



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

Mr. Dana Aunkst, Director  
Bureau of Water Standards and Facility Regulation  
Pennsylvania Department of Environmental Protection  
Rachel Carson State Office Building  
400 Market Street  
Harrisburg, PA 17105-2063

SEP 21 2009

Dear Mr. Aunkst,

On May 28, 2009, EPA Region 3 sent permit review comments to the Pennsylvania Department of Environmental Protection (PADEP) Northcentral Regional Office regarding the draft Terraqua Resource Management NPDES permit (PA0233650). Included in these comments were concerns we had on the development of proposed effluent limits for Total Dissolved Solids (TDS). Subsequently, EPA Region 3 has notified the PADEP Northwest Regional Office of our objections to the draft permits for Brockway (PA0028428) and New Castle (PA0027511), and we have notified the Northeast Regional Office of our objections to the draft permits for Wyoming Valley (PA0026107) and North Branch Processing (PA0065269). These permits used the same procedures and assumptions to develop TDS effluent limits as were used in the Terraqua draft permit.

On August 11, 2009, my staff had the opportunity to meet with Ron Furlan, John Wetherell, and Tom Starosta of your staff to discuss these TDS issues. Together with additional information provided by your office after the meeting, this opportunity allowed EPA to acquire a better perspective of PADEP's methods for developing proposed TDS limits. As a result, our concerns have been reduced to the following issues.

**Monthly Q7-10 Calculations**

Pennsylvania defines Q7-10 flow in the Commonwealth's Chapter 96 regulations as "The actual or estimated lowest 7 consecutive-day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow." This definition is being applied to the calculations for TDS effluent limits in the above PADEP developed draft permits with the argument that this definition does not prohibit the Department from looking at individual months to calculate 12 separate Q7-10 flows for the same waterbody.

Most of the water quality criteria established in the Commonwealth's regulations at Chapter 93, including TDS, was not derived as monthly values. The development of "monthly" Q7-10 flows is inconsistent with the commonly accepted calculation approach of a Q7-10 flow and has not been the interpretation or approach used by PADEP to develop NPDES permit limits in the past. Monthly Q7-10 flows do not appear to be the intent of the Chapter 96 definition. This is clearly not a typical approach for calculating a Q7-10 flow, and this approach generates higher Q7-10 values that could result in less stringent permit limits. EPA does not believe this to be a good precedent to set. NPDES permits are to be written based on critical conditions and PADEP regulations / guidance use the Q7-10 as the critical condition to protect aquatic life.

Therefore, in order to resolve this portion of our objections, PADEP must reanalyze / redraft the above mentioned permits to include calculations based on the normal "annual" Q7-10 calculations.

#### **Near Field TDS Analysis – 1,800 mg/l Instream**

Based on the limited information available to EPA regarding the correlation between the Chapter 93 criteria for Osmotic Pressure (OP) of 50 mOs/kg and a TDS concentration of 1,800 mg/l, combined with the fact that the "far field" requirement of 500 mg/l TDS at potable water intakes yields the more stringent effluent limit than the "near field" analysis in all but one (Brockway) of the above draft permits, EPA recommends that these permits include a numeric water quality based effluent limit (WQBEL) for OP based on the existing Chapter 93 standard. This would take the place of the "near field" analysis of TDS and limit the discharge on water quality criteria that is applied at the point discharge.

Therefore, in order to resolve this portion of our objections to these draft permits, PADEP must include both 1) the more stringent TDS limits of the "far field" (based on an annual Q7-10 flow) or inhibition of the POTW treatment process and 2) the WQBEL for OP (also based on an annual Q7-10 flow).

#### **Final TDS Limits**

According to page 6, paragraph (2)(b)(i), of PADEP's April 11, 2009 "Permitting Strategy for High Total Dissolved Solids (TDS) Wastewater Discharges", POTWs currently accepting brine wastewaters through an approved permit must also be given a final TDS effluent limit currently proposed at 500 mg/l effective on January 1, 2011. The Brockway POTW was permitted to accept brine wastewater through a permit action in 2007. It is unclear if or when the New Castle POTW was approved to accept brine wastewater under a previous permit. However, the draft permit renewals for both Brockway and New Castle incorrectly assume that POTWs currently approved under a permit to treat brine wastewater are exempt from complying with the final average



monthly limit of 500 mg/l. As a result, these two draft permits are currently written to allow the "interim period" TDS limits for the life of the permit. Interim period limits should only be effective until December 31, 2010.

Therefore, in order to resolve this issue, the draft permit for Brockway and New Castle must be corrected to include the final limit of 500 mg/l effective January 1, 2011.

In addition, the following is being provided not as part of our objections, but as a comment.

#### **Pretreatment Program**

According to page 6, paragraph (2)(b)(iii), of PADEP's April 11, 2009 "Permitting Strategy for High Total Dissolved Solids (TDS) Wastewater Discharges", POTWs are required to obtain EPA approval of a Pretreatment Program. Since PADEP is not authorized to implement pretreatment, EPA would have to make the determination that a program is needed [see 40 CFR 403.8(a)]. PADEP should contact EPA in situations where PADEP is recommending a POTW to develop a Pretreatment Program. With EPA's positive determination, the permit would need to include the proper language to develop the program. Brockway currently is not required to have a Pretreatment Program and the draft permit does not have language for Brockway to develop a program. In order for Brockway (or any other POTW that doesn't currently have a program) to be required to develop an approved program, the permit needs to include the proper permit language once EPA has made the determination that a program is needed.

Please note that this letter is not meant to be an approval or disapproval of PADEP's April 11, 2009 "Permitting Strategy for High Total Dissolved Solids (TDS) Wastewater Discharges". Instead, we have been reviewing these permits for support that they are protective of aquatic life and human health consistent with the Commonwealth's water quality standards.

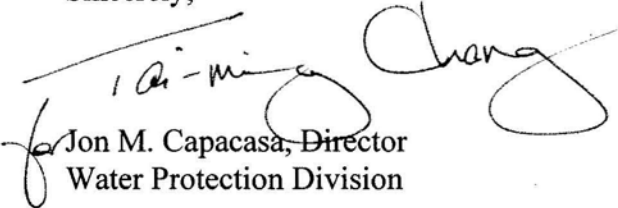
We recognize all the effort you and your staff have and continue to put into developing procedures to implement TDS requirements in NPDES permits. We believe the above changes will result in increased protection of receiving waters during the interim period, prior to the Department's planned development of applicable TDS effluent standards.

In conclusion, it is our understanding from your staff that PADEP will consider these comments and will propose revisions to the five (5) draft permits mentioned above. Once these revisions are received by EPA, they will be reviewed for conformance with the above. Our objections to these permits would be lifted if we concur with the revised draft permits. In addition, all future draft permits that propose to treat high TDS wastewaters will also incorporate these recommendations.



If you have any questions, please contact me or have your staff contact Mr. Brian Trulear at (215) 814-5723.

Sincerely,

  
for Jon M. Capacasa, Director  
Water Protection Division

cc: Ron Furlan, PADEP Central Office  
Kelly Burch, Northwest Regional Office  
David Balog, Northwest Regional Office  
Kate Crowley, Northeast Regional Office  
Mike Brunamonti, Northeast Regional Office

