

From: [Randy Ammons](#)
To: BennettJ@trinityra.org; allenl@trinityra.org
Cc: [Ramiro Garcia](#); [OCE](#); [Craig Pritzlaff](#)
Subject: Re: Pandemic Enforcement Discretion Request - TPDES Permit #WQ0013457001
Date: Tuesday, November 3, 2020 5:22:47 PM

Good evening Mr. Bennett,

The TCEQ has received your October 30, 2020 request for enforcement discretion for the Denton Creek Regional Wastewater System (permit WQ0013457001) monthly average concentration limitation exceedance of 0.1 mg/l for ammonia for the month of April 2020 for Outfall 001. We understand that due to the pandemic, equipment was out of service because of delays in receiving parts needed for repairs which contributed to the increased ammonia. After evaluating the information provided, we are approving enforcement discretion as requested.

Regards,

Randy J. Ammons, Area Director
North Central and West Texas Area
Texas Commission on Environmental Quality

From: Lisa Allen <allenl@trinityra.org>
Sent: Friday, October 30, 2020 1:41 PM
To: OCE <OCE@tceq.texas.gov>; Ramiro Garcia <ramiro.garcia@tceq.texas.gov>
Cc: Patty Cleveland <ClevelandP@trinityra.org>; John Bennett <BennettJ@trinityra.org>; Jennifer Moore <MooreJ@trinityra.org>; Cynthia Robinson <robinsonc@trinityra.org>; Andrew Moore <mooreaf@trinityra.org>
Subject: Pandemic Enforcement Discretion Request - TPDES Permit #WQ0013457001

Attached is the Trinity River Authority of Texas transmittal letter and two attachments related to a permitted exceedance for TPDES permit #WQ0013457001.

Lisa Allen
Executive Assistant, Northern Region
Trinity River Authority of Texas
allenl@trinityra.org
817-493-5132



3828.615

October 30, 2020

Mr. Ramiro Garcia
Deputy Director
Office of Compliance and Enforcement
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Re: Trinity River Authority of Texas
Denton Creek Regional Wastewater System (WQ0013457001)
TPDES Permit Non-Compliance for Permitted Parameter
Pandemic Enforcement Discretion Request

Dear Mr. Garcia:

The Trinity River Authority of Texas (TRA) owns and operates the Denton Creek Regional Wastewater System (DCRWS) treatment plant, which is a 11.5 MGD facility located in Roanoke, Texas. The DCRWS is a multijurisdictional facility that accepts and treats the wastewater from 11 customer cities (Cities) and has received numerous awards for continuous compliance. This includes 13 platinum, 9 gold, and 4 silver NACWA Peak Performance Awards for complete and consistent permit compliance.

In April, 2020, this award-winning facility experienced a daily average exceedance of ammonia by 0.1 mg/L. The daily average limit for ammonia, for Outfall 001, is 1.6 mg/L (or 63 lbs/day) for November thru May. When the monthly data was available and calculated, the average ammonia concentration for April was 1.7 mg/L (or 39 lbs/day) with an average flow of 2.679 MGD. An immediate investigation began in order to determine how and why this happened.

Following the investigation, TRA now believes that a sequence of events, paired with the declaration of a national pandemic has led to this unusual event. Our investigation identified the following events, along with extended parts lag times needed for repairs coupled with operational challenges, to support our conclusion.

On January 17, 2020, a significant power surge occurred at the plant due to Oncor Electric Company's single phasing of power from their transformer. This power surge caused damage and communication failure with numerous variable frequency drive's (VFDs) motors and programmable logic controllers (PLCs) many of which were not identified until treatment issues were indicated. Aeration basin blowers, pumping and wasting capacity for the returns (RAS/WAS Pumps), and the Plant power grid were significantly impacted. This single event was catastrophic to Plant operations.

Plant staff immediately began ordering parts and contacting company representatives to begin work necessary to replace/repair and then reprogram the necessary components. While the needed components were ordered, they were sporadic and unreliable with delivery. Some critical components did not arrive until the second week of June, understanding that once the parts were installed, the programming was then required before the equipment/part could be returned to operation. This created a situation where the return flows and sludge pumping as well as the aeration process required manual operation and the controllability suffered, which introduced some fluctuations with the nitrification/denitrification process. Plant staff were diligent, kept a close watch, and made process modifications continuously.

While waiting for the parts necessary for repairs to be made, another aeration basin required repairs, which resulted in a higher than normal solids inventory. Also, in February 2020 the internal seal on one of the final clarifiers was discovered to be leaking. Though parts were immediately ordered, they were not received until April 23rd. Numerous telephone calls were made to try and locate the reason for the parts delays, as the plant was getting increasingly more challenging to operate. The equipment representative relayed to us that the supplier for the parts had scaled back their operation due to the COVID-19 pandemic. While TRA was aware and was continuously adapting to the mechanical challenges that existed, the extended and excessive pandemic related lag times affected the ordered parts and installation/re-programming needed.

During March, as the pandemic was gaining momentum with new infection predictions, stay at home mandates, new case records, and death tolls, the DCRWS experienced additional operational treatment challenges. During this time the mixed liquor suspended solids (MLSS) began getting erratic. The MLSS samples and calculations are performed daily and are a critical part of the facility's microorganism inventory and mass balance. The operations team were making WAS and RAS adjustments based on the daily testing data. During this entire time, since January 17th, the operations team were making daily adjustments and treatment process adaptations manually.

Though ordered immediately (in January 2020), the parts needed for repairs to the aeration basin and the RAS/WAS pump PLCs were not completed until September. Inoperable PLCs on the RAS pump needed repairs and reduced the ability to remove the solids from the activated sludge system causing the sludge blanket to run higher in the final clarifier. This inhibits the denitrification process. Throughout the incident investigation, it became apparent when graphing the data that the mixed liquor suspended solids concentration became unstable in March. Once the clarifier repairs were made (on April 23, 2020), operational adjustments were made and the plant responded and began to recover. See the Attachment 1 for April ammonia data and Attachment 2 for the Plant's monthly ammonia removal efficiency.

The Denton Creek Regional Wastewater System ammonia limitations for Outfall 001 are as follows:

Daily Average	1.6 mg/l or 63 lbs/day
7-day Average	5 mg/l
Daily Maximum	10 mg/l
Single Grab	15 mg/l

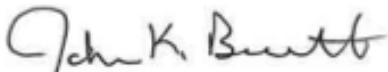
MR. RAMIRO GARCIA
October 30, 2020
3828.615
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It is important to note that there is not a single ammonia value out of a total of 22 samples taken that month that exceeded the daily maximum concentration limitation of 10 mg/l, nor the daily maximum mass limitation of 63 lbs/day. However, as you are aware the 63 lbs/day limitation is based on the permitted flow of 4.7 MGD. The average flow for the month of April for Outfall 001 was 2.679 MGD. Since the exceedance that occurred is an average value, it is important to look at the individual day ammonia values that contributed to that average. Please see the attached for the Plant's daily ammonia values for April 2020. The April 15, 2020 ammonia value of 7.160 mg/l was the highest concentration recorded, which calculates to 47.65 lbs/day at the average daily Plant flow of 0.798 MGD. The pounds of ammonia are significantly below the permitted limit of 63 lbs/day. This single data point outlier, in mg/l, pulled the entire average over 1.6 mg/l. Again, neither the average or daily ammonia pounds exceeded, nor the average or daily ammonia concentration, if the daily flow is used.

With the onset of the COVID-19 pandemic and economic shutdown, there are now uncertain aspects concerning the continuity of business and manufacturing, and availability of repair parts for items previously thought abundant. Recognizing that the Pandemic was not related to the initial power surge, it did have a major impact on the length equipment was out of service and the scheduling needed to reprogram parts and controllers. This lengthy time frame was the most significant contributor to the events leading to the permit exceedance. For this reason, TRA is respectfully requesting enforcement discretion for the DCRWS monthly average concentration limitation exceedance of 0.1 mg/l for ammonia for the month of April 2020.

We appreciate your consideration of this request. Should you have any questions or if further information is needed, you can contact me at bennettj@trinityra.org or 817-493-5100.

Sincerely,



JOHN K. BENNETT
Deputy Executive Manager
Northern Region

Attachments

JKB/lma

- c: Brent Candler, Water Section Manager, Region 4, TCEQ (with attachments)
- Patricia M. Cleveland, Executive Manager, Northern Region
- Jennifer I. Moore, Senior Manager, System Operations and Maintenance, NR
- Cynthia B. Robinson, Manager, Regulatory Resources, Northern Region
- Andrew Moore, Manager, Denton Creek Regional Wastewater System

**DENTON CREEK REGIONAL WASTEWATER SYSTEM
AMMONIA DATA
OUTFALL 001
April, 2020**

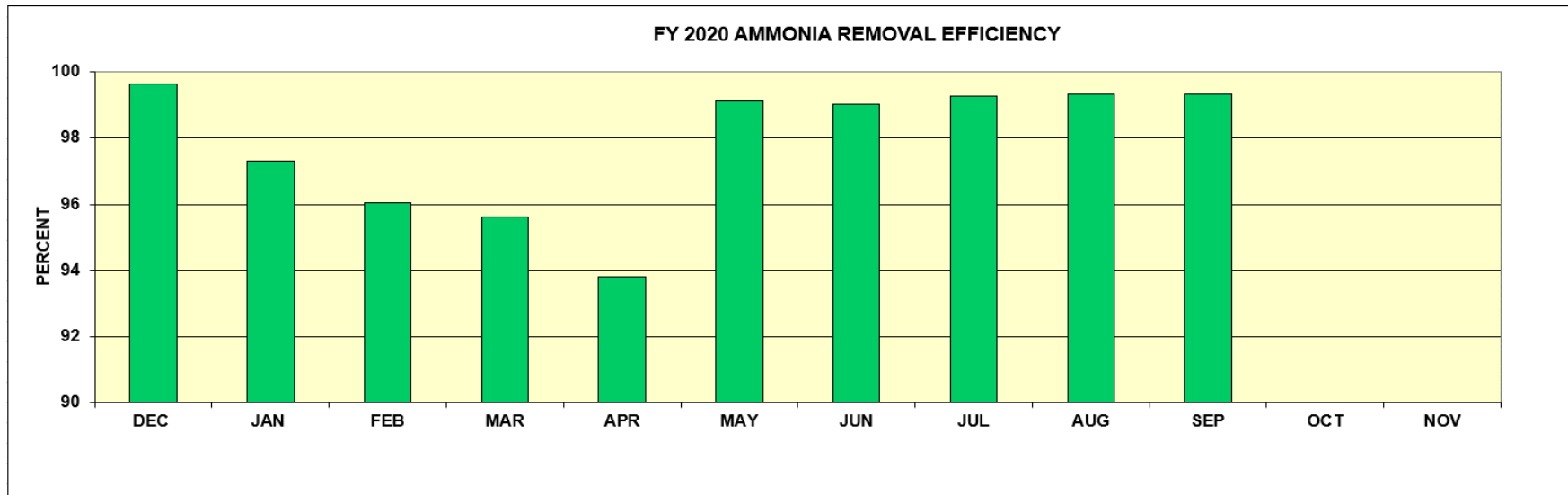
DATE	Outfall 001 FLOW MGD	NH3 Outfall 001 LBS/DAY	NH3 Outfall 001 MG/L	NH3 7 DAY AVG MG/L
4/1/2020	0.812	16.52	2.440	
4/2/2020	1.109	16.74	1.810	
4/3/2020	8.050			
4/4/2020	8.795			1.94
4/5/2020	0.803	9.44	1.410	
4/6/2020	0.731	15.55	2.550	
4/7/2020	0.850	19.57	2.760	
4/8/2020	0.782	10.30	1.580	
4/9/2020	0.752	2.95	0.470	
4/10/2020	9.389			
4/11/2020	7.815			1.75
4/12/2020	0.626	0.52	0.100	
4/13/2020	0.406	7.82	2.310	
4/14/2020	0.084	1.75	2.510	
4/15/2020	0.798	47.65	7.160	
4/16/2020	0.753	3.58	0.570	
4/17/2020	8.684			
4/18/2020	7.297			2.53
4/19/2020	0.490	7.60	1.860	
4/20/2020	0.535	6.56	1.470	
4/21/2020	0.625	13.45	2.580	
4/22/2020	0.674	13.04	2.320	
4/23/2020	0.636	21.80	4.110	
4/24/2020	7.747			
4/25/2020	7.725			2.47
4/26/2020	0.619	0.52	0.100	
4/27/2020	0.635	0.53	0.100	
4/28/2020	0.651	0.92	0.170	
4/29/2020	0.805	0.67	0.100	
4/30/2020	0.682	0.57	0.100	
<hr/>				
Minimum	0.084	0.52	0.100	1.75
Maximum	9.389	47.65	7.160	2.53
Average	2.679	9.91	1.754	2.17

Highest Single Day Ammonia Data;
Does Not Exceed Concentration or
Pounds

Final Clarifier Repairs Completed

Monthly Average Ammonia
Pounds and Concentration -
Average Concentration exceeds by 0.1

**DENTON CREEK REGIONAL WASTEWATER SYSTEM
FY 2020 AMMONIA REMOVAL EFFICIENCY
OUTFALL 001**



- January 17, 2020 - The lightning Strike occurred resulting in Power Surge
All PLCs and VFD were inoperable. Components/Parts ordered
- February, 2020 - A second Aeration Basin (AB 2) required Repairs (the first (AB 1) was severly affected by power surge)
The Final Clarifier required repairs
- February 28 - Aeration Basin repairs (AB 2) completed
- April 23, 2020 - Final Clarifier Repairs completed
- September, 2020 - Repairs (AB 1, PLC's, VFD's, etc.) all completed from the January 17th power surge.