and 3,361 mg/l for the Toledo wastewater plant discharge to the Maumee River.

c) The Mahoning River is different from many streams in that it flows into another state, Pennsylvania. Federal NPDES regulations at 40 CFR 122.4(d) and Ohio's NPDES rules at OAC 3745-33-04(A)(2)(d) state that no permit may be issued when "the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States;". To ensure compliance with Pennsylvania's Potable Water Supply standard, 500 mg/l (monthly average) and 750 mg/l (maximum), the 622 mg/l wasteload allocation for the Warren wastewater plant was calculated to meet the Pennsylvania standard at the state line rather than Ohio's 1,500 mg/l standard.

The TDS limits in these three cases vary because the underlying circumstances are different.

Comment 4: Why wasn't Warren issued a variance for TDS (like Elyria)?

Response 4: Ohio EPA does not automatically issue a variance. A discharger must apply for a variance. Variances can be issued for certain reasons, one being that having to comply with a limit necessary to meet water quality standards would result in "substantial and widespread economic and social impact." U.S. EPA guidance is available on the information that a discharger must submit and the state must compile as part of a variance application. All variances must be approved by U.S. EPA.

Comment 5: Because the Mahoning River crosses the state border, Ohio EPA claims that limits imposed by Pennsylvania must be achieved at the state line. Ohio EPA is imposing a 500 mg/l average TDS standard from Pennsylvania Code Chapter 95.10, "Treatment requirements for new and expanding mass loadings of Total Dissolved Solids (TDS)," on Ohio Mahoning River dischargers. Ohio EPA is doing this at the same time that Pennsylvania has exempted all existing TDS loads from the provisions of its own treatment requirements.

Response 5: Federal NPDES regulations at 40 CFR 122.4(d) and Ohio's NPDES rules at OAC 3745-33-04(A)(2)(d) state that no permit may be issued when "the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States;". The Mahoning River flows into Pennsylvania, and so Ohio EPA must consider Pennsylvania water quality standards when conducting wasteload allocations for Ohio dischargers.

It is important to note the difference between the “treatment requirements” for new and expanding TDS loads in Chapter 95.10 of the Pennsylvania code and water quality standards for TDS, which are found in Table 3 of Chapter 93.7 of the Pennsylvania code. Water quality standards must be met at the state line, not the treatment requirements. The standards are 500 mg/l (monthly average) and 750 mg/l (maximum), and they apply to streams designated as Potable Water Supply (PWS). The PWS designation applies to the Mahoning and Beaver rivers in Pennsylvania.

Pennsylvania does exempt existing loads from limits based on its TDS treatment requirements. However, facilities with existing TDS loads are not exempt from a water quality-based effluent limit required under Pennsylvania’s water quality standard implementation procedures (Chapter 96 of state code).

Comment 6: If they are not allowed to receive brine wastewater, it is unclear why it’s necessary to ever regulate TDS in the discharge from a municipal wastewater treatment plant.

Response 6: The disposal of brine wastewater from oil or gas drilling, exploration or production through a wastewater treatment plant is currently not an authorized means of disposal. However, there are other sources of high TDS wastewater that might go to a wastewater plant and cause elevated effluent TDS concentrations. Depending on the effluent concentration, the volume of the discharge and the size of the receiving stream, it might be necessary to apply regulatory controls on the discharge of TDS from a municipal wastewater plant.

Wasteload Allocation

Comment 7: The two data points that Ohio EPA used to calculate the Projected Effluent Quality value for TDS are not representative of the TDS discharge of the Warren wastewater plant without the contribution from Patriot Water Treatment, Inc. At the time they were collected, several of the City’s industries that discharge to the plant were not operating at their typical capacities.

Warren began daily TDS monitoring in December 2010. The Agency should have chosen a period of record that was representative of the plant’s typical TDS discharge absent the Patriot contribution and with a more representative industrial load. The period December 2010 through January 2011 included 35 days that are representative of these conditions.

Response 7: Using the information provided by the City in its comment letter, the Agency will revise the TDS Projected Effluent Quality values for the Warren discharge. Based on 33 data points, the revised values are 743 mg/l (average) and 1018 mg/l (maximum). We will revise the fact sheet to include these values.

Comment 8: The stream flow that was used in the conservative substance wasteload allocation model (CONSWLA) is incorrect. It is different than the flow cited in fact sheets from the period 1984 through 1996. During that time, the flow used in the allocation was based on the low flow that occurred in February due to the Army Corp of Engineers' regulation of the flows in the Mahoning River.

Response 8: Similar to the allocation procedure described in the fact sheet for the 2008 permit renewal, the modeling for the current renewal used the annual 7Q10 flow to calculate the allocation for TDS. The 7Q10 flow, 136 cfs, is similar to the February low flow cited in the 1996 fact sheet, 145 cfs.

Comment 9: Neither the draft Warren NPDES permit nor the accompanying fact sheet provide an explanation of how the TDS limit in the draft permit was developed or supporting data for the calculation. The Warren fact sheet does not include TDS data or the allocations for the other facilities included in the CONSWLA model. Without data and information for all of the facilities, it is not possible to understand how Ohio EPA developed the TDS requirements.

Response 9: The fact sheet for the Warren permit renewal included nearly five pages of text that explain the modeling process for the Mahoning basin and four tables of input data. In our fact sheets we try to provide an explanation of how limits are developed that is understandable to the general public. More detailed, technical information on Ohio EPA's modeling work is available on request.

The purpose of the fact sheet issued with the Warren NPDES permit renewal is to inform the public of the technical basis and risk management decisions that the Agency considered in determining effluent limits and other permit conditions proposed for the Warren wastewater treatment plant. We will prepare a fact sheet for each facility as part of its permit renewal process.

Comment 10: a) Ohio EPA should not use the results of its wasteload allocation to set TDS effluent limits for Warren or other Mahoning River dischargers. The Agency has insufficient data to ensure that the results of the model accurately represent the TDS loads that are discharged to the river and that limits are necessary to maintain the Pennsylvania TDS standards.

b) Ohio EPA did not consider Mahoning River data collected by Warren or other available data from the Lowellville area that show TDS levels in the river do not exceed the 500 mg/l (average) or 750 mg/l (maximum) Pennsylvania TDS standards. The data show that the Mahoning River is able to assimilate existing TDS loads from wastewater discharges, from storm water discharges and from other unknown sources and meet the Pennsylvania standards.

c) Including the proposed monthly average TDS effluent limit of 622 mg/l in the Warren permit, or the permits of other Mahoning River dischargers, could result in:

- *Cities having to impose burdensome pretreatment requirements on their industrial users;*
- *Cities losing significant industrial or commercial customers and revenue;*
- *Cities or industries having to install advanced and expensive treatment at their wastewater plants to reduce TDS;*
- *The inhibition of investment and economic growth in an area of Ohio facing significant economic challenges.*

Response 10: With the exceptions of Thomas Steel Strip and the Warren and Girard wastewater treatment plants, Ohio EPA acknowledges that there is little or no TDS data for the discharges from the remainder of the Mahoning basin facilities. Having effluent data for those discharges would allow the Agency to conduct a wasteload allocation without using default assumptions, resulting in more accurate allocations.

The Agency has reviewed the TDS data submitted by Warren for various sites on the Mahoning River. This included data from a site at Lowellville, which is approximately one mile from the Ohio-Pennsylvania border (n = 33, range = 164 – 368 mg/l, period of record = May 23, 2011 – January 5, 2012). Data over a longer period of record (January 1999 – June 2011) is available from a monitoring station located at Lowellville (n = 95, range = 210 – 650 mg/l, period of record = January 1999 – June 2011).

Using all 128 data points, the Agency calculated summer and winter concentrations to characterize instream TDS levels. These concentrations are 95th percentiles of the monthly averages and daily values of the data. The calculated values are: monthly average – 364 mg/l (S), 456 mg/l (W); maximum – 423 mg/l (S), 587 mg/l (W).

These values are lower than the monthly average and maximum Pennsylvania TDS standards, 500 mg/l and 750 mg/l. This demonstrates that currently there is not reasonable potential for the instream TDS concentration to exceed the Pennsylvania standards at Lowellville, close to the state line. Based on this finding, water quality based effluent limits for TDS are not currently necessary for Warren or other Ohio wastewater facilities discharging at their existing TDS loads.

Ohio EPA will remove the 622 mg/l TDS limit from the draft Warren permit and require only monitoring.

The Agency intends to include monitoring in the permits for the other Ohio facilities covered by the wasteload allocation at each outfall where the discharge of TDS is a possible concern. In addition, certain permits will include upstream and downstream monitoring for TDS. This monitoring will provide the data necessary so the Agency will be able to conduct a more accurate wasteload allocation for TDS.

Ohio EPA is pursuing a plan to increase regular TDS monitoring at a site in the lower part of the Mahoning River in Ohio. This monitoring would provide additional baseline data on ambient TDS concentrations with Ohio facilities discharging at their existing TDS loads. The Agency will consider options for reducing the TDS load to the Mahoning River if an upward trend in the ambient concentration is observed

Ohio EPA will evaluate proposals for new or increased TDS loadings to the Mahoning River from Ohio NPDES dischargers, which could be subject to provisions of Ohio's antidegradation rule (OAC 3745-1-05).

Impact of Proposed TDS Limits on Industries Discharging to the Warren Wastewater Plant

Comment 11: If the proposed TDS limit remains in the Warren permit, several industrial users who discharge to the Warren wastewater plant are concerned about the impact that a new TDS local limit would have on their operations – possible process elimination and job loss, impact on profitability and ability to remain in the community. Also of concern is the requirement that the City submit a technical justification for local limits within one month from the effective date of the renewal permit. This time line would not allow the City enough time to compile sufficient data for developing a local limit and could force imposition of an unreasonable local limit.

Response 11: As previously stated, Ohio EPA is going to remove the 622 mg/l TDS limit from the Warren permit and only require TDS monitoring.

The City has already compiled the data necessary to complete a technical justification of its local limits. However, we will revise the local limit compliance schedule in the draft permit and extend the deadline for submitting the technical justification to three months from the effective date of the permit. This should allow adequate time for the City to consider if local limits are necessary for TDS.

Removal of Authorization to Accept Brine Wastewater

Comment 12: Ohio EPA should reinstate the authorization that allows the Warren wastewater plant to accept brine wastewater from oil or gas drilling, exploration or production from Patriot Water Treatment.

Response 12: Ohio Revised Code section 1509.22(C)(1) strictly limits the options for disposing of brine wastewater from oil or gas drilling, exploration or production. The options are limited to injection into an underground formation, road surface application, use in association with a method of enhanced recovery, or by other methods approved by the Chief of the Division of Oil and Gas

Resources Management of Ohio DNR for testing or implementing a new technology or method of disposal.

Disposing brine to surface waters through a municipal wastewater treatment plant is not permitted under the statute unless it was approved by the Chief of the Division of Oil and Gas Resources Management. Only then would Ohio EPA have the ability to evaluate the proposal under its own authority. Patriot/Warren never received approval from Ohio DNR under 1509.22(C), thus Ohio EPA is not able to consider the matter under its authority.

The Agency is not going to reinstate the authorization in the NPDES permit for the Warren wastewater treatment plant.

Comment 13: Several commenters stated that brine wastewater from oil or gas drilling should not go to the Warren wastewater plant and be discharged into the Mahoning River. They cited concerns about increasing the salinity of the river and about impacts from unknown, potentially toxic chemicals that are discharged as part of the brine wastewater.

Response 13: As stated above, Ohio EPA is not going to reinstate the authorization that allows the Warren wastewater treatment plant to accept brine wastewater from oil and gas operations.

Other Comments

Comment 14: Several commenters expressed broader concerns about the environmental and human health impacts from oil and gas drilling and the fracking process.

Response 14: These comments were beyond the scope of the NPDES permit renewal for the Warren wastewater treatment plant.

End of Response to Comments