March 14, 2024

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Via email to AIRKentucky@ky.gov

Subject: Comments of Kentucky Resources Council, Inc. (KRC), National Parks Conservation Association (NPCA), Kentucky Conservation Committee (KCC), Sierra Club, and Earthjustice on Draft Permit V-23-006 for the TVA Shawnee Fossil Plant

Ms. McCloskey:

Thank you for the opportunity to comment on Draft Title V Permit V-23-006 for TVA - Shawnee Fossil Plant (SHF), Source ID: 21-145-00006, Agency Interest: 3073. Please find below the comments of Kentucky Resources Council, Inc. (KRC), National Parks Conservation Association (NPCA), Kentucky Conservation Committee (KCC), Sierra Club, and Earthjustice.

KRC, NPCA, KCC, Sierra Club, and Earthjustice are statewide and nationwide nonprofit public-interest advocacy organizations, working to protect Kentucky and America's natural resources including national parks, promote policies for healthy communities, and assure that those who pollute our land, air, or water are held to account. Our members and constituents live and work—and their children play and attend school—in areas potentially impacted by this draft permit. We look forward to your consideration of the comments below during your evaluation.

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1. Introduction and Recommendations

Tennessee Valley Authority's Shawnee Fossil Plant ("Shawnee") is a coal-fired electric generating facility constructed from 1953-55,[1] and fully online by 1957.[2] It consists of nine identical pulverized coal, dry-bottom, wall-fired units each capable of producing 175 megawatts (MW) of power with 1,691 million British thermal units (MMBtu) of heat input per hour.[3] Included with the Public Notice[4] for the Draft Permit was an application for renewal of the Title V Permit submitted to the Division for Air Quality ("Division") in November 2022,[5] and an application for a new federally enforceable sulfur dioxide ("SO_2") limit submitted to the Division in August, 2023.[6] The applicant's *Request for a Minor Modification to Title V Permit Number V-17-005 to Construct and Operate Selective Catalytic Reduction (SCR) Systems on Coal-Fired Boilers,* mentioned in the Draft Statement of Basis and Draft Permit submitted to the Division in July 2022, was not included with the Public Notice.[7]

After review of the above documents and records obtained through the Kentucky Open Records Act ("KORA")[8] on February 28, 2024, as well as applicable statutes, regulations, and guidance, commenters offer the following recommendations, as further explained in the below summary of our recommendations:

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[1] Tennessee Valley Authority (TVA) – Shawnee Fossil Plant (SHF) – Source ID No. 21-145-00006 – Title V Permit Renewal Application, (Nov. 18, 2022) ("Renewal Application") at 3-1.

[2] Draft *Statement of Basis / Summary,* Title V, Construction / Operating, Permit ID: V-23-006, TVA - Shawnee Fossil Plant (SHF), 7900 Metropolos [sic] Lake Road, Highway 996, West Paducah, KY 42086-9414, (Nov. 22, 2023) ("Draft Statement of Basis") at 2.

[3] Draft *Title V Permit V-23-006* for TVA - Shawnee Fossil Plant (SHF), Source ID: 21-145-00006, Agency Interest: 3073, (Nov. 22, 2023) ("Draft Permit") at 4.

[4] *Air Quality Permit Notice*, Draft Title V Permit V-23-006, TVA - Shawnee Fossil Plant (SHF), Source ID: 21-145-00006, Agency Interest:3073 (published Feb. 13, 2024).

[5] Renewal Application.

[6] *Tennessee Valley Authority (TVA) – Shawnee Fossil Plant (SHF) – Source ID No. 21-145-00006 – Request for a Significant Modification to Title V Permit Number V-17-005 for a Federally Enforceable Permit Limit of 8,208 Tons Per Year of Sulfur Dioxide (SO2) for Coal-Fired Boilers Units 1-9 for The Regional Haze Rule (RHR)* (Aug. 14, 2023) ("SO_2 Limit Application").

[7] *Tennessee Valley Authority (TVA) – Shawnee Fossil Plant (SHF) – Source ID No. 21-145-00006 – Request for a Minor Modification to Title V Permit Number V-17-005 to Construct and Operate Selective Catalytic Reduction (SCR) Systems on Coal-Fired Boilers* (July 22, 2022). Commenters disagree with the characterization of the permit modification requested by this application as a "minor modification" as it requires multiple case-by-case determinations, and avoidance of prevention of significant deterioration (PSD) requirements for seven additional units. *See* 401 KAR Section 14. Because the change was subject to 30 day Public Notice and Comment does not excuse noncompliance with any requirements mentioned in these comments with relation to this application.

[8] KRS § 61.828 et seq.

a. The Division should reissue the Draft Permit and Public Notice with sufficient legal and factual basis given for each permit condition, to comply with regulation and allow for meaningful public comment in accordance with regulation.
b. The Division must specify whether and how it is responding to TVA's request in the Statement of Basis, and must not grant an improper permit shield for Regional Haze requirements.
c. The Division should strengthen monitoring requirements for sulfur dioxide.
d. The Division should revise the nitrogen oxide limit downward to reflect the 0.08 lb/mmBtu reasonable level of performance identified by EPA for units with optimized SCR.
e. The Division should strengthen compliance with the Prevention of Significant Deterioration requirements by clarifying the sulfuric acid mist limit and strengthening testing, monitoring, recordkeeping, and reporting requirements.
f. The Division should include all applicable limits in the Permit.
g. The Division should revise eliminate improper averaging from the particulate matter emissions limit.
h. The Divisions should ensure adequate testing, monitoring, recordkeeping, and reporting for each limit.
i. The Division should ensure that all requirements are technically and practicably enforceable by the Administrator and citizens by eliminating or revising provisions for exemptions or waivers.
j. The Division should consider the EPA's Principles for Addressing Environmental Justice in Air Permitting for this and all proposed permits.

In addition to the above summary recommendations, please consider each of the below comments separately.

2. <u>The Draft Permit lacks sufficient legal and factual basis for the new sulfur dioxide limit.</u>

a. Title V exists to enable the public to better understand the requirements to which a source is subject.

Title V of the Clean Air Act ("the Act") was added as part of the comprehensive amendments to the Act in 1990 ("Clean Air Act Amendments of 1990"), in large part to compile all of the various air pollution requirements applicable to a source in a single comprehensive document. Under Title V, all major stationary sources of air pollution are required to apply for and operate pursuant to a Title V permit.[9] According to the U.S. Environmental Protection Agency ("EPA"), "[t]he title V operating permit program generally does not impose

[9] Clean Air Act §§ 502-504; 42 U.S.C. §§ 7661a(a), 7661b, 7661c(a).

new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting, and other requirements to assure compliance with applicable requirements."[10]

The EPA then created, pursuant to Title V, regulations setting out comprehensive requirements for State Programs to receive authority to administer the Title V Operating Permit Program.[11] As stated in the preamble to those regulations, one purpose of the Title V program is to "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements."[12] Among the regulatory requirements for Title V permitting programs is that "[t]he permitting authority shall provide a statement that sets forth the legal and factual basis for the draft permit conditions (including references to the applicable statutory or regulatory provisions)."[13]

The Kentucky Division for Air Quality ("the Division") has taken delegation to administer the Title V program in the Commonwealth.[14]

b. Clean Air Act and Regional Haze Rule.

In the 1977 amendments to the Act, Congress adopted visibility protection provisions for "Class I Federal areas," including national parks and wilderness areas.[15] The Act establishes "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory [C]lass I Federal areas which impairment results from manmade air pollution."[16] In the Clean Air Act Amendments of 1990, Congress further added provisions to address impairment from regional haze.[17]

To that end, EPA issued the Regional Haze Rule ("RHR"), which requires the states (or EPA where a state fails to act) to make incremental, "reasonable

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[10] US EPA, *Order Granting a Petition for Objection to a Title V Operating Permit*, Petition No. III-2023-15, In the Matter of United States Steel Corporation, Edgar Thomson Plant, Permit No. 0051-OP23, Issued by the Allegheny County Health Department, (Feb. 07, 2024), at 2 (citing 40 C.F.R. § 70.1(b); 42 U.S.C. § 7661c(c)).

[11] 40 C.F.R. Part 70.

[12] US EPA, *Operating Permit Program*, 57 Fed. Reg. 32250, 32251 (July 21, 1992). *See also*, *e.g.*, US EPA, *Order Granting a Petition for Objection to a Title V Operating Permit*, Petition No. III-2023-15, In the Matter of United States Steel Corporation, Edgar Thomson Plant, Permit No. 0051-OP23, Issued by the Allegheny County Health Department, (Feb. 07, 2024), at 2.

[13] 40 C.F.R. §70.7(a)(5).

[14] 40 C.F.R. §70, Appendix A.

[15] 42 U.S.C. § 7491(a)(1).

[16] 42 U.S.C. § 7491(a)(1).

[17] 42 U.S.C. § 7492.

progress" toward eliminating human-caused visibility impairment at each Class I area by 2064.[18] Together, the Act and EPA's RHR require states to periodically develop and implement state implementation plans ("SIPs"), each of which must contain a long-term strategy encompassing enforceable "emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national goal."[19] The RHR requires periodic SIP revisions covering 10-15 year planning periods. Regional haze SIPs for the first planning period were due in 2007, and after amendments to the RHR in 2017 pushing back the deadline, SIPs covering the second planning period were due July 31, 2021.[20]

In developing its long-term strategy, a state must consider its anthropogenic sources of visibility impairment and evaluate different emission reduction strategies, including and beyond those prescribed by the best-available retrofit technology ("BART") provisions.[21] A state should consider "major and minor stationary sources, mobile sources and area sources."[22] Additionally, a state "[m]ust include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy.[23]

In developing its plan, the state must document the technical basis for the SIP, including monitoring data, modeling, and emission information, including the baseline emission inventory upon which its strategies are based.[24] All of this information is part of a state's revised SIP and subject to public notice and comment. A state's reasonable progress analysis must consider the four factors identified in the Act and regulations, namely "the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment."[25] Notably, the statute does not list visibility improvement as a fifth factor in the reasonable progress analysis, and in implementing those statutory factors, EPA has made clear that it is not appropriate to reject cost-effective control measures based on purportedly insufficient visibility benefits. In determining whether each state's haze plan satisfies the statutory mandate to make reasonable progress, EPA reviews

[18] 40 C.F.R. § 51.308(d)(1), (d)(3).

[19] 42 U.S.C. § 7491(b)(2); see also 42 U.S.C. § 7410(a)(2); 40 C.F.R. § 51.308.

[20] US EPA, *Protection of Visibility: Amendments to Requirements for State Plans*, 82 Fed. Reg. 3078 (Jan. 10, 2017).

[21] 40 C.F.R. § 51.308(f).

[22] *Id.* § 51.308(f)(2)(i).

[23] *Id.* § 51.308(f)(2)(i).

[24] *Id.*

[25] *See* 42 U.S.C. § 7491(g)(1); 40 C.F.R. § 51.308(f)(2)(i).

adherence to the above-mentioned criteria, i.e. the four factors for reasonable progress, as well as the requirements for consultation with other states and federal land managers.[26]

Kentucky missed the deadline for SIPs covering the second planning period, and is currently subject to a finding of failure to submit, which has established a two-year deadline for EPA to issue a federal implementation plan by September 29, 2024, if the state still fails to submit its regional haze SIP.[27]

c. The Draft Statement of Basis does not provide the legal and factual basis for the new SO_2 limit, contrary to regulation.

Title V implementing regulations require the Division to "set[ ] forth the legal and factual basis for the draft permit conditions,"[28] that form the basis for the conditions in the permit "necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable implementation plan."[29]

The Draft Permit includes a new permit condition limiting sulfur dioxide (SO_2) emissions to "8,208 tons per year on a 12-month rolling total basis."[30] A bracket after the limit states simply "[Regional Haze]."[31] No further explanation is given either there, or in the draft *Statement of Basis / Summary*.[32] Nothing in the public notice issued for the permit gives any indication that the permit sets limits to comply with the RHR. As outlined above, the RHR requires a rigorous process and analysis of factors and consultation. It also requires documenting the technical basis, including monitoring, modeling, and emissions, and public notice of the full basis for its decision. In violation of Title V implementing regulations there is no indication in any of the proposal documents of the legal basis for the specific limit, including any description of the underlying monitoring, modeling, and emissions, or required four-factor analysis.

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[26] 40 C.F.R. §§ 51.308(d)(1)(iii)-(iv); (d)(3); (f).

[27] US EPA, *Finding of Failure To Submit Regional Haze State Implementation Plans for the Second Planning Period*, 87 Fed. Reg. 52,856 (Aug. 30, 2022).

[28] 40 C.F.R. §70.7(a)(5).

[29] US EPA, *Operating Permit Program*, 57 Fed. Reg. 32250, 32251 (July 21, 1992). *See also*, *e.g.*, US EPA, *Order Granting a Petition for Objection to a Title V Operating Permit*, Petition No. III-2023-15, In the Matter of United States Steel Corporation, Edgar Thomson Plant, Permit No. 0051-OP23, Issued by the Allegheny County Health Department, (Feb. 07, 2024), at 2; *see also* 42 U.S.C. §7661a(a).

[30] Draft Permit, Section B, Emission Units: EU 1 through EU 9 - Nine Indirect Heat Exchangers, 2.g).

[31] *Id.*

[32] Draft Statement of Basis.

Further, and of particular import here, the state's four-factor analysis used to reach a required level of control must be subject to public notice and comment. It would also be insufficient for the Division to rely solely on this proposed SO_2 emission cap to satisfy the regional haze requirements for the Shawnee facility in its forthcoming SIP revision for the second planning period. Rather than use this permit action as an end run around the Regional Haze Program, the Division must ensure it conducts a rigorous Four-Factor Analysis for the facility and requires the installation of any additional controls that are feasible, available, and cost-effective based on a review of the four statutory factors.[33]

The Permit is also unclear on how Shawnee will comply with the permit requirement in violation of requirements for a clear factual basis. For instance, the Draft Permit states "[t]he permittee shall conduct a performance test prior to the operation of the SCR and the SDA for Units 1 through 9 for SO_3 and SAM (H_2SO_4 including SO_3)."[34] implying SDAs are to be installed on units 2, 3, and 5-9. These controls are not referenced in Control Equipment Summary for these units, though, nor mentioned anywhere in the Draft Statement of Basis. Regardless of whether SDAs are to be added or not, the method of compliance with this new limit is significant, as changes to the operation of the units such as addition of controls or changes to operating conditions such as restrictions on throughput or hours of operation can significantly impact both the SO_2 limit's enforceability, as well as potentially impact emissions of other pollutants.

d. The Draft Permit lacks adequate monitoring provisions for the SO_2 limit.

The Draft Permit requires continuous emission monitoring systems (CEMS) for SO_2. It further states the following "requirements":

i) Each compliance period shall include only "valid operating hours" (i.e., operating hours for which valid data are obtained for all the parameters used to determine hours SO_2 mass emission). Operating hours shall be excluded if either:

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33 82 Fed. Reg. 3078, 3093 (Jan. 10, 2017) (explaining that, if a measure is found to be available, feasible, and cost-effective, it satisfies the four factors and is, by definition, necessary to make reasonable progress in the second planning period); Memorandum from Peter Tsirigotis, Dir., Env't Prot. Agency, to Reg'l Air Dirs., Regions 1-10 at 8 (July 8, 2021), https://www.epa.gov/system/files/documents/2021-07/clarifications-regarding-regional-haze-state-implementation-plans-for-the-second-implementation-period.pdf ("[W]hen the outcome of a four-factor analysis is a new measure, that measure is needed to remedy existing visibility impairment and is necessary to make reasonable progress.").

34 Draft Permit EU 1-9, condition 3.l). Similar reference is made at condition 2.f), referencing "emissions from Units 1 and 4 [APE20150003] and Units 2, 3, 5, 6, 7, 8, 9 [APE20220006] resulting from the completion of SCR and SDA installation for each projects…."

A) The substitute data provisions of Part 75 are applied for any of the parameters used to determine the hourly SO_2 mass emissions; or
B) An exceedance of the full-scale range of a monitoring system occurs for any of the parameters used to determine the hourly SO_2 mass emissions; and

i) [sic – numbering restarts here, but appears this should be ii), and the following paragraph should be iii)]Only unadjusted, quality-assured values for all the parameters used to determine hourly SO_2 mass emissions shall be used in the emissions calculations; and

ii) The total SO_2 mass emissions shall be calculated for the initial and each subsequent 12-month rolling total compliance periods by summing the valid hourly SO_2 mass emissions values for all the valid operating hours in the compliance period for both common stacks.[35]

However, there is no limit given on the number of required "valid operating hours." Nor is there any indication of what data should be used in the event "the full-scale range of a monitoring system occurs," or what that range in fact is required to be for any given parameter. Effectively, the new SO_2 limit could remain entirely un-monitored.

This permitting action must provide a legal and factual basis for the current limit. The Division cannot rely on unspecified permit provisions as providing emission reductions necessary to ensure reasonable progress. The CAA requires states to submit implementation plans that "contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal" of achieving natural visibility conditions at all Class I Areas.[36] The RHR requires that states must revise and update its regional haze SIP, and the "periodic comprehensive revisions" must include the "enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress as determined pursuant to [40 C.F.R. §§ 51.308](f)(2)(i) through (iv)."[37] EPA's Guidance further explains these requirements: "This provision requires SIPs to include enforceable emission limitations and/or other measures to address regional haze, deadlines for their implementation, and provisions to make the measures practicably enforceable including averaging times, monitoring requirements, and record keeping and reporting requirements."[38]

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[35] Draft Permit EU 1-9, condition 2.g).

[36] 42 U.S.C. §§ 7491(a)(1), (b)(2).

[37] 40 C.F.R. § 51.308(f)(2); 40 C.F.R. § 51.308(d)(3)(v)(F) (Enforceability of emission limitations and control measures).

[38] Memorandum from Peter Tsirigotis to Regional Air Directors, *Re: Guidance on Regional Haze State Implementation Plans for the Second Implementation Period* (Aug. 20, 2019), (*available at* https://www.epa.gov/sites/default/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf) at 42-43 (While NPCA and Sierra Club filed a Petition

Thus, the SIP is the basis for demonstrating and ensuring state plans meet RHR requirements, and state-issued permits must complement the SIP with their own reasoning specific to the source.[39] The fact that a regional haze SIP may be proposed at some point in the future does not excuse failure to comply with the requirements under the Title V permitting program for providing a full legal and factual basis for this proposed action.

In addition, to the extent that a state relies on any expected retirement, reduction in utilization, or reduction in emissions as a result of a permit provision in its reasonable progress analysis, those emission reductions must be included as enforceable emission limitations in the SIP itself, including "provisions to make the measures practicably enforceable including averaging times, monitoring requirements, and record keeping and reporting requirements."[40] Finally, reasonable progress requirements apply to all sources, and states must not rely on existing permits to allow sources to avoid the Four-Factor Analysis; there is no off-ramp for sources that hold permits.

3. The Division must not grant an improper, over-broad permit shield for Regional Haze or other requirements.

In its application materials, TVA requests that the Division grant it a permit shield as part of this Title V permit under 401 KAR 52:020 Section 11.[41] That regulation, however, requires that the Division include and "specifically identify" the permit provisions to which the permit shield applies.[42] It is not clear how or whether the Division has responded to this request. The Draft Permit appears to contain generic permit shield language, but the Draft Permit does not specify to what Clean Air Act requirements, if any, the shield applies.[43] Nowhere in the Draft Permit or in the Draft Statement Basis does the Division provide any legal or factual justification for the permit shield provision or explain how the permit shield applies. Indeed, as noted above, the Division has not yet released a draft of its Regional Haze SIP, let alone issued a final SIP. And, also as explained above, the Division has entirely failed to explain how compliance with the SO_2 emission cap satisfies the RHR and the four statutory factors and cannot rely solely on the SO_2 emission cap to satisfy the requirements of the Regional Haze Program. As a

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for Reconsideration regarding EPA's issuance of the 2019 Guidance, it does not dispute the information in the Guidance referenced here regarding enforceable limitations, which cite to the "General Preamble for the Implementation of Title I of the Act Amendments of 1990, 74 Fed. Reg. 13,498 (Apr. 16, 1992)).

[39] 74 Fed. Reg. at 13,568.

[40] 42 U.S.C. §§ 7410(a)(2), 7491(b)(2); 40 C.F.R. § 51.308(d), (f).

[41] SO_2. Limit Application at 1.

[42] 40 KAR 52:020(11); see also 42 U.S.C. s 7661c(f).

[43] Draft Permit at 58-59.

result, the Division cannot claim that, under the permit shield provision, compliance with the proposed SO_2 emission cap satisfies Shawnee's Regional Haze obligations for the second planning period.

The Division must specify whether and how it is responding to TVA's request in the Statement of Basis, and pursuant to regulation it must provide an opportunity for meaningful public comment on its reasoning. The Division must not, under any circumstances, grant an improper, over-broad permit shield for Regional Haze requirements.

4. **New nitrogen oxides controls also require further legal and factual basis and lack required deadlines**

In addition to SO_2, nitrogen oxides ("NO_X") are another precursor pollutant to visibility-reducing particulate matter.[44] Selective catalytic reduction ("SCR") technology reduces NO_X emissions. The draft permit anticipates the addition of SCR reactors on units 2-3 and 5-9. In this instance, neither the Draft Permit nor the Draft Statement of Basis give any legal or factual basis for the installation of the additional controls.

To the extent these controls will be relied on to comply with or exempt the source from additional analysis under the RHR, additional explanation is needed. Again, this permit cannot be used as a route to avoid an overdue comprehensive analysis for the second planning period. Reasonable progress requirements apply to all sources, and the Division must not rely on existing permits to allow sources to avoid the Four-Factor Analysis; there is no off-ramp for sources that hold permits.

Further, the timeline given in the Draft Permit for installation of the new controls is alternately "[2,3,7,8 (two by May 2024, one by Summer & one by Fall of 2024)]" or "Constructed: TBA."[45] Division regulation requires that permits to construct become invalid if the permitted action is not commenced within 18 months, begun and discontinued for 18 months, or not completed within 18 months of the scheduled completion date. The permit must contain this requirement.

[44] US EPA, *Protection of Visibility: Amendments to Requirements for State Plans*, 82 Fed. Reg. 3078, 3080 (Jan. 10, 2017)

[45] Draft Permit at 4.

5. **<u>The nitrogen oxide limit is too high.</u>**

The Shawnee units are fully capable of achieving lower NO_X emission rates than the Draft Permit currently provides for. The Draft Permit states, "The permitee shall optimize combustion to minimize generation of CO and NO_X."[46] But the permit provides that "this unit's NO_X emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of **0.45 lb/MMBtu**."[47] This is an extraordinarily high limit, completely out of step with what SCR-equipped units can achieve. It is certainly not tethered to minimizing generation of NO_X.

In promulgating the 2021 Revised Cross State Air Pollution Rule Update, for example, EPA determined that a NO_X emission rate of 0.08 lbs/MMBtu was achievable by SCR-equipped units, even using a very conservative system of regarding the *third-best* ozone season performance of a coal unit:

> EPA updated the timeframe to include the most recent and best available operational data (i.e., 2009 through 2019). **Considering the emissions data over the full time period of available data results in a third-best rate of 0.08 pounds per million British thermal units** (lb/mmBtu). **EPA notes that over half of the SCR-controlled EGUs achieved a NO_X emission rate of 0.068 lbs/mmBtu or less over their third-best entire ozone season.** Moreover, for the SCR-controlled coal units that EPA identified as having a 2019 emission rate greater than 0.08 lb/mmBtu, EPA verified that in prior years, the majority (approximately 95 percent) of these same units had demonstrated and achieved a NO_X emission rate of 0.08 lb/mmBtu or less on a seasonal and/or monthly basis. **This further supports EPA's determination that 0.08 lb/mmBtu reflects a reasonable emission rate for representing SCR optimization . . . .**[48]

EPA's conclusions in the recent Good Neighbor Plan, addressing interstate transport of ozone under the 2015 ozone standard, are in full accord:

> [C]onsistent with the Revised CSAPR Update, where EPA identified 0.08 lb/mmBtu as a reasonable level of performance for units with optimized SCR, the EPA

[46] Draft Permit at 5.

[47] Draft Permit at 64 (emphasis added).

[48] 86 Fed. Reg. 23,054, 23,088 (Apr. 30, 2021) (emphasis added).

> finalizes a rate of 0.08 lb/mmBtu as the optimized rate for this rule. . . . **This emissions rate assumption of 0.08 lb/mmBtu reflects what those units would achieve on average** when optimized . . . .[49]

In fact, even *without* SCRs on all units, Shawnee has been well under a 0.45 lb/mmBtu standard, as annual data from 2018 to 2023 illustrates:[50]

Annual Emissions Facility Aggregation: Shawnee

Year	NO_X lb/mmBtu
2018	0.216
2019	0.221
2020	0.206
2021	0.196
2022	0.203
2023	0.205

Again, this NO_X emissions output ranging from 0.195 to 0.220 lb/mmBtu—at its maximum, less than half the 0.45 lb/mmBtu standard contemplated by the Draft Permit—took place even though Units 2, 3, 5, 6, 7, 8, and 9 have lacked SCRs to control NO_X pollution. The Division should revise the limit downward to reflect the 0.08 lb/mmBtu reasonable level of performance identified by EPA for units with optimized SCR.

6. The draft permit contains insufficient measures to ensure compliance with the Prevention of Significant Deterioration Program.

a. The Prevention of Significant Deterioration Program requirements.

The Clean Air Act establishes two sets of New Source Review ("NSR") requirements for new major stationary sources and major modifications. Not at issue here, nonattainment new source review ("NNSR"), established under Title I, Part D of the Act applies to such sources for pollutants for which an area is designated nonattainment for the national ambient air quality standards ("NAAQS"). Title I, Part C of the Act established prevention of significant deterioration ("PSD") requirements for pollutants for which an area is designated attainment or unclassifiable for the NAAQS, and for other pollutants regulated under the Act. Because PSD is the program relevant to the Draft Permit, citations below are to PSD requirements, although many apply or have analogues in NNSR.

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[49] 88 Fed. Reg. 36,654, 36,721 (June 5, 2023) (emphasis added).

[50] Data is from U.S. EPA, *Clean Air Markets Program Data*, https://campd.epa.gov/data/custom-data-download. Hourly NO_X rate is averaged across all units for each year.

A major modification is defined as "a physical change in or a change in the method of operation of a major stationary source that results in a significant emissions increase and a significant net emissions increase of a regulated NSR pollutant."[51] A significant emissions increase is rather straight-forwardly an increase that is significant. A significant net emissions increase under current rules involves a rather more complex calculus, balancing the "increase in emissions that is equal to or greater than the emission level that is significant for that pollutant and "[a]ny other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable."[52] Prior to beginning construction an owner or operator is required to determine if a significant emissions increase or a significant net emissions increase will occur based on baseline actual and projected actual emissions.[53] For PSD purposes "significant" means "a rate of emissions that would equal or exceed a corresponding rate," listed in regulation.[54] For sulfuric acid mist ("SAM"), that rate is 7 tons per year (tpy).

If there is a "reasonable possibility" that a project may result in a significant emissions increase, additional monitoring, recordkeeping, and reporting requirements apply.[55] While the Division does not define "reasonable possibility" in its regulations, EPA has issued clarifying regulatory changes defining it as a "projected actual emissions increase of at least 50 percent of the amount that is a 'significant emissions increase,'…for the regulated pollutant."[56]

b. The draft permit and statement of basis are unclear as to what the sulfuric acid mist permit limit is.

As an initial matter, the Draft Statement of Basis and Draft Permit are unclear and conflicting on what the actual limit is for SAM. The one point both appear to be clear on is that whatever limit is established is intended to preclude PSD applicability. Initially, the Draft Permit states:

> The permittee shall not allow the increase in Sulfuric Acid Mist (SAM/H_2SO_4 and SO_3) emissions from Units 1 and 4 [APE20150003] and Units 2, 3, 5, 6, 7, 8, 9 [APE20220006] resulting from the completion of SCR and SDA installation for each projects to equal or exceed ***7***

[51] 401 KAR 51:001 Section 1(114). Citations for PSD are to relevant KAR sections, but they are by and large based on analogous requirements in 40 C.F.R. §52.21 and §51.165.
[52] *Id.*, Section 1(144).
[53] 401 KAR 51:017 Section 1(4).
[54] 401 KAR 51:001 Section 1(218)(a).
[55] 401 KAR 51:017 Section 16(5).
[56] 40 C.F.R. §51.166(r)(6)(vi).

> ***tons per year*** (exceed the significant emission rate defined in 401 KAR 51:001, Section 1 (218)(a)), based on a 12-month rolling total.[57]

However, in the immediately-following sentence the Draft Permit states:

> The permittee shall demonstrate that SAM emissions from Units 1 and 4 [APE20150003] and Units 2, 3, 5, 6, 7, 8, 9 [APE20220006] resulting from installation for each projects do not exceed the baseline emission rate, calculated using the appropriate emission factor determined by 3. Testing Requirements: (l), plus *6.9 tons per year*.[58]

Adding to the confusion, the Draft Statement of Basis states "TVA has agreed to limit SAM emissions to *less than 6.8 tpy* (including the baseline emissions), in order to not exceed the significant net emissions increase of 7 tpy for SAM, thus precluding the applicability 401 KAR 51:017, Prevention of significant deterioration of air quality."[59]

At the outset, the Permit must set a single, clear, enforceable numerical limit for SAM, or alternatively apply PSD requirements including best available control technology ("BACT").[60]

c. The Draft Statement of Basis and Draft Permit do not contain sufficient factual and legal basis for the sulfuric acid mist limit.

While the Draft Statement of Basis states in a footnote to a table that TVA has agreed to a limit (which does not appear in the Draft Permit) to avoid PSD applicability, nowhere does the Division or TVA explain how they arrived at that limit. This is of relevance in the context of the "reasonable possibility" requirements explained above, which do not appear to be included in the Draft Permit. If the difference between the baseline actual emissions and projected actual emissions are calculated to be greater than 50% of the significance limit of 7 tpy, additional monitoring, recordkeeping and reporting must be included in the Permit, even if the remainder of PSD requirements are not applied. Further, the Draft Permit does not define how the "24-month period" to determine baseline

[57] Draft Permit, EU 1-9, condition 2.f) (emphasis added).

[58] *Id.* (emphasis added). Similar language is repeated at 2.f)iv).

[59] Draft Statement of Basis at note 1 to table labeled "V-23-006 Emissions Summary" at 3-4 (emphasis added).

[60] 401 KAR 51:017 section 8.

emissions for the units will be selected,[61] or where the impacts of the previous addition of controls to units 1 and 4 are being considered in the determination of whether the project constitutes a major modification or reasonable possibility.

The problem is multiplied by the fact that the emissions summary given in the Draft Statement of Basis lists "N/A" for 2021 actual emissions of sulfuric acid.[62] This is despite the fact that a similar limit for units 1 and 4 has already existed for the facility since at least 2018.[63] The Draft Statement of Basis does give the uncontrolled PTE of 246.2688 tpy and controlled PTE of 8.8657 tpy. This information, however, is contradicted by reporting to EPA's Toxics Release Inventory (TRI), which indicates reported emissions of 2,500 tons for the facility for 2021.[64]

Finally, testing results given in the Draft Statement of Basis are incomplete, not at full load for the units tested, in unexplained units, and not in the format required by the current permit. Section 3 of the Draft Statement of Basis gives "[s]ampling from 2022, 2020, 2017 and 2013.""[65] No explanation is given as to why sampling is given only for those years. SAM testing shown indicates "Thruput and Operating Parameter(s) Established During Test" as low as 117 megawatts (MW), or 66% of rated capacity for each unit.[66] Test results given also show emissions ranging from 0.023585 to 0.429 ppmd@3% O_2 during the same test depending on testing location, or from 0.08 to 0.429 ppmd@3% O_2 at the same testing location. The units given of "ppmd@3% O_2" are not defined, but are definitely not in a format sufficient to determine compliance or baseline emissions. The current permit requires that "[f]or the Baseline SAM Test, the permittee shall establish the SAM emission factor in lb/MMBtu for Units 1 and 4,"[67] but nowhere are emissions in lb/MMBtu given.

The Draft Permit and Draft Statement of Basis should be re-proposed with sufficient information about the nature of the avoidance limit for the public to meaningfully evaluate the avoidance limit, including how potential and baseline emissions were calculated, and the level of baseline emissions given, what

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[61] Draft Permit EU 1-9, condition 3.l).

[62] Draft Statement of Basis table labeled "V-23-006 Emissions Summary" at 4.

[63] Title V Permit V-17-005 for TVA - Shawnee Fossil Plant (SHF), Issuance Date: May 20, 2018 ("Current Permit") at EU 1-9, condition 2.f).

[64] *See* US EPA, TRI Explorer, https://enviro.epa.gov/triexplorer/release_fac?p_view=STFA&trilib=TRIQ1&sort=_VIEW_&sort_fmt=1&state=21&county=All+counties&chemical=0007664939&industry=ALL&year=2021&tab_rpt=1&fld=RELLBY&fld=TSFDSP.

[65] Draft Statement of Basis at Footnote to table labeled "Testing Requirements\Results," at 23.

[66] *Id.* at 17, Draft Permit at 2.

[67] Current Permit at EU 1-9, condition 2.f)i).

projects were included in the "significant emissions increase" and "significant net emissions increase" steps, and more complete and explained testing results.

d. The draft permit contains insufficient testing, monitoring, recordkeeping, and reporting to ensure compliance with the PSD Program.

Title V implementing regulations require "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit."[68] EPA has stated that "the time period associated with monitoring or other compliance assurance provisions must bear a relationship to the limits with which the monitoring assures compliance."[69] EPA has established five factors for determining whether testing and monitoring is sufficiently correlated to limits in a permit:

> (1) the variability of emissions from the unit in question; (2) the likelihood of a violation of the requirements; (3) whether add-on controls are being used for the unit to meet the emission limit; (4) the type of monitoring, process, maintenance, or control equipment data already available for the emission unit; and (5) the type and frequency of the monitoring requirements for similar emission units at other facilities.[70]

The Draft Permit sets the source-wide PSD avoidance limit directly *at* the PSD applicability level, "based on a 12-month rolling total."[71] In contrast, testing for SAM is only required "within 30 days after the operation of the SCR and the SDA for Units 1 through 9" and "every 5 years" thereafter.[72] The Draft Statement of Basis shows apparent variability in emissions based on past testing.[73] The permit limit is set directly at the applicability level,[74] which without proper control is apparently easily exceeded by the facility.[75] The emissions level is apparently variable due to the installation of additional controls.[76] Existing data is provided for

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[68] 40 C.F.R. §70.6(a)(3)(B).

[69] US EPA, *Order Granting in Part and Denying in Part Petitions for Objection to a Title V Operating Permit*, Petition No. III-2023-15, Petition Nos. III-2023-5 and III-2023-6 In the Matter of United States Steel Corporation, Clairton Coke Works Permit No. 0052-OP22 Issued by the Allegheny County Health Department, (Sept. 18, 2023), at 9.

[70] *Id.* (Citation omitted).

[71] Draft Permit at EU 1-9, condition 2.f).

[72] Draft permit at EU 1-9, condition 3.m).

[73] Draft Statement of Basis at 17-23.

[74] *See supra*, comment 2.b.

[75] *See supra*, comment 2.c.

[76] *See*, *e.g.*, Draft Permit at EU 1-9, condition 3.m), referencing operation of the SCR and the SDA.

only every five years, at best.[77] Considering all these factors, it is clear that one test every 5 years is insufficient to determine compliance with the standard. Furthermore, as mentioned above, without further information on how the impacts of the previous addition of controls to units 1 and 4 are being considered with regard to the determination of the avoidance limit, it is impossible to determine whether the combined stack testing implied here is appropriate or not.

7. **The lack of clear legal and factual basis has hampered public review, contrary to regulation.**

Title V implementing regulations further require that permit proceedings such as this one "shall provide adequate procedures for public notice including an opportunity for public comment."[78] The permitting authority is then required to "respond in writing to all significant comments raised during the public participation process,"[79] meaning that the process requires that the permitting authority consider and account for public input. However, because the Statement of Basis fails to provide a meaningful legal or factual basis for the SO_2 permit condition, the NO_X permit condition (and associated controls), or the SAM permit condition, the public is unable to effectively comment on the permit. The public lacks sufficient information to fully evaluate the permit's purported compliance with applicable requirements of the CAA, including the requirements of the RHR and applicable implementation plan. Were that information available, the public could provide meaningful comment on the justification proffered in a draft permit—an opportunity the Title V implementing regulations require.

In evaluating one of several applications relating to this permitting action,[80] attached at the end of the much longer renewal application published with the Draft Permit,[81] one can find reference to "the letter, dated February 12, 2023, from the Division for Air Quality (Division) requesting that SHF reduce SO2 emissions to decrease the plant's impact on Class I Areas as necessary to attain reasonable progress towards the State's visibility goals."[82] Upon request pursuant to the KORA,[83] KRC obtained a copy of the referenced letter, which in turn further references "the four-factor analysis report provided by Trinity Consultants (February 19, 2021)," sent pursuant to a July 21, 2020 letter from the Division

[77] Draft Statement of Basis at 17-23. Note also that 2017 SAM data for Unit 1 does not appear to be available.
[78] 40 C.F.R. § 70.7(h).
[79] *Id.* § 70.7(h)(6).
[80] SO_2 Limit Application.
[81] Renewal Application.
[82] *Id.* at pdf 267/279.
[83] KRS § 61.872 et seq.

"requesting TVA perform a four-factor analysis."[84] None of this information was provided as part of the Draft Permit, Draft Statement of Basis, or public notice relating to this permit. Because the permitting authority provides 30 days for public comment, further requests under KORA for the referenced materials were unable to be made in time. Nor should any such inquiry—requiring time, expense, and a level of familiarity with the permitting process—be necessary. As described above 1.c, pursuant to regulation this information should already be in the draft Statement of Basis, so that the public can evaluate it and fulfill the purpose of the opportunity for public comment required by regulation. Further, as a specific example of this deficiency, even with the information in the permit application materials provided with the Draft Permit and obtained through an open records request, the Division is required to conduct its own independent review of the proposed SO_2 limit and clearly explain in its Statement of Basis the legal and factual basis for the limit, including an explanation of how it satisfies the requirements to select regional haze controls based on the four statutory factors, which was not done here.

For the reasons given in comments 2-4, the Division should re-propose the permit, setting forth the full legal and factual basis for all limits, and sufficient information to evaluate the limits.

8. <u>The permit must contain all applicable limits.</u>

Title V Permits are required to incorporate all requirements applicable to a source.[85] As stated above, a main purpose of the Title V program is to "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements."[86] When applicable requirements are set by reference to outside sources not included in the permit this fundamental purpose is undermined.

The Draft Permit contains numerous instances which require the reader to reference outside sources, some of which are not publicly available, to determine what limits are applicable. In one example that is repeated in the Draft Permit, Condition 1.c) of Emission Units: EU 1 through EU 9 - Nine Indirect Heat Exchangers, references "work practice requirements specified in items 3 and 4, in Table 3 of 40 CFR 63, Subpart UUUUU during startup and shutdown periods," without listing what those requirements actually are directly in the permit, increasing the burden on the public. In a more egregious example, Condition

[84] Letter from Michael Kennedy, Director, Division for Air Quality to Shannon Benton, Shawnee Fossil Plant Manager, Tennessee Valley Authority, *Re: Request for TVA to Reduce SO2 Emissions at the Shawnee Facility to Decrease the Impact on Class I Areas as Required by the Regional Haze Rule* (Feb. 14, 2023).

[85] 401 KAR 52:020 Section 3, 40 C.F.R. §70.1(b).

[86] US EPA, *Operating Permit Program*, 57 Fed. Reg. 32250, 32251 (July 21, 1992).

2.b)ii) for the same units essentially sets an unlimited exception for "[e]missions during building a new fire" so long as "the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations." Nowhere in the permit is that method or time period included, or effectively referenced. Similar references to manufacturer's recommendations without inclusion of these recommendations abound, effectively undermining many of the Draft Permit's requirements.[87]

9. **The permit contains an improper averaging period for the particulate matter emissions rate.**

The Draft Permit states a particulate matter emissions limit of "0.11 lb/MMBtu for each unit, based on a 3-hour block average," citing to 401 KAR 61:015, Section 4(1).[88] For particulate matter emissions that regulatory provision refers to Appendix A of the regulation, which contains a table, which gives "The standard (in pounds per million BTU actual heat input) … (based upon the Priority classification with respect to particulates of the region in which the source is located)" and the "total heat input capacity" of the source.[89] Nowhere in the regulation or appendix is averaging contemplated or allowed. The Division should require compliance with the limit *at all times*.

10. **The permit does not contain effective testing, monitoring, recordkeeping, and reporting for each particulate matter limit.**

As stated above, "[t]he title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting, and other requirements to assure compliance with applicable requirements."[90] Further, Title V implementing regulations require "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit."[91]

The Draft Permit would establish two independent limits for particulate matter. First, a limit of "0.11 lb/MMBtu for each unit, based on a 3-hour block average,"[92] and second a "0.030 lb/MMBtu based on the appropriate requirements

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[87] *See also*, *e.g.*, EU1-9 7.a., 7.e.

[88] Draft Permit EU 1-9, condition 2.a)i).

[89] 401 KAR 61:015, Appendix A.

[90] US EPA, *Order Granting a Petition for Objection to a Title V Operating Permit*, Petition No. III-2023-15, In the Matter of United States Steel Corporation, Edgar Thomson Plant, Permit No. 0051-OP23, Issued by the Allegheny County Health Department, (Feb. 07, 2024), at 2 (citing 40 C.F.R. § 70.1(b); 42 U.S.C. § 7661c(c)). *See* Comment 2.a.

[91] 40 C.F.R. §70.6(a)(3)(B). *See* Comment 5.d.

[92] Draft Permit EU 1-9, condition 2.a)i). *See* previous comment regarding the form of this limit.

in Table 2 and Table 5 of 40 CFR 63, Subpart UUUUU, or a 30-boiler operating day rolling average if CEMS is used to demonstrate continuous compliance with the filterable PM limit."[93] The Draft Permit further states "The permittee shall demonstrate compliance with **2. Emission Limitations: (a)(i)** by demonstrating compliance with **2. Emission Limitations: (a)(ii)**. The permittee shall demonstrate compliance with the 0.030 lb/MMBtu with PM CEMS as required in **4. Monitoring Requirements: (a)**."[94]

The reference to the second limit to demonstrate compliance with the first causes several issues. First, the second limit does not clearly require operation of CEMS, but rather presents alternatives for compliance with the 0.030 lb/MMBtu limit, among them periodic performance testing.[95] Second, it is not at all clear how compliance with the 30-boiler operating day rolling limit will show compliance with the per unit 3-hour block average limit.[96] This is even clearer from the PM monitoring provisions of the Draft Permit, which require calculations of 24-hour rolling averages and corrective actions, but no calculation of 3-hour block averages. The Permit should require clear methods of compliance with the each limit individually, as set. Third, it is unclear where the PM CEMS monitors for the facility are located, but given that the nine units share two stacks,[97] there is significant concern that CEMS in the flue gas stream near the stack is insufficient to verify a unit-by-unit limit. Finally, monitoring of control equipment does not indicate any required frequency.[98]

11. Federally-enforceable measures should not be waivable by the Division

Permits issued pursuant to a Title V Program are required to contain "enforceable emission limitation and standards."[99] Furthermore, "[a]ll terms and conditions in a part 70 permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act."[100] Several provisions of the Draft Permit risk undermining the federal enforceability of the Permit, and the ability of citizens to enforce the Permit.

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[93] Draft Permit EU 1-9, condition 2.a)ii).

[94] Draft Permit EU 1-9, condition 2.a)i). (Emphasis in original).

[95] *See* 40 C.F.R. Part 63, Subpart UUUUU, Table 5. As another note, the Permit should not require the reader to chase through the labyrinth of references and cross-references to state and federal regulations to determine the standard and method of compliance. They should be clearly stated *in the permit*.

[96] Note the commenters maintain the limit should be an even more stringent continuous limit, further exacerbating the incongruence with the 30-day limit.

[97] Draft Permit EU 1-9, description; Renewal Application at 2-9, Figure 2-3.

[98] Draft Permit EU 1-9, condition 4.b)iv).

[99] 42 U.S.C. § 7661c.(a).

[100] 40 C.F.R. § 70.6(b)(1).

Draft Permit conditions regarding performance tests, generally, allow the Division to waive the requirement that tests "be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions" on a case-by-case basis, with no input from the EPA or the public.[101] This effectively undermines not only the testing, but every standard based on it. Reviewing the results of previous tests, it seems this may in fact already be occurring on a regular basis, either explicitly or tacitly. Results shown appear to have been run at a "thruput" as low as 48% of rated capacity.[102] In another example, the Division provides itself with the ability to provide a "temporary exemption" from CEMS requirements.[103]

The Division should ensure that all requirements are clearly technically and practicably enforceable by the Administrator and citizens by eliminating or revising such provisions for exemptions or waivers.

12. <u>The Division should consider the EPA's Principles for Addressing Environmental Justice in Air Permitting for this and all proposed permits.</u>

Air pollution from Shawnee and other fossil fuel-burning plants is dangerous and can be deadly. The pollutant NO_X, for example, is a precursor to ozone pollution. Ozone exposure, even short-term, is linked to chronic conditions affecting the respiratory, cardiovascular, reproductive, and central nervous systems, as well as mortality.[104] Notably, ozone exacerbates asthma, chronic bronchitis, and other lung diseases, and it is likely a contributor to new-onset asthma.[105] As the EPA has explained, ozone exposure's effects "may lead to increased school absences, medication use, visits to doctors and emergency rooms, and hospital admissions."[106]

Kentucky's asthma rates are much higher than nationwide averages: according to the Kentucky Cabinet for Health and Family Services, 18.6% of adults in Kentucky have asthma,[107] 2.3 times the national average.[108] In 2020, the CDC

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[101] Draft Permit EU 1-9, condition 3.c)i).

[102] Draft Statement of Basis, Section 3, Testing Requirements\Results for 11/30/2022 show testing at a thruput of 337 MW for units 6-9, rated at 175 MW each.

[103] Draft Permit EU 1-9, condition 4.d).

[104] EPA, *Health Effects of Ozone Pollution*, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution.

[105] *Id.*

[106] *Id.*

[107] Ky. Cabinet for Health and Family Services, Chronic Disease Prevention Branch, *Asthma Management Program*, https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/asthma.aspx.

[108] Cynthia A. Pate, Hatice S. Zahran, Xiaoting Qin, Carol Johnson, Erik Hummelman & Josephine Malilay, *Asthma Surveillance – United States 2006–2018, Surveillance Summaries* (Sept. 17, 2021), https://www.cdc.gov/mmwr/volumes/70/ss/ss7005a1.htm?s_cid=ss7005a1_w. This 12-year

placed Kentucky in the highest of five brackets for asthma prevalence in adults, along with only 12 other states.[109] Asthma is the most common chronic disease among school-age youth in Kentucky: 11.8% of high schoolers, 13.6% of middle school students, and 10.6% of children under age 12 have asthma.[110] By comparison, the national rate of asthma among people under age 18 is roughly 8.1%.[111] Cumulatively, asthma results in around $500 million in costs between emergency department visits, clinical care, medications, missed work (24.5 million days), and missed school (14.7 million days) in Kentucky each year.[112]

And the pervasive adverse health impacts of ozone exposure disproportionately burden Black and low-income residents of Kentucky. Along lines of race, the Kentucky Department for Public Health reports that the rate of asthma prevalence among Black children in Kentucky (14.70%) is nearly 3 times that among white and Latino children.[113] For the population writ large, this disparity persists: 13.6% of Black people in Kentucky have asthma, compared to 11.3% of white people.[114] Along lines of income, low-income individuals often have fewer financial resources to obtain adequate healthcare—including care for asthma.[115]

In December of 2022, EPA issued its memorandum for Principles for Addressing Environmental Justice in Air Permitting and attached Principles.[116] EPA regions were encouraged to work with state and local partners to implement

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study used asthma indicators nationwide (including prevalence of current asthma, asthma attacks, emergency departments and urgent care center visits, and asthma-associated deaths) to find an asthma rate of 7.9% among U.S. adults.

[109] CDC, Behavioral Risk Factor Surveillance System Prevalence Data, *2020 Adult Lifetime Asthma Data: Prevalence Tables and Maps*, https://www.cdc.gov/asthma/brfss/2020/mapL1.html.

[110] Ky. Cabinet for Health and Family Services, Chronic Disease Prevention Branch, *Asthma Management Program*, https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/asthma.aspx.

[111] Pate et al., *Asthma Surveillance – United States 2006–2018, Surveillance Summaries*.

[112] *Id.*

[113] Ky. Dep't for Public Health, Ky. Asthma Mgmt. Program, *2022 Kentucky Asthma Data*, https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Documents/asthmadata.pdf.

[114] Ky. Cabinet for Health and Family Services, Chronic Disease Prevention Branch, *Asthma Management Program*, https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/asthma.aspx.

[115] *See* Tursynbek Nurmagambetov, Robin Kuwahara & Paul Garbe, *The Economic Burden of Asthma in the United States,* ANNALS OF THE AM. THORACIC SOC'Y (2017) https://www.atsjournals.org/doi/10.1513/AnnalsATS.201703-259OC.

[116] Memorandum from Joseph Goffman, Principal Deputy Assistant Administrator, Office of Air and Radiation to Air and Radiation Division Directors Regions I-X, *Principles for Addressing Environmental Justice in Air Permitting* (Dec. 22, 2022), *available at* https://www.epa.gov/system/files/documents/2022-12/EJ%20in%20Air%20Permitting%20Memo.pdf ("EJ Memo"); *Attachment EJ in Air Permitting Principles for Addressing Environmental Justice Concerns in Air Permitting*, *available at* https://www.epa.gov/system/files/documents/2022-12/Attachment%20-%20EJ%20in%20Air%20Permitting%20Principles%20.pdf ("EJ Principles").

consideration of the principles in air permitting actions.[117] In brief, those principles are:

1. Identify communities with potential environmental justice concerns;
2. Engage early in the permitting process to promote meaningful participation and fair treatment;
3. Enhance public involvement throughout the permitting process;
4. Conduct a "fit for purpose" environmental justice analysis;
5. Minimize and mitigate disproportionately high and adverse effects associated with the permit action to promote fair treatment;
6. Provide federal support throughout the air permitting process;
7. Enhance transparency throughout the air permitting process; and
8. Build capacity to enhance the consideration of environmental justice in the air permitting process.[118]

The Division should address the Environmental Justice principles through an Environmental Justice Analysis.

Steps such as identifying communities with environmental justice concerns and engaging with such communities early and often, including in conducting environmental justice analyses, are important steps in and of themselves to ensure the meaningful involvement of all individuals with a stake in ensuring Shawnee complies with environmental regulation,[119] including in "routine" renewal of operating permits such as this one. It is only through such steps that meaningfully involve affected communities that progress can continue towards a Commonwealth where all people share the same clean air to breath.

Here, Shawnee is directly upwind of many low-income census tracts, as shown in Figure 1, including four tracts in Paducah with less than $30,000 median household income.[120] It is also directly upwind of one of the few areas outside Louisville and Lexington with a significant population of persons of color, as shown in Figure 2.

[117] EJ Principles at 1.

[118] EJ Principles.

[119] U.S. EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." U.S. EPA, Environmental Justice, https://www.epa.gov/environmentaljustice.

[120] Median income data from U.S. Census Bureau 2020 5-year American Community Survey (ACS).

Figure 1 - Location of Shawnee compared to median income by Census Tract [121]

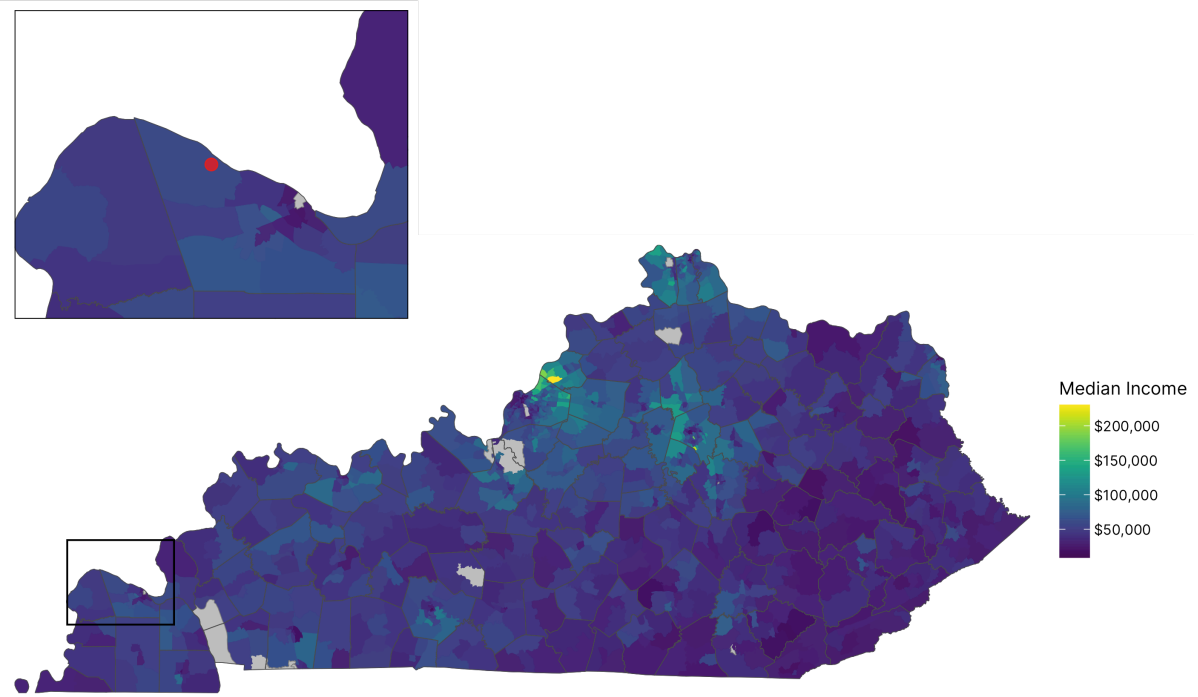
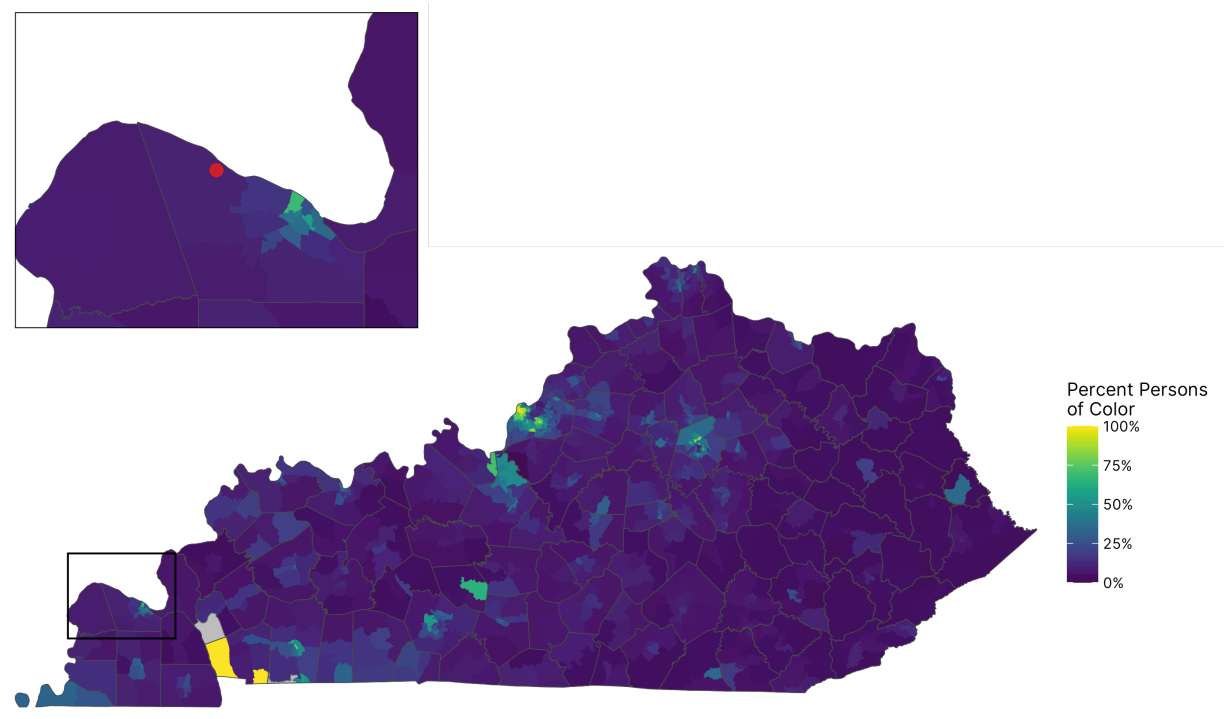


Figure 2 - Location of Shawnee compared to percent persons of color by Census Tract



[121] *Id.*

This information shows that environmental justice communities have meaningful interests in ensuring that Shawnee's Title V permit provides for the cleanest air possible. As a result, we encourage the Division to carefully consider how the remaining Principles above could be more fully implemented in this and similar future permitting processes involving Shawnee (and other Title V permittees that affect environmental justice communities). For example, the Division should ensure outreach and notices are given as early as possible in the process, even before a draft permit is proposed. Further, the Division should conduct a "fit for purpose" environmental justice analysis, followed by measures to minimize and mitigate any disproportionately high and adverse effects associated with the permit.

Finally, the impact of pollution from Shawnee on low-income Kentuckians and Kentuckians of color in the area is yet another reason that it is essential the draft Permit and Statement of Basis/Summary adequately articulate the legal and factual basis for emission limits. As EPA's guidance on environmental justice in air permitting notes, "meaningful participation and fair treatment" for affected Kentucky residents are key to the permitting process, to promote equity and environmental justice[122]—the "just treatment and meaningful involvement of all" Kentuckians in decision-making about health and the environment.[123] Without adequate information, Kentuckians cannot meaningfully comment on and influence the direction of air quality in the state.

Thank you for your consideration of these comments.

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[122] *Attachment EJ in Air Permitting Principles for Addressing Environmental Justice Concerns in Air Permitting* at 2.

[123] EPA, *Environmental Justice*, https://www.epa.gov/environmentaljustice.