



**LEHIGH COUNTY AUTHORITY**  
**Allentown Division**

**ROBERT J. KERCHUSKY**

**Treatment Plants Director**

Allentown Division

610.437.7641 Fax 610.437.8790

[RobertKerchusky@lehighcountyauthority.org](mailto:RobertKerchusky@lehighcountyauthority.org)

Tuesday, March 01, 2016

Michael Brunamonti, P.E.  
Environmental Program Manager  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
2 Public Square  
Wilkes-Barre, PA 18711-0790

Dear Mr. Brunamonti:

Please accept this letter and attachments as Lehigh County Authority's submission to the conditions of NPDES Permit 0026000.

Heavy rains associated with a cold front that passed through the northeastern portion of the country on February 24, 2016 soaked the region with more than 3" of precipitation causing street and small stream flooding throughout the facility's service area. Combined with high antecedent soil moisture that resulted from >30" snow melt, the rainfall from this wet-weather event caused the hydraulic capacity of the treatment facility (87 MGD) to be exceeded and a discharge from Outfall 003 to occur. Additionally, in order to recover from several variable frequency drive (VFD) faults on the Primary Effluent Pumps at the Intermediate Pumps Station, it was necessary to reduce the volume raw wastewater pumped through the plant. The impact of the flow reduction was an increase in the volume of wastewater bypassed during the recovery timeframe, which increased the overall total volume of bypassed wastewater being reported.

If you should have any questions or concerns, please feel free to contact me at (610) 437-7641.

Sincerely,

Robert J. Kerchusky Jr.  
Wastewater Services Manager


RJK

Attachments: Bypass Report from Gretchen Schleppey

xc: Jared Sabitski, PADEP Water Quality Specialist, Bethlehem Office  
Pat Mandes, Compliance Director  
Steven Stahlberg, Chief Operator  
Compliance Office, City of Allentown

**LEHIGH COUNTY AUTHORITY**

## Sanitary Sewer Overflow (SSO) Report to PADEP

1. Date, Name, Phone # of person completing this report	Date : 02-29-16 Name : Bob Kerchusky Phone # : 610-437-7641 Signature : 
2. Your organization name and address ?	Lehigh County Authority, Allentown Division - Kline's Island WWTP 112 Union Street, Allentown PA 18102
3. Date found and <u>specific</u> location of SSO ?	February 24, 2016 Location: Outfall 003 - Kline's Island Wastewater Treatment Plant
4. How was SSO discovered? By who ?	Outfall 003 flow meter registered flow and the SCADA system alarm sounded, alerting the operations staff of a discharge from the bypass. Staff on duty included: George Thundyl, TPOII; Gary Saunders, Shift Supervisor; and Steven Stahlberg, Wastewater Treatment Plant Chief Operator.
5. Start and end time of SSO (actual or estimate?)	Start: February 24, 2016 9:40 PM End: February 25, 2016 5:20 AM
6. Date, time and name of person who notified PADEP of SSO ?	Date : February 25, 2016 Time : 12:10 AM Name : Gary Saunders
7. Description and actual or estimated volume of SSO	Description: Bypass from Outfall 003 Total Metered Flow: 1.181 Million Gallons
8. Where, <u>precisely</u> , did SSO go ? (land, roadway, basement, swale, storm sewer, creek, etc.)	Headworks Plant Bypass - Outfall 003 discharges to the Little Lehigh Creek which is a tributary to the Lehigh River
9. What caused SSO ? How was it stopped ?	Heavy rains resulting from a cold front that passed through the northeastern portion of the country soaked the region with more than 3" of precipitation causing street and small stream flooding throughout the facility's service area. Combined with high antecedent soil moisture that resulted from >30" snow melt, the rainfall from this wet-weather event caused the hydraulic capacity of the treatment facility (87 MGD) to be exceeded. Additionally, in order to recover from several variable frequency drive (VFD) faults on the Primary Effluent Pumps at the Intermediate Pumps Station, it was necessary to reduce the volume raw wastewater pumped through the plant. The impact of the flow reduction was an increase in the volume of wastewater bypassed during the recovery timeframe, which increased the overall total volume of bypassed wastewater being reported. Eventually after the rain subsided the plant flow returned to a more manageable level.
10. Describe extent of contamination and how it was cleaned up	At the completion of a by-pass event, City staff inspects the outfall area and cleans up as necessary. This event required no clean-up as the bypass started well beyond the first flush of the collection system therefore no debris was visible.
11. What actions will be taken to prevent a re-occurrence ? When ?	The City of Allentown, Lehigh County Authority, and other municipalities that contribute wastewater to the KIWWTP continue work on their RDII reduction programs as required by EPA Administrative Order No. CWA-03-2009-0313DN. Details on progress toward reduction of I&I can be found in each respondents semi-annual report. There are no easy fixes for aging infrastructure and work will continue for many years to come.

## Sanitary Sewer Overflow (SSO) Report to PADEP

12. Other comments ?

Upon the prediction of a significant wet-weather event effecting the service area of the KIWWTTP, the plant High Flow Procedure and the LCA WLI Wet-Weather Operating Plan are implemented. Activation of these procedure begins when a prediction of  $\geq 1$ " of precipitation is received from ACCU-WEATHER (a subscription weather service forecast), or internet, local television, and radio broadcasts. A detailed High Flow Activity Report is completed throughout the course of the event. Every effort is made to push the wastewater treatment plant beyond the design hydraulic capacity of 72 MGD in order to prevent a discharge from outfall 003. Typically this equates to pumping between 80 and 87 MDG through the facility during a significant wet-weather event.

CITY OF ALLENTOWN BYPASS REPORT

To: Robert Kerchusky, Manager of Operations  
From: Gretchen, Laboratories Manager  
Date: Tuesday, March 01, 2016  
Subject: Plant bypassing on February 24<sup>th</sup>, 2016 and February 25<sup>th</sup>, 2016

In order to comply with NPDES Permit # PA0026000, section A.2.D, with respect to plant bypassing on February 24<sup>th</sup>, 2016 and February 25<sup>th</sup>, 2016, a description of the non-compliant discharge follows.

POINT SOURCE: 003

REASON: On February 24, 2016 the heavy rains resulting from a cold front that passed through the northeastern portion of the country soaked the region with more than 3" of precipitation causing street and small stream flooding throughout the facility's service area. Combined with high antecedent soil moisture that resulted from >30" snow melt, the rainfall from this wet-weather event caused the hydraulic capacity of the treatment facility (87 MGD) to be exceeded. Additionally, in order to recover from several variable frequency drive (VFD) faults on the Primary Effluent Pumps at the Intermediate Pumps Station, it was necessary to reduce the volume raw wastewater pumped through the plant. The impact of the flow reduction was an increase in the volume of wastewater bypassed during the recovery timeframe, which increased the overall total volume of bypassed wastewater being reported. Eventually, after the rain subsided the plant flow returned to a more manageable level.

DURATION: 2140 02/24/16 START  
0520 02/25/16 STOP  
7.75 HOURS

Total Duration	7.75 HOURS
----------------	------------

FLOW:

2230	02/24/16	156,705	gallons
0030	02/25/16	274,413	gallons
0230	02/25/16	291,229	gallons
0430	02/25/16	458,573	gallons
Total		1,180,920	gallons

Total Flow	1,180,920 gallons (1.181 MG)
------------	---------------------------------

**CITY OF ALLENTOWN BYPASS REPORT**

**SAMPLE TIME: 2230 02/24/16**

BOD5	101 mg/L	132 lbs.
Total Suspended Solids	198 mg/L	259 lbs.
Ammonia Nitrogen	5.2 mg/L	6.8 lbs.
pH	6.84	

**SAMPLE TIME: 0030 02/25/16**

BOD5	49 mg/L	112 lbs.
Total Suspended Solids	82 mg/L	188 lbs.
Ammonia Nitrogen	3.9 mg/L	8.9 lbs.
pH	7.17	

**SAMPLE TIME: 0230 02/25/16**

BOD5	35 mg/L	85 lbs.
Total Suspended Solids	62 mg/L	151 lbs.
Ammonia Nitrogen	3.0 mg/L	7.3 lbs.
pH	7.07	

**SAMPLE TIME: 0430 02/25/16**

BOD5	30 mg/L	115 lbs.
Total Suspended Solids	73 mg/L	279 lbs.
Ammonia Nitrogen	3.0 mg/L	11.5 lbs.
pH	7.09	

Sample Time	# BOD5	# TSS	#NH3
2230 02/24/16	132 lbs.	259 lbs.	6.8 lbs.
0030 02/25/16	112 lbs.	188 lbs.	8.9 lbs.
0230 02/25/16	85 lbs.	151 lbs.	7.3 lbs.
0430 02/25/16	115 lbs.	279 lbs.	11.5 lbs.
Total	444 lbs.	876 lbs.	34.5 lbs.

<b>Total Bypass Loading for 02/24/2016 and 02/25/2016 Event (pounds)</b>		
<b># BOD5</b>	<b># TSS</b>	<b># NH3</b>
444	876	34.5