



# Kentucky Resources Council

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January 17, 2024

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Michelle McCloskey  
Permit Support Section Supervisor,  
Kentucky Division for Air Quality  
*Via email to AIRKentucky@ky.gov*

Subject: Draft Title V Permit V-23-016  
Kentucky Utilities Company (Ghent Generating Station)  
Source ID: 21-041-00010  
Agency Interest: 704

Dear Ms. McCloskey:

Thank you for the opportunity to comment on Draft Title V Permit V-23-016, Kentucky Utilities Company (Ghent Generating Station). Please find below the comments of Kentucky Resources Council (KRC).

KRC is a statewide public-interest environmental law and advocacy organization. We work to protect Kentucky's natural resources, 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 hope you will take into consideration the comments below during your evaluation of the Draft Permit.

Regards,

Byron L. Gary  
Program Attorney  
[byron@kyrc.org](mailto:byron@kyrc.org)

CC: Ashley Wilmes,  
Director  
Kentucky Resources Council

## 1. The Division should consider the EPA’s Principles for Addressing Environmental Justice in Air Permitting for all proposed permits

In December of 2022 U.S. EPA issued its memorandum for Principles for Addressing Environmental Justice in Air Permitting and attached Principles.<sup>1</sup> EPA regions were encouraged to work with state and local partners to implement consideration of the principles in air permitting actions.<sup>2</sup> 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.<sup>3</sup>

### *a. The Division should articulate general principles for enhanced public involvement*

KRC commends the Division for extending the public comment period related to this proposed permit, in accordance with Principle 3, above.<sup>4</sup> However, the Division has not clearly articulated on what basis it will extend public comment periods at the request of community members or organizations, or general principles for when enhanced public notice will be conducted.<sup>5</sup> It should take this opportunity to do so.

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<sup>1</sup> 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”).

<sup>2</sup> EJ Principles at 1.

<sup>3</sup> EJ Principles.

<sup>4</sup> See Letter from Byron Gary, Program Attorney, Kentucky Resources Council to Michelle McCloskey, Permit Support Section Supervisor (Nov. 29, 2023); and AIR QUALITY PERMIT NOTICE, Draft Title V Permit V-23-016, Kentucky Utilities Company (Ghent Generating Station), Source ID: 21-041-00010, Agency Interest: 704 (Dec. 18, 2023) (“Second Notice”).

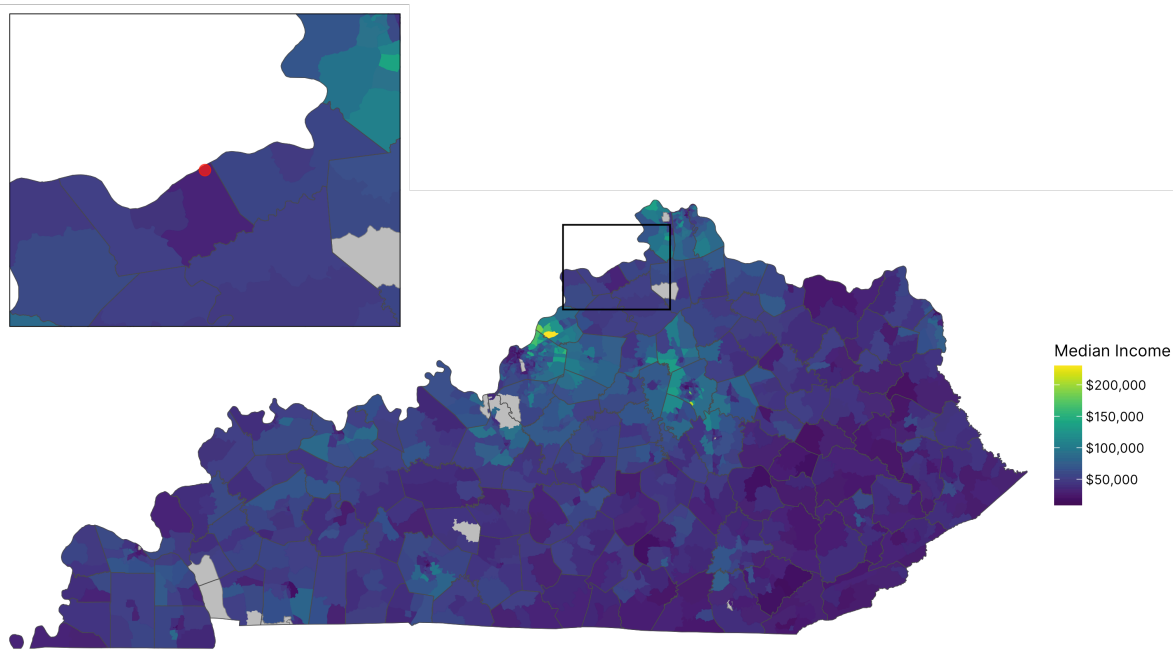
<sup>5</sup> See, e.g., email from Zachary Bittner, P.E., Permit Review Branch Manager to Byron L. Gary (Dec. 1, 2023), (initially denying request for extension of the comment period in response to Nov. 29,

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

While the remaining principles in many ways do not directly lead to reductions in emissions of air toxics, 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 people,<sup>6</sup> 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.

In the instant case, the Kentucky Utilities Company Ghent Generating Station (“Ghent facility”) is among the lowest in the north/central portion of the state with regards to median income, as shown in Figure 1, with an estimated median household income of under \$32,000.<sup>7</sup>

*Figure 1 - Location of Ghent compared to median income by Census<sup>8</sup>*



2023 request); and Letter from Byron Gary, Program Attorney, Kentucky Resources Council to Zachary Bittner, P.E., Permit Review Branch Manager and Michael Kennedy, Director (Dec. 04, 2023), (requesting clarification on when requests for extension would be granted).

<sup>6</sup> 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>.

<sup>7</sup> Median income data from U.S. Census Bureau 2020 5-year American Community Survey (ACS).

<sup>8</sup> *Id.*

As this points to the facility being in an environmental justice community, KRC encourages the Division to carefully consider how the remaining Principles above could be more fully implemented in this and similar future circumstances, for example by being sure outreach and notices are given as early as possible in the process, even before a draft permit is proposed, and conducting a “fit for purpose” environmental justice analysis, followed by measures to minimize and mitigate any disproportionately high and adverse effects associated with the permit.

## **2. Permits should be written and organized to promote accessibility**

Title V permits are by their nature incredibly complex engineering and legal documents. However, among the purposes of the Title V permitting 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.”<sup>9</sup> When the writing of an already-complex document doesn’t consider the needs of the public it becomes inscrutable. This further hampers any chance at meaningful involvement, a crucial part of environmental justice.

### *a. Permits should reduce cross-references and be written in order*

Several portions of the permit are either redundant or require tracing a line through a maze of sections and subsections to fully gather applicable requirements. For example, Section D – Source Emission Limitations and Testing Requirements<sup>10</sup> is referenced repeatedly in Section B – Emission Points, Emission Units, Applicable Regulations, and Operating Conditions,<sup>11</sup> rather than simply being placed there along with all other specific requirements. At least the title of Section F – Monitoring, Recordkeeping, and Reporting Requirements<sup>12</sup> seems confusing given subsections 4-6 for each unit in Section B cover monitoring, recordkeeping, and reporting.<sup>13</sup> Either Section F should also be incorporated into the requirements for each specific unit in Section B, or it is general monitoring, recordkeeping, and reporting, in which case it should be contained in Section G – General Provisions,<sup>14</sup> along with the Testing Requirements subsection there.<sup>15</sup> The first line of Section G itself (“The permittee shall comply with all conditions of this permit.”) seems like a requirement that should be stated at the very beginning, perhaps in Section A –

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<sup>9</sup> 57 Fed. Reg. 32250, 32251 (July 21, 1992) (emphasis added).

<sup>10</sup> Draft Title V Permit V-23-016, Kentucky Utilities Company (Ghent Generating Station), Source ID: 21-041-00010, Agency Interest: 704 (“Draft Permit”) starting at 80.

<sup>11</sup> Draft Permit starting at 2.

<sup>12</sup> Draft Permit starting at 86.

<sup>13</sup> See, e.g., Draft Permit at Section B, Emission Unit 01, 4. – 6.

<sup>14</sup> Draft Permit starting at 89.

<sup>15</sup> Draft Permit Section G.5.

Permit Authorization (along with the statement there that the Cabinet “hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit.”). KRC recommends the Division should be sure to simplify its permit writing to the greatest extent possible, while recognizing the complexity of such a document.

*b. The permit and statement of basis should include a list of acronyms used*

Both the permit, and the statement of basis<sup>16</sup> use many acronyms throughout, but the Draft Permit lacks a list of acronyms, and many are not defined in context or in the list provided in Appendix A of the Draft Statement of Basis, as noted below. In order to promote public participation and the principles of environmental justice, all acronyms and terms of art should be defined, and a list of acronyms should be provided at the very beginning for reference.

### **3. The Division should consider potential impacts in intrastate nonattainment areas**

The Commonwealth currently has two active nonattainment areas, and no regulations ensuring existing large industrial sources do not impact or contribute to unhealthful levels of air pollution. In particular, the Louisville, KY-IN 2015 ozone nonattainment area lays no more than 25 miles away from the Ghent facility, which emits significant amounts of nitrogen oxides, an ozone precursor.<sup>17</sup> Ozone has been determined to be a regional pollutant by nature.<sup>18</sup>

The Commonwealth has submitted a request to redesignate the Kentucky portion of the Louisville, KY-IN 2015 ozone nonattainment area,<sup>19</sup> which EPA has proposed to approve.<sup>20</sup> However, after that submission EPA reclassified the area to moderate nonattainment for failing to reach attainment by the deadline,<sup>21</sup> and

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<sup>16</sup> Draft Statement of Basis/Summary, Title V Permit V-23-016, Kentucky Utilities Company (Ghent Generating Station), Source ID: 21-041-00010, Agency Interest: 704 (“Draft Statement of Basis”).

<sup>17</sup> See *STATEMENT OF BASIS / SUMMARY*, Title V, Operating, Permit: V-23-016 (“Draft Statement of Basis”) at 5.

<sup>18</sup> US EPA, *Federal “Good Neighbor Plan” for the 2015 Ozone National Ambient Air Quality Standards*, 88 Fed. Reg. 36,654 36,670 (Aug. 04, 2023) (“Studies have established that ozone formation, atmospheric residence, and transport occur on a regional scale ( *i.e.*, thousands of kilometers) over much of the U.S.”)(footnote omitted).

<sup>19</sup> Division and Louisville Metro APCD, *Request to Redesignate Kentucky Counties within the Louisville, KY-IN 2015 Ozone Nonattainment Area*, (Sept. 02, 2022).

<sup>20</sup> US EPA, *Air Plan Approval and Air Quality Designation; KY; Redesignation of the Kentucky Portion of the Louisville, KY-IN 2015 8-Hour Ozone Nonattainment Area to Attainment*, 88 Fed. Reg. 23,598 (May 18, 2023) (“Redesignation Proposal”).

<sup>21</sup> US EPA, *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Areas Classified as Marginal for the 2015 Ozone National Ambient Air Quality Standards*, 87 Fed. Reg. 60,897 (Oct. 7, 2022).

even after that the area once again returned to monitored nonattainment levels.<sup>22</sup> Further, EPA stated it “will not take final action to approve the redesignation of the Kentucky portion of the Louisville KY-IN Area if the 3-year design value exceeds the NAAQS prior to EPA finalizing the redesignation.”<sup>23</sup>

This leaves the Commonwealth past due for submission of an attainment demonstration, including provisions for “implementation of all control measures needed for attainment as expeditiously as practicable.”<sup>24</sup> EPA has stated that such implementation of control measures must consider intrastate sources, even if outside the nonattainment area, if necessary to achieve attainment.<sup>25</sup> As the area continues to struggle to attain and maintain the standard, and reasonably available control measures are already required at least in Jefferson County,<sup>26</sup> it is clear that the Commonwealth must consider additional measures necessary, including limits on large sources such as the Ghent Facility, even if outside the nonattainment area. More generally, the Division should enact regulations requiring consideration of potential impacts on nonattainment areas, and requiring reasonably available control technology (RACT) for existing sources impacting such areas.

#### **4. The permit should contain additional measures to ensure emissions of hazardous air pollutants remain below limits**

Section D. of the draft permit contains several alternative limits for compliance with EPA National Emissions Standards for Hazardous Air Pollutants (“NESHAP”).<sup>27</sup> However, using the limits provided, along with recent emissions data and information from the Draft Statement of Basis,<sup>28</sup> and operational data from EPA’s Clean Air Markets Data Program,<sup>29</sup> seems to show inconsistencies. These inconsistencies should be cause to require additional testing or monitoring to verify emissions.

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<sup>22</sup> Louisville Metro Air Pollution Control District, *8-Hour Ozone Monitoring Report*, (Nov. 2023), at 3, available at <https://louisvilleky.gov/air-pollution-control-district/document/apcd-november-2023-air-quality-report>.

<sup>23</sup> Redesignation Proposal at 23,601.

<sup>24</sup> 40 C.F.R. §51.1308. Paragraph (a) provides for such submission within 36 months of the effective date of nonattainment designation. Initial designations were effective August 3, 2018. US EPA, *Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 83 Fed. Reg. 25,776 (June 04, 2018).

<sup>25</sup> US EPA, *Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements*, 83 Fed. Reg. 62,998, 63,015 (Dec. 06, 2018).

<sup>26</sup> See Louisville Metro APCD Regulation 6.42.

<sup>27</sup> Draft Permit, Section D.3.2.b. and 40 C.F.R. Part 63, Subpart UUUUU.

<sup>28</sup> Draft Statement of Basis at 5, and the portions of the Section 3 tables for Emissions Units 01-04 labeled “From Table 2 of 40 CFR 63, Subpart UUUUU.”

<sup>29</sup> <https://campd.epa.gov/>. Specific data sources cited below.

The alternatives for compliance with the NESHAP include, for example, alternative limits for total filterable particulate matter (“PM”), OR total non-mercury hazardous air pollutant (“HAP”) metals, OR individual limits for several such non-mercury HAP metals. Each individual option also comes with accompanying requirements for either continuous emissions monitoring (“CEMS”) or quarterly testing. The limits are generally in terms of either pounds per million British thermal units (lbs/MMBtu) or trillion British thermal units (lbs/TBtu), or pounds per megawatt-hour (lbs/MWh) or gigawatt-hour (lbs/GWh).

In contrast to the form of these limits, the Statement of Basis contains an “Emissions Summary” that lists 2020 actual emissions, uncontrolled potential to emit (“PTE”) and controlled PTE in tons per year (“tpy”). It should be noted that for several pollutants the 2020 actual emissions are greater than the controlled PTE. While not necessarily indicative of a violation of the emissions limits, this clearly indicates at least that controls are not being operated at optimal levels at all times.

In order to compare the Emissions Summary to the limits in the Draft Permit, data on operation of the Ghent Facility was obtained from EPA’s Clean Air Markets Data Program (CAMPD) website.<sup>30</sup> A data query was conducted for hourly emissions from the Ghent facility for recent years, including both operating and non-operating hours. The returned “Heat Input (mmBtu)” was then summed for all of 2020 across all four units, and a total of 102,797,458.6 MMBtu was obtained.

Table 1, below, compares each of the limits in Draft Permit, Section D.3.2.b., derived from 40 C.F.R. Part 63, Subpart UUUUU, Table 2, converted to an annual basis by multiplying the limit by the actual heat input and converting to tons,<sup>31</sup> and the actual emissions listed in the table “V-23-016 Emission Summary” from the Draft Statement of Basis. Where emissions were not provided in the Statement of Basis they were acquired from the EPA’s 2020 National Emissions Inventory (NEI).<sup>32</sup>

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<sup>30</sup> <https://campd.epa.gov>. According to the CAMPD website, “EPA’s power plant programs reduce air pollution from power plants to help protect human health and the environment. EPA collects comprehensive CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and mercury emissions data, and makes it publicly available, along with compliance and allowance data, and individual power plant details. You can explore the data here in CAMPD. Learn more about our programs, additional data and tools at [Clean Air Markets](#).”

<sup>31</sup> i.e., the limit in lbs/MMBtu (converted from lbs/TBtu if needed by dividing by 1e6), multiplied by 102,797,458.6 MMBtu, divided by 2000 lbs/ton.

<sup>32</sup> “The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources. The NEI is released every three years based primarily upon data provided by State, Local, and Tribal air agencies for sources in their jurisdictions and supplemented by data developed by the US EPA.” US EPA, National Emissions Inventory (NEI), <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>. Specifically, the file at [https://gaftp.epa.gov/air/nei/2020/data\\_summaries/Facility%20Level%20by%20Pollutant.zip](https://gaftp.epa.gov/air/nei/2020/data_summaries/Facility%20Level%20by%20Pollutant.zip) was used.

Table 1 - HAP emissions limits converted to 2020 annual basis compared to 2020 actual emissions

Pollutant	Draft Emissions Limit (lb/MMBtu)	Annual limit (tpy - 2020 operations basis)	2020 Actual Emissions (tpy)
PM	0.03	1541.96188	531.17 <sup>33</sup>
Total Non-Hg HAP Metals	0.00005	2.56993647	? <sup>34</sup>
Antimony	0.0000008	0.04111898	0.02727234
Arsenic	0.0000011	0.0565386	0.48
Beryllium	0.0000002	0.01027975	0.00811
Cadmium	0.0000003	0.01541962	0.00683743
Chromium	0.0000028	0.14391644	0.58
Cobalt	0.0000008	0.04111898	0.1341459
Lead	0.0000012	0.06167848	0.44
Manganese	0.000004	0.20559492	0.66
Nickel	0.0000035	0.17989555	0.159965
Selenium	0.000005	0.25699365	0.2101115
HCl	0.002	102.797459	184.97
SO <sub>2</sub>	0.2	10279.7459	8,600.74
Hg	0.0000005	0.02569936	0.01654343

As shown in Table 1, 2020 actual emission of several pollutants appear to exceed the proposed limits, in some cases by an order of magnitude or more. Because the limits incorporated from the NESHAP in the Draft Permit are in an alternative basis this does not prima facie indicate a past violation, but it does indicate at least the possibility of a violation. Additionally, because the annual averages appear to be very close to the continuous emissions limit, there is also the possibility of individual exceedances that the Division should investigate.

The basis for 2020 actual emissions listed in the Statement of Basis is not specifically listed, however the summary for each emission unit in Section 3 lists AP-42 repeatedly as the “Emission Factor Used and Basis.”<sup>35</sup> U.S. EPA has stated that reliance on AP-42 emissions factors in this manner is inappropriate.

<sup>33</sup> It was assumed here that “PT” from the table “V-23-016 Emission Summary” in the Draft Statement of Basis refers to total particulates, although this is an acronym that lacks definition as noted above. Further, the pollutant “PM” in Draft Permit Section D.3.2.b. is not defined, but is assumed to be “Filterable particulate matter (PM)” as in 40 C.F.R. Part 63, Subpart UUUUU, Table 2.

<sup>34</sup> Not provided in either the Draft Statement of Basis or the 2020 NEI.

<sup>35</sup> See, e.g., Section 3 – Emissions Limitations and Basis, Emission Unit 01 – Unit 1 Indirect Heat Exchanger, “From Table 2 of 40 CFR 63, Subpart UUUUU”, “Emission Factor Used and Basis.”



Specifically, in the introduction to AP-42, U.S. EPA has stated:

Use of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance.<sup>36</sup>

U.S. EPA has further elaborated that “factors are not likely to be accurate predictors of emissions from any one specific source, except in very limited scenarios.”<sup>37</sup> It has further stated that the consequences, aside from incorrect estimates of emissions and consequent limits at a given source, but impacts on ambient air and even NAAQS compliance, as well as possible incorrect emissions fees being assessed, as well as possible financial penalties for a source exceeding an incorrectly set limit.<sup>38</sup>

Looking to the AP-42 emissions factor used most frequently for HAPs here shows that several site-specific factors are relied on, which do not appear to have any recent verification.<sup>39</sup> At a minimum, further testing to ground-truth these site-specific emissions factors should be required.

This sort of verification of applicable requirement should not be required of the public. The facility should specifically be required to identify which emissions limit it intends to comply with as required by the regulation,<sup>40</sup> rather than being allowed to pick and choose as is convenient for the facility. More generally, all the applicable requirements should also specifically be listed in the permit, rather than general statements that “[t]he permittee shall comply with all applicable” requirements.<sup>41</sup> Finally, clear comparison of the limits proposed to PTE should be presented in the statement of basis.

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<sup>36</sup> U.S. EPA, *AP-42, Fifth Edition Compilation of Air Pollutant Emissions Factors, Volume 1: Stationary Point and Area Sources. Introduction*, at 2.

<sup>37</sup> U.S. EPA, *Enforcement Alert: EPA Reminder About Inappropriate Use of AP-42 Emission Factors*, Publication no. EPA 325-N-20-001, November 2020 at 1. Of note, this portion of the *Enforcement Alert* is specifically referring to AP-42 factors with a grade of “A” or “B”.

<sup>38</sup> *Id.* at 2-3.

<sup>39</sup> AP-42, Table 1.1-16, which requires concentration of metal in the coal, weight fraction of ash in the coal, and site-specific emission factor for total particulate matter.

<sup>40</sup> 40 C.F.R. §63.10030(e)(7)(iii).

<sup>41</sup> *See, e.g.,*