pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0005037**
Facility Type	**Industrial**	APS ID	**805959**
Major / Minor	**Major**	Authorization ID	**966662**

NPDES PERMIT FACT SHEET ADDENDUM 3

Applicant and Facility Information

Applicant Name	**NRG Homer City Service LLC**	Facility Name	**Homer City Generating Station**
Applicant Address	1750 Power Plant Road	Facility Address	1750 Power Plant Road
	Homer City, PA 15748		Homer City, PA 15748-8009
Applicant Contact	Gary Cline	Facility Contact	***same as applicant***
Applicant Phone	(724) 479-6255	Facility Phone	***same as applicant***
Client ID	299819	Site ID	236714
SIC Code	4911	Municipality	Center Township
SIC Description	Trans. & Utilities - Electric Services	County	Indiana
Date Published in PA Bulletin	January 30, 2021 (Draft 3)	EPA Waived?	No
Comment Period End Date	March 1, 2021	If No, Reason	Major facility; TMDL; CWA § 316(b)
Purpose of Application	NPDES permit renewal for a coal-fired power generating station.		

Internal Review and Recommendations

The second revised draft NPDES permit (Draft 3) was published in the *Pennsylvania Bulletin* on January 30, 2021. By letter dated February 25, 2021, NRG Homer City Services LLC (Homer City) submitted comments on Draft 3. DEP's responses to Homer City's comments are provided below.

Homer City Comment 1: Outfall 001 – The monitoring requirements for TDS, chloride, bromide and sulfates should be removed from the permit.

The Draft Permit requires weekly sampling for TDS, sulfate, chloride and bromide and reporting the results in the monthly discharge monitoring report. As explained in the July 1, 2014 Fact Sheet at p. 48, these monitoring and reporting requirements were imposed as a requirement of a "new monitoring initiative." That monitoring initiative has been in place since at least 2009 and was intended to collect information regarding TDS and TDS constituents as a result of water quality impacts from wastewaters associated with development of Marcellus Shale natural gas wells and in support of the rulemaking to amend 25 Pa. Code Chapter 95 to establish new effluent standards for new sources of wastewaters containing high TDS concentrations. That rule was promulgated in 2010. Presumably, since 2009 (11 plus years), the Department has collected sufficient data from the multitude of NPDES permittees across the Commonwealth and routinely imposing these requirements is no longer necessary.

DEP Response to Homer City Comment 1: DEP recently halted the monitoring initiative Homer City mentions. Therefore, TDS, chloride, bromide, and sulfate monitoring will be removed from Outfall 001.

Homer City Comment 2.: The monitoring requirements for total chromium and total zinc should be removed from the permit.

The Station does not use water treatment chemicals containing chromium or zinc. Samples of the cooling tower blowdown effluent discharged from outfall 001 since 2015 have contained chromium at levels less than 0.005 mg/L (the MDL) and zinc at levels of 0.041 mg/L or less, with most samples (10 of 14 samples) containing less than 0.010 mg/L. (the MDL). Consistent with 40 CFR 423.13(d)(3), the monitoring and discharge limits should be removed from the permit. The Department should

Approve	Return	Deny	Signatures	Date
X			Ryan C. Decker, P.E. / Environmental Engineer	August 10, 2021
X			Michael E. Fifth, P.E. / Environmental Engineer Manager	August 19, 2021

Internal Review and Recommendations

replace the monitoring and effluent limits, and Draft Permit Part C, Condition I.I, with a condition that the Station must notify the Department and obtain approval before using any water treatment chemicals containing chromium or zinc compounds. See Seward Power Plant, NPDES Permit No. PA0002054, Fact Sheet Addendum dated July 24, 2017 at 7; Conemaugh Generating Station, NPDES Permit No. PA0005011, Fact Sheet dated June 29, 2018 at 7.

DEP Response to Homer City Comment 2: DEP will use the method used to regulate chromium and zinc at the Keystone Generating Station – NPDES Permit No. PA0002062. The chromium and zinc limits will be imposed at Outfall 001 with a footnote in Part A (Footnote 8) stating the following:

> Effluent at Outfall 001 shall only be analyzed for Chromium and Zinc when Chromium and Zinc-based additives are added to the cooling water.

This method optionally allows chromium and zinc-based additives to be used without having to amend the permit to add chromium and zinc limits back to Outfall 001. Homer City must still follow the chemical additives approval process in the permit (Part C, Condition VII) before using such additives. If chromium and zinc-based additives are not used, then Homer City would report results on its DMRs for those parameters using a No Discharge Indicator (NODI) Code.

DEP's eDMR system allows permittees to use NODI codes to report results subject to conditional requirements. Pursuant to DEP's guidance on NODI codes, the "GG" code is used when "your permit requires sample collection and analysis only under certain conditions and those conditions were not met during the reporting period." As stated in the new footnote, DEP will require chromium and zinc to be reported only if chromium or zinc-based additives are used. If such additives are not used, then Homer City would complete its DMR using the "GG" NODI code for those two metals.

If chromium and zinc-based additives are used in the future, then a minor permit amendment might be needed to adjust the sampling frequencies for chromium and zinc at Outfall 001 to a level befitting the frequency with which chromium and zinc-based additives would be used.

Homer City Comment 3: The requirement to report instantaneous maximum values on grab samples (in footnote 7 in the permit) should be deleted. This requirement will interfere with the Station's ability to do sampling and testing for diagnostic purposes. When the operator suspects that there may be an issue with a process generating or treating wastewater, grab samples may be collected and tested using onsite and commercial non-certified laboratories to help diagnose issues and identify corrective actions. If those results have to be reported, it will interfere with the Station's ability to diagnose issues and implement corrective action and increase costs, as the samples will have to be analyzed by a certified laboratory, which could take up to two weeks, thereby rendering the data useless for diagnostic purposes.

DEP Response to Comment 3: The footnote was added to clarify the applicability of IMAX limits in response to a comment from Homer City on Draft 2 and to explain why IMAX limits were included in the permit for pollutants with composite sampling despite the fact that IMAX limits apply when grab sampling is specified. To further clarify, the footnote is modified to read:

> The permittee is not required to monitor for compliance with the instantaneous maximum limitations if a composite sample type is required for the corresponding parameter. Instantaneous maximum limitations for parameters with a composite sample type are imposed to allow for a grab sample to be collected by the appropriate regulatory agency to determine compliance.

The "Test Procedures" conditions in Part A.III.A.4 of the permit preclude the reporting of results from non-certified laboratories to demonstrate compliance with the permit. Therefore, Homer City's use of non-certified laboratories for diagnostic sampling and analyses is not hindered. If a certified laboratory is used for diagnostic analyses, the results would be reportable under Part A.III.B.7 of the permit if the samples are collected at an NPDES compliance point. All IMAX limits will remain in the permit as specified in Draft 3.

Homer City Comment 4: Manganese limits should be developed based on the applicability of the manganese water quality standard at the point of withdrawal for a potable water supply as required by Act 40 of 2017. The fact that the Department has not yet promulgated regulations does not delay effectiveness of the statute.

DEP Response to Comment 4: The effectiveness of the statute has not been delayed. Act 40 of 2017 (Act 40) states:

> Section 6. Section 1920-A of the act is amended by adding a subsection to read:

Internal Review and Recommendations

> Section 1920-A. Environmental Quality Board.--* * *
> (j) The board shall promulgate regulations under the act of June 22, 1937 (P.L.1987, No.394), known as "The Clean Streams Law," or other laws of this Commonwealth that require that the water quality criteria for manganese established under 25 Pa. Code Ch. 93 (relating to water quality standards) shall be met, consistent with the exception in 25 Pa. Code § 96.3(d) (relating to water quality protection requirements). Within ninety days of the effective date of this subsection, the board shall promulgate proposed regulations.

Act 40 does not say, "the water quality criteria for manganese established under 25 Pa. Code Ch. 93 (relating to water quality standards) shall be met, consistent with the exception in 25 Pa. Code § 96.3(d) (relating to water quality protection requirements)," which would have given immediate effect to the Act's intended result of moving the point of compliance for the manganese criterion to the nearest existing or planned surface potable water supply withdrawal. Act 40 requires regulations to be promulgated to that effect.

Since Act 40 requires the promulgation of regulations to move the point of compliance for the manganese criterion and there is no deadline in Act 40 regarding when those final regulations must be promulgated, the fact that such regulations have not been promulgated is pertinent to Act 40's intended result. Implementation of the current manganese criterion is unchanged because Act 40 does not give immediate effect to the relocated point of compliance for the manganese criterion and final regulations to move the point of compliance for that criterion have not been promulgated to date.

Homer City Comment 5: The arsenic and mercury monitoring requirements and effluent limits should be removed from the permit because they are precluded by the ELGs currently in effect.

These Technology Based Effluent Limits (TBELs) were developed by the Department based on Best Professional Judgment (BPJ) as a result of the BAT limits for coal combustion residuals leachate ("CRL") in the 2015 ELGs for the Steam Electric Power Point Source Category, 40 CFR § 423.13(l), being vacated following the Fifth Circuit Court of Appeals decision in *Southwestern Electric Power Company et al. v. U. S. Environmental Protection Agency et al.* 920 F.3d 999 (5th Cir. 2019) (SWEPCO). However, the Department is precluded from imposing such limitations.

TBELs may be imposed in one of three ways: (i) application of EPA-promulgated ELGs *to the extent they have not been remanded or withdrawn*; (ii) case-by-case basis (using BPJ) *to the extent that the EPA-promulgated effluent limitations are inappli*cable; and (iii) a combination of the preceding methods when the promulgated limitations only apply to certain aspects of the dischargers operation or only to certain pollutants. 40 CFR § 125.3(c). In this case the 2015 ELGs for CRL were vacated and remanded by *SWEPCO*, but the 1982 ELGs remain in effect, and are applicable to CRL.

SWEPCO vacated the 2015 BAT effluent limitation guidelines, but did not vacate the 1982 ELGs, which includes BPT limits on the same wastewater stream. "The general rule is that a court's judgment vacating a regulation has 'the effect of reinstating the rules previously in force.'" In re Arizona Public Service Co, 18 E.A.D. 245, 293 (APS) (quoting *Action on Smoking & Health v. Civil Aeronautics Bd.*, 713 F.2d 795, 797 (D.C. Cir. 1983). "[T]he Fifth Circuit did not specify that in light of the vacatur of parts of the 2015 ELGs, permit writers should be governed by some other requirement than the prior regulation in force – the 1982 ELGs." Id. EPA has determined in at least two cases since SWEPCO that the result of the 2015 ELGs being vacated, the 1982 ELGs remain in effect for effluents from coal-fired power plants. See Arizona Public Service Co. Four Corners Power Plant, NPDES Permit No. NN0000019 (bottom ash transport water), and Granite Shore Power Merrimack Power Plant, NPDES Permit No. NH001465 (coal combustion residuals leachate).

The 1982 ELGs clearly apply to CRL and to the pollutants for which the Department seeks to impose limits (i.e., arsenic and mercury). In assessing applicability, the permit writer should make sure that the pollutant of concern is not already controlled by effluent guidelines and was not considered by EPA when the Agency developed the effluent guidelines. EPA Permit Writers Manual, EPA-833-K-10-001 (Sept. 2010) §5.2.3.2. In the 1982 ELGs, CRL is among the wastewater streams identified as Low Volume Wastes, and EPA considered setting BAT limits for toxic metals (including arsenic and mercury) in this waste stream, but determined not to establish limits BAT limits because the toxic metals in the waste stream "are present in amounts too small to be effectively reduced by technologies known to the Administrator." 47 Fed. Reg. 52290, 52303-304. Since EPA determined not to establish separate BAT limits for arsenic, mercury and other toxic metals, BAT requirements for low volume waste are No Further Control Beyond BPT.

Furthermore, EPA is required to promulgate new ELGs for the vacated CRL ELGs, which are likely to be available within the next year. Imposing BPJ limits on Homer City that may be different from the ELG limits being developed by EPA would create an inconsistent approach to regulation of this wastewater stream, which is counter to the objective of federally promulgated ELGs.

Internal Review and Recommendations

DEP Response to Homer City Comment 5: Homer City's general premise, that vacating a regulation has the effect of reinstating the rule(s) previously in force, has no bearing on the vacated and remanded BAT limits for combustion residual leachate.

The 2015 Rule defines "low volume waste sources" as "taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in this part. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition."

The definition of low volume waste sources does not list combustion residual leachate as one of its constituent sources and the definition excludes "sources for which specific limitations or standards are otherwise established in this part". Combustion residual leachate is a source for which specific limitations are established in Part 423. Therefore, combustion residual leachate is not a low volume waste source.

To Homer City's point, the 1982 Rule did regulate combustion residual leachate as a low volume waste source. But the 2015 Rule severed the link relied on by Homer City to reinstate, post-vacatur, the 1982 Rule's limits on combustion residual leachate as a low volume waste source when the 2015 Rule defined and established limits for combustion residual leachate separately from low volume waste sources. That separation remains in effect following *SWEPCO* because *SWEPCO* only vacated the 2015 BAT limits for combustion residual leachate. The definition of combustion residual leachate and the 2015 BPT limits and New Source Performance Standards for combustion residual leachate were not vacated by *SWEPCO*. The portions of the 2015 Rule that remain in effect for combustion residual leachate preclude regulation of combustion residual leachate under the 1982 Rule's limits on low volume waste sources because combustion residual leachate is not a low volume waste source and "combustion residual leachate", a term separately defined in the 2015 Rule, is not regulated by the 1982 Rule.

Homer City's interpretation would require combustion residual leachate to be regulated by 2015 BPT limits on combustion residual leachate at § 423.12(b)(11) and by the 1982 BAT limits on low volume waste sources (equal to 1982 BPT limits on low volume waste sources). Besides being an unreasonable interpretation for the reasons stated above, *SWEPCO* invalidates reliance on the old regulation for current BAT because the 1982 technology for low volume waste sources is ineffective at controlling toxic leachate discharges. As the Fifth Circuit Court stated in *SWEPCO*:

> "[T]he [2015] rule sets BAT for leachate "equal to the [prior] BPT limitation"—*i.e.*, impoundments. 80 Fed. Reg. 67,854. The rule reaches that decision without explaining why a technology selected in 1982 under the laxer BPT standard somehow meets the stricter BAT standard today. That is particularly inexplicable given the rule's recognition that impoundments have proven "largely ineffective" at pollution control of the past decades …[a]nd, as we have seen, it was the recognized shortcomings of impoundments—shortcomings with respect to leachate discharges as well as other wastewaters—that led the agency to revise the stream-electric guidelines in the first place."
>
> [T]he [2015] rule unreasonably sets as BAT a technology the rule itself deems ineffective at controlling toxic discharges from leachate. As already explained … the final rule categorically recognizes that impoundments are ineffective at removing toxic pollutants from wastewater, 80 Fed. Reg. 67,840, 67,851, which is why the rule declined to set impoundments as BAT for five of the six wastewaters at issue, *id.* At 67,852-53. Nothing in the rule even hints, much less explains, that impoundments are somehow better at controlling harmful discharges from leachate. To the contrary, the rule recounts that groundwater contamination from impoundments (which are "the most widely used systems to treat…leachate") has resulted in numerous documented cases of drinking water pollution. *Id*. At 67,840, 67,847; *see also id.* At 67,847 (defining "leachate" as "liquid…that has percolated through or drained from waste or other materials placed in a landfill, or that passes through the containment structure…of a surface impoundment"); *id*. (explaining that "[u]nlined impoundments and landfills…allow leachate to potentially migrate to nearby groundwaters, drinking water wells, or surface water"). The rule also refers to an environmental assessment document, *id.* At 67,840, which reports that "[c]ombustion residual leachate can migrate from the site in the groundwater at concentrations that could contaminate public or private drinking water wells and surface waters, even years following disposal of combustion residuals." *See Environmental Assessment Document* No. EPA-821-R-15-006, § 3.3.2. Given these admitted deficiencies in impoundments, it was unreasonable to adopt them as BAT for leachate. (emphasis added)

Internal Review and Recommendations

> [T]he rule unreasonably declines to set as BAT available technologies that are admittedly more effective at controlling leachate discharges. We have already detailed the rule's affirmation that available modern technologies like chemical precipitation "are more effective than surface impoundments at removing both soluble and particular forms of metals." 80 Fed. Reg. 67,851; *supra* V.B.1. The rule never explains why this blanket statement does not apply to the use of impoundments to treat leachate. Indeed, EPA acknowledged during the rulemaking process that "chemical precipitation is an available and demonstrated technology for the treatment of combustion residual leachate." *See EPA's Response to Public Comments*, SE05958, at 7-20. And EPA's counsel conceded at oral argument that chemical precipitation is "available" as a treatment for leachate. Oral Argument Audio at 22:25-22:45 (Oct. 3, 2018). As with its treatment of legacy wastewater, the rule appears to select a BAT for leachate simply by defaulting to the decades old and demonstrably ineffective BPT standards. We have already explained that this kind of regulation-by-inertia is inconsistent with the "technology-forcing" mandate of the CWA. … Moreover, a decision to leave BPT limitations in place for leachate, when those limitations are based on admittedly ineffective technology, does not reflect "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges," which was the intent of Congress in enacting BAT standards in the first place. The EPA's decision to rest on its laurels (questionable as they are) respecting leachate thus "frustrate the policy Congress sought to implement" in the CWA, *see Garcia-Carias*, 697 F.3d at 271, and cannot stand.

EPA's 2010 NPDES Permit Writers' Manual (pp.5-45, 5-46) directs the establishment of case-by-case TBELs "[w]hen effluent guidelines are available for the industry category, but no effluent guidelines requirements are available for the pollutant of concern (e.g., a facility is regulated by the effluent guidelines for Pesticide Chemicals [Part 455] but discharges a pesticide that is not regulated by these effluent guidelines). The permit writer should make sure that the pollutant of concern is not already controlled by the effluent guidelines and was not considered by EPA when the Agency developed the effluent guidelines."

Homer City contends that EPA already considered toxic metals in leachate in 1982 as part of limits on low volume waste sources and that EPA determined that toxic metals in the waste stream "are present in amounts too small to be effectively reduced by technologies known to the Administrator." However, the Fifth Circuit Court stated in *SWEPCO* (citing statements by EPA) that surface impoundments—the basis for the 1982 Rule's limits on low volume waste sources—are "ineffective at controlling toxic discharges from leachate". Since toxic metals are not effectively removed by surface impoundments, toxic metals are "not already controlled by the effluent guidelines", including the 1982 Rule that, per Homer City's comment, would regulate combustion residual leachate as a low volume waste source based on the use of ineffective surface impoundment technology. Therefore, it is reasonable and appropriate for DEP to evaluate case-by-case TBELs for toxic metals.

The rationale used to establish effluent limitations in the Arizona Public Service Co. Four Corners Power Plant permit is not analogous or relevant for the establishment of technology based effluent limitations for Homer City's permit. In the former permit the wastewater at issue was bottom ash transport water, not coal residual leachate, which is at issue at Homer City. Also, please note that the regulatory history and ELGs for bottom ash transport water are much different than the regulatory history and ELGs for combustion residual leachate and do not allow for direct comparisons.

Even though the U.S. Environmental Protection Agency issued the Granite Shore Power Merrimack Power Plant permit and applied the 1982 BPT limits to a discharge of combustion residual leachate, that permit was appealed to the Environmental Appeals Board (EAB) by the Sierra Club. Then, in a June 4, 2021 filing, EPA Region 1 requested that the EAB grant a voluntary remand of the effluent limits for combustion residual leachate in the Merrimack permit so that EPA can reconsider and reissue leachate limits for public comment. DEP observes that, when issuing the Merrimack permit, EPA Region 1 did not account for the regulatory situation DEP describes in its response to this comment, which regulatory history precludes the treatment of combustion residual leachate as a low volume waste source. Furthermore, adopting the Merrimack permit's rationale for Homer City's combustion residual leachate—a rationale that has been appealed and may be subject to a voluntary remand so that EPA can establish a BPJ—is not reasonable.

The fact that EPA is required to promulgate new ELGs for the vacated combustion residual leachate ELGs and that DEP's development of BPJ TBELs would create an "inconsistent approach to regulation of this wastewater stream" does not supersede the need to consider case-by-case TBELs in this particular permit renewal action. Federal ELGs do not impose BAT limits on combustion residual leachate (as explained above and in Fact Sheet Addendum 2) and toxic metals are not already controlled by the effluent guidelines. Therefore, 40 CFR § 125.3(c) *requires* DEP to evaluate case-by-case effluent limitations. The case-by-case TBELs for arsenic and mercury for Homer City's landfill wastewaters in Draft 3 maintain some consistency with the current 2020 Reconsideration Final Rule because the case-by-case arsenic and mercury

Internal Review and Recommendations

TBELs are equivalent to the arsenic and mercury BAT limits and NSPS for the same or similar wastewaters in that current rule. To the extent that the effluent limits for Homer City's combustion residual leachate are different than those imposed on other facilities discharging combustion residual leachate, such "inconsistency" is justifiable in accordance with the need for case-by-case limits.

Homer City Comment 6: The BPJ limits for arsenic and mercury should be removed from the permit because when developing these limits for CRL the Department failed to adequately consider the six (6) factors for case-by-case BAT limits set forth in 40 CFR § 125.3(d)(3). These factors are: (i) the age of the equipment and facilities involved; (ii) the process employed; (iii) engineering aspects of the application of various types of control techniques; (iv) process changes; (v) cost of achieving such effluent reduction; and (vi) non-water quality environmental impact (including energy requirements). In developing the proposed BPJ limits, the only considerations the Department made were for the process employed and no consideration was made for cost, economics, age of equipment or potential non-water quality environmental impacts. For example, the limits established by the Department are the same limits established for CRL in the 2015 New Source Performance Standards, 40 CFR § 423.15(b)(16), which are based on new equipment. By contrast, the treatment equipment for the Homer City CRL was installed in 1970 and is not likely to perform to the same level as new equipment.

DEP Response to Homer City Comment 6: There is no requirement that case-by-case effluent limits be developed for Homer City based solely on the performance of the Station's existing equipment. As EPA explained on p. 5-16 of the 2010 NPDES Permit Writers' Manual:

> "Where existing performance is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved within a subcategory on the basis of technology transferred from a different subcategory or category."

The Fifth Circuit Court also stated in *SWEPCO*:

> "Under our precedent, a technological process can be deemed "available" for BAT purposes "even if it is not in use at all," or if it is used in unrelated industries. *API II,* 858 F.2d at 265. "Such an outcome is consistent with Congress'[s] intent to push pollution control technology." *Id.* In this case, technologies alternative to surface impoundments are in use in the stream-electric industry, just in separate wastewaters. *See, e.g.,* 80 Fed. Reg. 67,855 n.29. If technologies from other industries can be considered, then, *a fortiori*, technologies within the same industry should be considered when the status quo technology in place for a wastewater is admittedly ineffective. The final rule itself recognizes this point. *See* 80 Fed. Reg. 67,843 ("BAT is intended to reflect the highest performance in the industry, and it may reflect a higher level of performance than is currently being achieved based on technology transferred form a different category or subcategory, bench scale or pilot studies, or foreign plants.""

At a minimum, the performance of Homer City's existing treatment facilities would represent a baseline standard of performance.

Consideration of the six factors was explained in Fact Sheet Addendum 2 as follows:

> For BPJ effluent limits transferred from an existing BAT analysis of discharges comparable to Homer City's landfill wastewaters such as EPA's analysis of BAT for FGD wastewaters, EPA's consideration of the statutory factors in Section 304(b)(2)(B) of the Clean Water Act including the age of equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving effluent reduction; and non-water quality environmental impact (including energy requirements) would constitute consideration of those factors pursuant to the requirements of 40 CFR § 125.3(d)(3) for the development of case-by-case TBELs. However, while FGD wastewaters and combustion residual leachate are generally comparable based on industry averages, 40 CFR § 125.3(c)(2)(ii) requires factors unique to the applicant to be considered that may partially or wholly alter the rationale for technology transfer.

EPA's consideration of the six factors partially substituted for DEP's consideration of the six factors. DEP demonstrated in Fact Sheet Addendum 2 citing, in part, statements from EPA, that the water chemistry and flow rate of combustion residual leachate and Homer City's landfill wastewaters bear considerable similarity to FGD wastewaters. Consequently, DEP used EPA's BAT determination for FGD wastewater from the 2020 Reconsideration Rule as a starting point. BAT limits for FGD wastewaters in the 2020 Reconsideration Rule are based on the use of chemical precipitation and anoxic/anaerobic fixed-film biological treatment. DEP then evaluated factors unique to Homer City, which led DEP to

Internal Review and Recommendations

determine that biological treatment is not necessary for Homer City's landfill wastewaters. That left chemical precipitation as BAT.

DEP's analysis in Fact Sheet Addendum 2 concluded that Homer City can already comply with the arsenic and mercury TBELs and already uses one type of chemical precipitation paired with filtration. As DEP stated in Fact Sheet Addendum 2 "Homer City already employs hydroxide precipitation, which is a component of site-specific BAT. Even though site-specific BAT limits are imposed based on the use of hydroxide precipitation, sulfide precipitation (organosulfide), and iron coprecipitation, Homer City is free to use any combination of technologies it wants to achieve the effluent limits, including the technologies already in use whereby filtration can supplement for removals that otherwise are achievable with sulfide precipitation (organosulfide) and iron coprecipitation."

Consider that the costs to comply with arsenic and mercury TBELs based on chemical precipitation technology are negligible if Homer City already complies with the limits using its existing installed treatment technologies. Homer City would only incur a marginal additional cost to sample and analyze for the added pollutants. The age of existing equipment similarly would be a negligible factor when Homer City already complies with the arsenic and mercury TBELs using its existing treatment technologies, thus necessitating no system upgrades. DEP also notes that Homer City installed a new potassium permanganate dosing system and new cartridge bag filters in 2012 & 2015, so the Ash Valley treatment system has been upgraded since 1970. Non-water quality environmental impacts would not manifest beyond those that already exist due to Homer City's use of treatment technologies that are already installed and operating.

DEP did not adopt the 2015 NSPS on combustion residual leachate as BAT for Homer City's landfill wastewaters. DEP merely noted that the arsenic and mercury BAT limits that were imposed at IMP 101 based on the use of chemical precipitation are equivalent to the 2015 NSPS on combustion residual leachate, which also were based on the use of chemical precipitation. This observation helps demonstrate the reasonableness of the arsenic and mercury limits.

Homer City's comment does not present any site-specific information relating to cost, economics, age of equipment, or potential non-water quality environmental impacts to dispute that DEP's adoption of BAT limits for the high flow and low utilization FGD wastewater categories of the 2020 Reconsideration Final Rule as BAT for Homer City's landfill wastewaters (and, by extension, EPA's consideration of cost, economics, age of equipment, or potential non-water quality environmental impacts as part of those BAT limits) is factually supported and reasonable for combustion residual leachate. Homer City's ability to comply with the proposed limits and Homer City's current use of hydroxide precipitation and filtration technologies likely foreclose Homer City's claim that costs, economics, age of equipment, and non-water quality environmental impacts prohibit the adoption of arsenic and mercury limits based on the use of chemical precipitation.

Homer City Comment 7: The BPJ limits for arsenic and mercury are unreasonable and unduly burdensome and should be removed from the permit. The proposed effluent limits for arsenic and mercury are lower than the maximum contaminant levels for drinking water: the arsenic MCL is 0.010 mg/L, whereas the proposed effluent limits are 0.008 mg/L (average monthly) and 0.011 mg/L (daily maximum); the mercury MCL is 0.002 mg/l, whereas the proposed effluent limits are 0.000356 mg/L (average monthly) and 0.000788 mg/L (daily maximum). At these levels, the treated effluent would be of better quality than drinking water. Furthermore, these limits are so low, specialized testing methods will be required, at a substantially higher cost than routine wastewater analysis.

DEP Response to Homer City Comment 7: BAT TBELs are based on the performance of treatment technologies. Whether TBELs are lower than drinking water MCLs has no bearing on the reasonableness of those TBELs when the TBELs are achievable using available and affordable treatment technologies.

Refer to DEP's Response to Homer City Comment 6. EPA's consideration of the six factors partially substituted for DEP's consideration of the six factors. EPA considered the cost of compliance with the arsenic and mercury limits, which includes sampling and analytical costs. The costs are reasonable as evidenced by EPA's imposition of those limits on existing FGD wastewaters (which, as both DEP and EPA demonstrated, are very similar to combustion residual leachate and Homer City's landfill wastewaters).

Homer City Comment 8: The BPJ limits for arsenic and mercury are unreasonable and unduly burdensome and should be removed from the permit. Recently obtained data for arsenic and mercury in the Homer City CRL indicates that neither metal is present in sufficient concentration to warrant effluent limits. Homer City collected influent and effluent samples from the leachate treatment system (influent being untreated CRL) and had them tested for total arsenic and total mercury. The results are as follows:

Internal Review and Recommendations

Sample Date	Location	Total Arsenic (mg/L)	Total Mercury (ng/L)
01/15/2021	inlet	< 0.01	2.6
	outlet	< 0.01	1.8
01/22/2021	inlet	0.012	4.6
	outlet	< 0.01	3.1
01/28/2021	inlet	< 0.009	20.5
	outlet	< 0.009	2.6
02/05/2021	inlet	< 0.009	3.4
	outlet	< 0.009	2.2

These data indicate two things: (1) the concentrations of arsenic and mercury are extremely low, not warranting effluent limits, as EPA had determined in 1982; and (2) the concentrations of these metals are stable, such that weekly monitoring is not warranted.

DEP Response to Homer City Comment 8: With respect to EPA's determination in 1982, no conclusions can be drawn from Homer City's data. EPA evaluates data from multiple plants as part of developing national standards of performance and what was not treatable in 1982 may be treatable in 2021 owing to advances in treatment technologies over the last 40 years as the Fifth Circuit Court discussed in *SWEPCO*.

Homer City's analytical results from January and February 2021 are informative to case-by-case TBELs. DEP requested that Homer City provide influent data on arsenic, mercury, and other parameters by email dated December 3, 2020, which might have foreclosed further consideration of case-by-case arsenic and mercury TBELs before publication of Draft 3, but such data were unavailable from existing influent datasets and Homer City did not proffer any additional data on arsenic and mercury at that time.

Nevertheless, based on the most recent reported results, DEP finds cause to remove the proposed arsenic and mercury limits from IMP 101 on the basis that arsenic and mercury are not present in the raw wastewater in treatable concentrations even with chemical precipitation. EPA identified arsenic and mercury as pollutants of concern for combustion residual leachate so some arsenic and mercury monitoring will be required at IMP 101 (see DEP Response to Homer City Comment 9 below).

Homer City Comment 9: The sampling frequency is unnecessary, unreasonable and unduly burdensome. The draft permit would require sampling the CRL once per week and testing for mercury and arsenic. The sampling frequency should consider the variability of the quality and quantity of the discharge. Self-Monitoring Requirements in Permits, Chapter 6, §B in Technical Guidance for the Development of Effluent Limitations and Other Permit Conditions, PADEP Document 362-0400-001 (October 1997). The CRL at Homer City is generated at the Ash Disposal Facility, a monofil that receives CRL generated at the Homer City Station. The leachate is generated from storm water percolating through the mass of CRL disposed at the facility, and the composition and quantity of the CRL is relatively constant. Accordingly, there is no need to sample this stream weekly. Furthermore, the extremely low concentration limits (nanograms per gram for mercury) requires specialized analysis which is expensive (approximately 4 times the cost of routine wastewater analysis). Considering the nature of the leachate and the manner in which it is generated, to the extent that limits for mercury and arsenic are required, the frequency for sampling and analysis for these metals should be no more often than semiannually.

DEP Response to Homer City Comment 9: As explained in DEP's Response to Homer City Comment 8, arsenic and mercury TBELs will be removed from IMP 101. However, semi-annual monitoring for arsenic and mercury will be required at IMP 101. Even though the proposed limits will not be imposed, Homer City's data on arsenic and mercury are limited, so collecting additional data on those parameters is reasonable pursuant to 25 Pa. Code § 92a.61(b).

Homer City Comment 10: The manganese and iron monitoring requirements should be removed from this internal monitoring point as these are monitored at outfall 001. The Fact Sheet Addendum 2 states that these limits are TBELs that must be applied at the internal monitoring point. The manganese limits were developed as BPJ BAT limits on the original outfall 004. See July 2014 Fact Sheet at 63. However, now that CRL is recycled into the cooling water system and any remaining component of this wastewater is discharged via Outfall 001, this limit should be superseded by the more restrictive WQBEL for manganese at Outfall 001. The limit for dissolved iron was developed as a WQBEL at Outfall 004. Id. The Department asserts, with no legal basis stated, that this WQBEL is now considered to be a TBEL. Id. Similar to the manganese limit, the dissolved iron limit at this internal monitoring point should be superseded by the more restrictive WQBEL limit at outfall 001.

Internal Review and Recommendations

DEP Response to Homer City Comment 10: DEP acknowledges its error in stating that the 2.0 mg/L average monthly and 4.0 mg/L maximum daily limits for dissolved iron were originally developed as TBELs. Nevertheless, the 2.0 mg/L average monthly and 4.0 mg/L maximum daily limits for dissolved iron and total manganese at IMP 101 were reestablished (based on antibacksliding) at Outfall 004 in the 2012 permit amendment and DEP's 2014 Fact Sheet for Homer City's pending renewal adopted the dissolved iron limits as TBELs on the basis that Homer City uses treatment technology that can treat for dissolved iron. Outfall 004 was subject to a schedule of compliance in the 2012 permit amendment, which would have imposed more stringent WQBELs of 0.19 mg/L average monthly and 0.30 mg/L maximum daily for dissolved iron and 0.64 mg/L average monthly and 1.00 mg/L maximum daily after three years. The 2.0/4.0 mg/L limits applied to leachate discharges during the interim three years as limits that were in effect at Outfall 004 before 2012 and with which Homer City already complied. IMP 101 is a monitoring point for the same wastewaters as Outfall 004. DEP is not proposing to limit IMP 101 at the more stringent WQBELs proposed for Outfall 004 in the 2012 permit amendment.

As explained in DEP's Response to Homer City Comment 5, DEP is obligated to consider case-by-case TBELs on combustion residual leachate separately from other wastewaters. Even though TBELs for arsenic and mercury are being removed from IMP 101, the reason those limits are removed (see DEP Response to Homer City Comment 8) does not extend to iron and manganese, which are present in Homer City's landfill wastewaters; have historically been limited in those wastewaters by the permit; and are treatable by the existing Ash Valley Landfill treatment system. As explained previously, Homer City already employs hydroxide precipitation, which is effective for iron removal. Homer City also doses leachate with potassium permanganate, which oxidizes iron and manganese. Paired with sedimentation and filtration, Homer City is already equipped with the treatment technologies needed to remove iron and manganese. Therefore, iron and manganese TBELs at IMP 101 are reasonable.

DEP also already explained in Fact Sheet Addendum 2 that the limits at Outfall 001 are not necessarily more restrictive due to the combination of numerous sources in the cooling tower clarifier whereby dilution may facilitate compliance with limits—a permissible action for WQBELs, but not for TBELs per 40 CFR § 125.3(f). DEP stated in Fact Sheet Addendum 2 that it does not have enough information to determine whether compliance with those more stringent limits at Outfall 001 represents: 1) the treatment of leachate at a level commensurate with that required to comply with the BAT TBELs at IMP 101 (former Outfall 004) or 2) the dilution of leachate by other waters. Homer City did not provide any information to demonstrate that iron and manganese in combustion residual leachate/landfill wastewaters are not diluted (such as a water balance of the average concentrations and flow rates of sources that combine with landfill wastewaters downstream of IMP 101), which might support Homer City's claim that iron and manganese limits at IMP 101 are unnecessary.

In the absence of evidence that co-dilution of dissimilar wastes is not the primary driver of compliance with iron and manganese limits at Outfall 001 (i.e., in the absence of evidence that iron and manganese are treated and removed and not simply diluted), DEP maintains that the iron and manganese limits at IMP 101 are reasonable and achievable by Homer City's existing treatment technologies.

Homer City Comment 11: Monitoring requirements for aluminum, iron and manganese should be removed from this outfall. The stated purpose for this monitoring is to collect information on the quality of Two Lick Creek for the purposes of implementing the Kiskiminetas-Conemaugh River Watershed TMDL. Fact Sheet Addendum 2 at 4. The TMDL was developed in 2010, so the Department has over 10 years of monitoring data on Two Lick Creek, which should be more than sufficient for implementing the Kiskiminetas-Conemaugh River Watershed TMDL.

DEP Response to Homer City Comment 11: DEP does not have over ten years of monitoring data on Two Lick Creek. DEP's Water Quality Network Station on Two Lick Creek (WQN Station 815) was inactivated in 1987 and water quality sampling at USGS Station 03042500 – Two Lick Creek at Graceton, PA (limited as it was) ended in 1988. Limited data collection preceded development of the TMDL, but did not continue after the TMDL was finalized.

Even if data were available, the fact that ten years have passed since the TMDL was completed does not mean it is unreasonable for DEP to require data collection to assess the condition of Two Lick Creek in the vicinity of Homer City's discharges consistent with DEP's regulatory authority under 25 Pa. Code §§ 92a.61(b) and 96.4(i). Stream improvements will only manifest once the TMDL is implemented and some TMDL requirements are being imposed on the Station's discharges for the first time in this permit renewal. Homer City did not indicate whether it would accept DEP's proposal for the Station to provide stream data from the Station's Make-Up Pump House. Therefore, the monitoring for aluminum, iron, and manganese will remain at Outfall 002.

Internal Review and Recommendations

Homer City Comment 12: The condition at Part C, VII.F.6 regarding benchmark values and corrective action planning applies to only stormwater outfalls. As described in the Fact Sheet Addendum, this condition should apply only to stormwater outfalls 017, 019, 021, 022, and 025. See Fact Sheet Addendum at 41. These outfalls should be specified in the permit condition.

DEP Response to Homer City Comment 12: The benchmark values also apply to storm water at IMPs 106 and 406. Condition VIII.F.6 will be updated to state:

> In the event that stormwater discharge concentrations for a parameter at Outfall 017, 019, 021, 022, or 025 or IMPs 106 and 406 exceed the benchmark values identified below at the same monitoring point for two or more consecutive monitoring periods, the permittee shall develop a corrective action plan to reduce the concentrations of the parameters in stormwater discharges…

Homer City Comment 13: The monitoring requirements for TDS, chloride, bromide and sulfates should be removed from the permit.

The Draft Permit requires weekly sampling for TDS, sulfate, chloride and bromide and reporting the results in the monthly discharge monitoring report. As explained in the July 1, 2014 Fact Sheet at p. 135, these monitoring and reporting requirements were imposed as a requirement of a "new monitoring initiative." That monitoring initiative has been in place since at least 2009 and was intended to collect information regarding TDS and TDS constituents as a result of water quality impacts from wastewaters associated with development of Marcellus Shale natural gas wells and in support of the rulemaking to amend 25 Pa. Code Chapter 95 to establish new effluent standards for new sources of wastewaters containing high TDS concentrations. That rule was promulgated in 2010. Presumably, since 2009 (11 plus years), the Department has collected sufficient data from the multitude of NPDES permittees across the Commonwealth and routinely imposing these requirements is no longer necessary.

DEP Response to Homer City Comment 13: TDS and bromide are pollutants of concern for FGD wastewaters under 40 CFR Part 423, so monitoring for TDS and bromide will remain at Outfall 027 pursuant to 25 Pa. Code § 92a.61(b). Monitoring for chloride and sulfate will be removed because, unlike TDS and bromide, the monitoring initiative Homer City mentions was the sole basis for those monitoring requirements and DEP recently halted that monitoring initiative.

Homer City Comment 14: The compliance period for the TMDL parameters (aluminum, iron and manganese) should be extended to 59 months after the permit effective date, consistent with the compliance schedule for the ELG parameters. Homer City's ability to eliminate the discharge from Outfall 027 hinges on the ability to consume all of this waste stream (FGD wastewater from Unit 3) as feedwater for the Novel Integrated Desulfurization Systems (NIDS) installed on Units 1 and 2. This will impact the current process water balance at Outfall 001, as that wastewater is currently used as NIDS feedwater, which will be partially displaced by the wastewater from outfall 027. A longer compliance period is needed for Homer City to develop a better understanding of changes to the water balance associated with a range of operating conditions and to implement the appropriate controls. The impacts on the water balance affect both the ELG parameters and the TMDL parameters, which is why it [is] appropriate to extend the TMDL compliance schedule to be consistent with the ELG compliance schedule.

DEP Response to Homer City Comment 14: TMDL load limits at Outfall 027 were increased at Homer City's request to the levels Homer City requested. Therefore, compliance with mass limits should be easier for Homer City to achieve, particularly when metals concentrations in Outfall 027's effluent are already low.

Homer City Comment 15: Part C, Condition II of the Permit identifies emergency overflow outfalls for certain surface impoundments at the Station and sets forth monitoring and reporting requirements applicable when these outfalls discharge. Fact Sheet Addendum 2 acknowledges that the impoundments subject to this condition "were designed to accommodate certain storm recurrence intervals … and that storm events exceeding those design storms can occur that may result in infrequent or rare overflows from those ponds or basins." Fact Sheet Addendum 2 at 2. This explanation should be clarified to reflect that the impoundments were designed to contain the runoff equivalent for a storm with a certain recurrence interval. This is to address conditions where there may be serial runoff events over a short period of time, where any individual event is less than the design basis storm event, but the runoff from the combined events is greater than that for the design basis storm (e.g., a combination snowmelt and precipitation event, or a series of precipitation events over several days, each event being less than the design basis event, but due to saturated or frozen ground conditions, the runoff is greater than that from the design basis storm.)

Internal Review and Recommendations

DEP Response to Homer City Comment 15: DEP acknowledges the circumstances Homer City describes subject to any dewatering requirements for residual waste storage impoundments regulated by Homer City's Solid Waste Permit (e.g., if impoundments must be dewatered within a certain period of time to recover containment capacity and maintain minimum freeboard).

Homer City Comment 16: The compliance schedule for implementing TMDLs calls for conducting a source reduction evaluation at outfalls 006, 013, 021, and 027. Draft Permit Part C.IV.B If the implementation of source reduction measures does not result in aluminum, iron and manganese effluent concentrations that are less than the WQBELs for these metals, then the permittee shall prepare a Water Quality Management (Part II) permit application for construction of a wastewater treatment system designed to achieve the WQBELS for these metals. Id. The Draft Permit imposes annual mass discharge limits on these outfalls (with the exception of outfall 027), so to the extent that a source reduction evaluation is required, it should be based on achieving the annual mass limits for these metals.

DEP Response to Homer City Comment 16: The WQBELs referenced in Part C.IV.B of the permit include the annual mass limits Homer City references, which are TMDL WQBELs. Therefore, the source reduction evaluation of Part C.IV.B applies to those limits. Since Outfalls 006 and 013 are subject to aggregate load limits, please note that implementation of source reduction measures extends to the outfalls included in those aggregate loads.

Homer City Comment 17: Outfalls 006, 013, and 021 are stormwater outfalls, for which treatment of these metals is not feasible, and Outfall 027 is a process outfall that will be eliminated before the end of the permit term. Consequently, source reduction evaluations for these outfalls are not warranted.

DEP Response to Homer City Comment 17: Source reduction involves the identification of sources of pollutants and measures to prevent them from getting into a wastewater. Treatment removes pollutants after they are already in a wastewater. Therefore, whether metals treatment is feasible for storm water has no bearing on the feasibility of source reduction for storm water.

With respect to Outfall 027, DEP understands that Homer City's efforts will be geared toward achieving zero liquid discharge. However, the planned elimination of Outfall 027 within five years does not preclude a source reduction evaluation during that time, which may result in reduced discharge loadings before the discharge is eliminated.

By email dated March 1, 2021, Sierra Club and the Lower Susquehanna Riverkeeper Association (LSRA) submitted comments on Draft 3. DEP's responses to Sierra Club and LSRA are provided below.

Sierra Club & LSRA Comment A. Technology-Based Effluent Limits Are Needed for Key Outfalls

As noted above, under the CWA, a state-permitting agency must promulgate permit effluent limitations, in accordance with best available technology ("BAT"), on a case-by-base basis. 40 C.F.R. § 125.3(c)(2) and (3); *see also Texas Oil & Gas Ass'n*, 161 F.3d at 928-29. In doing so, the state agency is bound by the same factors that EPA is required to apply in determining and applying BAT limits in a permit. See 33. U.S.C. §§ 1342(b) and 1311(b); *see also Natural Res. Def. Council*, 859 F.2d at 183.

It is well-settled that the pollutants selenium, cadmium, lead, copper, mercury, ammonia, nitrite, chloride, arsenic, barium, nickel, antimony, and hexavalent chromium, are present in discharges from coal-fired plants, from things like coal pile runoff, ash leachate, and coal ash dewatering wastewater. See, e.g., U.S. EPA, 2017 Toxics Release Inventory report, Toxics Release Inventory Program, at http://www.epa.gov/tri/. (discussing the contents of coal ash water). Well-known and widely-implemented technologies are available to address these wastestreams. Indeed, EPA has identified numerous types of BAT for dealing with the pollutants found in effluent from coal-fired plants, such as coagulants, floculents, bioreactors, vapor-compression evaporation, and organosulfides to remove metals from coal wastewater.

Here, the Draft Permit fails to set appropriate BAT for Outfalls 006 and 018. Outfall 006 serves as the discharge point of wastewaters from internal monitoring points 106, 206, 306, and 406, which handle coal pile runoff and coal pile desilting wastewater. Such wastestreams include a wide range of hazardous metal and toxic pollutants; however, the Draft Permit only sets limits for aluminum, iron, and manganese for Outfall 006 through its constituent internal monitoring points. Likewise, Outfall 018, which discharges ash landfill leachate, discharges from the coal cleaning plant, and filtrate from dewatering, also only has limits for aluminum, iron, and manganese, instead of for the full suite of metals and toxics present in such wastewater. DEP has accordingly failed to undertake the required BPJ analysis to set TBELs for these outfalls consistent with BAT.

Internal Review and Recommendations

The Draft Permit should be revised to incorporate limits for additional pollutants, and to require additional controls, such as a bioreactor for selenium, to ensure that limits are consistent with BAT for a facility like Homer City.

DEP Response to Sierra Club & LSRA Comment A: This same comment was submitted by Sierra Club on Draft 2 of the NPDES permit. Since no additional information was presented that would alter DEP's response to that comment, DEP repeats its response from Fact Sheet Addendum 2:

DEP considered technology-based limits for the individual sources contributing to discharges at Outfall 006—all of which are variable, precipitation-induced discharges. Any limits or monitoring requirements that applied to those sources were imposed at internal monitoring points upstream of Outfall 006.

As described in the 2014 Fact Sheet, BAT limits imposed at Outfall 018 are consistent with applicable national standards of performance established by EPA in 40 CFR §§ 423.12(b)(3) and 434.22(a). To the extent that the applicable ELGs do not address pollutants as Commenters suggest, a BPJ analysis by DEP would conclude that no other site-specific TBELs are warranted on the basis that the pollutants Commenters identify are not present in significant concentrations, as demonstrated in the table below.

Commenters state that selenium, cadmium, lead, copper, mercury, ammonia, nitrite, chloride, arsenic, barium, nickel, antimony, and hexavalent chromium, are present in discharges from coal-fired plants, from things like coal pile runoff, ash leachate, and coal ash dewatering wastewater. It is true that Homer City treats some wastewaters in the Cooling Tower Clarifier for use as cooling tower makeup water and that there are occasional overflows from the Cooling Tower Clarifier through Outfall 018. However, DEP would not identify any of the pollutants that Commenter's identify as characteristic of coal-fired power plant wastewaters as pollutants of concern at Outfall 018. The table below summarizes the effluent characteristics of Outfall 018's discharges as reported on the permit application.

Pollutant	Average (mg/L)	Maximum (mg/L)		Pollutant	Average (mg/L)	Maximum (mg/L)
Selenium	<0.01	<0.01		Nitrite-Nitrite as N	1.3	1.6
Cadmium	<0.005	<0.005		Arsenic	<0.01	<0.01
Lead	<0.005	<0.005		Barium	0.027	0.028
Copper	<0.005	<0.005		Nickel	<0.005	<0.005
Mercury	<0.0002	<0.0002		Antimony	<0.005	<0.005
Ammonia	<0.1	<0.1		Chromium, Hexavalent	<0.01	<0.01

It is evident that neither treatment nor additional TBELs are needed at Outfall 018 for any of the pollutants listed above.

Sierra Club & LSRA Comment B: The Final Permit Must Include Milestones and an "As Soon as Practicable" Deadline for FGD ZLD

DEP is correct that, while Homer City may wish to take advantage of the voluntary incentives program BAT limits for FGD wastewater under 40 C.F.R. § 423.19(h), the fact that the zero liquid discharge ("ZLD") system Homer City intends to implement impacts new WQBELs means that the compliance timeline provisions of 25 Pa. Code § 92a.51 govern. NPDES Permit Fact Sheet Addendum 2 at 26. That provision requires that

> . . . . the applicant shall be required in the permit to take specific steps to remedy a violation of the standards and limitations in accordance with a legally applicable schedule of compliance, in the shortest, reasonable period of time, the period to be consistent with the Federal Act. Any schedule of compliance specified in the permit must require compliance with final enforceable effluent limitations as soon as practicable, but in no case longer than 5 years . . .

Pa. Code § 92a.51(a) (emphasis added). Compliance by December 21, 2028, is plainly neither the "shortest, reasonable period of time," as "soon as practicable," or "in no case longer than 5 years" from now.

The Draft Permit appears to contemplate compliance with BAT limits for FGD wastewater by month 59 of the permit's term (see Draft Permit at 38-41), but neither it nor the Fact Sheet Addendum appears to contain an assessment of what the "shortest, reasonably period of time" that would be "as soon as practicable" for achievement of those limits. Nor do the draft documents include milestones for compliance, as required by the Clean Streams Law. See Pa. Code § 92a.51(b) ("If the period of time for compliance specified in subsection (a) exceeds 1 year, a schedule of compliance will be specified in the permit that will set

Internal Review and Recommendations

forth interim requirements and the dates for their achievement.") As such, DEP and the public will be unable to know for sure if Homer City is on track to implement the ZLD system by the required date.

Accordingly, the Final Permit must include these milestones, and require reporting from Homer City sufficient to ensure that the public is aware of Homer City's progress, and to enable that progress to be enforceable. Additionally, DEP should finalize Homer City's NPDES permit as soon as possible if DEP intends to key compliance dates to permit issuance, as the current Draft Permit contemplates. The current Draft Permit is of course a revised version of a 2018 permit draft, which was itself a revision of a 2016 permit draft based on a 2014 process to replace the 2007 Homer City NPDES permit that has been expired since 2012. Homer City has been on notice of the requirement to comply with WQBELS for a long time, and indeed informed DEP of its ZLD system plans nearly three years ago in April of 2018 (see NPDES Permit Fact Sheet Addendum at 26); further delays in improving water quality due to delays in permit issuance should not be countenanced.

DEP Response to Sierra Club & LSRA Comment B: The Final Permit Must Include Milestones and an "As Soon as Practicable" Deadline for FGD ZLD:

DEP is not requiring compliance with new WQBELs by December 31, 2028. DEP is requiring compliance with the new WQBELs within 59 months of permit issuance with the compliance schedule for new WQBELs obliging an earlier compliance date for the VIP TBELs. That is, the compliance date for new WQBELs hasn't been pushed back to coincide with Part 423's December 31, 2028 compliance date for VIP TBELs (which Homer City will achieve by eliminating Outfall 027). The compliance date for the VIP TBELs in Homer City's permit has been moved up by about 2.5 years to coincide with the time Homer City needs to eliminate Outfall 027 (and comply with new WQBELs at Outfall 027 in the process).

DEP discussed compliance timeframes with Homer City in advance of publishing Draft 3 for public comment. On October 14, 2020, DEP sent the following email to Homer City:

> Do you have an update on revisions to the proposed compliance schedule for WQBELs and TBELs at Outfalls 001 and 027?
>
> Yesterday (October 13, 2020), EPA published a final rule (PDF) in the Federal Register that modified the December 31, 2023 compliance date for effluent limits on FGD wastewaters under the Voluntary Incentives Program (VIP) to December 31, 2028. However, Homer City previously reported to us that it could comply by December 31, 2023. Homer City is theoretically entitled to the December 31, 2028 date for the new VIP TBELs on FGD wastewaters, but new WQBELs at Outfalls 001 and 027 are subject to a date that is "as soon as practicable" (per 25 Pa. Code § 92a.51(a)), which would be December 31, 2023, as previously communicated to us. If Homer City still intends to comply with Outfall 027's new WQBELs by employing ZLD and the schedule for Outfall 001's new thallium WQBELs is tied to the ZLD schedule, then we'd still be looking for an updated schedule with milestones to comply by December 31, 2023. Otherwise, there would be two separate schedules: one for the new WQBELs achieved by December 31, 2023, and one for the VIP TBELs for FGD wastewaters achieved by December 31, 2028.

Homer City's consultant replied on October 27, 2020 as follows:

> The Station is planning on using the same compliance schedule that was in the last draft permit, same durations for compliance just update the PED date. The schedule duration would be 59 months from the issuance of the permit. The initial studies for the compliance schedule were not started in 2019 because budgets for permit implementation projects are not released for use until the permits are issued so that the final permit requirements are known. Also COVID-19 issues during 2020 have further delayed any water balance studies due to Stations operations being impacted from low energy demand.

Homer City has been 'on notice' of the pending imposition of new WQBELs at Outfall 027, but Homer City has not moved to comply with those WQBELs because the Station is not yet subject to those WQBELs in a final NPDES permit. The same applies to the VIP TBELs / ZLD schedule. Outfall 027's WQBELs were already revised once during the permit renewal process and Part 423 has been in flux since at least 2017 with revisions to the rule in 2020 changing effluent limits and compliance timeframes for FGD wastewater, which affects Homer City's permit limits. Homer City chose not to commit resources to permit requirements that were actively undergoing revisions or that were otherwise subject to change.

Internal Review and Recommendations

The permit must account for existing realities. Therefore, the same schedule from the 2018 draft permit is included in Draft 3 of the permit. The sooner the permit is renewed, the sooner Homer City must implement its compliance schedule and the sooner Outfall 027 will be eliminated.

Milestones for ZLD and the non-TMDL WQBELs were included in Part C, Condition III of Draft 3. Milestones for the TMDL WQBELs were included in Part C, Condition IV of Draft 3. The same conditions are in Draft 4.

Sierra Club & LSRA Comment C: BAT-Based Limits for Legacy FGD Wastewater Are Necessary

DEP is correct that BAT-based limits for legacy FGD wastewater need to be set in this permit for Homer City. While we appreciate DEP's attempt to use best professional judgment in so doing, the limits it has derived come up short. DEP spends much of its fact sheet discussion on whether or not more stringent BAT-based limits should be imposed before Homer City complies with the voluntary incentives program for FGD wastewater "within five years" (Fact Sheet Addendum 2 at 27), and concludes that Homer City's "limited resources" would be "better invested in achieving ZLD than installing anoxic/anerobic fixed film biological treatment systems." Fact Sheet Addendum 2 at 28. However, this misses the mark for two important reasons.

First, as discussed above, Homer City notified DEP of its choice to install a ZLD system in April of 2018; even assuming DEP finalizes the Draft Permit within a month, compliance as contemplated in the Draft would not be until spring of 2026—eight years, not five. Second, focusing on Homer City's supposed limited resources is improper: the question is whether or not the best plant could install such controls. Although DEP does not explain how or why Homer City's resources might be limited in a way that would prevent it from installing available controls, this is an irrelevant consideration. Instead, a technology is "economically achievable" under the BAT standard if it is affordable for the best-run facility within an industry. See, e.g., Reynolds Metals Co. v. EPA, 760 F.2d 549 (4th Cir. 1985); Kennecott v. U.S. E.P.A., 780 F.2d 445, 448 (4th Cir. 1985) ("In setting BAT, [the issuing authority] uses not the average plant, but the optimally operating plant which acts as a beacon to show what is possible.").

As such, Homer City should not be given a pass on achieving TBEL-consistent reductions in FGD wastewater pollution simply because it has indicated that it will, at some point, address that pollution stream.

DEP Response to Sierra Club & LSRA Comment C: BAT-Based Limits for Legacy FGD Wastewater Are Necessary:

The purpose of DEP's extensive discussion in Fact Sheet Addendum 2 about whether more stringent BAT-based limits should be imposed before Homer City complies with the VIP TBELs for FGD wastewater was to clarify that there is no functional difference between 'legacy FGD wastewater' and 'FGD wastewater' in terms of raw wastewater characteristics and flows. The discussion also clarified that BAT for FGD wastewater should be considered BAT for legacy FGD wastewater except that BAT for FGD wastewater incorporates time for facilities to expeditiously plan (including to raise capital), design, procure, and install equipment to comply. Developing case-by-case limits for legacy FGD wastewater is theoretically unnecessary because 1) legacy FGD wastewater *is* "FGD wastewater"; 2) EPA already determined BAT for FGD wastewater; and 3) by determining BAT for FGD wastewater, EPA already determined BAT for legacy FGD wastewater.

As DEP stated in Fact Sheet Addendum 2: "The Clean Water Act requires compliance with BAT by March 31, 1989, so any permits issued based on BAT determinations after March 31, 1989 implicitly require compliance with new BAT limits immediately. However, it is unreasonable to expect facilities to comply immediately with effluent limits based on newly established BAT when facilities do not have BAT or BAT-equivalent technologies. "Legacy wastewater" appears to be a construction by EPA to give power plants time to install BAT within the temporal constraints of the Clean Water Act."

Sierra Club & LSRA contend that Homer City must implement an economically achievable technology representing the best-run facility within an industry. According to the 2020 Reconsideration Final Rule, EPA determined that technology to be chemical precipitation and anoxic/anaerobic fixed-film biological treatment. Homer City currently employs chemical precipitation and aerobic biological treatment for its FGD wastewaters, but Homer City plans to implement zero liquid discharge (ZLD). By implementing ZLD, Homer City has voluntarily committed to use technologies that exceed what EPA determined to represent the best-run facility within the industry. Homer City needs time to plan, design, procure, and install equipment to exceed what is achievable using BAT and to bring about a result that is more desirable under the Clean Water Act than a treated discharge—the elimination of a discharge.

Internal Review and Recommendations

Homer City's resources are limited, and they are relevant to the timeframe over which Homer City can implement new treatment technologies. Homer City estimates that the cost of a new chemical and biological treatment system similar to the chemical precipitation and low residence time reduction biological (CP+LRTR) treatment system EPA selected as BAT for FGD wastewater would cost approximately $40 million and that installation of such a system would take about four years. The estimated cost to implement Homer City's planned ZLD option is $3.2 million and will take a little less than five years. If Homer City installed a new CP+LRTR system, that system would be fully operational for only one year or less before the ZLD option is finalized. Given the current state of the coal-fired electric power-generating industry with its less competitive costs for power generation compared to natural gas and renewables and with shifts toward seasonal operation of coal plants, an expenditure of $40 million for such a limited period of operation would have adverse effects on Homer City. Furthermore, if Homer City did install CP+LRTR for legacy FGD wastewater, Homer City would not have to pursue ZLD because 1) ZLD is a voluntary undertaking by Homer City; and 2) Homer City would have already achieved a level of performance equivalent to the 2020 Reconsideration Rule's BAT for FGD wastewater. Despite meeting BAT in that scenario, the outcome would be a less preferred result with respect to the Clean Water Act's discharge elimination goal because Homer City would have an ongoing FGD wastewater discharge from Outfall 027 and the capital cost of keeping that discharge would be 12.5 times higher than the cost of eliminating the discharge.

DEP further notes that case-by-case TBELs for Homer City's legacy FGD wastewater have already been established. Homer City is currently subject to case-by-case TBELs based on the use of chemical precipitation and aerobic biological treatment (refer to Table 89 on p.133 of the 2014 Fact Sheet). That technology exceeds the technology the Fifth Circuit Court determined was inadequate for legacy wastewaters.

By email dated March 1, 2021, Sierra Club forwarded to DEP comments on Draft 3 from 34 community members in the vicinity of the Homer City Generating Station including a general comment co-signed by those community members with some additional individual comments. DEP's responses are provided below.

General Comment Co-signed by Community Members: The Pennsylvania Department of Environmental Protection should update the draft National Pollutant Discharge Elimination System (NPDES) permit for Homer City Generating Station to immediately protect residents living downstream from the coal plant from further water contamination. In order to protect public health and the health of our streams, the limits on heavy metals and other pollutants from coal ash can and should be further tightened; and the compliance deadlines should be accelerated.

DEP Response to General Comment: The effluent limits and other requirements of the NPDES permit (including those on wastewater discharges originating from coal ash) are developed to protect human health and aquatic life. The permit's compliance deadlines are already accelerated, but the effectiveness of those deadlines depends on the NPDES permit renewal being issued so that the Station is subject to those deadlines. The sooner the permit is renewed, the sooner the Station must implement its compliance schedule and the sooner more stringent requirements will take effect.

Individual Comments

Margaret Ghiardi: "I live in this area and it really sickens me that the Homer City Generating Station is allowed to pollute the air and water!! It's time for the DEP to protect our communities and our water from dirty coal!!!!!!!!!!"

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Catherine McClenahan: "This plant has been polluting our air and water for far too long. PA seems to think that means JOBS! Excuses any environmental cost. So tired of it! Time to stop and join the modern world"

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Nathan Wygonik: "All regulation could be removed from plant operation and carte blanche given to this plant to run however they want and, still, nobody under 60 will be taking full retirement from this operation, such as it's been run into the ground. It's going to close soon, regardless. We might as well begin to protect our health."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Internal Review and Recommendations

Sara Stewart: "I am a stage 3 cancer survivor. I live in fear of being furthered sickened by toxic emissions from your plant, and I am far from the only person I know who's a cancer survivor in this area."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Todd Thompson: "This issue matters greatly to me because of the high cancer rates in this area (including my wife). Please work to protect us from further contamination."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Melinda Farrington: "We fish in these waters. Please do better."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Denise Jennings-Doyle: "It is possible to have good jobs and clean air, soil, and water. It is not either or. Please look at our cancer rates of those who grew up in the shadow of this generating station."

DEP Response: The Pennsylvania Department of Health (DOH) collects information on cancer rates in the state. Please refer to DOH's Cancer Statistics webpage here: https://www.health.pa.gov/topics/HealthStatistics/CancerStatistics/Pages/Cancer-Statistics.aspx

Judith Holliday: "Do we have current statistics on cancer rates, due to metals in the air and water.?"

DEP Response: The Pennsylvania Department of Health (DOH) collects information on cancer rates in the state. Please refer to DOH's Cancer Statistics webpage here: https://www.health.pa.gov/topics/HealthStatistics/CancerStatistics/Pages/Cancer-Statistics.aspx

Aaron Marshall: "The long term health of the community depends on responsible elected officials and lawmakers protecting our health by regulating these institutions. Public health must take precedence over private income.

DEP Response: The NPDES permit implements regulations promulgated according to the Federal Clean Water Act and Pennsylvania Clean Streams Law. Among other things, the regulations implemented by the NPDES permit require dischargers to achieve minimum standards of treatment performance at their own expense. The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Judith Palaski: "Please stop polluting our beautiful county and its waters with your dirty water. We need water to sustain our lives and with some effort you can stop polluting us."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect human health and aquatic life.

Cody Miller: "I am from this area and I am not happy about this. We can make power and not pollute our streams, they are honestly disgusting to look at and obviously toxic."

DEP Response: The renewed NPDES permit will impose stricter requirements on Homer City's discharges to protect aquatic life, including requirements to help restore streams in the vicinity of Homer City that are impaired by acid mine drainage.

Claudine Bothell: "I grew up near the Homer City power plant. We had to sweep every morning the ash that was everywhere."

DEP Response: If you have an environmental compliant, please submit it to DEP using DEP's Environmental Complaints Form: https://www.dep.pa.gov/About/ReportanIncident/Pages/EnvironmentalComplaints.aspx

Internal Review and Recommendations

U.S. Environmental Protection Agency Comments

By email dated March 1, 2021, the U.S. Environmental Protection Agency (EPA) provided the following comments on Draft 3. "This is a major permit that discharges to Two Lick Creek, Blacklick Creek, Cherry Run and various Unnamed Tributaries to those waterways, as well as to an Unnamed Tributary to Muddy Run and Unnamed Stream. This permit is affected by the Kiskiminetas-Conemaugh Watershed TMDL. EPA has chosen to perform a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved TMDL, and the requirements of CWA 316(b) and 40 CFR 125 Subpart J. EPA has completed its review and offers the following comment(s):

1. We would recommend the following changes to Part C.IX. (Cooling Water Intake Structure) of the draft permit:

    a. Paragraph D. seems to need modification, as the first sentence reads "if this permit expires after July 14, 2018" – it seems like this may be a remnant of a previous/older permit template.

    b. We would recommend the following changes to Paragraph D.10.: "If DEP requests additional information ~~to make a BTA determination~~, the permittee shall submit information within 30 days or another time frame established by DEP in writing. ~~unless an alternate schedule is approved by DEP.~~

    c. We would recommend the following changes to paragraph F: "Operation of the facility's existing closed-cycle recirculation system constitutes ~~interim~~ BTA for impingement and entrainment pursuant to ~~404 CFR 125.98(b)(5)~~." If PADEP is concerned whether the closed-cycle system will constitute BTA for entrainment, the word entrainment could be removed from this sentence as that would minimally be addressed by existing Paragraph IX.B. Otherwise, PADEP can maintain this statement and the fact sheet could explain that the closed-cycle system constitutes BTA; however, based on entrainment sampling to be submitted by the permittee DEP may need to update or revise its determination.

2. Regarding the TMDL:

    a. It was noted in the TMDL WLA section of the fact sheet, that there was documentation of moving WLAs between subwatersheds. EPA has clarified previously that WLAs within the Kiskiminetas-Conemaugh TMDL should not be transferred between subwatersheds, but they can be transferred between outfalls within the same subwatershed. PADEP's second fact sheet (2018) seems to document this understanding. With that said, the permit does appear to still be consistent with the TMDL in that those outfalls' WLAs were maintained at concentrations that were identified in the TMDL (in this facility's case, at criteria end-of-pipe). The TMDL can allow for increased concentrations based on increased flows as long as the concentrations from the TMDL are maintained. This third fact sheet should explain this flexibility of the TMDL while not creating potential confusion about the transfer of WLAs between subwatersheds.

    b. For any outfall that had concentration-based WLAs imposed in the previous permit, and which are being removed and replaced in this draft with different concentration limitations or Total Annual Load limits, the fact sheet will need to include an antibacksliding discussion. The 2018 fact sheet attempted to do this by referencing the Federal Regulations at 122.44(l)(2)(i)(B)(2), however, that is an incorrect reference. For the relaxation of WQBELs and effluent limits based on state standards, the relaxation needs to be consistent with the Clean Water Act (CWA) section 303(d)(4)(A) for nonattainment waters or 303(d)(4)(B) for attainment waters, or consistent with one of the exceptions in CWA Section 402(o)(2). It should be noted that in section 402(o)(2), the exceptions for technical mistakes or mistaken interpretations and permit modification do not apply to WQBELs. Please revise the fact sheet to provide the appropriate antibacksliding documentation for all relevant outfalls.

    c. Regarding outfall 013, the fact sheet will need (in addition to an antibacksliding discussion as described above) justification as to whether another compliance schedule is necessary and appropriate to meet the Total Annual Load WQBELs for consistency with the TMDL.

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

Internal Review and Recommendations

DEP Response to EPA Comment 1.a: The referenced part of the first sentence in Part C, Condition IX, Paragraph D is a holdover from a previous draft permit dating to before July 14, 2018. The sentence will be modified to read "The permittee shall submit the applicable information specified in 40 CFR § 122.21(r) with its subsequent permit renewal application, as follows:"
DEP Response to EPA Comment 1.b: Alternative schedules for the submission of information to determine BTA are no longer an option. Therefore, Part C, Condition IX, Paragraph D.10 will be revised as EPA suggests.

DEP Response to EPA Comment 1.c: Operation of a closed-cycle recirculating system is generally recognized as a preferred option for BTA for impingement and entrainment. Therefore, Part C, Condition IX, Paragraph F will be modified as EPA suggests. Additionally, as EPA states, DEP may update or revise its determination based on the entrainment sampling required by Part C, Condition IX, Paragraph E.

DEP Response to EPA Comment 2.a: DEP acknowledges EPA's statements regarding load transfers. Loadings may be adjusted up or down depending on an outfall's flow rates, but concentration limits equivalent to the TMDL's allocated concentrations ensure that the TMDL's waste load allocations are implemented as required by the TMDL.

DEP Response to EPA Comment 2.b: EPA explains anti-backsliding provisions for WQBELs in Section 7.2.1.3 of the 2010 NPDES Permit Writers' Manual:

> **7.2.1.3 Exceptions for Limitations Based on State Standards**
>
> EPA has consistently interpreted CWA section 402(o)(1) to allow relaxation of WQBELs and effluent limitations based on state standards if the relaxation is consistent with the provisions of CWA section 303(d)(4) or if one of the exceptions in CWA section 402(o)(2) is met. The two provisions constitute independent exceptions to the prohibition against relaxation of effluent limitations. If either is met, relaxation is permissible.
>
> CWA section 303(d)(4) has two parts: paragraph (A), which applies to nonattainment waters, and paragraph (B), which applies to attainment waters.
>
> - Nonattainment water: CWA section 303(d)(4)(A) allows the establishment of a less stringent effluent limitation when the receiving water has been identified as not meeting applicable water quality standards (i.e., a nonattainment water) if the permittee meets two conditions. First, the existing effluent limitation must have been based on a total maximum daily load (TMDL) or other wasteload allocation (WLA) established under CWA section 303. Second, relaxation of the effluent limitation is only allowed if attainment of water quality standards will be ensured or the designated use not being attained is removed in accordance with the water quality standards regulations.

Standalone TMDL load limits in the renewed permit are only replacing TMDL concentration limits for noncontinuous storm water discharges. As explained in the Fact Sheet Addendum, expressing load limits for noncontinuous storm water discharges on an aggregate sub-watershed basis is a reasonable alternative implementation of TMDL WLAs for those types of discharges based on Homer City's simulation modeling indicating that low flow conditions (as opposed to high flow conditions) represent the critical loading conditions in the receiving sub-watersheds for the Station. That is, critical loading conditions that violate water quality criteria in-stream occur during low flows when storm water discharges subject to TMDL load limits are not discharging. Since the replacement load limits are based on a TMDL and since the change from concentration limits to load limits for storm water discharges will ensure the attainment of water quality standards, the alleged backsliding is allowed pursuant to Section 303(d)(4) of the Clean Water Act.

DEP further notes that the various expressions of TMDL requirements in the 2014, 2018, and 2021 draft permits—except for some corrected TMDL requirements in later draft permits (e.g., Outfall 027)—generally represent comparable levels of protection to the previously imposed concentration limits and are consistent with the TMDL's waste load allocations. Comparable or more stringent requirements expressed in different units do not represent backsliding.

DEP Response to EPA Comment 2.c: Refer to DEP Response to EPA Comment 2.b., above, for a discussion of backsliding. With respect to a schedule of compliance, the schedule applies to aggregate load limits as opposed to the 2012 permit amendment's schedule for outfall-specific concentration limits. Homer City has not collected data on aluminum, iron, and manganese loadings from all outfalls included in the aggregate TMDL loads imposed at Outfall 013, so Homer City's ability to comply with those limits is currently unknown. As explained in Fact Sheet Addendum 2, Homer City is currently undertaking corrective actions to reduce metals concentrations at Outfalls 013 and 029 pursuant to a 2016

Internal Review and Recommendations
Consent Order and Agreement with DEP. Also, Outfall 023's load contribution must be quantified for Homer City to evaluate whether it can comply with the aggregate load at Outfall 013—loads that include Outfall 023's load—and there are currently no data on metals loading at that outfall. As of June 17, 2021, Homer City completed at least one project pursuant to the 2016 Consent Order, which was to combine Outfalls 013 and 029 into one outfall. However, that combination will not address discharge loadings. Since Outfall 029's effluent now discharges through Outfall 013, Outfall 029 will be removed from the permit and Outfall 013's effluent description will be updated to include Outfall 029's sources. Part C, Condition V regarding TMDL compliance requirements will be revised to exclude references to Outfall 029.
Other Changes Part B.I.G is added to the permit to explain the procedures for terminating permit coverage and conditions pertaining to annual permit fees are updated and moved from Part B.IV of the permit to Part A.III.E of the permit. These changes update the permit to the most recent permit template revision from August 2021.
No other comments were received on Draft 3. Due to the significant changes made to the permit in response to comments on Draft 3, a revised draft permit (Draft 4) will be published for a 30-day comment period.

Revised effluent limits for Internal Monitoring Point 101 and Outfall 027 are summarized below. Changes from Draft 3 are shown in red italics. The monitoring frequencies and sample types for arsenic and mercury at IMP 101 will be 1/6 months, 24-hour composites.

Effluent Limits and Monitoring Requirements for IMP 101

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
Total Suspended Solids	—	—	30.0	100.0	—	40 CFR § 423.12(b)(11) & 423.13(l)
Oil and Grease	—	—	15.0	20.0	—	40 CFR § 423.12(b)(11)
Arsenic, Total (µg/L)	—	—	*Report (Semi Annl)*	*Report*	—	*25 Pa. Code § 92a.61(b)*
Mercury, Total (ng/L)	—	—	*Report (Semi Annl)*	*Report*	—	*25 Pa. Code § 92a.61(b)*
Iron, Dissolved	—	—	2.0	4.0	—	40 CFR § 122.44(l)
Manganese, Total	—	—	2.0	4.0	—	40 CFR § 122.44(l)
pH	within the range of 6.0 to 9.0					40 CFR § 423.12(b)(1)

Effluent Limits and Monitoring Requirements for Outfall 027

Pollutant	Mass (pounds)		Concentration (mg/L)			Basis
	Total Monthly	Total Annual	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report (Avg Mo)	Report (Daily Max)	—	—	—	25 Pa. Code § 92a.61(d)(1)
Temperature (°F)	—	—	—	110	—	Effluent Standard
Total Suspended Solids	—	—	30.0	100.0	—	40 CFR § 423.12(b)(3)
Oil and Grease	—	—	15.0	20.0	30.0	40 CFR § 423.12(b)(3) & 25 Pa. Code § 95.2(2)
CBOD5	—	—	25.0	50.0	—	BPJ; 40 CFR § 122.44(l)
Nitrate-Nitrite as N (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Nitrate-Nitrite as N (Final)	—	—	1.2	2.0	—	40 CFR § 423.13(g)(3)(i)
Osmotic Pressure (mOs/kg)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Arsenic, Total (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Arsenic, Total (Final)	—	—	Report	0.005	—	40 CFR § 423.13(g)(3)(i)
Beryllium, Total	—	—	0.8	1.6	—	BPJ; 40 CFR § 122.44(l)
Boron, Total (Interim)	—	—	Report	Report	—	40 CFR § 423.13(d)(1)
Boron, Total (Final)	—	—	217.0	339.0	542.5	WQBELs
Cyanide, Free Available (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Cyanide, Free Available (Final)	—	—	0.59	0.92	1.48	WQBELs
Lead, Total	—	—	0.1	0.2	—	BPJ; 40 CFR § 122.44(l)
MBAS	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Selenium, Total (Interim)	—	—	0.8	1.6	—	BPJ; 40 CFR § 122.44(l)
Selenium, Total (Final)	—	—	Report	0.010	—	40 CFR § 423.13(g)(3)(i)
Aluminum, Total (Interim)	Report	Report	Report	Report	—	Kiski-Conemaugh TMDL
Aluminum, Total (Final)	Report	4,045	0.75	0.75	0.75	Kiski-Conemaugh TMDL
Iron, Total (Interim)	Report	Report	Report	Report	—	Kiski-Conemaugh TMDL
Iron, Total (Final)	Report	8,091	1.5	3.0	3.75	Kiski-Conemaugh TMDL
Manganese, Total (Interim)	Report	Report	Report	Report	—	Kiski-Conemaugh TMDL

Effluent Limits and Monitoring Requirements for Outfall 027 (continued)

Pollutant	Mass (pounds)		Concentration (mg/L)			Basis
	Total Monthly	Total Annual	Average Monthly	Daily Maximum	Instant Maximum	
Manganese, Total (Final)	Report	5,395	1.0	2.0	2.5	Kiski-Conemaugh TMDL
Mercury, Total (Interim) (ng/L)	—	—	Report	Report	—	25 Pa. Code § 92a.61
Mercury, Total (Final) (ng/L)	—	—	10.0	23.0	—	40 CFR § 423.13(g)(3)(i)
Total Dissolved Solids (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61
Total Dissolved Solids (Final)	—	—	149.0	306.0	—	40 CFR § 423.13(g)(3)(i)
~~*Chloride*~~	~~—~~	~~—~~	~~*Report*~~	~~*Report*~~	~~—~~	~~*25 Pa. Code § 92a.61(b)*~~
Bromide (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Bromide (Final)	—	—	Report	0.2	—	40 CFR § 423.13(g)(3)(i)
~~*Sulfate*~~	~~—~~	~~—~~	~~*Report*~~	~~*Report*~~	~~—~~	~~*25 Pa. Code § 92a.61(b)*~~
pH	within the range of 6.0 to 9.0					40 CFR § 423.12(b)(1) & 25 Pa. Code § 95.2(1)

Treatment Options and Costs

OPTION	Compliance method	Description	Cost $M	Other comments
A1	Meet ELGs	Chemical/Biological Treatment	$32.0	Large capital costs. Large O&M costs. Carbon source feed system required. Sludge handling system required. Cost estimate based on Conemaugh Station system costs.
A2	Meet ELGs	Membrane Filtration without softening	$48.0	Very large capital costs due to number of membrane units required. Large O&M costs. Concentrate stabilization process required for land disposal of backwash.
B1a	ZLD	NIDs evaporation with (1) 1.1 M gallon surge tank	$3.2	Provides 7 days of Unit 3 operation with no NIDs in service. No sludge handling.
B1b	ZLD	NIDs evaporation with (2) 1.1 M gallon surge tank	$5.7	Provides 14 days of Unit 3 operation with no NIDs in service. No sludge handling.
B2	ZLD	Membrane Filtration with softening	> $50.0	Large capital costs due to number of membrane units required. Lower O& M costs. NIDs byproduct used in softening loop. Sludge handling required. Concentrate stabilization process required for land disposal of backwash.
B3	ZLD	Direct contact evaporation and land disposal	> $7.5	Medium capital costs. Concentrate stabilization process required for land disposal. Land disposal encapsalation method will need to be developed.
B4	ZLD	Direct contact evaporation and depleted gas well injection	TBD	Utilize on-site depleted gas well to lower capital cost. Concentrate injected into depleted gas well(s). No land disposal. High pressure alloy piping and pumping equipment required.