

Application Type Renewal  
Facility Type Sewage  
Major / Minor Major

**NPDES PERMIT FACT SHEET  
ADDENDUM**

Application No. PA0027197  
APS ID 276152  
Authorization ID 1032943

**Applicant and Facility Information**

Applicant Name	<u>Capital Region Water</u>	Facility Name	<u>Harrisburg STP</u>
Applicant Address	<u>3003 N Front Street</u> <u>Harrisburg, PA 17110-1224</u>	Facility Address	<u>1662 S Cameron Street</u> <u>Harrisburg, PA 17104-3145</u>
Applicant Contact	<u>Jeffrey Bowra</u>	Facility Contact	<u>Jess Rosentel</u>
Applicant Phone	<u>(717) 216-5255</u>	Facility Phone	<u>(717) 736-9742</u>
Client ID	<u>43333</u>	Site ID	<u>454377</u>
SIC Code	<u>4952</u>	Municipality	<u>Harrisburg City</u>
SIC Description	<u>Trans. &amp; Utilities - Sewerage Systems</u>	County	<u>Dauphin</u>
Date Published in PA Bulletin	<u>July 15, 2023</u>	EPA Waived?	<u>No</u>
Comment Period End Date	<u>August 15, 2023</u>	If No, Reason	<u>Major Sewage w/ CSO</u>
Purpose of Application	<u>Application for a renewal of an NPDES permit for discharge of treated Sewage</u>		

**Internal Review and Recommendations**

A draft permit was prepared on June 28, 2023 and published in the *Pennsylvania Bulletin* on July 15, 2023 for public comments for 30 days. No public comments were received. A number of draft permit comments were received from US EPA and the permittee. There comments have been addressed as below.

1. US EPA (original email dated August 1, 2023 is attached to this fact sheet addendum)

a) UV Disinfection

The draft permit contains UV disinfection monitoring requirement. However, this is a technical error as the facility currently utilizes chlorination as disinfection and the draft permit fact sheet prepared on June 1, 2023 discusses the Total Residual Chlorine (TRC) effluent limits. Therefore, the proposed UV disinfection monitoring requirement will be removed from the draft permit and include TRC requirements. The June 1, 2023 draft permit fact sheet indicated that 0.5 mg/L of average monthly effluent limit of TRC is application; however, the analysis was performed incorrectly. During the review, DEP did not consider acute and chronic partial mixing factors between the discharge and receiving stream and used default values in DEP's TRC\_CALC worksheet. DEP revisited this worksheet using correct acute and chronic partial mixing factors and the worksheet recommends the average monthly limit of 0.05 mg/L with instantaneous maximum limit of 0.16 mg/L. Based on the current data, the facility may not be able to achieve compliance with these limits. DEP has therefore determined to provide one-year interim period for the facility to achieve compliance with these limits or find an alternate disinfection method. Ultimately, the existing effluent limits will continue to be included in the permit for one year; then new TRC limits will replace these existing limits. The updated TRC\_CALC worksheet is attached to this fact sheet addendum.

b) Combined Sewer Overflow

The following conditions have been modified as a result of EPA's comments:

Approve	Return	Deny	Signatures	Date
X			<i>Jinsu Kim</i> Jinsu Kim / Environmental Engineering Specialist	November 8, 2023
X			Maria Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	November 13, 2023
X			Maria D. Bebenek Maria D. Bebenek, P.E. / Program Manager	November 13, 2023

**Internal Review and Recommendations**

1. Part C.II.B.1 Continued Implementation of Nine Minimum Controls

**Original:**

1. Conduct proper operations and regular maintenance programs – The permittee shall implement the operation and maintenance plan for the CSS that includes the elements listed below. The permittee shall also update the plan to incorporate any changes to the system and shall operate and maintain the system according to the plan.

**a. See Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC)**

**Proposed:**

1. Conduct proper operations and regular maintenance programs – The permittee shall implement the operation and maintenance plan for the CSS. The permittee shall also update the plan to incorporate any changes to the system and shall operate and maintain the system according to the plan.

2. Part C.II.C.1, 2, & 3 Implementation of Long-Term Control Plan

**Original:**

1. The permittee's Long-Term Control Plan (LTCP) and schedule are approved and are incorporated by reference into this NPDES Permit. The permittee shall implement the LTCP as set forth in paragraph C.2, below.
2. CSO Water Quality-Based Effluent Limit  
The permittee shall comply with the performance standards that have been agreed to in the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC).
3. LTCP Implementation Schedule  
The permittee shall implement the LTCP in accordance with the schedule agreed upon in the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC).

If this permit is administratively extended, the permittee shall continue to implement its approved LTCP and approved PCCM Plan, as applicable, in accordance with the approved schedule.

**Proposed:**

1. The permittee shall implement and effectively operate and maintain all existing CSO controls, and shall submit a revised LTCP by no later than December 31, 2024. The permittee shall submit an application for a major permit amendment within 45 days of LTCP approval.
2. CSO Water Quality-Based Effluent Limit  
The permittee shall comply with a minimum of one of the following under design conditions:
  - A) A planned control program that has been demonstrated to be adequate to meet the water quality-based requirements of the CWA ("demonstration approach"), or
  - B) A minimum level of treatment that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise ("presumption approach"):
    1. Eliminate or capture for treatment, or storage and subsequent treatment, at least 85% of the system-wide combined sewage volume collected in the combined sewer system during precipitation events under design conditions; or
    2. Discharge no more than an average of [4, 5, or 6] overflow events per year; or

**Internal Review and Recommendations**

3. Eliminate or remove no less than the mass of the pollutants identified as causing water quality impairment, for the volumes that would be eliminated or captured for treatment under the 85% capture by volume approach.

3. LTCP Implementation Schedule

The permittee shall implement the revised LTCP (to be submitted by no later than December 31, 2024) in accordance with the schedule agreed upon in the LTCP approval.

If this permit is administratively extended, the permittee shall continue to operate and maintain all existing CSO controls and implement, upon approval, the revised LTCP and PCCM Plan, as applicable, in accordance with the approved schedule."

3. Other Condition

The previous condition related to CSO bypass was not included in the draft permit; but this will once again be included in the permit.

2. Permittee (original email dated October 20, 2023 is attached to this fact sheet addendum)

Part A.

1. Minimum Measurement Frequency

The proposed daily sampling requirements for TSS are consistent with DEP's technical guidance no. 362-0400-001. No change will be made.

2. UV Disinfection

See US EPA's comment a) above.

3. E. Coli, Total Aluminum, Total Zinc

These are new requirements. The basis for these requirements is specified in the June 1, 2023 draft permit fact sheet.

4. Location Descriptions for CSO outfalls will be corrected as a result of draft permit comments.

5. Additional narrative conditions: These conditions are standard conditions placed in all NPDES permits. Some of those conditions may therefore not be applicable to certain facilities but continue to be placed in the permit regardless. No changes will be made.

Part B

These conditions are standard conditions placed in all NPDES permits. Some of those conditions may therefore not be applicable to certain facilities but continue to be placed in the permit regardless. No changes will be made.

Part C and other comments

No significant comments are made that would modify the proposed requirements. The permittee may contact the Department for further discussion on these comments.

Given the number of draft permit comments and changes being made to the draft permit, it is recommended that the permit be redrafted and republished in the *Pennsylvania Bulletin* for 30 days for another public commenting period.

Draft Permit Comments (EPA)

**Kim, Jin Su**

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**From:** Fulton, Jennifer <Fulton.Jennifer@epa.gov>  
**Sent:** Tuesday, August 1, 2023 12:53 PM  
**To:** Kim, Jin Su  
**Cc:** Furjanic, Sean; Schumack, Maria; Martin, Daniel; Bebenek, Maria; Martinsen, Jessica; Hales, Dana; Shuart, Ryan; Sanchez Gonzalez, Natalie  
**Subject:** [External] PA0027197 Harrisburg Advanced Wastewater Treatment Facility  
**Attachments:** CSO\_LETTER\_TO\_EPA\_09June2020\_.pdf; 4 15 POLICY WP Memo to Begin Rulemaking Chapter 92a - final approved.pdf

**ATTENTION:** This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the [Report Phishing button in Outlook](#).

Jinsu,

According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

**Harrisburg Advanced Wastewater Treatment Facility**

**NPDES Number: PA0027197**

**EPA Received: June 30, 2023**

**30-day response due date: July 30, 2023**

This is a major permit that discharges to the Susquehanna River, and is a significant Chesapeake Bay discharger. EPA has chosen to perform a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved Chesapeake Bay Watershed TMDL, Pretreatment, WET, and CSO requirements. EPA has completed its review and based on its review and the phone conversations between yourself and Dana Hales, EPA offers the following comments:

1. The draft permit includes an ultraviolet light dosage reporting requirement, but the fact sheet evaluates TRC. As discussed, PADEP will confirm whether the facility uses UV for disinfection. If so, the fact sheet will need to be revised to remove the references to the TRC evaluation. If not, the TRC references should remain but PADEP will determine whether any inputs to the TRC spreadsheet and/or fact sheet discussions need to be revised.
2. We would like to note that EPA's review of the CSO portion of this permit reflects the recent understanding between the EPA Region III Water Director and PADEP Deputy Secretary for Water Programs regarding how to proceed with reissuance of permits with CSOs and LTCPs consistent with Section 402(q) of the CWA and EPA's 1994 CSO Policy. As you know, consistent with that understanding, PADEP has committed to making changes to its CSO program as noted in its June 9, 2020 letter to EPA and its April 15, 2020 memo (see attached). PADEP's memo documents its commitment to initiate the regulatory revisions process for modifying its compliance schedule regulations at 25 Pa. Code § 92a.51(a), so that schedules for LTCP implementation can be placed in an NPDES permit. PADEP will draft CSO permits using the template language agreed upon by PADEP and EPA. EPA notes that once PADEP's compliance schedule regulations are revised and final, the template language will need to be modified to incorporate a CSO compliance schedule that meets the requirements of 40 CFR 122.47 and includes the final compliance date for LTCP implementation. EPA's Phase 2 e-Reporting rule requires electronic reporting of Sewer Overflow/Bypass Events, and PADEP will need to make modifications to this template that will be necessary to address the requirements of the e-Reporting rule that is effective at the time that the permit is issued.

In addition, consistent with the understanding between EPA and PADEP, since PADEP's proposed seasonal E. coli water quality standard became effective in March 2021, PADEP will begin to incorporate E. coli monitoring in subsequently reissued NPDES permits and ensure it is included in CSO post-construction compliance monitoring (PCCM) plans to verify compliance with water quality standards and designated uses. Consistent with the CSO Policy, EPA notes that there will also need to be a requirement added to implement a PCCM plan with an established schedule in NPDES permits once a facility begins to implement its approved plan.

EPA offers the following CSO comments based on the draft permit and supporting documents:

Regarding the Fact Sheet:

- a. Page 17 of the fact sheet should be revised to state that the public comment permit for the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC) ("Consent Decree") has closed. The Consent Decree was lodged with the Court on February 13, 2023 to seek public comment, and the 30-day public comment period has closed. However, the Consent Decree has not been entered by the Court and is not effective.
- b. Page 17 of the fact sheet notes that DEP may reopen the permit to include specific conditions based on the updated LTCP once it is approved. EPA would recommend that PADEP require the permittee to submit an application for a major permit amendment to incorporate the LTCP within a certain number of days of approval of the revised LTCP. This recommendation is also stated below for inclusion in the permit. If the December 31, 2024 deadline for submission of the revised LTCP is included in the permit as recommended in paragraph "f" below, the fact sheet should document the rationale. On several occasions since 2006, the Permittee has not submitted an approvable LTCP. Under the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291) negotiated by EPA, PADEP, and the Permittee, the deadline for revised LTCP submission is December 31, 2024.
- c. The fact sheet will need to discuss whether the permittee has a CSO-related bypass that was developed as part of a previous LTCP, and whether that can be authorized in this permit reissuance. The previous permit included a CSO-related bypass condition, but the fact sheet and permit do not provide any discussion for this draft permit. Any existing CSO-related bypass would have to meet the minimum treatment requirements of the CSO Policy (primary clarification, solids and floatables removal and disposal, and disinfection where necessary) and must have been evaluated as part of the development of the LTCP.

Regarding the Permit:

- d. It is EPA's position that references to the Consent Decree should be removed from Part C.II of the permit. EPA has concerns about cross-referencing the Consent Decree in the permit instead of specifying permit conditions. The permit should specify permit conditions for the five-year permit term for the purposes of clarity in the permit as well as separation of this permit from the terms of the Consent Decree, which may be subject to different legal requirements than NPDES permits and may change. Below are EPA's suggestions on permit language that can replace references to the Consent Decree.
- e. In Part C.II.B.1. (Nine Minimum Controls), rather than referencing the Consent Decree the permit should include the existing operation and maintenance (O&M) metrics that the facility is implementing or committed to implementing. EPA understands that these O&M measures may change with the updated LTCP and Consent Decree negotiations, and any updated requirements can be included in the permit through a permit modification or upon permit renewal, as applicable.
- f. In Part C.II.C., Implementation of Long Term Control Plan EPA recommends removing references to the Consent Decree in paragraphs 1, 2, and 3. Copied and pasted below are EPA's recommended revisions to the permit language in blue font. In most cases, these recommendations will set the minimum expectations until the LTCP revision is approved. EPA also recommends that the permit contain a reopener clause requiring the permittee to submit an application to modify the permit to incorporate the LTCP within a certain number of days after the revised LTCP approval. During the permit modification specific elements from the approved plan can be incorporated into the CSO permit conditions.



"C. Implementation of Long-Term Control Plan

1. ~~The permittee's Long-Term Control Plan (LTCP) and schedule are approved and are incorporated by reference into this NPDES Permit. The permittee shall implement the LTCP as set forth in paragraph C.2, below.~~ The permittee shall implement and effectively operate and maintain all existing CSO controls, and shall submit a revised LTCP by no later than December 31, 2024. The permittee shall submit an application for a major permit amendment within "X days" of LTCP approval.

2. CSO Water Quality-Based Effluent Limit

~~The permittee shall comply with the performance standards that have been agreed to in the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC).~~

The permittee shall comply with a minimum of one of the following under design conditions:

- A) A planned control program that has been demonstrated to be adequate to meet the water quality-based requirements of the CWA ("demonstration approach"), or
- B) A minimum level of treatment that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise ("presumption approach"):
  1. Eliminate or capture for treatment, or storage and subsequent treatment, at least 85% of the system-wide combined sewage volume collected in the combined sewer system during precipitation events under design conditions; or
  2. Discharge no more than an average of [4, 5, or 6] overflow events per year; or
  3. Eliminate or remove no less than the mass of the pollutants identified as causing water quality impairment, for the volumes that would be eliminated or captured for treatment under the 85% capture by volume approach.

3. LTCP Implementation Schedule

~~The permittee shall implement the LTCP in accordance with the schedule agreed upon in the Modification to Partial Consent Decree (Civil Action No. 1:15-cv-00291-CCC).~~ The permittee shall implement the revised LTCP (to be submitted by no later than December 31, 2024) in accordance with the schedule agreed upon in the LTCP approval.

If this permit is administratively extended, the permittee shall continue to operate and maintain all existing CSO controls and implement, upon approval, the its approved-revised LTCP and approved-PCCM Plan, as applicable, in accordance with the approved schedule."

- g. As noted in paragraph "c" above, the previous permit (issued in December 2009) authorized a CSO-related bypass, but this draft permit does not. PADEP will need to determine whether or not the facility has a CSO-related bypass that meets the requirements of the CSO Policy and can continue to be authorized in the permit.

Please address the above and provide us with any changes to the draft permit and/or fact sheet, if necessary. Please contact Dana Hales on my staff via telephone at 215-814-2928 or via electronic mail at [hales.dana@epa.gov](mailto:hales.dana@epa.gov).

Thank you,

Jen Fulton



Jennifer Fulton (she/her)  
Acting Chief, Clean Water Branch  
US EPA Mid-Atlantic Region  
Phone 304-234-0248  
Email [fulton.jennifer@epa.gov](mailto:fulton.jennifer@epa.gov)



Draft Permit Comments (Permittee)

**Kim, Jin Su**

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**From:** Jess Rosentel <Jess.Rosentel@capitalregionwater.com>  
**Sent:** Friday, October 20, 2023 2:43 PM  
**To:** Kim, Jin Su  
**Subject:** RE: [External] RE: Capital Region Water - Harrisburg STP Draft NPDES Permit Renewal Package (PA0027197)  
**Attachments:** PA0027197 PERMIT - JR comments.pdf

Good Afternoon Jinsu,  
My initial comments are included in the attached PDF. I will forward any additional comments I receive from our Pretreatment Coordinator and Wet Weather Program Manager. Some comments were also intended to draw attention to sections for their review so please disregard those.

Have a great weekend!

Thanks,

Jess

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**From:** Jess Rosentel  
**Sent:** Tuesday, October 10, 2023 8:46 AM  
**To:** Kim, Jin Su <jikim@pa.gov>  
**Subject:** RE: [External] RE: Capital Region Water - Harrisburg STP Draft NPDES Permit Renewal Package (PA0027197)

Jinsu,  
I apologize for the delay in my informal comments. I finally had a chance to review in fine detail for several hours on Friday and see there are a number of changes and additions that I did not catch at first glance. I am going to need to discuss with our Pretreatment Coordinator and our Wet Weather Program Manager to determine the hardship these changes would cause.

Would you like to see my initial concerns before speaking to them or can you wait until later this week. I don't know how pressed you are for time.

Thanks,

Jess

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**From:** Kim, Jin Su <jikim@pa.gov>  
**Sent:** Thursday, August 31, 2023 8:13 AM  
**To:** Jess Rosentel <Jess.Rosentel@capitalregionwater.com>  
**Subject:** RE: [External] RE: Capital Region Water - Harrisburg STP Draft NPDES Permit Renewal Package (PA0027197)

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Email comments would suffice. Thanks Jess.  
Jinsu

DEP TRC\_CALC worksheet

TRC\_CALC

1A	B	C	D	E	F	G
2	<b>TRC EVALUATION</b>					
3	Input appropriate values in B4:B8 and E4:E7					
4	3200	= Q stream (cfs)		0.5	= CV Daily	
5	37.7	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		0.005	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		0.035	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)			=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations	Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA afc = 0.107	1.3.2.iii	WLA cfc = 0.608	
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc= 0.040	5.1d	LTA_cfc = 0.354	
14						
15	Source	Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.049	AFC		
18			INST MAX LIMIT (mg/l) = 0.160			
	WLA afc	$(.019/e(-k \cdot AFC\_tc)) + [(AFC\_Yc \cdot Qs \cdot .019/Qd \cdot e(-k \cdot AFC\_tc)) \dots + Xd + (AFC\_Yc \cdot Qs \cdot Xs/Qd)] \cdot (1-FOS/100)$				
	LTAMULT afc	$EXP((0.5 \cdot LN(cvh^2+1)) - 2.326 \cdot LN(cvh^2+1)^{0.5})$				
	LTA_afc	wla_afc * LTAMULT_afc				
	WLA_cfc	$(.011/e(-k \cdot CFC\_tc)) + [(CFC\_Yc \cdot Qs \cdot .011/Qd \cdot e(-k \cdot CFC\_tc)) \dots + Xd + (CFC\_Yc \cdot Qs \cdot Xs/Qd)] \cdot (1-FOS/100)$				
	LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2/no\_samples+1)) - 2.326 \cdot LN(cvd^2/no\_samples+1)^{0.5})$				
	LTA_cfc	wla_cfc * LTAMULT_cfc				
	AML MULT	$EXP(2.326 \cdot LN((cvd^2/no\_samples+1)^{0.5}) - 0.5 \cdot LN(cvd^2/no\_samples+1))$				
	AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)				
	INST MAX LIMIT	1.5 * ((av_mon_limit/AML_MULT)/LTAMULT_afc)				