pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHCENTRAL REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0088781**
Facility Type	**Industrial**	APS ID	**723504**
Major / Minor	**Major**	Authorization ID	**1434783**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Calpine Mid Merit LLC**	Facility Name	**York Energy Center**
Applicant Address	6 Hillman Drive, Suite 201	Facility Address	1055 Pikes Peak Road
	Chadds Ford, PA 19317-9713		Delta, PA 17314-9239
Applicant Contact	Cheryl Hess	Facility Contact	Joann Edgar
Applicant Phone	(302) 468-5312	Facility Phone	(717) 456-2446
Client ID	281427	Site ID	543800
SIC Code	4911	Municipality	Peach Bottom Township
SIC Description	Trans. & Utilities - Electric Services	County	York
Date Published in PA Bulletin		EPA Waived?	No
Comment Period End Date		If No, Reason	Major IW Facility

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Industrial

Internal Review and Recommendations

This fact sheet is prepared to address the comments received from Ms. Cheryl A. Hess on behalf of Calpine Mid Merit LLC (Calpine/permittee) on the draft NPDES permit for York Energy Center that was sent via email to the permittee on April 11, 2024 and published in the PA Bulletin on April 27, 2024. The comment letter was received by PADEP on May 23, 2024, within the extended comment period. The comment letter is attached with this fact sheet, pages 14-20. PADEP's responses are provided below in the same order as were in the comment letter:

Comment 1 Response:
The Cheryl Hess emails on 6/19/2024 & 7/8/2024 mentioned that for the outfall 001 data in the renewal permit application, pages 17-22, there are no changes please see screen prints below.

Then the 10 ug/L Total Copper used to re-run the TMS model, and the result is shown as the screen print below.

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	89.8	AFC	Discharge Conc > 10% WQBEL (no RP)

The monitoring of Total Copper was a result from the Toxic model, and it is not from the ELG, therefore, the 1/quarter monitoring report of Total Copper will stay in the proposed permit and will be re-evaluated next permit term.

Approve	Return	Deny	Signatures	Date
X			*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	September 6, 2024
X			/s/ Daniel W. Martin, P.E. / Environmental Engineer Manager	September 12, 2024
X			/s/ Maria D. Bebenek, P.E. / Program Manager	September 12, 2024

Internal Review and Recommendations

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[External] RE: Calpine Mid Merit-York Energy Center PA0088781 Draft Permit comments, the revise forms of the NPDES permit renewal application

Cheryl Hess <Cheryl.Hess@calpine.com>
To Le, Hilary
Cc Bebenek, Maria; Martin, Daniel; Baar, Aaron; JoAnn Edgar; craig.wilson@klgates.com; Clemens, Mark (Calpine Corporation); rdesilva@asaac.com; Branstetter Davis, Angela

Reply Reply All Forward
Mon 7/8/2024 1:41 PM

03 Chemical additives replacement pages.pdf
463 KB

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Hilary,

I was out last week, just back this morning and going through emails. Responses to your 2 questions/comments:

1. You did not revise the Outfall 001 data renewal application, pages 17-22, because there were no changes to these pages. Is this correct? **Correct.**
2. Please re-submit the chemical additives listed in PDF revised, pages 7-11, and include correction and amount of the maximum usage of each chemical. **Please see attached.**

Regards,

Cheryl

From: Le, Hilary <hle@pa.gov>
Sent: Tuesday, July 2, 2024 8:13 AM
To: Cheryl Hess <Cheryl.Hess@calpine.com>
Cc: Bebenek, Maria <mbebenek@pa.gov>; Martin, Daniel <daniemarti@pa.gov>; Baar, Aaron <abaar@pa.gov>; JoAnn Edgar <JoAnn.Edgar@calpine.com>; craig.wilson@klgates.com; Mark Clemens <Mark.Clemens@calpine.com>; rdesilva@asaac.com; Branstetter Davis, Angela <anbranstei@pa.gov>; Le, Hilary <hle@pa.gov>
Subject: RE: Calpine Mid Merit-York Energy Center PA0088781 Draft Permit comments, the revise forms of the NPDES permit renewal application please resubmit by Friday 7/5/2024

⚠ **EXTERNAL SENDER** ⚠
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Consider the following before taking action: *Were you expecting this email? Can you verify the sender? Are the grammar and spelling correct? Does the content or request make sense?*

Hi Cheryl,

Thanks for your reply!

I would like to verify with you some items as follows before re-draft permit.

1. You did not revise the Outfall 001 data renewal application, pages 17-22, because there were no changes to these pages. Is this correct?
2. Please re-submit the chemical additives listed in PDF revised, pages 7-11, and include correction and amount of the maximum usage of each chemical.

Please submit PDF via email by 7/5/2024.

Thanks!

Hilary

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[External] RE: Calpine Mid Merit-York Energy Center PA0088781 Draft Permit comments, the revise forms of the NPDES permit renewal application pl...

Cheryl Hess <Cheryl.Hess@calpine.com>
To Le, Hilary
Cc Bebenek, Maria; Martin, Daniel; Baar, Aaron; JoAnn Edgar; craig.wilson@klgates.com; Clemens, Mark (Calpine Corporation); rdesilva@asaac.com; Branstetter Davis, Angela
You replied to this message on 7/10/2024 1:52 PM.

Reply Reply All Forward
Mon 1:41 PM

03 Chemical additives replacement pages.pdf
463 KB

From: Cheryl Hess <Cheryl.Hess@calpine.com>
Sent: Wednesday, June 19, 2024 6:17 PM
To: Le, Hilary <hle@pa.gov>
Cc: Bebenek, Maria <mbebenek@pa.gov>; Martin, Daniel <daniemarti@pa.gov>; Baar, Aaron <abaar@pa.gov>; JoAnn Edgar <JoAnn.Edgar@calpine.com>; craig.wilson@klgates.com; Clemens, Mark (Calpine Corporation) <mark.clemens@calpine.com>; rdesilva@asaac.com; Branstetter Davis, Angela <anbranstei@pa.gov>
Subject: [External] RE: Follow up Calpine Mid Merit-York Energy Center PA0088781 Draft Permit comments, the revise forms of the NPDES permit renewal application please resubmit by Friday 6/21/2024

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Hilary,

Apologies for the confusion. Our responses are below. Please let us know if you would like a complete pdf with the modifications requested.

Regards,

Cheryl

1. The outfall 001 data are page 23-25, and the 2,6 – Dinitrotoluene indicated as screen print below, is it correct?

Thank you for the clarification. The number of Non-Detect Results should be 6 (instead of 5). All other entries are correct.

3800-PM-BCW0008c Rev. 6/2019
Permit Application

Calpine York Energy Center
PA0088781 NPDES Renewal Application 2023
This replacement page was provided on 6/13/2024

ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 (PAGE 2 OF 3)
Please read instructions carefully before completing this form.

APPLICANT NAME: Calpine Mid Merit LLC (York Energy Center)
☒ Outfall / IMP Number 001 (Show location of sampling point on Line Drawing)
☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
☐ Intake Sampling Results (Specify Source: _____)
☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT PARAMETERS	CONCENTRATION / MASS PRESENT: Min/Max Daily Value Conc	Min/Max Daily Value Mass (lbs/day)	Max Avg Monthly Value Conc	Max Avg Monthly Value Mass (lbs/day)	Long-Term Avg Value Conc	Long-Term Avg Value Mass (lbs/day)	No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
Dibenzo(a,h)Anthracene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
1,2-Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 624.1
1,3- Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 624.1
1,4- Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 624.1
3,3-Dichlorobenzidine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1	EPA 625.1
Diethyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.55	EPA 625.1
Dimethyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.58	EPA 625.1
Di-n-Butyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.56	EPA 625.1
2,4-Dinitrotoluene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.44	EPA 625.1
2,6-Dinitrotoluene (µg/L)	ND	ND	ND	ND	ND	ND	6	5	0.4	EPA 625.1
Di-n-Octyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.66	EPA 625.1
1,2-Diphenylhydrazine (as Azobenzene) (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 625.1
Fluoranthene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
Fluorene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 625.1
Hexachlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
Hexachlorobutadiene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.46	EPA 625.1
Hexachlorocyclopentadiene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.72	EPA 625.1
Hexachloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.36	EPA 625.1

24

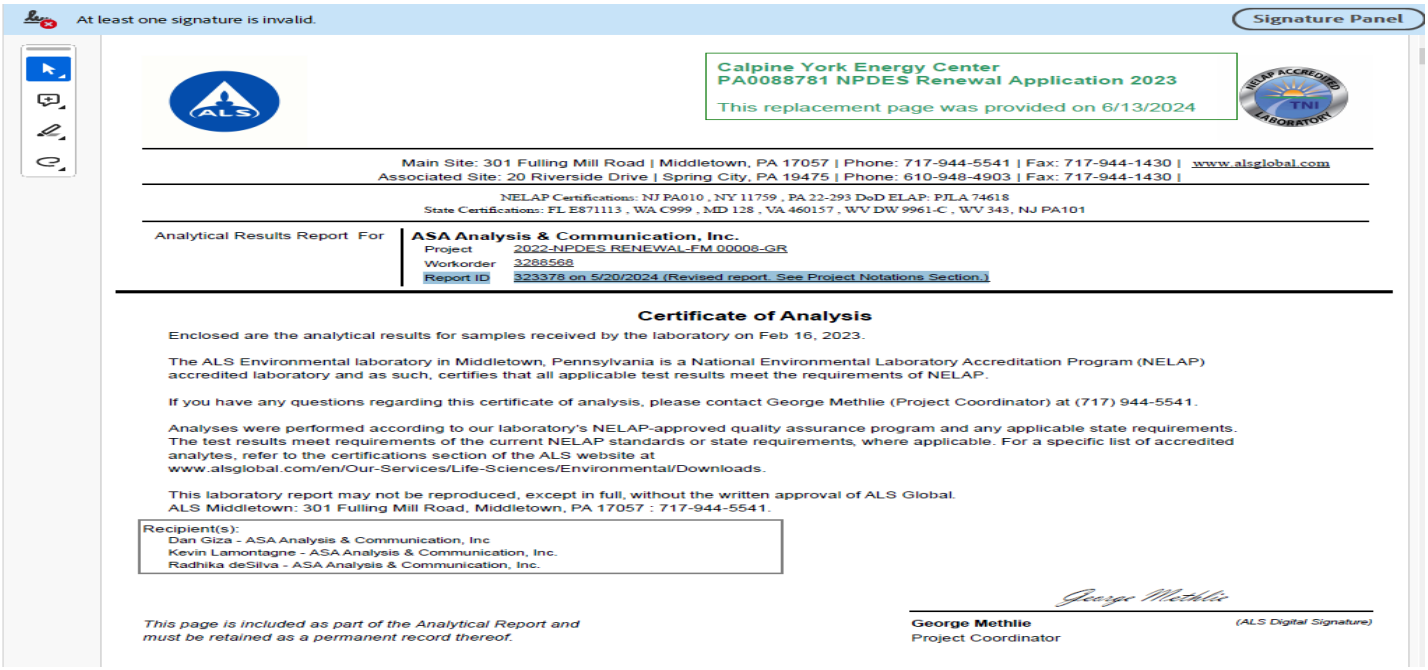
Where is the outfall 001 data pages 17-22? **There were no changes to these pages, so we did not resubmit them.**

The outfall 001 Total Copper data was 10.0 ug/L, or if other value, please clarify. **The maximum total copper concentration in the dataset is 10 ug/L, which is driven by one value. The maximum monthly value is 6.6 ug/L and long-term average 4.57 ug/L. Calpine's request was not to drive the permit limits based on a single value.**

1. Where is the "Treatment Facility Information section", item # 4, page 7? **There were no changes to these pages, so we did not resubmit them.**
2. The attached is the summarize list of chemical additives Table, and the yellow color indicated the double chemicals which can deleted, please help to recheck. **We are sending back that file with a few edits. The green marks to the left of the second table shows chemicals that were used at York in the past, but not necessarily in use now. Chemicals presently in used are in the first table.** Additionally, the highlighted chemical on screen prints below are different from the revised, which is correct? **Please use "Biomate MBC2881" wherever Biomate MBC 2881 or Biomate MBC 2991 is mentioned. Please let us know if these pages should be revised and included in the complete application pdf.**

Internal Review and Recommendations

Comment 2 Response:
The revised laboratory report showed the 16.8 ug/L of 2, 6-Dinitrotoluene previously reported was in error, see screen prints below as noted from the lab on 5/20/2024, and that all six values were below the detection limit. Therefore, the Total Dinitrotoluene at the Outfall 001 quarterly monitoring & report requirement is removed from the proposed permit.


At least one signature is invalid. Signature Panel

Calpine York Energy Center
PA0088781 NPDES Renewal Application 2023
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Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **ASA Analysis & Communication, Inc.**
Project 2022-NPDES RENEWAL-FM 00008-GR
Workorder 3288568
Report ID 323378 on 5/20/2024 (Revised report. See Project Notations Section.)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 16, 2023.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact George Methlie (Project Coordinator) at (717) 944-5541.

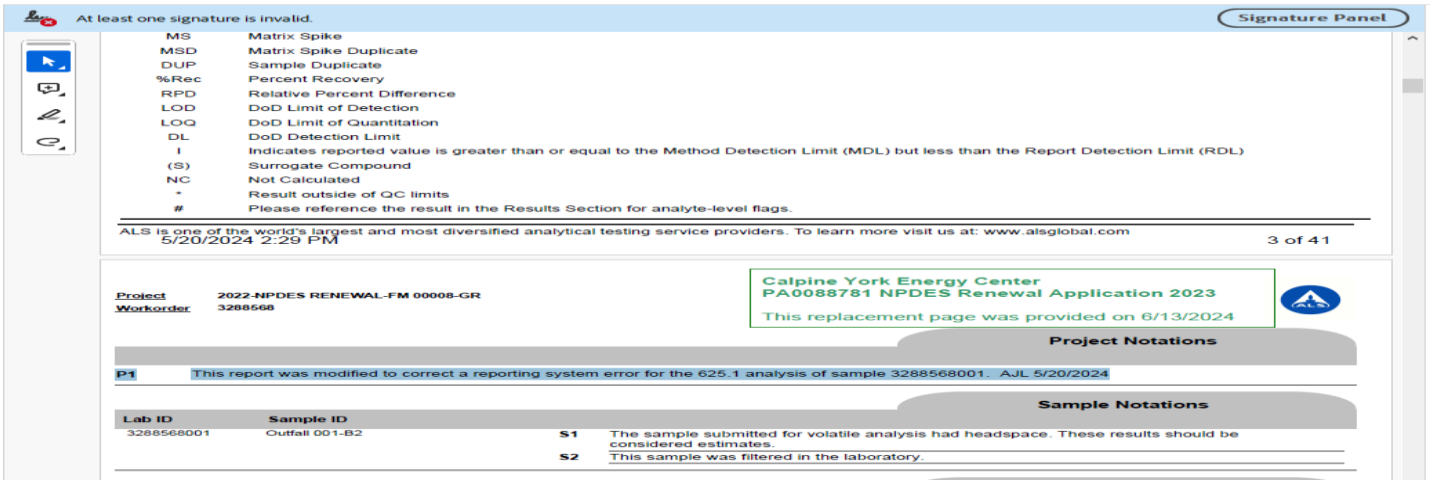
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Dan Giza - ASA Analysis & Communication, Inc
Kevin Lamontagne - ASA Analysis & Communication, Inc.
Radhika deSilva - ASA Analysis & Communication, Inc.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

George Methlie (ALS Digital Signature)
Project Coordinator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MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

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5/20/2024 2:29 PM 3 of 41

Project 2022-NPDES RENEWAL-FM 00008-GR
Workorder 3288568

Calpine York Energy Center
PA0088781 NPDES Renewal Application 2023
This replacement page was provided on 6/13/2024

Project Notations

P1 This report was modified to correct a reporting system error for the 625.1 analysis of sample 3288568001. AJL 5/20/2024

Sample Notations

Lab ID	Sample ID		
3288568001	Outfall 001-B2	S1	The sample submitted for volatile analysis had headspace. These results should be considered estimates.
		S2	This sample was filtered in the laboratory.

Comment 3 Response:
DEP is taking a statewide initiative to monitor for TDS, Sulfate, Chloride, and Bromide in certain circumstances in order to properly protect public water supplies. In addition to the concentration of ambient concentrations, chemical additives used at the facility have the potential to contribute additional concentrations of these parameters, especially TDS. This additional monitoring directive is being implemented under the authority of 25 Pa. Code § 92a.61, not § 95.10. The 2024 fact sheet stated that section 25 Pa. Code § 95.10 applies to only net loadings of TDS and net TDS loading due to chemical additives is expected to be negligible. The guidance for establishing monitoring requirements for TDS and its constituents applies to all facilities, not only those specifically mentioned in the letter from EPA. Since Calpine's discharge exceeds the threshold of 1,000 mg/l, monitoring for TDS and its constituents will be required.

Effluent Limitations and Monitoring Requirements for Outfall 002 – (Part A.I.B, page 3)
Comment 4 Response: yes, it is corrected as you requested, see screen print below.

Internal Review and Recommendations

3800-PM-BCW0011 Rev. 8/2021
Permit

Permit No. PA0088781

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 002, Latitude 39° 44' 10.00", Longitude 76° 18' 25.00", River Mile Index 3.24, Stream Code 07242

Effluent Limitations and Monitoring Requirements – (Part A.II page 6)
Comment 5 Response: This is a definition, however, there are no required pollutants limit requirements from the stormwater. Therefore, there are no benchmarks values need to this permit.

Permit, Part C.III.B, page 24
Comment 6 Response: yes, it will remain the language from the previous permit.

Permit, Part C.III. 1. Biological Monitoring, page 25
Comment 7 Response: yes, it will remain the language from the previous permit, and corrected to 40 CFR 122.21(r)(4).

Permit, Part C.III.2. Velocity Monitoring, page 25
Comment 8 Response: yes, it will remain the language from the previous permit, and deleted (b).

Permit, Part C.III.3, page 25
Comment 9 Response: yes, it will remain the language from the previous permit.

Permit, Part C.III.C.4, page 26
Comment 10 Response: yes, it is removed.

Permit, Part C.IV.C.1.f, page 27
Comment 11 Response: yes, it will be replaced as you requested: "*…, with all required spill prevention measure in place.*"

Permit, Part C.IV.C.4.c, page 28
Comment 12 Response: yes, it will be replaced as you requested: "*Develop and implement employee and contractor training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. This shall also address all sector-specific procedures and potential pollutant sources relating to the industrial activity present on site. The permittee shall conduct periodic training, no less than annually, and document the training on the Annual Report specified in paragraph B of this section.*"

Fact Sheet
Comment 13 Response: Yes, it is corrected, as below.
TMS model inputs

Parameter	Value	Source
Discharge pH	8.4	(Recent DMR data)

Comment 14 Response: Chemical additives, page 11
The term "chemical additive" means a chemical product introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Generally, the term "chemical additive" excludes chemicals used for neutralization of waste streams, the production of goods, and treatment of wastewater. There is a summarized list of chemical additives used and proposed in the Table below.

Identify all chemical additives that have been introduced to any waste stream over the past two years.			
Chemical Additives Name	**Purpose**	**Maximum Usage (lbs/day)**	**Usage Frequency**
Sulfuric Acid	pH control	----	As required
Sodium Hypochlorite (NaClO)	pH and TRC control	As required	As required
Optisperse HP54434	Internal Boiler treatment	As required	As required

Internal Review and Recommendations

Optisperse HP3100	Internal Boiler treatment	As required	As required
Steamate NA 1324	Steam condensate treatment	25	As required
Steamate NA0240	Anti-corrosion; neutralizing amine	7.2	As required
Control OS7780 Hydroquinone	Dissolved Oxygen scavenger, anti-corrosion	4.0	As required
Sodium Hydroxide (Caustic Soda)	Anti-scalant	As required	As required
Sodium Bisulfite 42%	Dechlorination	61 (gallons/day)	As required
Spectrus DT1400	Detoxifying Agent	----	As needed
Spectrus CT1300	Microbial control agent	94	As needed
Biomate MBC2881	Biocide	6.0 (gallons/day)	As needed
Gengard GN7004	Dispersant	37	As needed
Steamate PAP7000	Steam Condensate treatment	200	Daily

List all chemical additives that the applicant is requesting approval to use upon issuance of the permit by DEP.

Chemical Additives Name	Purpose	Proposed Maximum Usage (lbs/day)	Proposed Usage Frequency
Sulfuric Acid	Neutralization	----	As required
Caustic Soda/NaOH	Neutralization	----	As required
Control OS 7780	Oxygen scavenger corrosion inhibitor	4	Daily
Kleen MCT 113	Reverse osmosis clean in place	316 (gallons/day)	Daily
Kleen MCT 882	Reverse osmosis clean in place	500	Daily
Citric Acid	UF cleaning	----	As required
Steamate NA1324	Steam condensate treatment	25	As required
Hypersperse MDC 714	Reverse osmosis clean in place, Anti-scalant /Antifoulant	1,300 (gallons/day)	Daily
Kleen MCT 405	Reverse osmosis clean in place	3.6 (gallons/day)	Daily
Foamtroll 1440	Foam control	298 (gallons/day)	Daily
Steamate NA 1324	pH control	60 (gallons/day)	Daily
Steamate PAP7000	Steam Condensate treatment	13 (gallons/day)	Daily
Biomate MBC2881	Biocide	6 (gallons/day)	As required
Sodium Bisulfite 42%	Dechlorination	140 (gallons/day)	As required
Sodium Hypochlorite (NaClO)	pH and TRC control	As required	As required

EPA's comments on 5/14/2024

Comment 1 Response: "*Nothing in this permit authorizes a take of endangered or threatened species under the Endangered Species Act*." It is added to the proposed permit, Park C.III. item A-6, page 24.

Comment 2 Response:
Factsheet: It is added the paragraph below.

"*In conformance with 40 CFR 122.44(a)(2), a monitoring waiver may be granted for pollutants do not present in the discharge and not used at the site, for example: Chromium & Zinc are not used in the facility's chemical additives for cooling tower blowdown. Historical data has shown consistent non-detects for the pollutants listed of Chromium and Zinc in Part C.I.J of the permit. As such, monitoring for these pollutants has been removed in accordance with 40 CFR 122.44(a)(2). On the other hand, this regulation does not waive the permit limitations for all applicable guideline-listed pollutants in 40 CFR 423.15(a)(10)(i). Nevertheless, the PADEP grant Chromium and Zinc at effluent limits and monitoring waiver based on water*

Internal Review and Recommendations

quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, and also; the pollutants Chromium & Zinc were not detected. However, the permittee must still sample the pollutants of Chromium and Zinc to using the correct Target QL as part of the required testing for the next permit renewal application to reevaluate reasonable potential."

Permit:

Part C.I.J, page 24,

In conformance with 40 CFR 122.44(a)(2), a monitoring waiver may be granted for pollutants do not present in the discharge and not used at the site. Historical data has shown consistent non-detects for the pollutants listed below. Monitoring for these pollutants has been removed in accordance with 40 CFR 122.44(a)(2). However, this regulation does not waive the permit limitations for all applicable guideline-listed pollutants in 40 CFR 423.15(a)(10)(i). Therefore, a monitoring waiver is grated for the pollutants listed below. The permittee must still sample the pollutants listed below as part of the required testing for the next renewal application.

Pollutants	**Mass Limits (lbs/day)**		**Concentration Limits (mg/L)**	
	Average Monthly	**Max Daily**	**Average Monthly**	**Max Daily**
Total Chromium	Report	Report	0.2	0.2
Total Zinc	Report	Report	1.0	1.0

Comment 3 Response:
The Total Dinitrotoluene quarter monitoring requirement is removed because it is not detected and an error from the Laboratory, also see the facility's comments 2.

Changes from the draft permit dated 4/11/2024 are follows:
Outfall 001

- The quarterly monitoring of Total Dinitrotoluene requirement is removed from the proposed permit.

- Part C, I. item J., page 24, "… The PADEP grant Chromium and Zinc at effluent limits and monitoring waiver based on water quality because reasonable potential to exceed water quality criteria was not determined …. However, the permittee must still sample the pollutants of Chromium and Zinc to using the correct Target QL as part of the required testing for the next permit renewal application to reevaluate reasonable potential."

- Part C.III. item B, pages 25 & 26, the language from the previous permit will remain in the proposed permit.

- Part C.III. item C.1, page 26, changed to 40 CFR 122.21(r)(4), removed Track II, and the language from the previous permit will remain in the proposed permit.

- Part C.III. item C.2.a, page 26, the language from the previous permit will remain in the proposed permit and deleted b.

- Part C.III. item C.3, page 26, the language from the previous permit will remain in the proposed permit.

- Part C.III. item C.4, page 26, it will remove in the proposed permit because it does not apply to this facility.

- Part C.IV. item C.1f, page 28, "adequate spill protection" *will replace "all required spill prevention*" in the proposed permit.

- Part C.IV. item C.4c, page 29, "*including, but not limited to: use of reused and recycled waters; solvents management, proper disposal of dyes, petroleum products, and spent lubricants; hazardous treatment chemicals; and any additional training requirements included in the applicable appendices*." will be removed in the proposed permit.

- Part C.IV. item F.7, page 32, (Benchmark values for Stormwater), there are no limits requirements for any pollutants of stormwater, therefore, the Benchmark value is not applicable to this permit.

There is no other change from the draft fact sheet dated 4/11/2024.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the re-draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Internal Review and Recommendations

Toxic
TMS model inputs

Parameter	Value	Source
Discharge pH	8.4	(Recent DMR data)
Discharge Hardness	418 mg/L	(2023 permit application)
Stream pH	8.2	(Water Quality Network data)
Stream Hardness	159 mg/L	(Water Quality Network data)
River Width	5,620 ft	(Previous protection report)
River Depth	10 ft	(Previous protection report)
Slope	0.0001	(Previous protection report / Estimation via BPJ)

Partial Mixing Factors:
AFC = (0.01 x 2) + 0.00534 = 0.0253
CFC = (0.073 x 2) + 0.00534 = 0.151
THH = (0.073 x 2) + 0.00534 = 0.151
CRL = (0.1 x 2) + 0.00534 = 0.205

Using an estimated slope of 0.0001:
Node 2 Elevation = Node 1 Elevation - [(19.25 mi – 15.001 mi) (5,280 ft)](0.0001)= 99 ft – 2.24 ft = 96.76 ft

Node 1: Discharge Point in Susquehanna River (06685)
- Elevation: 99 ft (USGS National Map Viewer / Estimation)
- Drainage Area: 26,900 mi^2 (USGS PA StreamStats)
- River Mile Index: 19.25 *(15 + 4.25)* (PA DEP eMapPA)
- Low Flow Yield: 0.13 cfs/mi^2
- Discharge Flow: 6.01 MGD (NPDES Application)

Node 2: Susquehanna River at Pennsylvania/Maryland Border
- Elevation: 96.76 ft
- Drainage Area: 27,000 mi^2 (USGS PA StreamStats)
- River Mile Index: 15.001 *(15 + 0.001)* (PA DEP eMapPA)
- Low Flow Yield: 0.13 cfs/mi^2
- Discharge Flow: 0.000 MGD

Internal Review and Recommendations

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Calpine Mid Merit, LLC - York Energy Center NPDES Permit No.: PA0088781 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Susquehanna River

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
6.01	418	8.4						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.6 if left blank: Daily CV	0.6 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1340									
	Chloride (PWS)	mg/L		130									
	Bromide	mg/L		2.7									
	Sulfate (PWS)	mg/L		412									
	Fluoride (PWS)	mg/L		0.32									
Group 2	Total Aluminum	µg/L		1.9									
	Total Antimony	µg/L		1.2									
	Total Arsenic	µg/L		2.9									
	Total Barium	µg/L		140									
	Total Beryllium	µg/L		0.11									
	Total Boron	µg/L		92									
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L		3.2									
	Hexavalent Chromium	µg/L		0.73									
	Total Cobalt	µg/L		1.1									
	Total Copper	µg/L		10									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		4.3									
	Dissolved Iron	µg/L		300									
	Total Iron	µg/L		1600									
	Total Lead	µg/L		3.6									
	Total Manganese	µg/L		360									
	Total Mercury	µg/L		0.005									
	Total Nickel	µg/L		12									
	Total Phenols (Phenolics) (PWS)	µg/L		2									
	Total Selenium	µg/L		0.74									
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L		42									
	Total Molybdenum	µg/L		3									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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Group 3	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L		2.5									
	Dichlorobromomethane	µg/L		0.27									
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L	<										
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L		0.29									
	2,4,6-Trichlorophenol	µg/L		1.4									
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L	<										
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L		0.93									
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L	<										
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

Internal Review and Recommendations

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Calpine Mid Merit, LLC - York Energy Center, NPDES Permit No. PA0088781, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Susquehanna River No. Reaches to Model: 1

- (•) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply FC*	Apply Fish Criteria*
Point of Discharge	006685	19.25	99	26500			Yes	Yes
End of Reach 1	006685	15.001	96.76	27000			Yes	Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs) Stream	Flow (cfs) Tributary	W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary Hardness*	Tributary pH*	Stream Hardness*	Stream pH*	Analysis Hardness*	Analysis pH*
Point of Discharge	19.25	0.13				5620	10					159	8.2		
End of Reach 1	15.001	0.13				5620	10					159	8.2		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs) Stream	Flow (cfs) Tributary	W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary Hardness*	Tributary pH*	Stream Hardness*	Stream pH*	Analysis Hardness*	Analysis pH*
Point of Discharge	19.25														
End of Reach 1	15.001														

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Model Results

Calpine Mid Merit, LLC - York Energy Center, NPDES Permit No. PA0088781, Outfall 001

Instructions | Results RETURN TO INPUTS | SAVE AS PDF | PRINT (•) All ( ) Inputs ( ) Results ( ) Limits

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.010 Analysis Hardness (mg/l): 211.37 Analysis pH: 8.23

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	3,710	
Total Antimony	0	0		0	1,100	1,100	5,441	
Total Arsenic	0	0		0	340	340	1,682	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	103,867	
Total Boron	0	0		0	8,100	8,100	40,063	
Total Chromium (III)	0	0		0	1051.712	3,328	16,461	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	80.6	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	470	
Total Copper	0	0		0	27.303	28.3	140	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	544.361	212	1,047	Chem Translator of 0.682 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	8.15	Chem Translator of 0.85 applied
Total Nickel	0	0		0	881.548	884	4,371	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Zinc	0	0		0	220.931	226	1,117	Chem Translator of 0.978 applied
Chloroform	0	0		0	1,900	1,900	9,397	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	2,275	

Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	22,267	

☑ *CFC* CCT (min): 720 PMF: 0.073 Analysis Hardness (mg/l): 166.14 Analysis pH: 8.21

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,356	
Total Arsenic	0	0		0	150	150	4,251	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	116,190	
Total Boron	0	0		0	1,600	1,600	45,342	
Total Chromium (III)	0	0		0	113.430	132	3,738	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	295	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	538	
Total Copper	0	0		0	13.962	14.5	412	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	565,686	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	4.415	6.15	175	Chem Translator of 0.715 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	25.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	80.719	81.0	2,294	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	141	Chem Translator of 0.922 applied
Total Zinc	0	0		0	183.486	186	5,274	Chem Translator of 0.986 applied
Chloroform	0	0		0	390	390	11,062	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	2,579	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	25,796	

☑ *THH* CCT (min): 720 PMF: 0.073 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	159	
Total Arsenic	0	0		0	10	10.0	283	
Total Barium	0	0		0	2,400	2,400	68,013	

Total Boron	0	0		0	3,100	3,100	87,851	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	8,502	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	28,339	
Total Mercury	0	0		0	0.051	0.05	1.42	
Total Nickel	0	0		0	610	610	17,287	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	162	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	113,356	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 720 PMF: 0.100 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	

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Total Zinc	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.56	0.56	96.0	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	152	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	32.3	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

Pollutants	Mass Limits AML (lbs/day)	Mass Limits MDL (lbs/day)	Concentration Limits AML	Concentration Limits MDL	Concentration Limits IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	89.8	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	2,378	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	159	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	283	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	64,574	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	25,679	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	3,738	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	51.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	301	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	8,502	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	565,686	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	175	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	28,339	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	1.42	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	2,294	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	141	µg/L	Discharge Conc ≤ 10% WQBEL

Total Zinc	716	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Chloroform	152	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	96.0	µg/L	Discharge Conc ≤ 25% WQBEL
Phenol	113,356	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	152	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	32.3	µg/L	Discharge Conc ≤ 25% WQBEL

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/day	Grab
Free Available Chlorine	XXX	XXX	XXX	XXX	0.2	0.5	1/day	Grab
Temperature (°F)	XXX	XXX	XXX	XXX	Report	110	Continuous	I-S
TSS Effluent Net	XXX	XXX	XXX	30.0	60.0	75.0	2/month	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Oil and Grease Effluent Net	XXX	XXX	XXX	15.0	20.0	30.0	2/month	Grab
Total Aluminum	Report Avg Qrtly	Report Daily Max	XXX	Report Avg Qrtly	Report	XXX	1/quarter	Grab
Total Copper	Report Avg Qrtly	Report Daily Max	XXX	Report Avg Qrtly	Report	XXX	1/quarter	Grab
Sulfate	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Bromide	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location:

Other Comments:

Internal Review and Recommendations

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 100, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
TSS Effluent Net	XXX	XXX	XXX	30.0	100	XXX	2/month	Grab
Oil and Grease Effluent Net	XXX	XXX	XXX	15.0	20.0	30.0	2/month	Grab

Compliance Sampling Location:

Other Comments:

Internal Review and Recommendations

York Energy Center

1055 PIKES PEAK ROAD
DELTA, PA 17314

May 23, 2024

Hilary Le, Permits Section
Pennsylvania Department of Environmental Protection
Clean Water Program, Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110

Re: York Energy Center
Calpine Mid Merit L.L.C.
NPDES Permit No. PA0088781
April 2024 Draft Renewal
Authorization ID No. 1087351
Delta, Peach Bottom Township, York County, PA

Dear Ms. Le,

Calpine Mid Merit LLC (Calpine) is in receipt of the renewal draft of York Energy Center's (York) National Pollutant Discharge Elimination System (NPDES) permit (No. PA0088781) sent via email on April 11, 2024. Calpine has reviewed the draft NPDES Permit, Fact Sheet, Public Notice, and US Environmental Protection Administration (EPA) comments to the Pennsylvania Department of Environmental Protection (PADEP) and provides the comments below. For your convenience, we are providing supporting mark-ups of the draft permit, Fact Sheet and public notice as enclosures as well.

Calpine appreciates the opportunity to provide these comments. Calpine is available to meet PADEP at the Harrisburg office or via Teams/Zoom to discuss the enclosed comments at your convenience.

Calpine offers the following comments and modifications for PADEP's consideration. Calpine has only a few comments, but those comments are important. As such Calpine respectfully requests that PADEP issue a revised draft permit, Fact Sheet and public notice with a new comment period prior to the issuance of a final permit.

Comments are presented below with references to the draft permit part and page in bold face type.

Effluent Limitations and Monitoring Requirements for Outfall 001 – **(Part A.I.A, page 2)**

Comment 1: Calpine respectfully requests reconsideration of the need for sampling copper on a quarterly basis. York's maximum copper concentration observed in the last five years was 10 ug/L, which we acknowledge is higher than 10% of the WQBEL of 35.7 ug/L (10% being 3.57 ug/L) per the latest Toxics Management Spreadsheet (TMS) as seen in Figure 1. This value is from the 11/17/2022 sampling event and has a "J" flag, which "Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte." It is

not a firm value. The second highest value was 4.9 ug/L on 2/16/2022, and all other sampling results for copper were below 10% of the WQBEL. Calpine therefore requests to remove quarterly sampling and monitoring of copper from Outfall 001.

	Mass Limits		Concentration Limits						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	35.7	AFC	Discharge Conc > 10% WQBEL (no RP)

Figure 1. Excerpt from Toxics Management Spreadsheet from the Fact Sheet

EPA's effluent limitation guideline (ELG) upon which sampling conditions are based, 40 C.F.R. § 423.15(j)(1), only applies to pollutants, that are "contained in chemicals added for cooling tower maintenance[.]" When EPA promulgated this rule, it emphasized, in response to concerned commenters, that the limits for toxics in cooling tower blowdown are "applicable only to pollutants that are present in cooling tower blowdown as a result of cooling tower maintenance." 47 Fed. Reg. 52290, 52295 (Nov. 19, 1982). This is why York's current NPDES permit does not include effluent limits for copper and instead contains a condition, in Part C.I.H of the permit, stating "Cooling tower blowdown discharges shall contain no detectable amount of the 126 Priority Pollutants…except for Total Chromium and Total Zinc". Additionally, Total Copper should be added to the exceptions along with Total Chromium and Total Zine; and, given the intended, limited scope of the ELG, the monitoring requirements for copper should be removed from the permit.

Comment 2: Following the issuance of the draft permit by PADEP, Calpine requested an additional quality review of the dinitrotoluene analysis, and the analytical lab (ALS Environmental Laboratory) reported back that the 16.8 ug/L previously reported was in error, and that all six values were below the detection limit. The revised laboratory report is enclosed. Calpine requests that the monitoring requirements for Total Dinitrotoluene at Outfall 001 be removed from the permit.

Comment 3: The current permit requires quarterly monitoring for chloride and sulfate. The presence of chloride and sulfate in a discharge can impact Public Water Systems (PWS). However, there are no PWS near the York outfall. TMS lists chloride and sulfate as not requiring limits or monitoring (Figure 2, green). Calpine therefore respectfully requests to remove the sampling and monitoring requirement at Outfall 001 for chloride and sulfate.

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because re
concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficient

Pollutants	Governing WQBEL	Units	Comments
Biomate MBC2881	209	µg/L	Discharge Conc ≤ 25% WQBEL
Foamtrol AF1440	20,311	µg/L	Discharge Conc ≤ 25% WQBEL
Steamate NA 1324	4,177	µg/L	Discharge Conc ≤ 25% WQBEL
Steamate PAP7000	353	µg/L	Discharge Conc ≤ 25% WQBEL
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Sulfate (PWS)	N/A	N/A	PWS Not Applicable

Figure 2. Other Pollutants Summary from the Toxics Management Spreadsheet

Internal Review and Recommendations

Ms. Le, Permits Section
May 23, 2024
Page 3 of 7

Effluent Limitations and Monitoring Requirements for Outfall 002 – **(Part A.I.B, page 3)**

Comment 4: Calpine wishes to acknowledge that River Mile Index and Stream Code are blank and should be 3.24 and 07242 respectively.

Effluent Limitations and Monitoring Requirements – **(Part A.II page 6)**

Comment 5: Calpine understands the ramifications of exceeding benchmark values and the subsequent Corrective Action Plan outlines in Part C.IV.G. However it is unclear what the benchmark values themselves are as none are identified in the Effluent Limitations tables. Please clarify.

Other Requirements – General

During the previous permit renewal process, the renewal permit the specifics of the York plant and the implementation of various technologies and practices that address impingement and entrainment requirements under Section 316(b) of the Clean Water Act. The following comments (Comment 6 through Comment 10) are related to standard language in the draft permit that does not reflect these previous acknowledgements. The following comments also provide language from the current permit that Calpine requests be maintained in the new renewal permit.

Other Requirements – **(Part C.III.B, page 24)**

Comment 6: Calpine requests that the requirements included in the above referenced section be removed from the permit, or that the permit state that the requirements have been satisfied. Those requirements applied at the time the permit was originally issued and have now been satisfied. As-built drawings were submitted to the Department following completion of construction.
The facility was built to the EPA's Clean Water Act Phase I 316(b) regulations for new facilities and meets the requirements of the final Phase I – New Facilities Rule, June 19, 2003. The Phase I requirements include:

- Reduced intake flow to a level commensurate with that attained by a closed-cycle cooling water system. York has cooling towers and thus meets the protective flow requirement.
- Design and construction of cooling water intake structures to a maximum design intake velocity of 0.5 ft./sec. (fps). York has wedge wire screens; a passive intake system designed to maintain intake velocity of no greater than 0.5 fps.
- Design and construction of cooling water intake structures so that the total intake flow (for a freshwater river or stream) is no greater than 5% of the annual mean flow in the river or stream. York's intake is less than 5% of the river flow (normal flow rate of 40,104 cubic feet per second per SRBC 2013 fact sheet); the maximum withdrawal is 13.76 cubic feet per second under conditions of maximum water use, resulting in approximately 0.03% of the annual mean flow in the river.
- Implement design and construction technologies or operational measures to minimize impingement mortality and entrainment of all life stages of fish and shellfish. York has cooling towers paired with wedge wire screens; the best technology available to reduce water use and minimize impingement and entrainment. The wedge wire screens have an advantage in that the approach velocity decreases at a rate corresponding to the square

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distance from the screen face. Thus ambient stream current can be very effective in assisting the escape behavior of fish seeking to avoid the screens and in carrying small organisms past the screen openings. The screens are located above the river bottom and with the primary axis oriented in the direction of flow; thus do not capture eggs and larvae that may be passing over the bottom.

The combination of the cooling towers and the wedge wire screens with a through screen velocity no greater than 0.5 fps meets the impingement and entrainment requirements and thus the facility is in compliance with the regulations.

Other Requirements – **(Part C.III.1, page 25)**

Comment 7: Calpine requests that the requirements for Biological Monitoring included in Part C.1 be modified to (1) recognize that the York intake is impingement-compliant by design because the through-slot velocity is designed to be no greater than 0.5 fps and therefore no impingement monitoring is needed, and (2) eliminate any further entrainment monitoring because the facility conducted one year of entrainment monitoring during which it caught one larvae that was dead on arrival.

The current permit, Part C.III.D.1, uses the following language that acknowledges the specifics at York:

a. In lieu of sample collection to monitor impingement rates for the submerged wedgewire screens, the permittee will continuously monitor wet surface elevations during facility operation and will utilize an air burst cleaning system to maintain the through-screen velocity below 0.5 fps. The air burst system will be operated at a minimum frequency of once per 12-hour shift. A decrease in wet well surface elevation will trigger additional screen cleaning. A dive inspection to visually assess the intake screens will be conducted once per year at a minimum.
b. The Department has authorized a request to suspend entrainment sampling for this permit term in accordance with 40 CFR 125.87(a). If the permittee desires to continue the suspension, or sample at a frequency less than that outlined in 40 CFR 125.87(b) a request should be included with the permit renewal application. The request should include a justification for the continuance (e.g. no change in facility operation, technology, source waterbody, etc.). Any changes to facility operations or biological community of the receiving water, may necessitate additional sampling the next permit term.

Entrainment sampling was initiated in 2014 and was finished in August 2015. A report documenting the entrainment sampling results was submitted to PADEP on November 12, 2015. There have been no changes to the facility operations since the last permit term. On page 3 of the cover letter submitted with the NPDES permit renewal application, Calpine requested that entrainment monitoring continue to be suspended. Calpine requests that PADEP maintain the language from the previous permit term.

Additionally, the Track I reference at Part C.III paragraph C.1 should be 40 CFR 122.21(r)(4) not (3).

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Other Requirements – (**Part C.III.2, page 25**)

Comment 8: Calpine requests that the requirements for Velocity Monitoring included in Part C.2 be modified to recognize that York currently complies with 40 CFR §125.87(b) Velocity Monitoring requirements by calculating through-screen velocity based on actual intake flows and the open area of the screens. We request that the permit be modified to allow Calpine to continue this compliance methodology, strike Part C.III paragraph C.2.a., and replace Part C.III paragraph C.2.b with language from the current permit.

The current permit, Part C.III.D.2, uses the following language that acknowledges the specifics at York:

a. Since the facility uses devices other than surface intake screens, the permittee shall monitor velocity at the point of entry through the device. Monitoring shall be conducted daily at startup of the facility for the first two weeks, and at least once per month thereafter. Results shall be recorded on a Discharge Monitoring Report (DMR) Supplemental Reporting Form and submitted to the Department on a monthly basis. Based upon the unique source waterbody characteristics and the use of submerged screens at this facility, the through-screen velocity will be calculated and reported based on actual intake flows and the open area of the screens in lieu of direct velocity monitoring.

Calpine requests that PADEP maintain the language from the previous permit term.

Other Requirements – (**Part C.III.3, page 25**)

Comment 9: As previously communicated to PADEP, Calpine requests that the requirements for Visual Inspections included in Part C.III paragraph C.3 be modified to recognize that the high debris load and turbidity in the waterbody often make visual inspection of the intake screens using divers impractical and hazardous; and such inspections are all but impossible during winter months. The option of performing remote inspections with a camera also would be impractical and unsuccessful, due to the turbidity and debris. Given waterbody conditions with a high debris load, the camera would easily be damaged and/or lost.

Water surface elevations in the wet well provide an indication of the intake screen operations and extent of fouling. During normal operation, if the screens are operating properly and are not clogged or fouled, the water surface in the wet well is maintained at a consistent elevation that approximates the river water surface. A rapidly changing or dropping water surface elevation in the wet well provides an indication of fouling across the intake screens. The water surface elevation in the wet well is currently remotely monitored by Calpine and used to initiate accelerated cleaning of the screens, if required. Calpine employs an air burst cleaning system that cleans the intake screens at a typical frequency of once per every 12-hour shift, but Calpine initiates additional cleaning if a drop in water surface elevation of the wet well is detected based on remote monitoring.

The current permit, Part C.III.D.3, uses the following language that acknowledges the

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specifics at York:

> Visual inspections of the cooling water intake structure(s) must be conducted to ensure that intake structure technologies are maintained and operated to ensure that they will continue to function as designed. Monitoring of wet well water surface elevations and through-screen velocity calculations to be utilized in conjunction with an annual dive inspection at a minimum may be applied in lieu of visual inspection.

Calpine requests that PADEP maintain the language from the previous permit term.

Other Requirements – **(Part C.III.C.4, page 26)**

Comment 10: Calpine York is on Track I and requests that this section be deleted entirely.

Other Requirements – **(Part C.IV.C.1.f, page 27)**

Comment 11: Calpine requests that the usage of "with adequate spill protection measures" be replaced with "all required spill prevention measures" to remove ambiguity.

Other Requirements – **(Part C.IV.C.4.c, page 28)**

Comment 12: Calpine's PPC Plan is reviewed and updated annually to conform to PA requirements. Language in the above referenced section of the permit are redundant. Calpine requests the section to remove "including, but not limited to: use of reused and recycled waters; solvents management; proper disposal of dyes, petroleum products, and spent lubricants; hazardous treatment chemicals; and any additional training requirements included in the applicable appendices."

Fact Sheet – **(Toxics, page 10)**

Comment 13: The first paragraph states that a pH value of 8.4 was used in the TMS calculations. Upon review an average of the minimum and maximum was used in the calculations on page 20. Please replace 8.4 with 7.5.

Fact Sheet – **(Chemical Additives, page 11)**

Comment 14: The chemical additives list in the fact sheet is outdated. Calpine has provided an updated list with Maximum Usage rates in the enclosed Fact Sheet.

EPA Comments via email to PADEP dated May 14, 2024

Comment 15 (EPA Comment 2): In the comments to PADEP, EPA noted that per 40 CFR 423.15(a)(10)(i), power plants that discharge cooling tower blowdown need to have a numerical limit for any pollutant with an effluent limitation guideline (ELG). As such zinc and chromium would need to have numerical limits in the permit. However, because the facility's chemical

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additives for cooling tower blowdown do not have zinc or chromium, PADEP may grant monitoring waivers pursuant to 40 CFR 122.44(a)(2).

Calpine Response: Calpine respectfully requests PADEP to grant York monitoring waivers for zinc and chromium.

Comment 16 (EPA Comment 3): In the comments to PADEP, EPA indicated "PADEP's Water Quality Toxics Management Strategy spreadsheet reported a maximum concentration for Total Dinitrotoluene that was greater than or equal 50% of its WQBEL. ... The fact sheet states monitoring requirements will be required because the permit application for Total Dinitrotoluene (2, 6-Dinitrotoluene) was based on a non-detect result of 16.8 ug/l and no limits will be imposed. It was noted that the data submitted with the application didn't meet the required target quantitative limit (TQL). PADEP's TQL for 2,4-Dinitrotoluene (µg/L) and 2,6-Dinitrotoluene (µg/L) is 5.0 ug/L per the industrial wastewater NPDES application instructions, PADEP 3800-PM-BCW0008a. ..."

Calpine Response: As noted above in Comment **2,** the analytical lab (ALS Environmental Laboratory) confirmed that the 16.8 ug/L previously reported was in error, and that all six values were below the detection limit. Per this finding, EPA comment #3 is no longer applicable.

* * *

Thank you for your consideration of this request.

Please contact Cheryl Hess at (302.824.3673) or cheryl.hess@calpine.com to discuss or set up a meeting.

Sincerely,

Cheryl A Hess

Cheryl A. Hess,
Environmental Services Program Manager
Calpine

cc: Mark Clemens, York Energy Center
Aaron Baar, PADEP
Summer Stawiarski, PADEP
Craig Wilson, K&L Gates
JoAnn Edgar, Regional EHS
Maria Bebenek, PADEP
Radhika deSilva, ASA

Enclosures (5)

1. Marked-up Draft Permit
2. Marked-up Draft Fact Sheet
3. Marked-up Draft Public Notice
4. ALS Revised Lab Report For Outfall 001-B2 sample collected 02/16/2023.
5. EPA email to PADEP dated 05/14/2024.

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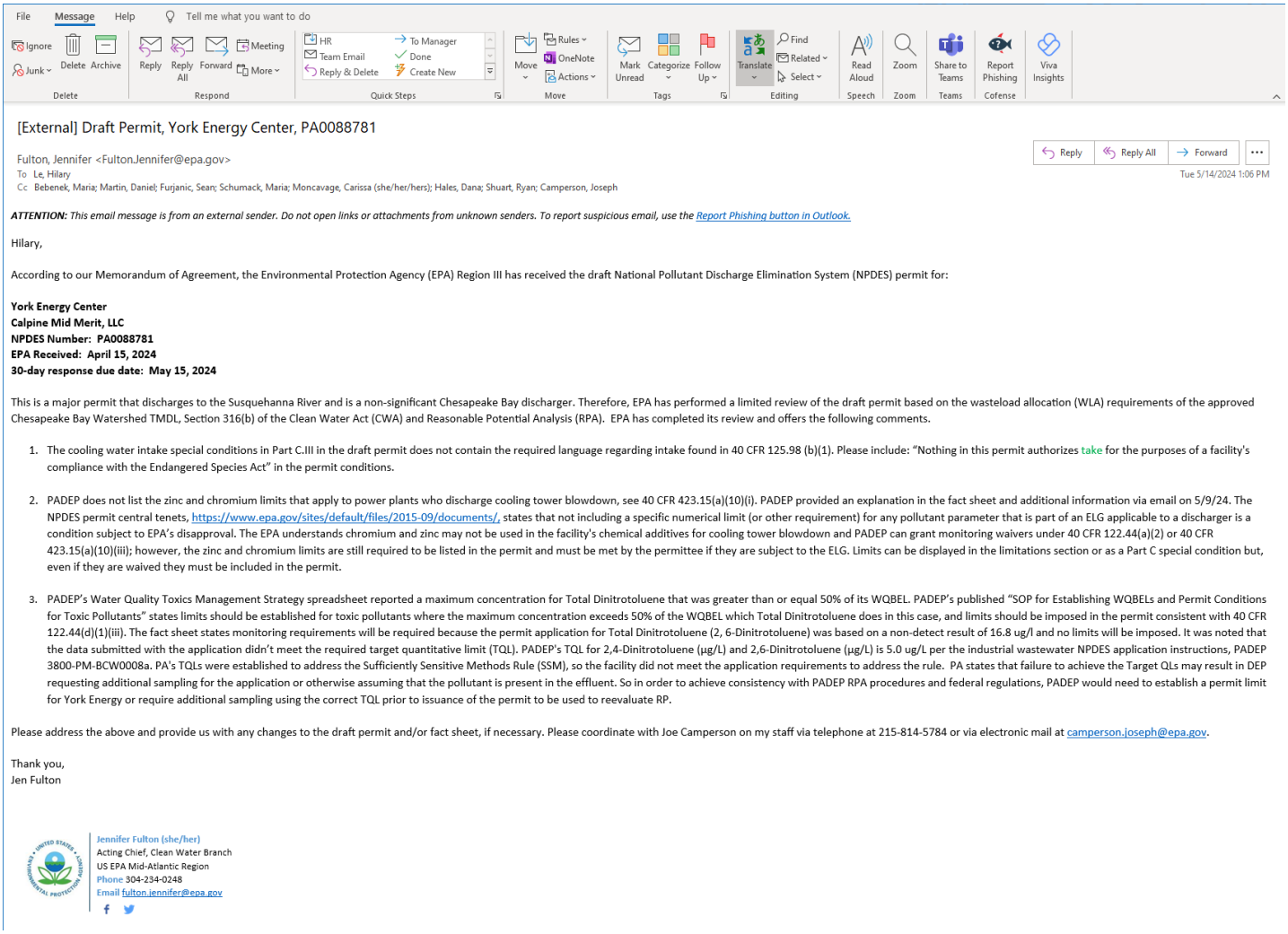

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[External] Draft Permit, York Energy Center, PA0088781

Reply Reply All Forward

Fulton, Jennifer <FultonJennifer@epa.gov>
To Le, Hilary
Cc Bebenek, Maria; Martin, Daniel; Furjanic, Sean; Schumack, Maria; Moncavage, Carissa (she/her/hers); Hales, Dana; Shuart, Ryan; Camperson, Joseph

Tue 5/14/2024 1:06 PM

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.*

Hilary,

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:

York Energy Center
Calpine Mid Merit, LLC
NPDES Number: PA0088781
EPA Received: April 15, 2024
30-day response due date: May 15, 2024

This is a major permit that discharges to the Susquehanna River and is a non-significant Chesapeake Bay discharger. Therefore, EPA has performed a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved Chesapeake Bay Watershed TMDL, Section 316(b) of the Clean Water Act (CWA) and Reasonable Potential Analysis (RPA). EPA has completed its review and offers the following comments.

1. The cooling water intake special conditions in Part C.III in the draft permit does not contain the required language regarding intake found in 40 CFR 125.98 (b)(1). Please include: "Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act" in the permit conditions.

2. PADEP does not list the zinc and chromium limits that apply to power plants who discharge cooling tower blowdown, see 40 CFR 423.15(a)(10)(i). PADEP provided an explanation in the fact sheet and additional information via email on 5/9/24. The NPDES permit central tenets, https://www.epa.gov/sites/default/files/2015-09/documents/, states that not including a specific numerical limit (or other requirement) for any pollutant parameter that is part of an ELG applicable to a discharger is a condition subject to EPA's disapproval. The EPA understands chromium and zinc may not be used in the facility's chemical additives for cooling tower blowdown and PADEP can grant monitoring waivers under 40 CFR 122.44(a)(2) or 40 CFR 423.15(a)(10)(iii); however, the zinc and chromium limits are still required to be listed in the permit and must be met by the permittee if they are subject to the ELG. Limits can be displayed in the limitations section or as a Part C special condition but, even if they are waived they must be included in the permit.

3. PADEP's Water Quality Toxics Management Strategy spreadsheet reported a maximum concentration for Total Dinitrotoluene that was greater than or equal 50% of its WQBEL. PADEP's published "SOP for Establishing WQBELs and Permit Conditions for Toxic Pollutants" states limits should be established for toxic pollutants where the maximum concentration exceeds 50% of the WQBEL which Total Dinitrotoluene does in this case, and limits should be imposed in the permit consistent with 40 CFR 122.44(d)(1)(iii). The fact sheet states monitoring requirements will be required because the permit application for Total Dinitrotoluene (2, 6-Dinitrotoluene) was based on a non-detect result of 16.8 ug/l and no limits will be imposed. It was noted that the data submitted with the application didn't meet the required target quantitative limit (TQL). PADEP's TQL for 2,4-Dinitrotoluene (µg/L) and 2,6-Dinitrotoluene (µg/L) is 5.0 ug/L per the industrial wastewater NPDES application instructions, PADEP 3800-PM-BCW0008a. PA's TQLs were established to address the Sufficiently Sensitive Methods Rule (SSM), so the facility did not meet the application requirements to address the rule. PA states that failure to achieve the Target QLs may result in DEP requesting additional sampling for the application or otherwise assuming that the pollutant is present in the effluent. So in order to achieve consistency with PADEP RPA procedures and federal regulations, PADEP would need to establish a permit limit for York Energy or require additional sampling using the correct TQL prior to issuance of the permit to be used to reevaluate RP.

Please address the above and provide us with any changes to the draft permit and/or fact sheet, if necessary. Please coordinate with Joe Camperson on my staff via telephone at 215-814-5784 or via electronic mail at camperson.joseph@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

Internal Review and Recommendations

ANALYSIS RESULTS TABLE
POLLUTANT GROUP 1

Please read instructions carefully before completing this form.

APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center))

☒ **Outfall / IMP Number 001** (Show location of sampling point on Line Drawing)
☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
☐ Intake Sampling Results (Specify Source: _____)
☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 1 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
BOD_5 (mg/L)	2.20	12.62	2.20	12.6	2.20	12.6	6	5	2	SM5210B-16, S5210B-11
COD (mg/L)	18.0	151	15.5	111	15.5	111	4	0	5	EPA 410.4
TOC (mg/L)	14.90	111.70	10.00	73.63	6.90	49.5	6	0	0.26	SM5310B-14, SM5310B-2011
TSS (mg/L)	404	3,090	188	1,435	57.4	365	74	1	4.73	S2540D-11, SM2540D-15
Ammonia-Nitrogen (mg/L)	1.26	6.38	0.61	3.93	0.56	3.77	6	0	0.03	ASTM D6919-11, ASTM D6919-17, ASTM D6919-09
Temperature (Winter) (°F)	58.25	XXX	71.15	XXX	68.36	XXX	753	XXX	XXX	NA
Temperature (Summer) (°F)	87.64	XXX	81.98	XXX	80.44	XXX	828	XXX	XXX	NA
pH – Minimum (S.U.)	6.59	XXX	XXX	XXX	7.63	XXX	3,119	XXX	XXX	NA
pH – Maximum (S.U.)	8.39	XXX	XXX	XXX	7.63	XXX	3,119	XXX	XXX	NA
Fecal Coliform (No./100 mL)	27.0	XXX	17.3	XXX	17.3	XXX	4	0	XXX	SM9223B Colilert-18/Quant
Oil and Grease (mg/L)	6.80	34.4	3.83	22.4	3.83	22.4	7	4	1.25	EPA 1664B
TRC (mg/L)	0.19	XXX	0.09	XXX	0.05	XXX	3,126	0	0.06	SM4500-Cl G-2011
Total Phosphorus (mg/L)	0.37	2.77	0.28	2.05	0.14	0.97	6	0	0.016	EPA 365.1
TKN (mg/L)	2.60	19.5	1.80	13.2	1.30	9.17	6	0	0.4	S4500NH3G-11
Nitrite + Nitrate-Nitrogen (mg/L)	6.40	47.9	6.05	42.3	4.36	31.0	6	2	0.58	EPA 300.0
Total Dissolved Solids (mg/L)	1,340	8,482	952	5,969	679	4,645	51	0	25	S2540C-11, SM2540C-15

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Applicant Name: Calpine Mid Merit LLC (York Energy Center)

Color (Pt-Co Units)	40.0	XXX	30.0	XXX	25.8	XXX	6	0	6	SM2120B-2011
Bromide (mg/L)	2.70	15.3	2.60	15.3	1.73	11.0	18	10	0.42	EPA 300.0
Chloride (mg/L)	130	858	122	799	82.0	552	19	0	1.33	EPA 300.0
Sulfate (mg/L)	412	2,600	362	2,362	236	1,587	18	0	2.22	EPA 300.0
Sulfide (mg/L)	ND	ND	ND	ND	ND	ND	6	6	0.82	SM4500S2F-2011
Surfactants (mg/L)	0.08	0.62	0.06	0.45	0.06	0.40	6	0	0.04	SM5540C-2011
Fluoride (mg/L)	0.32	2.19	0.26	1.78	0.26	1.78	6	2	0.16	EPA 300.0
Total Hardness (mg/L)	418	3,134	341	2,441	311	2,246	6	0	1.7	SM2340C-2011

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ANALYSIS RESULTS TABLE
POLLUTANT GROUP 2

Please read instructions carefully before completing this form.

APPLICANT NAME Calpine Mid Merit LLC (York Energy Center)

☒ **Outfall / IMP Number 001** (Show location of sampling point on Line Drawing)
☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
☐ Intake Sampling Results (Specify Source: _____)
☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 2 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Aluminum, Total (µg/L)	1.90	14.2	1.24	9.11	0.47	3.25	18	0	0.0097	EPA 200.7, EPA 200.8
Antimony, Total (µg/L)	1.20	0.01	0.73	0.005	0.69	0.005	6	0	0.33	EPA 200.8
Arsenic, Total (µg/L)	2.90	0.02	1.95	0.01	1.19	0.01	6	0	0.94	EPA 200.8
Barium, Total (µg/L)	140	1.05	112	0.78	103	0.74	6	0	1.58	EPA 200.8
Beryllium, Total (µg/L)	0.11	0.0006	0.11	0.0006	0.11	0.0006	6	5	0.19	EPA 200.8
Boron, Total (µg/L)	92.0	0.69	57.8	0.43	57.7	0.42	6	0	16	EPA 200.7
Cadmium, Total (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.302	EPA 200.8
Chromium, Total (µg/L)	3.20	0.02	2.08	0.02	1.18	0.009	6	0	0.634	EPA 200.8
Chromium, Hexavalent (µg/L)	0.73	0.005	0.44	0.003	0.36	0.003	6	0	0.028	EPA 218.6
Cobalt, Total (µg/L)	1.10	0.008	1.10	0.008	0.97	0.007	6	3	1.58	EPA 200.8
Copper, Total (µg/L)	10.0	0.07	6.60	0.05	4.57	0.03	6	0	1.58	EPA 200.8
Cyanide, Total (µg/L)	4.30	0.03	3.70	0.03	3.70	0.03	6	4	2	KELADA-01
Iron, Total (µg/L)	1,800	13.5	1,130	8.35	818	6.00	6	0	10	EPA 200.7
Iron, Dissolved (µg/L)	300	2.25	215	1.58	152	1.09	6	3	20	EPA 200.7
Lead, Total (µg/L)	3.60	0.03	2.35	0.02	1.21	0.01	6	0	0.634	EPA 200.8
Manganese, Total (µg/L)	360	2.70	240	1.77	128	0.93	6	0	1.55	EPA 200.8
Mercury, Total (µg/L)	0.005	0.00003	0.002	0.00002	0.002	0.00002	2	0	0.00017	EPA 1631E
Molybdenum, Total (µg/L)	3.00	0.02	1.57	0.01	1.56	0.01	6	0	0.63	EPA 200.8
Nickel, Total (µg/L)	12.0	0.09	7.95	0.06	5.58	0.04	6	0	1.58	EPA 200.8
Phenols, Total (µg/L)	2.00	0.02	2.00	0.02	2.00	0.02	6	5	2	EPA 420.4
Selenium, Total (µg/L)	0.74	0.004	0.74	0.004	0.74	0.004	6	5	1.25	EPA 200.8
Silver, Total (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.634	EPA 200.8
Thallium, Total (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.302	EPA 200.8
Zinc, Total (µg/L)	42.0	0.31	24.7	0.18	14.4	0.11	6	0	1.58	EPA 200.8

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ANALYSIS RESULTS TABLE
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Please read instructions carefully before completing this form.

APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

☒ **Outfall / IMP Number 001** (Show location of sampling point on Line Drawing)
☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
☐ Intake Sampling Results (Specify Source: _____)
☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 3 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Acrolein (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1.3	EPA 624.1
Acrylonitrile (µg/L)	ND	ND	ND	ND	ND	ND	6	6	2	EPA 624.1
Benzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.12	EPA 624.1
Bromoform (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 624.1
Carbon Tetrachloride (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.23	EPA 624.1
Chlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.25	EPA 624.1
Chlorodibromomethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.25	EPA 624.1
Chloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.47	EPA 624.1
2-Chloroethylvinyl Ether (µg/L)	ND	ND	ND	ND	ND	ND	6	6	3.1	EPA 624.1
Chloroform (µg/L)	2.50	0.01	1.10	0.007	1.10	0.007	6	2	0.15	EPA 624.1
Dichlorobromomethane (µg/L)	0.27	0.001	0.27	0.001	0.27	0.001	6	5	0.18	EPA 624.1
1,1-Dichloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.07	EPA 624.1
1,2-Dichloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.12	EPA 624.1
1,1-Dichloroethylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.13	EPA 624.1
1,2 Dichloropropane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.26	EPA 624.1
1,3-Dichloropropylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.47	EPA 624.1
1,4-Dioxane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.34	EPA 625.1
Ethylbenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.2	EPA 624.1
Methyl Bromide (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 624.1
Methyl Chloride (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.33	EPA 624.1
Methylene Chloride (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.14	EPA 624.1
1,1,2,2-Tetrachloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 624.1
Tetrachloroethylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.27	EPA 624.1

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APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

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☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 3 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Toluene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.24	EPA 624.1
1,2-Trans-Dichloroethylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.08	EPA 624.1
1,1,1-Trichloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.12	EPA 624.1
1,1,2-Trichloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.13	EPA 624.1
Trichloroethylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.29	EPA 624.1
Vinyl Chloride (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.33	EPA 624.1

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ANALYSIS RESULTS TABLE
POLLUTANT GROUP 4

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APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

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☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
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☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 4 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
2-Chlorophenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 625.1
2,4-Dichlorophenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 625.1
2,4-Dimethylphenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.46	EPA 625.1
4,6-Dinitro-o-Cresol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1.2	EPA 625.1
2,4-Dinitrophenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	2.8	EPA 625.1
2-Nitrophenol (µg/L)	1.50	0.01	1.50	0.01	1.50	0.01	6	5	0.38	EPA 625.1
4-Nitrophenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1.3	EPA 625.1
P-Chloro-m-Cresol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 625.1
Pentachlorophenol (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1.7	EPA 625.1
Phenol (µg/L)	0.29	0.002	0.29	0.002	0.29	0.002	6	5	0.25	EPA 625.1
2,4,6-Trichlorophenol (µg/L)	1.40	0.01	1.40	0.01	1.40	0.01	6	5	0.46	EPA 625.1

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ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 (PAGE 1 OF 3)

Please read instructions carefully before completing this form.

APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

☒ Outfall / IMP Number 001 (Show location of sampling point on Line Drawing)
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☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 5 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Acenaphthene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Acenaphthylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 625.1
Acrylamide (µg/L)	ND	ND	ND	ND	ND	ND	10	10	11	EPA 625.1
Anthracene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Benzidine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	2.5	EPA 625.1
Benzo(a)Anthracene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.4	EPA 625.1
Benzo(a)Pyrene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.35	EPA 625.1
3,4-Benzo-fluoranthene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Benzo(*ghi*)Perylene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1
Benzo(*k*)Fluoranthene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 625.1
Bis(2-*Chloro-ethoxy*)Methane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 625.1
Bis(2-*Chloroethyl*)Ether (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 625.1
Bis(2-*Chloro-isopropyl*)Ether (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 625.1
Bis(2-*Ethylhexyl*)Phthalate (µg/L)	0.93	0.007	0.92	0.007	0.92	0.007	6	4	0.79	EPA 625.1
4-Bromophenyl Phenyl Ether (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.44	EPA 625.1
Butyl Benzyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.57	EPA 625.1
2-Chloronaphthalene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
4-Chlorophenyl Phenyl Ether (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Chrysene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1

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ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 (PAGE 2 OF 3)

Please read instructions carefully before completing this form.

APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

☒ Outfall / IMP Number 001 (Show location of sampling point on Line Drawing)
☐ Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing)
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☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 5 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Dibenzo(*a,h*)Anthracene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
1,2-Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 624.1
1,3- Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 624.1
1,4- Dichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.43	EPA 624.1
3,3'-Dichlorobenzidine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1	EPA 625.1
Diethyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.55	EPA 625.1
Dimethyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1
Di-n-Butyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.56	EPA 625.1
2,4-Dinitrotoluene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.44	EPA 625.1
2,6-Dinitrotoluene (µg/L)	ND	ND	ND	ND	ND	ND	6	5	0.4	EPA 625.1
Di-n-Octyl Phthalate (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.86	EPA 625.1
1,2-Diphenylhydrazine (as *Azobenzene)* (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 625.1
Fluoranthene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
Fluorene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.37	EPA 625.1
Hexachlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
Hexechlorobutadiene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.48	EPA 625.1
Hexachlorocyclopentadiene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.72	EPA 625.1
Hexachloroethane (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.36	EPA 625.1

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ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 (PAGE 3 OF 3)

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APPLICANT NAME	Calpine Mid Merit LLC (York Energy Center)

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☐ Background (Upstream) Sampling Results (Specify Location: _____)
☐ New Discharge (Basis for Information: _____)

POLLUTANT GROUP 5 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)				
Indeno(*1,2,3-cd*)Pyrene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Isophorone (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.42	EPA 625.1
Naphthalene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.39	EPA 625.1
Nitrobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.51	EPA 625.1
N-Nitroso-di-methylamine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	1.1	EPA 625.1
N-Nitroso-di-n-propylamine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1
N-Nitroso-di-n-phenylamine (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.48	EPA 625.1
Phenanthrene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.38	EPA 625.1
Pyrene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1
1,2,4-Trichlorobenzene (µg/L)	ND	ND	ND	ND	ND	ND	6	6	0.41	EPA 625.1

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CHEMICAL ADDITIVES

1. Identify all chemical additives that have been introduced to any waste stream over the past two years.

Chemical Additive Name	Outfall / IMP No.	Purpose	Usage Frequency	Max Usage Rate	Units
Sulfuric Acid	001	pH control	As required	As required	
Sodium Hypochlorite	001	pH and TRC control	As required	As required	
Optisperse HP54434 (sodium hydroxide / hexametaphosphate blend)	001	Internal boiler treatment	As required	As required	
Optisperse HP3100 (alkaline liquid blend of Phosphate)	001	Internal boiler treatment	As required	As required	
Steamate NA1324 (ammonium hydroxide / monoethanolamine)	001	Steam condensate treatment	As required	25	lbs/day
See additional table attached					

2. List all chemical additives that the applicant is requesting approval to use upon issuance of the permit by DEP. Identify the point of introduction on a line or process diagram.

Chemical Additive Name	Outfall / IMP No.	Purpose	Proposed Usage Frequency	Proposed Max Usage Rate	Units
Sulfuric Acid	001	Neutralization	As required	-	
Caustic Soda/NaOH	001	Neutralization	As required	-	
Control OS 7780	001	Oxygen scavenger corrosion inhibitor	Daily	4	lb/day
Kleen MCT 113	001	Reverse osmosis clean in place	Daily	316	gallons/day
Kleen MCT 882	001	Reverse osmosis clean in place	Daily	500	lb/day
Citric Acid	001	UF cleaning	As required	-	

3. List all chemical additives in the same order as question 2, above, and provide the requested information. For chemical additives that are not on DEP's Approved List, submit New Chemical Additive Request Form(s) to DEP's Central Office. For chemical additives that are on DEP's Approved List but a Chemical Additives Notification Form was not previously submitted, attach a Chemical Additives Notification Form to the application.

Chemical Additive Name	On Approved List?	Notification Form Attached?	Notification Form Previously Submitted?	Notification Form Submission Date	Analytical Method
Sulfuric Acid	☒	☐	☒	March 29, 2003	

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CHEMICAL ADDITIVES

1. Identify all chemical additives that have been introduced to any waste stream over the past two years.

Chemical Additive Name	Outfall / IMP No.	Purpose	Usage Frequency	Max Usage Rate	Units
Steamate NA0240 Morpholine (Diethyleneimide Oxide)	001	Anti-corrosion; neutralizing amine	As required	7.2	lbs/day
Cortrol OS7780 Hydroquinone	001	Anti-corrosion; Water based dissolved oxygen scavenger/metal passivator	As required	4.0	lbs/day
Sodium Hydroxide (Caustic Soda)	001	Antiscalant	As required; subject to permit pH limitation	As required; subject to permit pH limitation	
Sodium Bisulfite 42%	001	Dechlorination	As required, subject to permit pH and available chlorine	61	gallons/day

2. List all chemical additives that the applicant is requesting approval to use upon issuance of the permit by DEP. Identify the point of introduction on a line or process diagram.

Chemical Additive Name	Outfall / IMP No.	Purpose	Proposed Usage Frequency	Proposed Max Usage Rate	Units
Hypersperse MDC 714	001	Reverse osmosis clean in place, Antiscalant/Antifoulant	Daily	1300	gallons/day
Hypersperse MCT405	001	Reverse osmosis clean in place	Daily	3.6	gallons/day
Foamtroll 1440	001	Foam control	Daily	298	gallons/day
Steamate NA 1324	001	pH Control	Daily	60	gallons/day
Steamate PAP7000	001	Steam condensate treatment	Daily	13	gallons/day
Biomate MBC2881	001	Biocide	As required	6	galllons/day

3. List all chemical additives in the same order as question 2, above, and provide the requested information. For chemical additives that are not on DEP's Approved List, submit New Chemical Additive Request Form(s) to DEP's Central Office. For chemical additives that are on DEP's Approved List but a Chemical Additives Notification Form was not previously submitted, attach a Chemical Additives Notification Form to the application.

Chemical Additive Name	On Approved List?	Notification Form Attached?	Notification Form Previously Submitted?	Notification Form Submission Date	Analytical Method
Hypersperse MDC 714	☒	☐	☒	May 13, 2024	

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Internal Review and Recommendations

Calpine York Energy Center
PA0088781 NPDES Renewal Application 2023
This replacement page was provided on 6/13/2024
Applicant Name:

3800-PM-BCW0008b Rev. 6/2019
Permit Application

CHEMICAL ADDITIVES

1. Identify all chemical additives that have been introduced to any waste stream over the past two years.

Chemical Additive Name	Outfall / IMP No.	Purpose	Usage Frequency	Max Usage Rate	Units
Spectrus DT1400	001	Detoxifying Agent	As needed		lb/day
Spectrus CT1300	001	Microbial control agent	As needed	94	lb/day
Biomate MBC2881 (biocide)	001	Biocide	As needed	6	gallons/day
Gengard GN7004	001	dispersant	As needed	37	lbs/day
Steamate PAP7000	001	Steam condensate treatment	Daily	200	lbs/day

2. List all chemical additives that the applicant is requesting approval to use upon issuance of the permit by DEP. Identify the point of introduction on a line or process diagram.

Chemical Additive Name	Outfall / IMP No.	Purpose	Proposed Usage Frequency	Proposed Max Usage Rate	Units
Sodium Bisulfite 42%	001	Dechlorination	As required	140	gallons/day
Sodium Hypochlorite	001	pH and TRC control	As required	As required	

3. List all chemical additives in the same order as question 2, above, and provide the requested information. For chemical additives that are not on DEP's Approved List, submit New Chemical Additive Request Form(s) to DEP's Central Office. For chemical additives that are on DEP's Approved List but a Chemical Additives Notification Form was not previously submitted, attach a Chemical Additives Notification Form to the application.

Chemical Additive Name	On Approved List?	Notification Form Attached?	Notification Form Previously Submitted?	Notification Form Submission Date	Analytical Method
Sodium Bisulfite 42%	☒	☐	☒	May 13, 2024	
Sodium Hypochlorite	☒	☐	☒	Prior to 2018	
	☐	☐	☐		
	☐	☐	☐		
	☐	☐	☐		
	☐	☐	☐		

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Internal Review and Recommendations

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Applicant Name:

Caustic Soda/NaOH	☒	☐	☒	Prior to 2018	
Control OS 7780	☒	☐	☒	Prior to 2018	
Kleen MCT 113	☒	☐	☒	May 13, 2024	
Kleen MCT 882	☒	☐	☒	May 13, 2024	
Citric Acid	☒	☐	☒	Prior to 2018	

Hypersperse MCT405	☒	☐	☒	May 13, 2024	
Foamtrol 1440	☒	☐	☒	March 2024	
Steamate NA 1324	☒	☐	☒	May 13, 2024	
Steamate PAP7000	☒	☐	☒	May 13, 2024	
Biomate MBC2881	☒	☐	☒	May 13, 2024	

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