pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0253359**
Facility Type	**Industrial**	APS ID	**929776**
Major / Minor	**Major**	Authorization ID	**1360452**

NPDES PERMIT FACT SHEET ADDENDUM 1

Applicant and Facility Information

Applicant Name	**Cambria Somerset Authority (Joint Client)**	Facility Name	**Cambria Somerset Authority**
Applicant Address	227 Franklin Street Suite 306	Facility Address	227 Franklin Street Suite 306
	Johnstown, PA 15901-1916		Johnstown, PA 15901-1829
Applicant Contact	Richard S. Ames, Operations Manager	Facility Contact	***same as applicant***
Applicant Phone	(814) 532-8851	Facility Phone	***same as applicant***
Applicant Email	csa@cambriasomersetwater.com	Facility Email	***same as applicant***
Client ID	332350	Site ID	271597
SIC Code	4941	Municipality	City of Johnstown
SIC Description	Trans. & Utilities - Water Supply	County	Cambria
Co-Applicant Name	**CPV Fairview, LLC**	Facility Name	**CPV Fairview Energy Center**
Co-Applicant Address	1 North Lexington Avenue, Suite 1400	Facility Address	2862 William Penn Avenue
	White Plains, NY 10601-1724		Johnstown, PA 15909-3628
Co-Applicant Contact	Shawn Simmers, P.E.	Facility Contact	***same as co-applicant***
Co-Applicant Phone	(814) 924-0338	Facility Phone	***same as co-applicant***
Co-Applicant Email	ssimmers@cpvfairview.com	Facility Email	***same as co-applicant***
Date Published in PA Bulletin	May 25, 2024	EPA Waived?	No
Comment Period End Date	July 9, 2024 (15-day extension)	If No, Reason	Major Facility
Purpose of Application	NPDES permit renewal for excess raw water withdrawn from reservoirs and industrial waste.		

Internal Review and Recommendations

The draft NPDES permit for Cambria Somerset Authority (CSA) and CPV Fairview, LLC's Fairview Energy Center (CPV) was published in the *Pennsylvania Bulletin* on May 25, 2024. By email dated June 13, 2024, TranSystems Corp., Inc. (the consultant for CSA) requested a 15-day extension of the comment period. By letter dated June 14, 2024, DEP granted a 15-day extension of the comment period (the maximum allowed by 25 Pa. Code § 92a.82(d)) through July 9, 2024.

By email dated June 12, 2024, the U.S. Environmental Protection Agency (EPA) submitted comments on the draft NPDES permit. EPA indicated it performed a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved Kiskiminetas-Conemaugh TMDL, the Steam Electric Power Generating Point Source Category ELGs at 40 CFR § 423.15(b), the 316(b) Cooling Water Intake Structure, and PFAS monitoring requirements. DEP's responses to EPA's comments are provided below following each comment.

EPA Comment 1: Page 32 of the factsheet indicates that the copper limit is based off the TMDL (See table 10), however the Kiski Conemaugh Watershed TMDL does not establish allocated loads for copper. Page 32 also indicates that the permit limit for aluminum was based off statutory regulations, but our understanding is that this aluminum limit was based on the Kiski-Conemaugh TMDL assumptions and requirements. Please apply changes as needed to accurately reflect the bases of these permit limits.

Approve	Deny	Signatures	Date
✓		Ryan C. Decker, P.E. / Environmental Engineer	December 6, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	December 9, 2024

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DEP Response to EPA Comment 1: DEP acknowledges the error, and an error in Table 15 relating to the basis for copper reporting requirements at Outfall 001 in the renewed permit.

With respect to Table 10 in the Fact Sheet and the bases for the previous permit's requirements at Outfall 001, the aluminum limits were based on the Kisk-Conemaugh TMDL, and the copper limits were WQBELs based on a localized reasonable potential analysis.

With respect to Table 15 in the Fact Sheet and the bases for the renewed permit's requirements at Outfall 001, the aluminum limits will continue to be based on the Kiski-Conemaugh TMDL and the copper reporting requirements are based on 25 Pa. Code § 92a.61(b) regarding DEP's authority to impose reasonable monitoring requirements.

EPA Comment 2: The TRC evaluation for outfall 001 produced average monthly and instant max limits of 0.348 and 0.815 mg/l, respectively (see page E-1 of factsheet). However, the draft permit proposes a reporting requirement for TRC at outfall 001. It appears that WQBELs for TRC need to be imposed in the permit.

DEP Response to EPA Comment 2: As stated on p.36 of the Fact Sheet, CSA reported that TRC concentrations in its three Outfall 001 effluent samples collected to complete the application were <0.1 mg/L. Based on DEP's thresholds for imposing WQBELs or requiring water quality-based reporting (see p.34 of the Fact Sheet), the concentration of TRC in the effluent would need to be greater than 50% of the 0.348 mg/L WQBEL (*i.e.*, ≥ 0.174 mg/L) for the TRC WQBELs to be imposed. Since <0.1 mg/L is less than 50% of the WQBEL, reasonable potential was not demonstrated and the TRC WQBELs were not imposed. However, TRC concentrations of <0.1 mg/L could mean that TRC is present within 25% to 50% of the WQBEL, which is DEP's range for requiring reporting for non-conservative pollutants. Therefore, TRC reporting was required at Outfall 001.

CSA can resample TRC at Outfall 001 and, if TRC is not detectable at a level of 0.02 mg/L (DEP's Target Quantitation Limit for TRC), then the TRC reporting requirement at Outfall 001 will be removed from the final permit.

TRC concentrations at Outfall 002 were reported similarly to Outfall 001, but due to different mixing conditions, the TRC WQBELs are lower at that outfall such that an effluent concentration of <0.1 mg/L is within 50% of the 0.184 mg/L WQBEL. CSA can resample TRC at Outfall 002 using a reporting limit of 0.02 mg/L with the potential for TRC WQBELs at Outfall 002 to be removed from the final permit.

EPA Comment 3: The permit requirements for monitoring of PFAS analytes for IMP 101 on pages 5 and 6 does not include the clause which allows the POTW to cease monitoring of the parameters, if 4 consecutive results are found to be non-detect. Please add this as a footnote at the end of part A, table I.D.

DEP Response to EPA Comment 3: The footnote was added to Part A. Also, the units for the four PFAS parameters were changed from µg/L to ng/L.

EPA Comment 4: The fact sheet indicates that "Outfall 001 discharges excess raw water (blow-off) from the Quemahoning Reservoir, the Hinckston Run Reservoir, and/or the Border Dam, and reclaim water received from the CPV Fairview Energy Center." There are no monitoring requirements for PFAS analytes at outfall 001, even though it discharges CPV Fairview Energy reclaim water (i.e., Industrial wastewater). Why is it that there are no PFAS monitoring requirements applied to this outfall, if outfall 001 dischargers diluted industrial waste from CPV Fairview Energy?

DEP Response to EPA Comment 4: DEP considers sampling for PFAS parameters at IMP 101 to be adequate because CPV is the only industrial contributor to CSA's effluent. If PFAS are present in the reclaim water, then DEP already knows that PFAS will discharge at a more dilute level at either Outfall 001 or Outfall 002.

EPA Comment 5: Page 38 indicates that while outfall 002 is an alternative discharge location for the blowoff and reclaim water source discharging through outfall 001, the application indicates that Hinckston Run Blowoff and CPV reclaim water can't flow to outfall 002 based on the current pipe configuration. Does DEP anticipate the pipes to be reconfigured at any point within this next permit cycle so that the blowoff and CPV waters can flow through outfall 002? If so, please include a small description of the expected change on the factsheet.

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DEP Response to EPA Comment 5: CSA reconfigures its water supply system as needed based on water availability and water quality issues (*e.g.*, if an intake or pipe section is down for maintenance), so it is possible the piping will be reconfigured during the permit term so that CPV's wastewaters discharge at Outfall 002. The permit regulates Outfall 002 as if CPV's reclaim water will discharge at that location.

EPA Comment 6: Based on our phone conversation on June 11, 2024, PADEP suggested, and EPA supports, a requirement in the 316(b) Cooling Water Intake Structure section of the permit for CSA to ensure it obtains and then notifies PADEP of any changes in the water usage and technology of its users that may affect the BTA determination for any of CSA's intake structures. As discussed, PADEP could also consider imposing requirements for the end users' NPDES permits to continue to operate their systems/technologies and notify CSA of any changes (especially if the users are driving the BTA determination for a given CWIS).

DEP Response to EPA Comment 6: DEP already plans to impose requirements in end users' NPDES permits in situations where end users are driving BTA at one of CSA's intakes. Specifically, in the draft renewal permit for the Ebensburg Power Company (PA0098612), which is the sole recipient of raw water from CSA's Wilmore intake, DEP included conditions requiring the plant to continue operating a closed-cycle recirculating system that constitutes BTA for reducing impingement and entrainment at that intake.

In response to the draft permit for CSA, CSA submitted comments proposing that the Quemahoning, Hinckston Run, and Border Dam intakes already meet one of the case-by-case BTA options listed in Part C, Condition VII. DEP's review of CSA's BTA proposals is provided later in this Fact Sheet Addendum.

EPA Closing: Please address the above and provide us with any changes to the draft permit and/or fact sheet, if necessary. Please contact Natalie Sanchez Gonzalez or Ryan Shuart on my staff via telephone at 215-814-2078/215-814-2714 or via electronic mail at sanchez-gonzalez.natalie@epa.gov or shuart.ryan@epa.gov, respectively.

DEP Response to EPA Closing: Due to the number of changes being made to the permit in response to comments on the first draft permit, a second draft permit will be published for public and EPA comment.

By letter dated July 8, 2024, TranSystems Corp. Inc. (acting as a coordinator for comments from CSA, CPV, and other interested parties) submitted comments on the draft NPDES permit. DEP's responses to those comments are provided below following each comment.

CSA Comment 1: For Outfall 001, the Draft Permit requires a daily grab sample to be collected and tested for pH. Note that Outfall 001 consists of flows from several sources, including raw water from the Quemahoning Dam, Hinckston Run Dam and Border Dam Lakes, as well as Reclaim Water from the CPV Fairview Energy Center water treatment plant. Water discharging at Outfall 001 can contain varying amounts from these four sources, but other than the Reclaim Water flows, the other three sources are obtained directly from the lakes, with no change to the water quality due to industrial activity and no chemical addition for treatment of the lake water. The Reclaim Water is discharged after treatment at the Fairview Energy Center facility and is monitored for pH at Internal Monitoring Point 101 on a daily basis (among other constituents). As such, it is unnecessary to monitor the pH at Outfall 001 on a daily basis since: three of the four potential sources of water are not impacted by industrial activity; and the fourth is monitored daily at IMP 101. The change to the daily sampling would require significant cost expenditure to install a pH monitoring device at the Outfall, and to incorporate that into the existing SCADA system. With that in mind, please consider changing the pH monitoring requirement for Outfall 001 to 1/week, as per the current permit, so that it can be completed along with the other weekly testing requirements.

DEP Response to CSA Comment 1: Please note that, pursuant to DEP's "Policy for Permitting Surface Water Diversions", Doc. No. 386-2000-019, and the Pennsylvania Commonwealth Court Decision referenced therein [*Delaware Unlimited, et al. v. Department of Environmental Resources, et al.*, 508A.2d 348 (1986)], diversions of water from one waterbody to another waterbody are subject to regulation by an NPDES permit. Such regulation is necessary regardless of whether the diverted water includes wastewaters from an industrial facility like CPV. DEP's Policy for Permitting Surface Water Diversions is the reason CSA was issued an NPDES permit (among other required permits) before CPV began discharging reclaim water through CSA's outfalls. DEP's policy states, in part:

> A diversion or interbasin transfer situation is unique in that the quality of the water to be diverted (and subsequently discharged to the receiving stream) is affected by a variety of naturally occurring and man-induced conditions which are not under the control of the diverter (discharger).

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> As a result, a basic issue encountered in developing an NPDES permitting policy and process for water diversions is evaluation of the degree of public benefit vs. potential environmental impacts that are associated with diversions. However, the diverter must assure that the discharge does not cause a violation of water quality standards in the receiving stream. […]
>
> In evaluating the acceptability of a proposed diversion, the Department will take into account the water quality impact of the diversion on both the diverted and receiving streams. The Environmental Hearing Board (EHB) decision which requires the Department to issue NPDES permits for diversions states that the Department has a mandatory duty not to allow water quality standards to be exceeded as a result of the diversion.

In short, the simple act of diverting water from one waterbody to another waterbody may result in the discharge of pollutants at levels that violate water quality standards in the receiving waterbody even when the diverter has not added any pollutants to the diverted water. For example, if the pH of a diverted water source is 5.5 S.U. and the pH of the receiving water is 6.0 S.U., then the diverted water source could contribute to a violation of water quality standards for pH in the receiving water even though no pollutants are added by the diverter. DEP understands that those circumstances generally do not apply to CSA's diversions, which is why DEP agrees to the requested measurement frequency reduction for pH at Outfall 001. However, CSA should be aware that it is responsible for any adverse impacts to waters of the Commonwealth caused by its diversions.

CSA Comment 2: The current Draft Permit requires that copper be sampled at those locations in an inconsistent way, as follows:

- Outfall 001 – report the results for copper on a weekly basis with no limit defined;
- Outfall 002 – sampling and testing not required for copper;
- Outfall 003 – sampling twice/month for copper, with strict maximum avg quarterly levels of 7.74 µg/l and daily and instantaneous maximum levels of 11.4 µg/l.

Given that the source of the 3 outfalls is the same, other than at Outfall 001, and that copper is tested at IMP 101 on a weekly basis, the Draft Permit requirements seem to be inconsistent. If testing for copper at Outfall 002 is not necessary, and IMP 101 is monitored for copper, then it makes sense to eliminate that requirement for Outfalls 001 and 003, as well as 002.

DEP Response to CSA Comment 2: As explained in DEP's Response to CSA Comment 1, CSA's discharges cannot cause a violation of water quality standards—whether composed wholly of diverted water from one of CSA's reservoirs or partially of diverted water and partially of industrial wastewaters from CPV. The differing requirements for copper arise from the different discharge circumstances and mixing conditions at each outfall as explained in Sections 001.B, 002.B, and 003.B of the Fact Sheet.

To reiterate from those sections of the Fact Sheet, reporting for copper is required at Outfall 001 because the average discharge concentration of copper at that outfall (18.38 µg/L) based on concentrations reported under the previous permit is between 10% and 50% of the governing water quality-based effluent limit (WQBEL) for copper at Outfall 001 (127 µg/L)—see Table 14 on p.25 of the Fact Sheet. According to DEP's water quality-based permitting procedures described on pp. 33 and 34 of the Fact Sheet, reporting is required for conservative pollutants like copper when the maximum reported effluent concentration or calculated average monthly effluent concentration is between 10% and 50% of the WQBEL.

No requirements for copper apply at Outfall 002 because the average discharge concentration of copper based on concentrations reported under the previous permit (2.5 µg/L) is not between 10% and 50% of the governing WQBEL calculated for copper at Outfall 002 (83.4 µg/L).

WQBELs for copper apply at Outfall 003 because the maximum concentration of copper at that outfall (6.9 µg/L) is greater than 50% of the governing WQBEL calculated for copper at Outfall 003 (7.74 µg/L).

CSA Comment 3: The current Draft Permit requires testing and sampling for Total Residual Chlorine at Outfall 002 (1/week and 0.184 mg/l avg monthly max) and at Outfall 003 (2/quarter and 0.018 mg/l avg quarterly max), even though the only flow to these points is directly from the lakes. As noted above, water flowing to Outfalls 002 and 003 can come from some combination of Quemahoning, Border and/or Hinckston Run Dam Lakes, with no impact from industrial activity and no chemical additional for treatment of the lake water. The TRC testing for those two locations seems to be unnecessary, given that no chlorine is used upstream of those sampling points, and it is required that the testing for those points be eliminated.

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DEP Response to CSA Comment 3: As explained on pp. 40 and 42 of the Fact Sheet, CSA reported that TRC concentrations were not detectable at a reporting limit of 0.1 mg/L in all the effluent samples collected at Outfalls 002 and 003. Even though TRC was not detected in discharges from those outfalls, CSA did not achieve DEP's Target QL of 0.02 mg/L when reporting those results, which would have been sufficiently sensitive to rule out the need for TRC WQBELs or TRC reporting according to DEP's water quality-based permitting procedures described on pp. 33 and 34 of the Fact Sheet. A discharge concentration of <0.1 mg/L could mean that TRC is present at a concentration within 50% of the average monthly TRC WQBEL (the threshold above which WQBELs are imposed). Therefore, the TRC WQBELs were imposed.

If CSA reported on the application that TRC was not detectable at Outfalls 002 and 003 at the level of DEP's Target QL (*i.e.*, if CSA reported TRC results as "<0.02 mg/L"), then TRC WQBELs would not apply at those outfalls. DEP invites CSA to perform such sampling and analyses now, before the permit is issued, with the potential for TRC requirements at those outfalls to be removed before issuance if TRC concentrations are <0.02 mg/L.

CSA Comment 4: The Draft Permit also requires that TRC samples be collected/tested for Outfall 001 flows (report results 1/week); however, the only source of chlorine to Outfall 001 is from the Fairview Energy Center treatment plant, and that is monitored daily at IMP 101. Since any discharges at Outfall 001 will have some level of dilution of the TRC associated with IMP 101, sampling/testing at Outfall 001 seems to be unnecessary and it is requested that this requirement be eliminated.

DEP Response to CSA Comment 4: See DEP Response to CSA Comment 3 and Section 001.B of the Fact Sheet. As explained in that section:

> The results of the TRC_CALC analysis included in Attachment E indicate that the following TRC WQBELs apply at Outfall 001: 0.348 mg/L average monthly and 0.815 mg/L instantaneous maximum.
>
> CSA reported that TRC concentrations were not detectable at a reporting limit of 0.1 mg/L in any of the three Outfall 001 effluent samples collected for the application. Even though TRC was not detected in the effluent, CSA did not achieve DEP's Target QL of 0.02 mg/L when reporting those results, which would have been sufficiently sensitive to rule out the need for TRC WQBELs or TRC reporting according to the RP thresholds described previously in this section. A discharge concentration of <0.1 mg/L means that TRC concentrations are less than 50% of the average monthly TRC WQBEL. Therefore, reasonable potential is not demonstrated. However, a discharge concentration of <0.1 may mean that TRC is present within 25-50% of the average monthly TRC WQBEL (TRC is a non-conservative pollutant). Therefore, reporting will be required for TRC.

If CSA reported that TRC was not detectable at Outfall 001 at the level of DEP's Target QL (i.e., if CSA reported TRC results as "<0.02 mg/L"), then TRC WQBELs would not apply at Outfall 001. DEP invites CSA to perform such sampling and analyses now, before the permit is issued, with the potential for TRC requirements at Outfall 001 to be removed before issuance if TRC concentrations are <0.02 mg/L.

CSA Comment 5: Note that Part C.IV of the Draft Permit discusses WQBELs Below Quantitation Limits, and the fact that testing for Total Residual Chlorine to a level less than 0.02 may not be achievable using conventional analytical technology testing methods. This is further justification for the request that the requirement for TRC sampling/testing be eliminated from the Draft Permit for Outfalls 001, 002 and 003.

DEP Response to CSA Comment 5: DEP does not expect facilities to achieve a level of quantitation for TRC less than 0.02 mg/L, which is why a quantitation level of 0.02 mg/L is used to determine compliance with any WQBELs for TRC that are less than 0.02 mg/L.

As explained in DEP's Responses to CSA Comments 3 and 4, TRC requirements were imposed at Outfalls 001, 002, and 003, in part, because CSA's effluent analyses did not quantify TRC down to a level of 0.02 mg/L, which is a level of quantitation that is achievable by available analytical testing methods. CSA reported TRC as not detectable at 0.1 mg/L.

CSA Comment 6: It was noted that weekly sampling/testing for zinc was also added to the Outfall 001 requirements on the Draft Permit. Zinc testing is not required at the other Outfalls or at IMP 101, so it is required that this requirement be reconsidered, since it appears to be unnecessary.

DEP Response to CSA Comment 6: Refer to DEP's Responses to CSA Comments 1 and 2, above, and Table 14 on p. 35 of the Fact Sheet. Similar to copper, reporting for zinc is required at Outfall 001 because the maximum discharge

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concentration of zinc at that outfall (37.4 µg/L) is between 10% and 50% of the governing WQBEL for zinc at Outfall 001 (290 µg/L). According to DEP's water quality-based permitting procedures described on pp. 33 and 34 of the Fact Sheet, reporting is required when the maximum reported effluent concentration or calculated average monthly effluent concentration of a conservative pollutant like zinc is between 10% and 50% of the WQBEL.

CPV Comments: The following is the response to the Draft Permit PA0253359, received on May 10th, 2024. These comments are from the Co-Permittee CPV Fairview, LLC (hereto after referred to as "Fairview") specific to the Draft changes to Part A Effluent Limitations, Monitoring, Recordkeeping and Reporting Requirements for monitoring points applicable to Fairview and for avoidance of doubt – Internal Monitoring Point (IMP) 101, 201 and 301.

Fairview reserves the right to discuss further with PADEP the CWA § 316(b) determination that will be made for the Quemahoning and Hinckston Run intakes as outlined in Section VII of Part A. As PADEP acknowledges, Fairview operates a closed-cycle system, which must be accounted for in PADEP's BTA determination.

Fairview Requests Changes to Limits for Total Suspended Solids (TSS) and Free available Chlorine (FAC)

TSS Monthly Limits

Fairview proposes a change in the proposed limits for Total Suspended Solids (TSS) to correct a calculation error and account for the accurate TSS concentration for the cooling tower blowdown for IMP 101 to 303.06 lbs./day for the average monthly limit, and 1010.21 lbs./day for the maximum daily limit.

The effluent limit provided in the Fact Sheet for IMP 101 TSS is in a concentration 4.43 mg/L and 14.84 mg/L but is listed in the loading column as lb/day. Based on our review we believe the intended values were meant to be 44.99 lb/day and 149.95 lb/day.

Loading (lb/day) = Flow (MGD) × Concentration Limit (mg/L) × 8.34 (lb/gallon). (1mg/L=8.34 lb/gallon)

TSS Average Monthly Limits

Loading AML = 8.34 lbs/gallon × (30 mg/L × 0.1798 MGD + 0 mg/L × 1.03148 MGD)

TSS Average Monthly Limit = 44.99 lbs./day

TSS Maximum Daily Limit

Loading AML = 8.34 lb/gallon × (100 mg/L × 0.1798 MGD + 0 mg/L × 1.03148 MGD)

TSS Maximum Daily Limit = 149.95 lb/day

However, the calculation resulting in the above-mentioned quantities indicate the cooling tower blowdown (IMP 301) will have a TSS concentration of Zero. Since raw reservoir water is used as makeup water for the cooling tower, it likely is not possible that the TSS will ever be zero. In addition, the original Water Quality Management Part II construction permit application sent to PADEP on October 13, 2017, illustrates an expected cooling tower TSS value of 33 mg/l and not zero. Fairview calculated the TSS average monthly and maximum limits for TSS assuming contributions from both 201 and 301:

Loading (lb/day) = Flow (MGD) x Concentration Limit (mg/L) x 8.34 (lb/gallon). (1mg/L=8.34 lb/gallon)

TSS Average Monthly Limits

CAML=8.34 lbs/day × (30 mg/L × 0.1798 MGD + 30 mg/L × 1.03148 MGD)

CAML (TSS Average Monthly Limit) = 303.06 lbs./day

TSS Maximum Daily Limit

CAML=8.34lbs/day × (100 mg/L × 0.1798 MGD + 100 mg/L × 1.03148 MGD)

CAML (TSS Maximum Daily Limit Limit) = 1010.21 lbs./day

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- Fairview proposes a change in the proposed limits for TSS for IMP 101 to 303.06 lbs./day for the average monthly limit, and 1010.21 lbs./day for the maximum daily limit.

Free Available Chlorine (FAC) Monthly Limits

The effluent limit provided in the Fact Sheet for IMP 101 Free Available Chlorine (FAC) is in a concentration 0.170 mg/L but is listed in the loading column as lb/day.

We believe the limit was intended to be 1.72 lb/day.

Flow (MGD) x Concentration Limit (mg/L) x 8.34 (lb/gallon). (1mg/L=8.34 lb/gallon)

FAC Average Monthly Limits

Loading AML = 8.34 lbs/gallon × (0 mg/L × 0.1798 MGD + 0.2 mg/L × 1.03148 MGD)

FAC Average Monthly Limit = 1.72 lb/day

FAC Maximum Daily Limit

Loading AML = 8.34 lb/gallon × (0 mg/L × 0.1798 MGD + 0.5 mg/L × 1.03148 MGD)

FAC Maximum Daily Limit = 4.30 lb/day

If 1.72 lb/day is the correct loading limitation, the concentration (mg/L) at 101 would be 0.28 mg/L based on an average flow 0.75 MGD at 101. If correct, this will require additional chemicals to be injected to meet compliance.

$$CAML\left(\frac{mg}{L}\right) = \frac{1.72(lb/day)}{\left[0.75MGD \times 8.34\left(\frac{lb}{gallon}\right)\right]}$$

- Fairview is requesting that the effluent limit be changed to “Reporting” only for FAC at IMP 101 for the first 24 months. After 24 months, the proposed effluent limit (loading) can be implemented at IMP 101. The proposed FAC effluent limits on IMP 101 may require Fairview to inject additional chemicals to meet compliance. Chemical dechlorination when near zero levels can be difficult; overdosing to meet limits can suppress dissolved oxygen and lower pH of the effluent. This will allow Fairview to adjust the system in a manner that does not impact other water quality parameters.

Free Available Chlorine (FAC) IMP 301

Pg 25 of the NPDES Permit Fact sheet reads Free Available Chlorine mass limit will be imposed at IMP 101 rather than IMP 201 or 301. The proposed permit still indicates a concentration limit for Free Chlorine at IMP 301. Fairview believes that this is an error in the proposed permit.

- To correct this error, Fairview is requesting the removal of FAC effluent limit on IMP 301.

CONCLUSION

- Fairview is proposing a correction to the proposed limits for Total Suspended Solids for IMP 101 to 303.06 lbs./day for the average monthly limit, and 1010.21 lbs./day for the maximum daily limit.

- Fairview is requesting that the effluent limit be changed to “Reporting” only for FAC at IMP 101 for the first 24 months. After 24 months, the proposed effluent limit can be implemented at IMP 101. The proposed FAC effluent limits on IMP 101 may require Fairview to inject additional chemicals to meet compliance. Chemical dechlorination when near zero levels can be difficult; overdosing to meet limits can suppress dissolved oxygen and lower pH of the effluent. This will allow FEC to adjust the system in a manner that does not impact other water quality parameters.

- Fairview also requests a correction to remove the FAC effluent limit on IMP 301

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- Fairview requests that PADEP provide Fairview 24 months for system adjustments to meet these requirements, if PADEP is not amenable to the changes proposed in our response to the TSS and FAC limits.

- Fairview requests a meeting with PADEP before the final issue of the permit.

DEP Response: CPV is correct that DEP erred in the calculation of effluent load limits. DEP omitted the calculation of load limits from flow-weighted concentration limits using effluent flow rates at IMPs 201 and 301. DEP also acknowledges that its assumption that cooling tower blowdown has a TSS concentration of zero is a conservative assumption that was based on the lack of regulation of TSS in cooling tower blowdown by the Steam Electric Power Generating Point Source Category ELGs. EPA discusses TSS in cooling tower blowdown on p.335 of the 1974 Development Document for the Steam Electric ELGs as follows:

> Cooling tower blowdown generally can be characterized by a relatively high concentration of the total dissolved solids present in the water source and a somewhat lower concentration of the suspended solids present in the water source. In addition, tower blowdown generally contains small concentrations of chlorine and other additives from the closed cooling system. The objective of directing cooling tower blowdown to a central treatment facility would most likely be for the removal of suspended solids. However, in general treatment for removal of suspended solids prior to the use of water as make up to a cooling tower would be practiced if the suspended solids level is at all significant. In any event, some concentration of the suspended solids level will occur in the tower due to evaporation and, in some cases, due to contact with airborne particulates. However, the cooling tower basin also acts as a settling basin to some degree, so that suspended solids in many cases will settle out in the cooling tower basin. In any case, the objective of suspended solids removal from these intermediate-volume waste streams can best be achieved by the commonly employed practice of using sedimentation lagoons.

Presuming that TSS in cooling tower blowdown is treatable to the same concentrations as TSS in low volume waste sources based on the use of sedimentation (*i.e.*, is treatable to 30 mg/L average monthly and 100 mg/L maximum daily), TSS concentration limits can be imposed at IMP 101 for the combined discharge of low volume waste sources and cooling tower blowdown without the need to calculate mass limits or flow-weighted concentration limits to account for differences in allowable effluent concentrations for those sources. Therefore, TSS limits of 30 mg/L average monthly and 100 mg/L maximum daily will be imposed at IMP 101 with no mass limits for TSS.

The limits for Free Available Chlorine (FAC) at IMP 101 will be revised to reflect the calculation of effluent mass limits (not concentration limits) using updated long-term average maximum daily flows (November 2019 through September 2024). As before, the calculations assume that FAC is not present in significant concentrations in low volume waste sources.

FAC Average Monthly Mass Limit: (0 mg/L * 0.1794 MGD) + (0.2 mg/L * 1.0151 MGD) = C_{FAC} (0.1794 MGD + 1.0151 MGD)

C_{FAC} = (0 + 0.20302) ÷ (0.1794 + 1.0151) = 0.20302 ÷ 1.1945 = 0.170 mg/L

FAC AML_{LOAD} = 0.170 mg/L × 1.1945 MGD × 8.34 lb/mg/L/MG = **1.69 pounds/day**

FAC Maximum Daily Mass Limit: (0 mg/L * 0.1794 MGD) + (0.5 mg/L * 1.0151 MGD) = C_{FAC} (0.1794 MGD + 1.0151 MGD)

C_{FAC} = (0 + 0.50755) ÷ (0.1794 + 1.0151) = 0.50755 ÷ 1.1945 = 0.425 mg/L

FAC MDL_{LOAD} = 0.425 mg/L × 1.1945 MGD × 8.34 lb/mg/L/MG = **4.23 pounds/day**

The effluent limits for FAC at IMP 101 are New Source Performance Standards (NSPS) from the Federal ELGs. DEP does not have the authority to extend statutory or regulatory deadlines for national standards of performance in the Federal ELGs. Section 5.2.1.1 of EPA's NPDES Permit Writers' Manual (2010) explains:

> The final statutory deadline for meeting BPT requirements was July 1, 1977, and the final statutory deadline for meeting BCT and BAT requirements was March 31, 1989. When applying applicable effluent guidelines, permit writers should note that they do not have the authority to extend the statutory deadlines in an NPDES permit; thus, all applicable technology-based requirements (i.e., effluent guidelines and case-by-case limitations based on BPJ) must be applied in NPDES permits without the benefit of a compliance schedule. In addition, though NSPS do not

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have specific dates as compliance deadlines, they are effective on the date the new source begins discharging. The facility must demonstrate compliance with NSPS within 90 days of discharge [see § 122.29(d)].

Also, the FAC mass limits at IMP 101 are an alternative expression of the same FAC limits to which CPV is already subject. For the preceding reasons, a schedule of compliance cannot be included for the FAC mass limits at IMP 101.

The FAC limits at IMP 301 in the draft permit were included in error since the new FAC mass limits at IMP 101 were intended to replace the FAC concentration limits at IMP 301. Therefore, the FAC concentrations limits at IMP 301 will be removed.

By letter dated August 15, 2024, TranSystems Corp. Inc. (acting as a coordinator for comments from CSA, CPV, and other interested parties) submitted supplemental comments on the 316(b) requirements of the draft permit. DEP's responses to those comments are provided below after CSA's comments.

Supplemental 316(b) Comments from CSA/CPV: The following is a response to the Draft NPDES Permit PA0253359, received on May 10, 2024. Several comments were submitted in July associated with the sampling and testing requirements in the Draft Permit. The following comments are specific to the requirements set forth in Part C, Section VII of the Draft Permit, associated with the Quemahoning, Hinckston Run, and Border Dam Cooling Water Intake Structures.

As noted in Part C, Section VII, the permit requires compliance with the impingement and entrainment compliance requirements, as set forth in Section VII.B. It is understood that documentation of compliance with those requirements may negate the need to implement the procedures shown in Section V.II.A-E.

Impingement Mortality

The permittees have conducted an analysis of the intake structures at all three dams, to determine the intake velocities through the existing screens under the maximum flow conditions. For all three structures, the intake velocity through the screens was found to be less than 0.5 feet per second (fps) under the highest flows, and with conservative assumptions regarding actual screen surface areas. A summary of this information is shown below:

Quemahoning Dam Screen Flow Velocities:

- Maximum Daily flow through the intake tower that we have seen since 2019 = 38.030 MGD = 58.84 cfs (December, 2020). This includes flow for the water supply pipeline and the Conservation Release.
- Que screens: Excluding the area of the wires used for the screens, the open area was computed to be 9.42 SF per screen and there are 16.8 screens submerged during normal pool, so 158.26 SF on each side of tower. Worst case scenario is Gate E closed so only 158.26 SF of screen available. Openings in screen are slightly less than 1 inch (say 13/16").
- Velocity thru screens: If we use the Maximum Daily Flow through the screens = 38.030 MGD = 58.84 cfs, then the intake ***Maximum Daily Velocity is 0.37 fps***

Hinckston Run Dam Screen Flow Velocities:

- Maximum Daily flow in the water supply pipeline that we have seen since 2019 = 5.373 MGD = 8.3 cfs (August, 2020). This includes flow to customers, blowoff to the River, and flow to the Conservation Release (if being supplied by Hinckston Run Dam).
- Hinckston screens: There are 2 screens in place, both 42"x72", or a surface area of 21.0 SF per screen. Both sets of screens are in place continuously, so 42 SF in tower. Screen is ¼" mesh.
- Velocity thru screens: If we use the Maximum Daily = 5.373 MGD = 8.3 cfs, then the intake ***Maximum Daily velocity is 0.20 fps***. Even if the screen is conservatively assumed to be 50% blocked by the mesh the velocity is 0.40 fps.

Border Dam Screen Flow Velocities:

- Border Maximum Daily flow in the pipeline that we have seen since 2019 = 9.80 (October, 2019). There was an additional flow of 20.71 MGD to the conservation Release pipeline on that day that also passed through the screens, so the total was 30.51 MGD.

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- Border screens: The intake has a sloping wooden frame that the dwg refers to as a "grill". The frame is 9'-8" wide and 13' long, with 20 2x4 boards acting as screens. Assuming that the boards are 2" wide each, then the total width of wood is 40", and subtracting that from 9'-8" leaves 6'-4" of open space. Multiplying that by 13' yields a total opening of 82.3 SF. There are 2 of these "grills" so the total open space is 164.6 SF. There is also a "traveling screen" close to the 36" pipeline that works by capturing leaves and fish in rotating trays and then dumps them back into the river, so nothing gets trapped.

- Border Velocity thru screens: Water going into both the supply and conservation release pipelines passes thru the "grill" screens, with the maximum daily combined flow since 2019 = 30.51 MGD = 47.2 cfs. Using that combined flow, the ***intake Maximum Daily velocity is 0.29 fps.***

Entrainment

Water supply from the three dams (Quemahoning, Hinckston Run and Border Dams) is used by a variety of CSA customers for a variety of purposes, including raw water that is treated to potable, and water for dust control and cleaning, fire control, maintaining flow during cold weather, and for cooling at power plants and steel mills. Of the 4 facilities that use the water for cooling, two (North American Hoganas and CPV Fairview Energy Center) are closed-cycle recirculating systems.

The two facilities that use water from the CSA system for cooling but are not closed-cycle recirculating systems (Gautier Steel and Liberty Wire Johnstown) use on average roughly 4.2 MGD of water daily, with only 3.48 MGD of that actually used for cooling purposes. That total represents roughly 5.8% of the total water volume withdrawn on a daily basis from the three lakes.

For all three dams, the actual intake flow (AIF) is minimal compared to the mean annual flow of the river. In all 3 cases, the only withdrawals from the lakes are by the CSA for supply to customers or for Conservation Releases (as required by the PADEP permit). All 3 dams have water withdrawals that are limited by the current Water Allocation Permits.

Quemahoning Dam AIF:

- Que Mean Annual Flow = 152 cfs (based on the *StreamStats* computer program, developed by the USGS)
- Que Water Allocation Permit allows for a Daily max withdrawal of 71 MGD (110 cfs) and 30-day avg of 40 MGD (62 cfs)
- Que Annual Avg Daily flow in the emergency spillway and conservation release (so flow passing the dam and discharged directly into Quemahoning Creek) has been as low as 75.4 cfs (in 2021) and as high as 440.7 cfs (in 2018)
- Que Maximum Daily flow in the water supply pipeline that we have seen since 2019 = 26.03 MGD = 40.3 cfs (August, 2022) (excluding the Conservation Release)
- Que Average Daily flow in the water supply pipeline since 2019 = 18.49 MGD = 28.6 cfs.
- Therefore, the Max Daily flow observed is 26.5% of the Mean Annual Flow, and the Average Daily Flow is only 18.8%.

Hinckston Run Dam AIF:

- Hinckston Mean Annual Flow = 23.1 cfs (based on the *StreamStats* computer program, developed by the USGS)
- Hinckston Water Allocation Permit allows for a Daily max withdrawal of 10 MGD (15.43 cfs) and 30-day avg of 5.2 MGD (8.05 cfs)
- Hinckston Annual Avg Daily flow in the emergency spillway and conservation release (so flow passing the dam and discharged directly into Hinckston Run Creek) has been as low as 5.4 cfs (in 2021) and as high as 46.5 cfs (in 2018)
- Hinckston Maximum Daily flow in the water supply pipeline that we have seen since 2019 = 5.37 MGD = 8.3 cfs (August, 2022) (excluding the Conservation Release)
- Hinckston Average Daily flow in the water supply pipeline since 2019 = 1.69 MGD = 2.61 cfs.
- Therefore, the Max Daily flow observed is 35.9% of the Mean Annual Flow, and the Average Daily Flow is only 4.3%.

Border Dam AIF:

- Border Mean Annual Flow = 608 cfs (based on the *StreamStats* computer program, developed by the USGS)

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- Border Water Allocation Permit allows for a Daily max withdrawal of 27 MGD (41.8 cfs) "when available".
- Border Dam is a "run-of-river" type dam, so the vast majority of inflow passes directly over the dam. The Annual Avg Daily flow over the emergency spillway (so flow into stream) has been as low as 760.2 cfs in 2020 and as high as 1,923.3 in 2021.
- Border Maximum Daily flow in the water supply pipeline that we have seen since 2019 = 10.9 MGD = 16.7 cfs (August, 2022) (excluding the Conservation Release)
- Border Average Daily flow in the water supply pipeline since 2019 = 1.309 MGD = 2.02 cfs
- Therefore, the Max Daily flow observed is 2.7% of the Mean Annual Flow, and the Average Daily Flow is only 0.33%.

Based on the above information, we feel that the CSA Water Supply system, composed of the Quemahoning, Hinckston Run and Border Dams and associated piping, meets the BTA Requirements discussed in Part C, Section VII of the Draft Permit, such that further studies to demonstrate compliance with EPA 316(b) criteria is not required.

Please contact me if you have any questions regarding the above, or wish additional documentation of the information contained herein.

DEP Response to Supplemental 316(b) Comments from CSA/CPV: CSA's supplemental comments propose that CSA's Quemahoning, Hinckston Run, and Border Dam cooling water intake structures and related operations, as they currently exist, already comply with one of the case-by-case BTA compliance alternatives for impingement mortality and entrainment. As a reminder, those compliance alternatives are:

Impingement Mortality

1. Closed-cycle recirculating system [Impingement BTA Option 1]
2. 0.5 foot per second (fps) through-screen design velocity [Impingement BTA Option 2]
3. 0.5 fps through-screen actual velocity [Impingement BTA Option 3]
4. Modified Traveling Screens with a fish handling and return system with sufficient water flow to return the fish directly to the source water in a manner that does not promote reimpingement of the fish or require a large vertical drop. [Impingement BTA Option 4]

   If the modified traveling screens option is chosen, a requirement to demonstrate that the technology is or will be optimized to minimize impingement mortality of nonfragile species should be included in the permit.

Entrainment

1. Closed-cycle recirculating system. [Entrainment BTA Option 1]
2. The actual intake flow (AIF) is minimal compared to the mean annual flow of the river. For cases where this option is being used, cumulative withdrawals from nearby facilities should be considered. The application manager may contact the Bureau of Clean Water to determine if this option is applicable. [Entrainment BTA Option 2]

   If this option is chosen, a monitoring requirement for intake flow should be included in the permit.
3. Seasonal flow reductions - If a facility can reduce flows to mimic closed cycle cooling during spawning and biologically important time periods. [Entrainment BTA Option 3]

   If this option is chosen, a monitoring requirement for intake flow should be included in the permit.

Impingement BTA for Quemahoning and Hinckston Run Intakes

Based on the information in CSA's comment letter, CSA achieves Impingement BTA Option 3 (through-screen actual velocity <0.5 fps) at both the Quemahoning intake and Hinckston Run intakes. CSA's reported velocities are actual velocities and not design velocities because CSA did not use the intakes' design intake flow rates. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

Consistent with Note 1 in Section II.A.3 of DEP's "Standard Operating Procedure for Clean Water Program – Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities", if Impingement BTA Option 3 is chosen, a monitoring requirement for through-screen velocity should be included in the permit. Therefore, monitoring requirements for through-screen velocity at the Quemahoning and

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Hinckston Run intakes will be included in the permit. In lieu of velocity monitoring at the screen face, CSA may calculate the through-screen velocity using water flow, water depth, and the screen open areas. If velocity monitoring at the screen face is used, then CSA must measure the maximum through-screen velocity daily. If the latter monitoring option is chosen, then CSA must collect information daily on water flow through the intake structure (which already must be measured daily at the Quemahoning and Hinckston Run Dams) and water depth in the reservoirs and calculate daily through-screen velocities for each intake. The permit will include a condition requiring actual through-screen velocity data to be summarized and submitted to DEP in a monthly report attached to the permittee's monthly Discharge Monitoring Reports.

Impingement BTA for the Border Dam Intake

CSA proposed that the Border Dam intake meets Impingement BTA Option 3. However, CSA's description of the Border Dam's wooden frame "grill" does not qualify as a screen pursuant to 40 CFR § 125.92(n), which states, "[f]or purposes of this subpart, impingement includes those organisms collected or retained on a sieve with maximum distance in the opening of 0.56 inches, and excludes those organisms that pass through the sieve. Examples of sieves meeting this definition include but are not limited to a 3/8 inch square mesh, or a 1/2 by 1/4 inch mesh." The grill openings are greater than 0.56 inches. However, based on supplemental information on the Border Dam intake provided to DEP on November 12, 2024, the Border Dam intake is equipped with traveling screens, which were described as follows:

> The Border Dam also has a "traveling screen" which collects materials passing through the initial grill and deposits them in a fiberglass trough, from which they are discharged back into the River, downstream of the Border Dam embankment. This was not assessed in the original response letter in August since the details of the traveling screen were not available. In the interim, we have gathered additional details of the screen, as follows, along with photos of the traveling screen components, attached herein.
>
> There are two sets of traveling screens (left side and right side), each manufactured by FMC Corporation as Link-Belt units. The individual screens are 23 inches wide and 50 inches long, and utilize a woven copper screen with openings roughly 1/8" (0.125") square. The screens are utilized alternately, such that neither is operating at the same time as the other side. The fiberglass trough is located perpendicular to the flow direction, and exits through the brick wall, such that anything captured by the screen is discharged back to the River at a location roughly 10 feet downstream from the dam embankment.

CSA's screens have potential to meet the Modified Traveling Screens impingement BTA option (Impingement Mortality BTA Option 4) but may require modifications to comply. DEP's SOP requires the following for Modified Traveling Screens

- Return the fish directly to the source water. CSA's supplemental information indicates that debris and fish captured on the traveling screens are returned to the river.
- The return system must have sufficient water flow. CSA's supplemental information shows that there is a return trough, but it is not clear whether water is used to flush the trough. If there is no flush water, then flush water could be added to comply with this requirement.
- The return must be in a manner that does not promote reimpingement of the fish. This condition appears to be met because the return is downstream of the dam embankment.
- The return must not require a large vertical drop. From the supplemental information it is unclear how far fish and debris drop from the trough to the downstream water surface. CSA should determine the distance of the vertical drop.
- The permittee must demonstrate that the technology is or will be optimized to minimize impingement mortality of nonfragile species should be included in the permit. Choosing a fish return as impingement BTA requires a study to show that the return is effective at returning fish to the water alive.

Based on the supplemental information, DEP cannot conclude the Border Dam intake complies with Impingement BTA Option 4. Therefore, the draft permit's requirements for CSA to submit a facility and cooling water intake structure report in support of the permittee's selection and justification for impingement and entrainment compliance will remain in the permit. If CSA pursues Impingement BTA Option 4 for the Border Dam intake, then the "facility and cooling water intake structure report" should describe how the criteria discussed above for Modified Traveling Screens will be met.

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Entrainment BTA for Quemahoning, Hinckston Run, and Border Dam Intakes

CSA proposed that the Quemahoning, Hinckston Run, and Border Dam Intakes meet Entrainment BTA Option 2 (actual intake flow (AIF) is minimal compared to the mean annual flow of the river). Although not stated in DEP's SOP for Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities, the threshold used to determine what is "minimal" with respect to Entrainment BTA Option 2 is 5% (based on the threshold in EPA's 316(b) Phase II rule from 2004).

The Quemahoning intake's 18.8% of mean annual flow at average daily flow and 26.5% of mean annual flow at maximum daily flow do not qualify as minimal, so the Quemahoning intake does not comply with Entrainment BTA Option 2.

The Hinckston Run intake's AIF is below 5% at the average daily flow but is 35.9% at maximum daily flow. If the higher flows occur outside of spawning or biologically important time periods, then DEP could make a hybrid BTA determination for entrainment by combining two of the case-by-case entrainment BTA options—Entrainment BTA Option 2 and Option 3 (season flow reductions). DEP's understanding is that CSA's withdrawals tend to be higher in the spring and summer when fish are spawning, so the Hinckston Run intake may not qualify for a hybrid determination if there are no seasonal flow reductions during biologically important time periods. Also, the 35.9% of mean annual flow at maximum daily flow does not qualify for a standalone BTA determination for Entrainment BTA Option 2.

The Border Dam intake's AIF is below 5% of the mean annual flow even at maximum daily flows, so current operations satisfy Entrainment BTA Option 2. Entrainment BTA Option 2 requires the permittee to monitor intake flow rates, but that is already done.

Case-by-Case BTA Determinations for Quemahoning, Hinckston Run, and Border Dam Intakes

Based on the preceding discussion, DEP has determined that the Quemahoning, Hinckston Run, and Border Dam intakes comply with the following case-by-case BTA options as listed in DEP's "Standard Operating Procedure for Clean Water Program – Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities".

Intake Structure	Impingement BTA	Entrainment BTA
Quemahoning	Through screen actual velocity <0.5 fps	None
Hinckston Run	Through screen actual velocity <0.5 fps	None [(2)]
Border Dam	None [(1)]	AIF <5% of Mean Annual Flow

[(1)] May be eligible for an impingement BTA determination based on Modified Traveling Screens.

[(2)] May be eligible for a hybrid entrainment BTA determination that includes AIF < 5% of Mean Annual Flow, on average, and seasonal flow reductions during biologically important time periods.

Entrainment at the Quemahoning intake is the only regulated impact without a BTA determination or candidate BTA determination.

The permit conditions for CSA's cooling water intake structures will be modified to identify the BTAs achieved. Consistent with DEP's SOP, where BTA is not achieved, the permit will require CSA to submit source water baseline biological characterization data and to perform impingement and entrainment sampling where one of the Impingement and Entrainment BTA options is not selected.

The draft permit included minimum study plan requirements for entrainment sampling. The revised draft permit adds minimum study plan requirements for impingement sampling.

Due to the significant changes made to the draft permit in response to comments, a revised draft permit will be published for a second thirty-day comment period.