Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
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Rebecca Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

February 20, 2025

Ms. Jeaneanne Gettle
Acting Regional Administrator
U.S. EPA, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

RE: Ongoing Reporting Requirements for 2010 1-hour Sulfur Dioxide National Ambient Air Quality Standard

Dear Ms. Gettle:

On behalf of the Commonwealth of Kentucky, the Energy and Environment Cabinet's Division for Air Quality (Division) respectfully submits the following documentation to comply with the United States Environmental Protection Agency (EPA) Data Requirements Rule (DRR) ongoing reporting requirement for the 2010 1-hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS).

As required by 40 CFR 51.1205(b), each state must submit an annual report to the EPA Regional Administrator that documents the annual SO_2 emissions of each source designated as unclassifiable/attainment, which utilized modeling as the basis for designation. The report must include a recommendation by the state regarding the need for additional modeling to assure that each area continues to meet the 2010 SO_2 NAAQS.

The attached report details the Division's review of the sources subject to the ongoing reporting requirements under the DRR. The Division recommends that no additional modeling is required at this time.

In accordance with 40 CFR 51.102, the annual report was available for public review and comment from December 4, 2024, to January 8, 2025. No comments were received. A copy of the public notice is included with the report.

If you have any questions or concerns, please contact Ms. Cassandra Jobe, Program Planning and Administrative Branch Manager, Division for Air Quality at (502) 782-6670 or cassandra.jobe@ky.gov.

Sincerely,

Michael Kennedy

Michael Kennedy, P.E.
Director, Division for Air Quality

cc: Denisse Diaz, U.S. EPA Region 4
Lynorae Benjamin, U.S. EPA Region 4

Kentucky
Sulfur Dioxide Ongoing Data Requirements Rule
2024 Annual Report for Modeled Sources

Prepared by the
Kentucky Division for Air Quality
Submitted by the
Kentucky Energy and Environment Cabinet

February 2025

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I. Introduction

The Kentucky Energy and Environment Cabinet (Cabinet) submits this report to the U.S. Environmental Protection Agency (EPA) for the Annual Ongoing Data Requirement Rule (DRR) for the 2010 1-hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS). This report is intended to fulfill the annual reporting requirements of 40 CFR Part 51 Subpart BB.

On August 21, 2015, the EPA promulgated the DRR for the 2010 1-hour SO_2 Primary NAAQS of 75 parts per billion (ppb).[1] The DRR requires areas that are in attainment to characterize ambient air quality for facilities that emit more than 2,000 tons per year (tpy) of SO_2. Characterization of air quality can occur by choosing one of three methods: (1) ambient air monitoring; (2) air dispersion modeling of either actual or allowable emissions; or (3) demonstration of enforceable emissions limitations that are below the 2,000 tpy threshold.

On January 6, 2017, the Cabinet submitted a letter and air dispersion modeling analyses to EPA characterizing nine sources subject to the DRR. The letter also detailed Kentucky sources that chose the monitoring or federally enforceable limitation options, as well as sources that permanently shut down. Two of the nine sources are not included in this report: Big Rivers Electric Corporation (BREC) – D. B. Wilson and Tennessee Valley Authority (TVA) – Paradise.

EPA's Data Requirements Rule states that the ongoing data requirements apply where the modeling was based on actual emissions and where the area has not subsequently received a nonattainment designation. D. B. Wilson was designated unclassifiable during the second round of designations for the 2010 SO_2 NAAQS. Wilson took an SO_2 emissions limit which was incorporated into their amended Title V permit on June 20, 2016. The modeling and analysis demonstration showed, with the new federally enforceable limit, the facility modeled attainment. The model to characterize air quality around the TVA – Paradise facility used Potential to Emit (PTE) instead of actual emissions. The PTE accounted for the MATS limit for Unit 3, and the shutdown of Units 1 and 2 after April 15, 2017. All three Units have since shut down and were replaced with Units using natural gas. Due to these factors, these two facilities are not subject to the ongoing verification requirements.

In accordance with 40 CFR 51.1205(b), areas designated as attainment/unclassifiable and characterized using air dispersion modeling of actual SO_2 emissions are subject to ongoing data requirements. Annual emissions reports for those areas must be submitted to EPA by July 1 of each year.

[1] 80 FR 51052

II. Emissions Data Summary

On January 9, 2018, EPA designated seven Kentucky counties containing the sources characterized by modeled actual emissions as attainment/unclassifiable.[2] The seven Kentucky counties and their respective DRR sources subject to ongoing emissions data verification are identified in Table 1.

Table 1
Sources Subject to the DRR

Source	County
Duke Energy - East Bend	Boone
East Kentucky Power Cooperative (EKPC) - Hugh L. Spurlock	Mason
Kentucky Utilities (KU) - Ghent	Carroll
Louisville Gas and Electric (LG&E) - Trimble County	Trimble
Tennessee Valley Authority (TVA) – Shawnee	McCracken
Century Aluminum - Hawesville	Hancock
Owensboro Municipal Utilities (OMU) - Elmer Smith	Daviess

The Cabinet requested OMU – Elmer Smith be removed from future reporting requirements in the 2023 Annual DRR SO_2 Report submitted to EPA December 15, 2023. The facility has permanently shut down and a demonstration was provided showing the drastic decrease in SO_2 emissions within the area. The EPA approved Kentucky's request on November 18, 2024. The approval letter is located in Appendix F.

The EPA recommended using a minimum of the most recent 3 years of actual emissions data and concurrent meteorological data when modeling to characterize the air quality around the facilities. These three years would allow the modeling to simulate what a monitor would observe and serve as a base line for future analysis. The five electric generating units (EGUs) that chose to model actual SO_2 emissions for the model years 2012-2014 are displayed in Table 2. The SO_2 emissions modeled for 2012-2014 are compared to 2021-2023 actual SO_2 emissions. Emissions in Table 2 were pulled from the Clean Air Markets Program Data (CAMPD) database and are included in Appendix A. Apart from EKPC – H.L. Spurlock, SO_2 emissions at the facilities decreased between 2022 to 2023. Section III looks at H.L. Spurlock and the surrounding facilities in the modeled area to determine whether additional modeling is required.

[2] 83 FR 1098

Table 2
Annual SO_2 Emissions for Sources using MY 2012-2014 (tpy)

Source	Modeled Emissions			Actual Emissions		
	2012	2013	2014	2021	2022	2023
Duke Energy – East Bend	1,496.63	2,197.72	2,102.71	1,755.68	1,823.71	1,562.31
EKPC – H. L. Spurlock	5,131.11	4,468.75	4,689.09	3,968.02	3,855.84	4,084.04
KU – Ghent	10,772.18	13,421.85	14,851.28	11,059.99	10,675.05	7,747.47
LG&E – Trimble County	2,895.83	3,521.39	3,056.20	2,900.79	3,511.55	2,832.43
TVA – Shawnee	27,114.87	27,210.73	29,834.54	14,696.44	14,325.61	11,660.23

Emissions data acquired from the Air Markets Program Data database - https://campd.epa.gov/

Table 3 provides SO_2 emissions data for Century Aluminum – Hawesville which chose to model actual SO_2 emissions for the model years 2014-2016. Emissions data for Century Aluminum – Hawesville was obtained from the Kentucky Division for Air Quality's Emissions Inventory database. The SO_2 emissions for Century Aluminum – Hawesville decreased from 2022-2023.

Table 3
Annual SO_2 Emissions for Sources Using MY 2014-2016 (tpy)

Source	Modeled Emissions			Actual Emissions		
	2014	2015	2016	2021	2022	2023
Century Aluminum – Hawesville	2,223.56	1,604.46	507.04	1,495.06	820.14	0.005

Emissions data acquired from the Kentucky Division for Air Quality Emissions Inventory

The averaged actual emissions from the most recent three years of data, the averaged emissions of the modeled years, and the percent change between the two are compared in Table 4. All six facilities show a decrease in actual emissions when compared to the modeled year's emissions.

Table 4
SO_2 Emissions Comparisons (tpy)

Source	Modeled Emissions Average 2012-2014	Actual Emissions Average 2021-2023	Percent Change
Duke Energy – East Bend*	1,932.35	1,713.90	-11%
EKPC – H. L. Spurlock*	4,762.98	3,969.30	-17%
KU – Ghent*	13,015.10	9,827.50	-24%
LG&E – Trimble County*	3,157.81	3,081.59	-2%
TVA – Shawnee*	28,053.38	13,560.76	-52%
Source	**Modeled Emissions Average 2014-2016**	**Actual Emissions Average 2021-2023**	**Percent Change**
Century Aluminum – Hawesville**	1,445.02	771.74	-47%

*Emissions data acquired from the Air Markets Program Data database - https://ampd.epa.gov/ampd/
**Emissions data acquired from the Kentucky Division for Air Quality Emissions Inventory

III. Facility Analysis to Determine Updated Modeling Recommendation

As part of the ongoing reporting, Kentucky must perform an annual review of SO_2 emissions for facilities and, if necessary, provide a recommendation for updated modeling due to increases in SO_2 emissions. EKPC – H.L. Spurlock's SO_2 emissions increased by 228.2 tpy from 2022 to 2023. However, there is still a 17% decrease in emissions between the 2012-2014 modeled years emissions and the 2021-2023 actual emissions. The following section shows, despite the increase in annual emissions, the total SO_2 emissions in the modeled area has decreased significantly. The two Ohio facilities, Dayton Power & Light (DP&L) - J.M. Stuart and Killen Stations, permanently shut down in 2018. Documentation verifying the facility closures can be found in Appendix D. As demonstrated below, the two Ohio facilities were the major contributors to SO_2 emissions within the modeled area.

EKPC – H.L. Spurlock

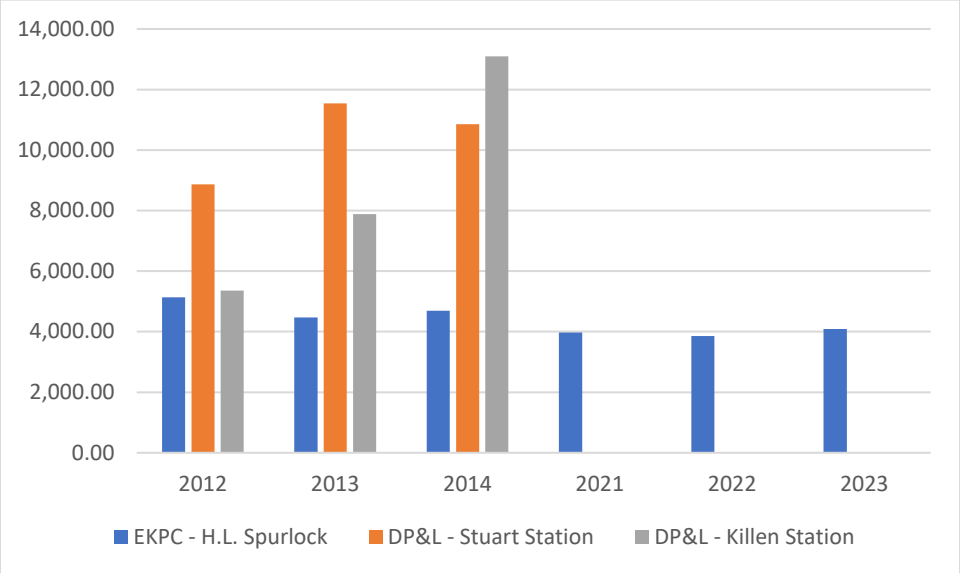
The initial modeling characterization for H.L. Spurlock includes DP&L's Stuart and Killen Stations in Ohio. The resulting modeled emissions and actual emissions of SO_2 for the three facilities are shown in Table 5 and Figure 1. As seen in Table 5, SO_2 emissions at H.L. Spurlock increased between 2022 and 2023. The Cabinet reached out to EKPC and requested that they identify the reason for the increase. The EKPC contact reported that the emission increase was primarily due to a slight reduction in the removal efficiency of the Unit 2 scrubber. However, the reduction did not impact the Unit 2 permit requirement to meet a 95% SO_2 removal efficiency and the SO_2 emission limits were achieved at all units with a compliance margin. Appendix B contains EKPC's explanation for the increased emissions.

Table 5
H.L. Spurlock, Stuart Station, Killen Station
Annual SO_2 Emissions (tpy)

Facility	Modeled Emissions			Actual Emissions		
	2012	2013	2014	2021	2022	2023
EKPC - H.L. Spurlock	5,131.20	4,468.82	4,689.16	3,968.02	3,855.84	4,084.04
DP&L - Stuart Station	8,864.16	11,541.90	10,851.74	0.00	0.00	0.00
DP&L - Killen Station	5,362.15	7,884.62	13,095.78	0.00	0.00	0.00
Area Total	**19,357.51**	**23,895.34**	**28,636.68**	**3,968.02**	**3,855.84**	**4,084.04**

Emissions data acquired from the Air Markets Program Data database - https://ampd.epa.gov/ampd/

Figure 1
H.L Spurlock, Stuart Station, Killen Station
Annual SO_2 Emissions (tpy)



Despite the annual increase of SO_2 emissions at H.L. Spurlock between 2022 and 2023, the average current emissions (2021-2023) are lower than the average modeled emissions (2012-2014), as seen in Table 6. Table 6 lists each facility in the modeled area and the percent change between the current emissions (2021-2023) and the emissions used during the initial model (2012-2014). SO_2 emissions at Stuart and Killen stations have decreased by 100% while the SO_2 emissions in the area have decreased by 83%.

Table 6
H.L. Spurlock, Stuart Station, Killen Station Modeled Area
Percent Change in SO_2 Emissions (tpy)

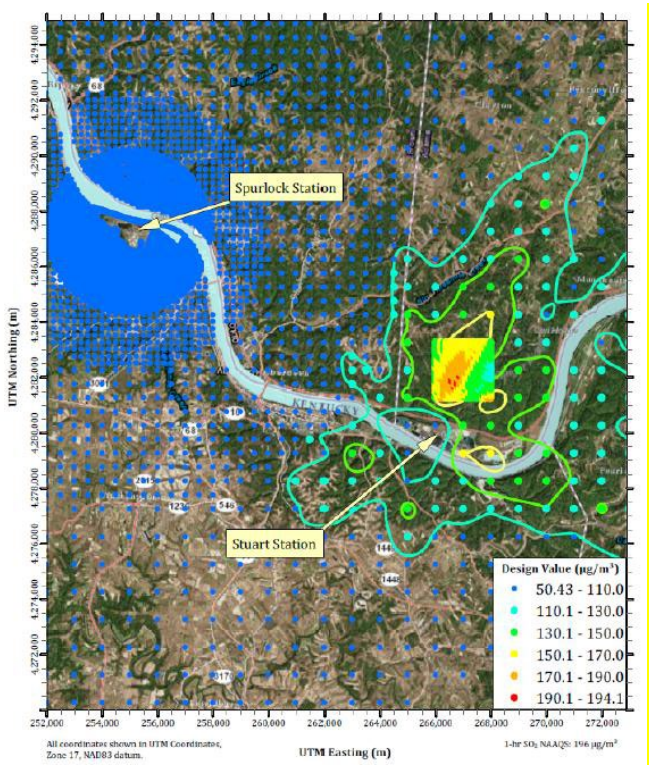
Facility	Emissions Average 2012-2014	Emissions Average 2021-2023	Percent Change
EKPC - H.L. Spurlock	4,763.06	3,969.30	-17%
DP&L - Stuart Station	10,419.27	0.00	-100%
DP&L - Killen Station	8,780.85	0.00	-100%
Area Total	**23,963.18**	**3,969.30**	**-83%**

Emissions data acquired from the Air Markets Program Data database - https://ampd.epa.gov/ampd/

As part of their 2020-2021 Air Monitoring Network Plan (AMNP), Ohio EPA requested approval to discontinue the West Union monitor (39-001-0001) located in Adams County, Ohio, 16.5 miles northeast of the H.L. Spurlock facility. The U.S. EPA approved the discontinuation of the monitor, and it was terminated on December 2, 2020. There are currently no SO_2 monitors located within 50 kilometers of the H.L. Spurlock facility. A copy of Ohio's AMNP is located in Appendix E.

The Cabinet submitted the H.L. Spurlock modeling analysis to EPA on January 6, 2017, the report is included in Appendix C. The initial modeled inputs generated by the Cabinet indicated that the highest predicted 99^{th} percentile daily maximum 1-hour concentration within the chosen modeling domain was 194 µg/m3, equivalent to 74 ppb. The modeled concentrations include the actual emissions from the facilities and the background concentrations of SO_2. Figure 2 shows the highest concentrations occurred approximately 12 km southeast of H.L. Spurlock near Stuart Station.

Figure 2
Maximum Predicted 99th Percentile Daily Maximum 1-Hour SO_2 Concentrations Averaged over Three Years for the Area of Analysis for the Mason County Area.



Only the Spurlock Station facility in Kentucky remains in this modeled area following the shutdown of the coal-fired boilers at the Stuart and Killen facilities located in Ohio.

IV. Conclusion

The Cabinet has thoroughly reviewed SO_2 emissions trends and air monitoring data for the DRR sources that chose modeling to characterize ambient air quality. Although SO_2 emissions at EKPC – H.L. Spurlock increased between 2022 and 2023, those increases are offset by the significant SO_2 emissions reductions from the closure of the other modeled sources within the modeled area. While emissions from H.L. Spurlock have varied in the years since the modeling was conducted, no single year's emissions have exceeded the highest modeled year (2012 at 5,131.20 tons). Therefore, the Cabinet has determined that updated modeling for H.L. Spurlock, or any of Kentucky's sources subject to the DRR, is not necessary at this time.

V. Public Notice

In accordance with 40 CFR 51.102, the report was made available for public inspection and comment from December 3, 2024, through January 8, 2025. No comments were received. A copy of the public notice is available in Appendix G.

Appendix A

Emissions Data

Emissions data is available in a separate electronic Excel spreadsheet

Appendix B

EKPC – H.L. Spurlock Station Response

From: Kevin Moore
To: Poff, Leslie M (EEC)
Cc: Jerry Purvis; Robert Webb; Sarah Fraley; Derek Picklesimer
Subject: 1-Hour SO2 Ongoing Data Requirements - EKPC Spurlock Station
Date: Friday, June 28, 2024 12:23:00 PM

Dear Ms. Poff,
EKPC has assessed the SO2 emissions from its Spurlock facility and offers the following to assist KDAQ in preparation of an annual report pursuant to EPA's SO2 DRR. Spurlock's increase of SO2 emissions from 2022 to 2023 was primarily due to a slight reduction in the removal efficiency of the Unit 2 scrubber. The reduction did not impact the Unit 2 permit requirement to meet a 95% SO2 removal efficiency and, further, SO2 emission limits were achieved at all units with a compliance margin. Please let us know if you need additional information.

Thanks,

Kevin Moore

Manager, Air Quality

Appendix C

EKPC – H.L. Spurlock Station Modeling Analysis

EAST KENTUCKY POWER COOPERATIVE

April 29, 2016

Via Electronic and Certified Mail to:

Mr. Sean Alteri, Director
Division for Air Quality
200 Fair Oaks Lane, First Floor
Frankfort, KY 40601

Re: Hugh L. Spurlock Generating Station (AI 3004)
Maysville, Mason County, Kentucky
Revised Report on SO_2 NAAQS Designation Modeling Analysis (Revision 1)

Dear Mr. Alteri:

East Kentucky Power Cooperative, Inc. (EKPC) submits the enclosed Revised Air Dispersion Modeling Report (Revision 1) for the Hugh L. Spurlock Station SO_2 NAAQS Designation Analysis under the Data Requirements Rule (DRR) for the Division's review. This revision of the previously submitted March 31, 2016 report is provided in response to the Division's April 15, 2016 transmittal, via email from Mr. Ben Cordes, of comments received from EPA, Region 4 reviewers of the modeling protocol. The December 18, 2015 protocol was submitted to the Division via email on December 28, 2015. The protocol was approved by the Division by email on February 10, 2016, with comments that were addressed in the March 31, 2016 modeling report. EPA's subsequent review and submittal of comments on the protocol unfortunately were too late to incorporate in the initial modeling report, which DAQ had directed be submitted by March 31, 2016. Instead of submitting a supplement to the March 31 report, EKPC is submitting the entire report as revised and reflecting both EPA's comments on the protocol and comments received from DAQ on the March 31 report as appropriate.

The analysis demonstrates that the maximum modeled impacts (expressed in the form of the 1-hour SO_2 NAAQS) including emissions from Spurlock Station, emissions from regional sources, and background concentrations, are less than the 1-hour SO_2 NAAQS. The modeling demonstrates that Mason and Bracken Counties should be designated as attainment for the 1-hour SO_2 NAAQS.

For the Division's convenience, EKPC's responses to the EPA comments are presented in this letter along with references to the relevant sections of the revised report. Comments received from KDAQ, via email from Kevin Davis on April 13, 2016, are also addressed below and in the revised report.

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P.O. Box 707, Winchester
Kentucky 40392-0707

Tel. (859) 744-4812
Fax: (859) 744-6008
http://www.ekpc.coop

EPA COMMENTS AND EKPC RESPONSE

1. Section 2.1 of the protocol states that East Kentucky Power Corp (EKPC) plans to consider the use of one or more Beta options in AERMOD and/or AERMET in the Spurlock Station modeling analysis. Even though these Beta options have been proposed as future regulatory options, until this proposal is finalized, the regulatory application of any of these options in AERMET or AERMOD version 15181 requires formal approval as an alternative model and is subject to the requirements of Appendix W, Section 3.2.2. Further, Regional EPA offices must consult with and obtain concurrence from the Model Clearinghouse regarding the application of any Beta option. Therefore, documentation as specified in Appendix W, Section 3.2.2 supporting the use of any Beta option used in the modeling, should be submitted to EPA as soon as possible.

   Response: No Beta options were used in the dispersion modeling analysis.

2. Section 2.2 of the protocol states that hourly surface meteorological data from the KCVG Cincinnati/Northern KY meteorological station will be used in the modeling analysis. Based on the information provided in the protocol, this appears appropriate. However, additional justification should be provided to demonstrate and document that surface meteorological data from this station is representative of dispersion conditions at the Spurlock facility. In addition to the items listed in Section 2.2, representativeness of the data should be based on the complexity of the terrain in the area and the exposure of the meteorological station. The closer Lunken Airport station was considered but rejected because this station's exposure would cause the recorded wind direction patterns to be much different from those expected at the Spurlock location. It is suggested that a comparison of measured meteorological data (e.g., wind roses, etc.) at these two meteorological stations be provided to support this assessment.

   Response: Section 3.3. Additional justification for the use of the Greater Cincinnati/N. Kentucky International Airport (KCVG) to demonstrate that this meteorological data is characteristic of the dispersion conditions at the Spurlock Station has been incorporated into the revised report. The closer Lunken Airport (KLUK) is situated in a valley that runs from the Ohio River to the northeast which causes air channeling that dominates the air flow and is not characteristic of the meteorology that occurs at the height of the Spurlock Station stacks (the coal-fired stacks which are 650 ft above the valley floor). Discussions with the Ohio Environmental Protection Agency meteorologist[1] confirm their non-use of this data set for facilities in Southwest Ohio. Comparative wind roses are included in the revised report.

[1] Telephone call with Chris Beekman, Compliance Section, Division of Air Pollution Control, Ohio Environmental Protection Agency, April 19, 2016.

3. Section 2.4 of the modeling protocol shows a set of 50-m spacing receptors placed at the facility "fenceline," and no receptors inside the fenceline. The final modeling report should clearly demonstrate that the general public does not have access to all areas within the facility fenceline that have been excluded from the modeling (i.e., that a fence or some other security measures are in place to preclude access from the public).

   Response: Section 3.5. Fencing is present at all locations indicated in the modeling report in Figure 3-5. Access is limited to gated entry points with security guards present at all times. These measures preclude access by the general public to areas within the fencing. As previously indicated in Section 3.5 of the original report and shown in Figure 3.5 of this revised report, a rail right-of-way traverses the property and receptors were included in the modeling for that right-of-way.

4. If the maximum predicted SO_2 concentrations do not occur within the 100-meter grid, additional receptors will need to be modeled to ensure that maximum impacts are resolved to the nearest 100 meters.

   Response: Section 4. Maximum impacts were located to the north of the regional source, Stuart Station which lies to the southeast of Spurlock within a 1000-meter grid spacing (shown in the original report March 31, 2016 report as Figure 4-1). To refine this determination to a 100-meter grid spacing, an 11 by 11 grid of 100 meter spaced receptors was placed around the maximum impact receptor. Additional modeling was performed that indicated the maximum concentrations were below the NAAQS. Further details are provided in the revised report with Table 4-2 presenting the 100-meter grid spacing results.

5. Section 2.6 of the protocol specifies procedures to be used to calculate substitute values for missing hourly CEMS data needed for modeling. The protocol further states that Spurlock will provide hourly model input parameters in Microsoft Excel format. Please highlight values calculated for missing hours or somehow delineate these values so that they are easily identifiable in the file.

   Response: A spreadsheet is being provided separately via an electronic file that has all cells therein highlighted indicating any missing value substitutions. The spreadsheets also contain the formulas for interpolating or deriving such values from hours of valid data.

6. Section 2.6 indicates that Spurlock Units 1 & 2 are indicated to be retired so there are no emissions from their associated stacks. Confirmation is needed that these two units were not operating during the proposed 3-year period (2012-2014) to be modeled.

Response: Section 3.7. Units 1 and 2 are not retired and were included in the modeling. Two old stacks that serviced Units 1 and 2 in the past are no longer in use. These have been replaced by newer stacks that were modeled. Table 3-4 of the revised report shows all Spurlock units and stacks that were modeled.

7. Section 2.6 indicates that of four diesel-fired emergency generator engines and one fire pump engine are intermittent sources and are not planned to be included in the modeling. To justify their intermittent operation, their emissions and operational characteristics during the modeled 2012-2014 period should be provided.

   Response: Section 3.7. None of the emergency generators were treated as intermittent (Nos. 1-4). All emergency engines (consisting of Nos. 1-4 which are identical Caterpillar DM8518 900 hp engines) were modeled at 8760 hours at their stack test data emission rates for SO_2 to allow their use for peak shaving if permitted for such in the future. Data provided by EKPC staff indicated that the onsite fire pump engine operated a total of 36.6 hours over the period from December 2012 through March 2016 and is thus, an intermittent source that can be excluded from the modeling.

8. Section 2.7 provides a methodology for identifying other "nearby sources" to explicitly include in the AERMOD modeling. The proposed methodology for identifying these sources appears to follow the TAD and is appropriate. It is noted that the protocol discusses use of the 20D screening procedure. This is acceptable, but must be used with caution. For example, if multiple large sources are located far from Spurlock Station but are clustered together in the same upwind direction, their emissions should be combined when determining the Q in the Q/d calculation, as they could act as one large source of emissions if the plumes merge. Also, justifications should be provided for any sources with significant emissions levels that are being excluded from the modeling. The identification of specific sources to model should be done in conjunction with the determination of an appropriate representative background concentration (discussed in the next comment) as the selection of appropriate background concentrations may be adequate to account of potential impacts of some these "nearby sources." EPA modeling staff are available to further discuss these issues if desired.

   Response: Section 3.8. All major sources of SO_2 emissions are described in the revised report Section 3.8. Clustering of sources for the purposes of 20D is addressed as is the individual consideration of individual facilities. Some sources were treated using the change in concentration as a function of distance gradient and AERSCREEN Model calculation of impacts at the distance to Spurlock Station maximum impact areas and others were explicitly modeled. Justification on which sources were included and which ones were excluded is provided in this section including a discussion of Carmeuse in Maysville, KY, Carmeuse in Carntown, KY, Stuart Station in Aberdeen, OH; Killen Station near Manchester, OH; and Zimmer Station in Moscow, OH.

9. Section 2.10 of the protocol provides the methodology that will be used to identify appropriate background concentrations to be used in the modeling. This methodology appears to be appropriate. As indicated in Comment 8, the decisions about background concentrations should be made in conjunction with the decisions about which sources to specifically include in the modeling. Section 8 of EPA Modeling TAD provides guidance on selecting appropriate background concentrations. There are no specific procedures that are applicable to every situation, so the guidance provides a number of options depending the available data. As indicated in the comment above, EPA modeling staff are available to further discuss proposed background concentrations and how they may impact the selection of which other "nearby sources" to model. The TAD indicates that these issues call for professional judgment and recommends consultation with an EPA Regional Modeling Contact prior to the modeling being performed.

   Response: Section 3.11. The decision to use a specific monitoring station for regional background concentrations was made in conjunction with the decision concerning which nearby and regional sources to include explicitly in the modeling analysis. The only SO2 monitor within a reasonable distance from Spurlock Station was the West Union, Ohio monitor (No. 36-001-0001) in Adams County. Spurlock Station, Stuart Station and Killen Station are all within about 25 km of the West Union monitor and are upwind of the monitor for a great portion of the prevailing winds. Other local sources within 50 km of the West Union monitor likely have impacts at the monitor. The aforementioned power plants were all explicitly modeled. Other sources were judged to have impacts at the monitor as well. The modeling was conducted using all available data for 2012-2014 (no directional exclusion) and thus, the background concentrations may be conservative in that they likely double count some contributions from the larger facilities that were modeled.

KDAQ COMMENTS AND EKPC RESPONSE

1. In section 3.8. Other Regional Source Inventory, please verify Figures 3-6 and 3-7 match the narrative on page 3-13.

   Response: Section 3.8. Figures and narrative have been properly cross-referenced.

2. Based on Figure and Table 4-1, the highest concentration impact (contribution from JM Stuart Station) would not occur within a 100-meter grid. EPA mentioned receptor spacing resolution in protocol comment number 4.

   Response: Section 4. The 100m grid spacing has been addressed. Also see Response to EPA Comment No. 4 above.

3. Additional justification should be provided to resolve EPA comment number 8. Both Carmeuse facilities were screened out but not considered as a clustered source to nearby stations (Zimmer, Stuart).

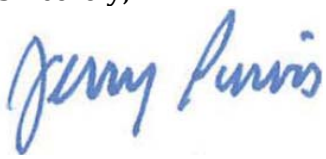
   Response: Section 3.8. The full response is noted in Section 3.8 of the revised report and the response to EPA comment No. 8 above.

4. Providing additional documentation (e.g. background calculation workbooks, hourly emissions workbooks, regional source screening workbooks, etc.) is necessary to satisfy the inventory and emission comments.

   Response: Separate posting. All background calculation workbooks, hourly emissions workbooks, regional source screening workbooks, and others will be provided directly to KDAQ the week of May 2-6, 2016 as agreed to with Ben Cordes via email on April 27, 2016.

If you or your staff have any questions regarding this submittal, please contact me at (859) 745-9244.

Sincerely,



Jerry Purvis
Director Environmental Affairs

cc: ***Via Email to:***
Jackie Quarles, OGC
Ben Cordes, DAQ
Kevin Davis, DAQ
Louis Petrey, EKPC
Kevin Moore, EKPC
George Schewe, Trinity Consultants
Brian Otten, Trinity Consultants

AIR DISPERSION MODELING REPORT
SPURLOCK STATION IN MAYSVILLE, KENTUCKY
SO_2 NAAQS DESIGNATION MODELING ANALYSIS
UNDER THE DATA REQUIREMENTS RULE
Revision 1

Prepared for:
Jerry Purvis
Director, Environmental Affairs
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April 29, 2016

Trinity Consultants

Environmental solutions delivered uncommonly well

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1. INTRODUCTION

East Kentucky Power Cooperative (EKPC) in association with our air quality contractor, Trinity Consultants (Trinity), submits this dispersion modeling report for the air quality analysis performed with respect to EKPC's Hugh L. Spurlock Generating Station (Spurlock or Spurlock Station, hereafter) and surrounding area. Spurlock Station is located adjacent to the Ohio River on West 2nd Street, 5.5 miles (8.8 km) northwest of the city center of Maysville, Kentucky. This report is being submitted pursuant to the October 22, 2015 request from the Kentucky Division for Air Quality (KDAQ or Division)[1]. The dispersion modeling was performed in support of the Division's efforts to comply with the Data Requirements Rule (DRR)[2] regarding designations of areas currently unclassified with respect to the 1-hour SO2 National Ambient Air Quality Standard (NAAQS). Based on the modeling, the area in the vicinity of Spurlock Station should be designated attainment including Mason and Bracken Counties in Kentucky.

Under the DRR, if the SO_2 emissions from the source exceeded the 2,000 tons per year (tpy) annual threshold in 2014, the source is subject to the DRR. Spurlock emitted 4,689 tpy of SO_2 in 2014 according to the U.S. EPA's Air Markets Program Data.[3] This makes the facility subject to the DRR requirements. Under 40 CFR § 51.1203 of the DRR (Air Agency Requirements), the areas around Spurlock are subject to air quality characterization as attainment or nonattainment. To make that designation determination, KDAQ requested that EKPC perform air dispersion modeling by March 31, 2016 (with a modeling protocol submitted by December 31, 2015) or submit a siting evaluation for installation of a monitor by April 15, 2016.

EKPC elected to perform air dispersion modeling and submitted a modeling protocol to KDAQ dated December 18, 2015.[4] KDAQ accepted the protocol with a few recommended changes that are addressed in this report.[5] Those changes included:

- Documentation of any AERMOD Beta options if used; none were used.
- Inclusion of the version numbers of AERMINUTE and AERSURFACE in the modeling report; included in appropriate sections later herein.
- Reporting of the Ice Free data in the AERMINUTE analyses; reported in appropriate sections later herein.
- Clarification of the use of GEP stack heights for the emergency generators if greater than GEP; all generator stacks were less than GEP and therefore modeled at actual release heights.
- Use of the appropriate form of the 1-hour SO_2 averaging period for the NAAQS.

All modeling was performed as described in the protocol and in accordance with typical modeling guidance from the U.S. EPA as well as the SO_2 NAAQS designation modeling guidance provided by U.S. EPA[6] (Technical Assistance Document or TAD). The modeling demonstrates compliance with the 1-hour SO_2 NAAQS and that the area around the Spurlock Station should be designated as "attainment".

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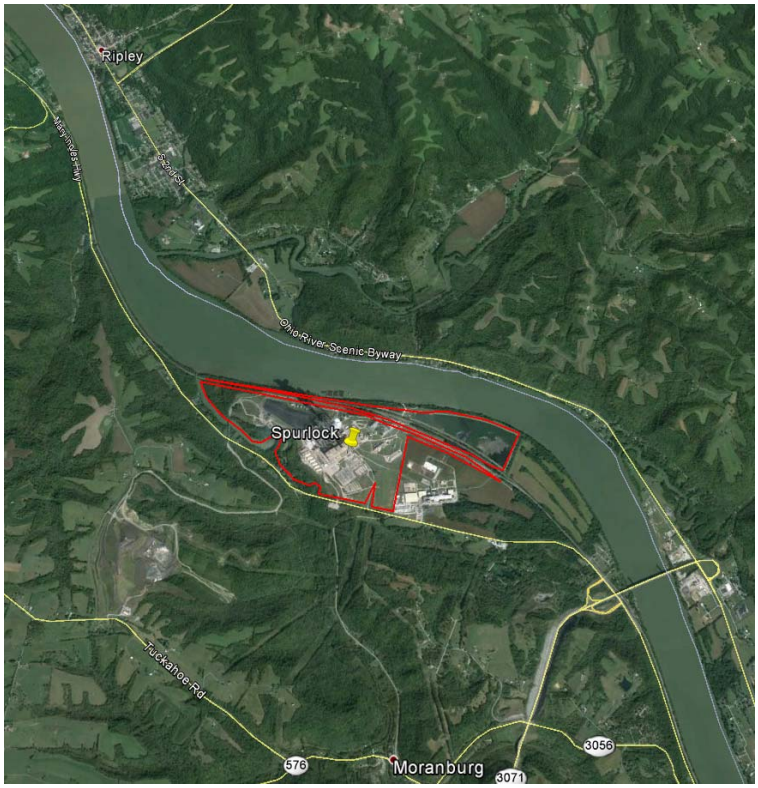
[1] Sean Alteri, Director of Division for Air Quality to Jerry B. Purvis, EKPC, October 22, 2015.
[2] *Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standards (NAAQS): Final Rule,* Federal Register Vol. 80 No. 162, pages 51051-51088, August 21, 2015.
[3] *Air Markets Program Data website*, http://ampd.epa.gov/ampd/
[4] *Air Dispersion Modeling Protocol Spurlock Station, Kentucky SO_2 Designation Under the Data Requirements Rule,* PN 151801.0083, Trinity Consultants, Covington, Kentucky, December 18, 2015.
[5] Email from Ben Cordes, Supervisor, Air Dispersion Modeling Section, KDAQ to Jerry Purvis, EKPC, subject "EKPC-Spurlock Station, dated February 10, 2016, 2:37 PM.
[6] *SO_2 NAAQS Designations Modeling Technical Assistance Document*, Draft, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, February 2016.

2. FACILITY INFORMATION

EKPC owns and operates the Hugh L. Spurlock Generating Station which is a four unit 1,403 MW coal fired power plant. The station is located in Mason County adjacent to the Ohio River on West 2nd Street, 5.5 miles (8.8 km) northwest of the city center of Maysville, Kentucky. The Spurlock Station primarily consists of four coal-fired electric generating units and supporting facilities, currently subject to Title 5 Permit V-15-063 issued April 14, 2016. The Spurlock Station consists of Unit #1 which is a 325 MW coal-fired unit, Unit #2 which is a 510 MW coal-fired unit, Unit #3 (called the Gilbert unit) which is a 268 MW coal-fired circulating fluidized bed (CFB) process, and Unit #4 which is a 300 MW CFB unit. All four (4) units have scrubbers. The facility also has four identical diesel-fuel emergency generators of 900 BHP (load at 100% capacity) which currently are used for emergency power but may be used in the future for peak shaving.

A satellite image from Google Earth is provided in Figure 2-1. Figure 2-1 shows the fence line and buildings at Spurlock. The figure also shows the facility relative to predominant geographical features such as roads, rivers, and terrain features. This figure and the locations of all emission sources, structures, and receptors in the modeling analysis are represented in the Universal Transverse Mercator (UTM) coordinate system. The datum is based on North American Datum 1983 (NAD 83). UTM coordinates for this analysis are located in UTM Zone 17. The central location of Spurlock Station is approximately 255,158 meters East and 4,287,099 meters North.

Figure 2-1. Nearfield Google Earth Image of Spurlock Station and Fence Line



3. 1-HOUR SO_2 DESIGNATION MODELING METHODOLOGY

As prescribed by the U.S. EPA in the DRR and the modeling TAD, dispersion modeling can be used in place of ambient monitoring to evaluate the attainment status of an area in the vicinity of a specific source, in this case the EKPC Spurlock Station. U.S. EPA's rationale for this is the distinction that SO_2 sources are limited in terms of the distance to where ambient concentration impacts occur. In preparation for providing modeling guidance for designation analysis, U.S. EPA reviewed SO_2 ambient monitoring and modeling of concentrations around and near SO_2 sources and found that most of the highest impacts fall within a few 10's of kilometers from large sources and a few kilometers for smaller sources. Also of note was that the gradient of these concentrations falls off significantly after the maximum is reached. Thus, the modeling focuses on the use of near-field computational methods such that U.S. EPA's primary preferred industrial source model, the AERMOD Model[7], is the primary model recommended for use. In addition to AERMOD and to allow the best representation of simulated ambient air concentrations, the modeling TAD recommends:

- Using actual emissions as an input for assessing ambient air quality impacts to provide results that reflect current actual air quality (i.e., modeling that simulates a monitor); allowable emissions may also be used resulting in a more conservative estimate of actual ambient air impacts of the source;
- Using three years of modeling results to calculate a simulated design value consistent with the 3-year monitoring period required to develop a monitor design value for comparison to the NAAQS;
- Placing receptors for the modeling only in locations where a monitor could be placed; and
- Using actual stack heights rather than following the Good Engineering Practice (GEP) stack height policy when using actual emissions.

Following this modeling philosophy and guidance, the remainder of this section provides an overview of the modeling methodology that was followed for the Spurlock Station.

3.1. MODEL SELECTION

Modeling was performed for 1-hour SO_2 analysis following the modeling TAD guidance. The AERMOD Model in its most current version as released by U.S. EPA was used to perform the dispersion modeling. This modeling is being submitted to KDAQ on the mutually agreed submittal deadline for the Spurlock Station modeling report. The current applicable version of the AERMOD Model is Version 15181 which was released on July 24, 2015 on the U.S. EPA's website[8]. The proposed update to U.S. EPA's modeling guidance in the form of the *Guideline on Air Quality Models*[9], was released on July 15, 2015 via the U.S. EPA technical website[10]. This proposed guidance and revised AERMOD model have options that could affect the outcome of designation modeling with respect to some of the low wind options in the model. None of these options were used in this modeling and only AERMOD default options used.

The pollutant identification was set to "SO_2" in AERMOD, which allowed additional internal model options to be available and used, thus enabling the output options to be configured properly in the form of the 1-hour SO_2

[7] *Addendum User's Guide for the AMS/EPA Regulatory Model – AERMOD*, EPA-454/B-03-001, U. S. Environmental Protection Agency, Research Triangle Park, NC, September 2004, Revised June 2015.
[8] Support Center for Regulatory Air Models, http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod
[9] *Guideline on Air Quality Models.* Appendix W to 40 CFR Parts 51 and 52. Federal Register, November 9, 2005. pp. 68217-68261.
[10] http://www.epa.gov/ttn/scram/

NAAQS. Because of the probabilistic form of the 1-hour NAAQS, selecting these correct input options will allow AERMOD to properly calculate an SO_2 design value based on the 3-year average of the 99th percentile of the annual distribution of the daily maximum 1-hour concentrations for comparison with the 1-hour SO_2 NAAQS of 196 μg/m^3 (75 ppb).

3.2. RURAL/URBAN OPTION SELECTION IN AERMOD

As stated in Section 6.3, Urban/Rural Determination, of the modeling TAD, for any SO_2 dispersion modeling exercise, the "urban" or "rural" determination of the location surrounding the subject source is important in determining the applicable boundary layer characteristics that affect a model's calculation of ambient concentrations as well as the possible invocation of AERMOD's 4-hour half-life applicable to SO_2 in urban areas. Thus, a determination was made of whether the area around the Spurlock Station was urban or rural.

The first method discussed in the modeling TAD (also referring therein to Section 7.2.3c of the Guideline on Air Quality Models, Appendix W) was used to determine the urban or rural status of the area around Spurlock. This is called the "land use" technique because it examines the various land use within 3 km of Spurlock and quantifies the percentage of area in various land use categories. Following this guidance, 2011 land use data (most recent available) were obtained from the U.S. Geological Survey[11] through ArcGIS and a 3 km radius circle inscribed electronically around the Spurlock Station. All data were georeferenced and tabulated using the categories shown in Table 3-1 for urban and rural designation.

Figure 3-1 shows the layout of the land use where greens, yellows and browns are farmland, forests, and grasses, pinks are non-urban developed lands, and red and dark red are urban areas. Table 3-2 shows the results of this land categorization process. As can be seen the area is predominantly rural by an overwhelming margin at 93.4 percent, and therefore, was treated as rural in the AERMOD Model.

Table 3-1. Modeling TAD Urban / Rural Categories

2011 NLCD Land Cover Classification		Auer Land-Use Classification		Modeling TAD Rural or Urban
11	Open Water	A5	Water Surfaces	Rural
12	Perennial Ice/Snow	A5	Water Surfaces	Rural
21	Developed, Open Space	A1	Metropolitan Natural	Rural
22	Developed, Low Intensity	R1	Common Residential	Rural
23	Developed, Medium Intensity	I1, I2, C1, R2, R3	Industrial/Commercial/Compact Residential	Urban
24	Developed, High Intensity	I1, I2, C1, R2, R3	Industrial/Commercial/Compact Residential	Urban
31	Barren Land	A3	Undeveloped (Grasses/Shrub)	Rural
41	Deciduous Forest	A4	Undeveloped (Wooded)	Rural
42	Evergreen Forest	A4	Undeveloped (Wooded)	Rural
43	Mixed Forest	A4	Undeveloped (Wooded)	Rural
52	Shrub/Scrub	A3	Undeveloped (Grasses/Shrub)	Rural
71	Grassland/Herbaceous	A3	Undeveloped (Grasses/Shrub)	Rural
81	Pasture/Hay	A2	Agricultural	Rural
82	Cultivated Crops	A2	Agricultural	Rural
90	Woody Wetlands	A4	Undeveloped (Wooded)	Rural
95	Emergent Herbaceous Wetlands	A3	Undeveloped (Grasses/Shrub)	Rural

[11] http://www.mrlc.gov/viewerjs/

Figure 3-1. Distribution of Land Use within 3km of Spurlock Station

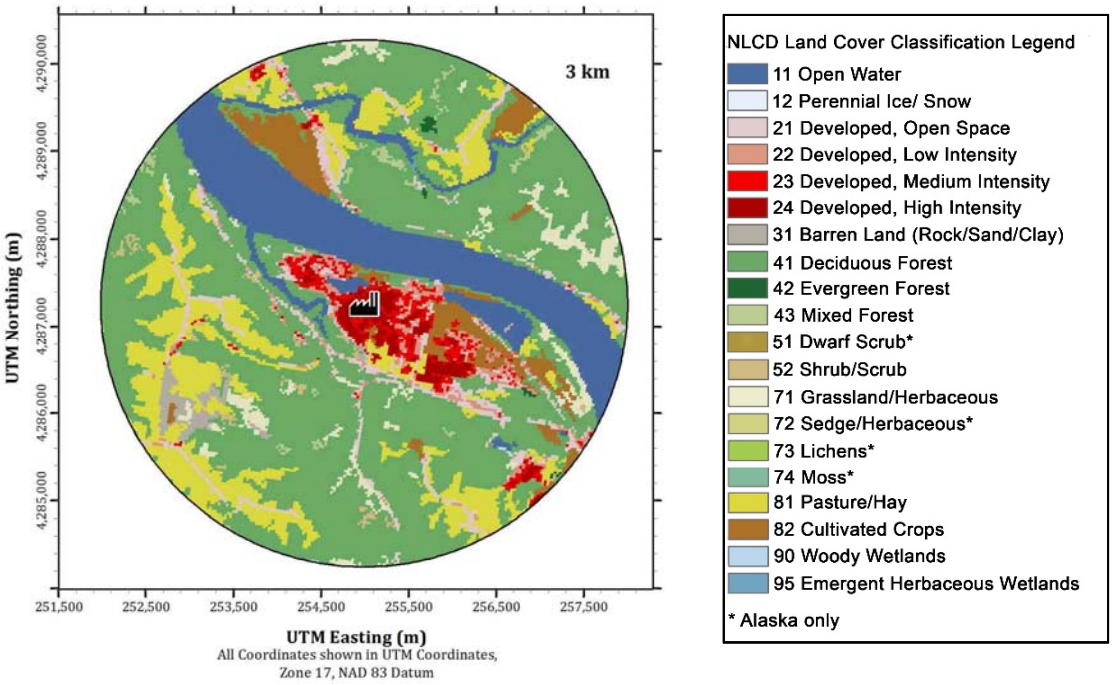


Table 3-2. Spurlock Station Urban/Rural Determination

Percent Land Categorization *ArcGIS Analysis Results for Spurlock Station*		
Category ID	**Category Description**	**Percent**
11	Open Water	14.8%
21	Developed, Open Space	4.4%
22	Developed, Low Intensity	2.5%
23	Developed, Medium Intensity	2.2%
24	Developed, High Intensity	2.0%
31	Barren Land	1.1%
41	Deciduous Forest	49.7%
42	Evergreen Forest	0.2%
43	Mixed Forest	0.7%
52	Shrub/Scrub	0.6%
71	Grassland/Herbaceous	3.3%
81	Pasture/Hay	13.9%
82	Cultivated Crops	4.7%
90	Woody Wetlands	0.0%
95	Emergent Herbaceous Wetlands	0.0%
	Total	100%
	Urban	6.6%
	Rural	93.4%

3.3. METEOROLOGICAL DATA

Meteorological data was required as input to the AERMOD model to allow the characterization of the transport and dispersion of the Spurlock Station emissions in the atmosphere. As per the modeling TAD, three years of recent data coincidental with the latest three years of Spurlock CEMS data was obtained from representative and nearby National Weather Service (NWS) sites. No onsite data was collected or available for the Spurlock site. Data selected from the NWS included surface (generally, 10 m tower-based) and upper air (radiosonde) meteorological data for the most recent three full year data set (January 1, 2012 through December 31, 2014) and was processed from archived data from the most representative NWS meteorological sites (surface and upper air) in the vicinity of the Spurlock Station. Representativeness of the meteorology to the Spurlock site was determined on the basis of proximity, similarity in terms of land use (and its effect on surface roughness, albedo, and Bowen ratio), geographical features, and professional meteorological judgement. AERMOD-ready meteorological data was prepared using the latest version of the AERMET meteorological processing utility (Version 15181). Standard U.S. EPA meteorological data processing guidance was used as outlined in a recent U.S. EPA memorandum[12] as well as other AERMET and associated processor documentation.

Rather than select the closest site with meteorological data, a more thorough evaluation of the NWS meteorological data sites within approximately 150 km of Spurlock was conducted. This review indicated that several airports were located in the region (other non-airport data sets were determined to be deficient in terms of data collection and quality). Figure 3-2 shows the locations of the airports (indicated by four letter designations beginning with K) having meteorological data sets that were considered for this modeling. Proximity of the meteorological station to the modeled facility is an important consideration in meteorological station selection, hence the closest three meteorological station sites were evaluated for potential inclusion in the modeling analysis. The meteorological stations evaluated were the Cincinnati Municipal Lunken Airport (KLUK, 68.8 km northwest of Spurlock Station), Airborne Airpark Airport (KILN, 86.3 km north of Spurlock Station), and Cincinnati/Northern Kentucky International Airport (KCVG, 83.4 km to the west northwest of Spurlock Station). Table 3-3 presents the results of a NWS identification and selection analysis based on proximity to Spurlock Station where meteorological stations without adequate data are designated with highlighting and candidate stations for the modeling analysis are designated without highlighting.

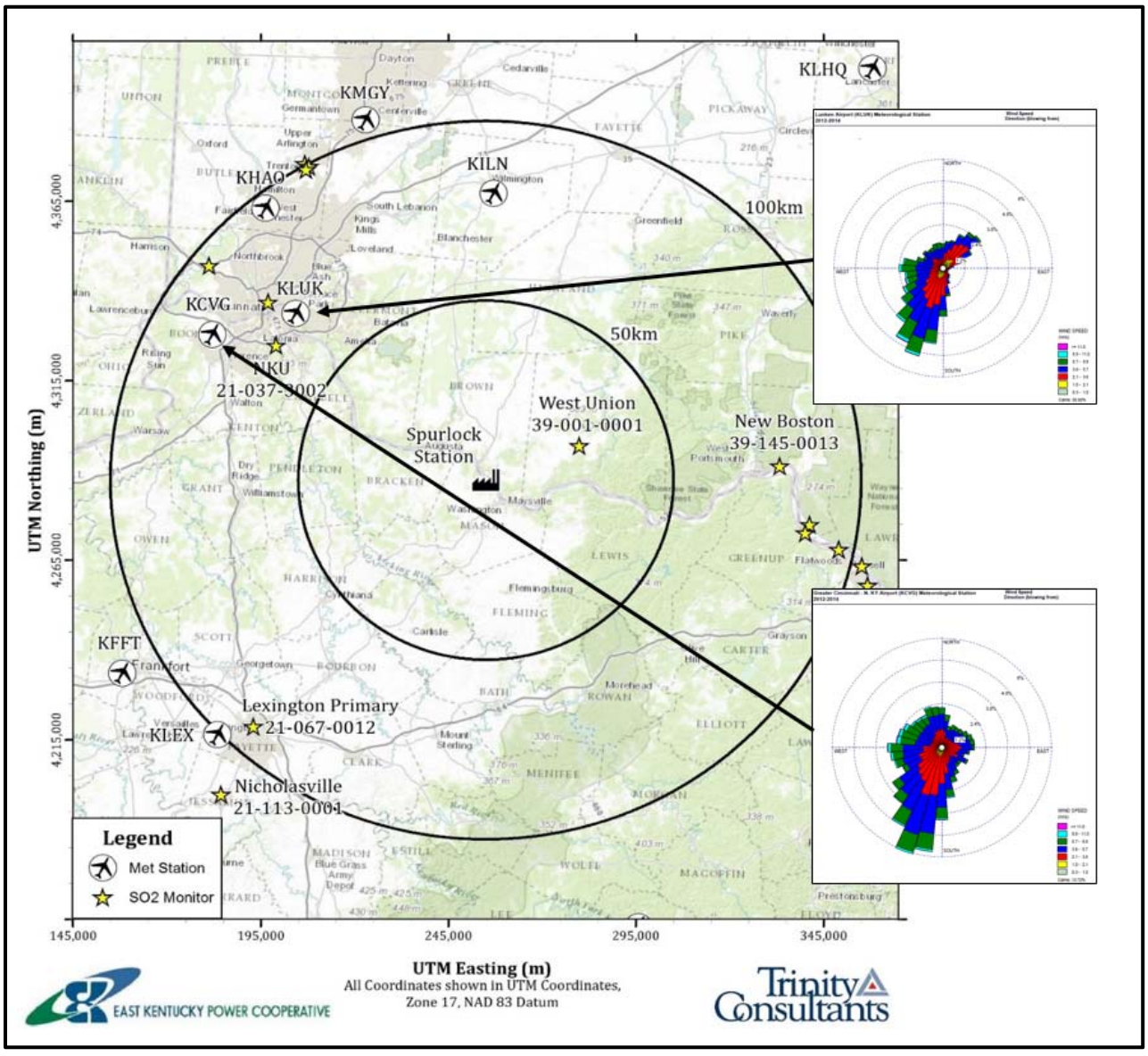
Of these candidate meteorological sites, Lunken Airport (KLUK) is the closest to Spurlock Station; however, this airport is located in the low-lying Little Miami River Valley situated between hills to the northwest and southeast, as illustrated by Figure 3-3. This valley orientation and surrounding terrain features are quite different than in the Ohio River Valley and the Lunken meteorological instruments are located much lower than the height of the Spurlock Station stacks release plumes (approximately 650 ft above the valley floor). The Little Miami River Valley is subject to channeling of the wind as evidenced by the wind rose insert in Figure 3-2 for KLUK. Wind direction patterns associated with this meteorological site are quite different from those at the Spurlock stack tips and, thus, are not representative of the meteorological data for Spurlock Station.

Review of the other two candidate sites indicates that Airborne Airpark Airport (KILN) is located in gently rolling farmland, very different from the Spurlock Ohio River Valley location and not the best representation of air flow in and around the Spurlock Station. Cincinnati/Northern Kentucky International Airport (KCVG) is the best representation of the area surrounding and near Spurlock Station. This site, located on the hills just to the south of the Ohio River Valley and to the northwest of Spurlock, has been used for previous Spurlock PSD permitting and has been recommended by Ohio Environmental Protection Agency (OEPA) for similar studies in

[12] Fox, Tyler, U.S. Environmental Protection Agency. 2013. "Use of ASOS Meteorological Data in AERMOD Dispersion Modeling." Available Online: http://www.epa.gov/ttn/scram/guidance/clarification/20130308_Met_Data_Clarification.pdf

the area for nearby Ohio sources and counties.[13] The meteorological data are collected at the airport at an elevation closer to the height of the top of the Spurlock stacks. Also, the Ohio River Valley orientation at KCVG matches that at the Spurlock Station, with the Ohio River flowing generally from southeast to northwest at each location. A wind rose inset in Figure 3-2 for KCVG shows the influence of the prevailing winds (from the south southwest) without undue influence of winds in the valley floor. Larger wind roses for KLUK and KCVG are provided in Appendix A.

Figure 3-2. Meteorological Stations and SO_2 Monitors in the Area near Spurlock Station



[13] *Engineering Guide #69: Air Dispersion Modeling Guidance,* Guidance document, Ohio Environmental Protection Agency, Division of Air Pollution Control, Columbus, Ohio, July 22, 2014.

Table 3-3. Proximity Analysis of Meteorological Stations to Spurlock Station

Station Name	WBAN Station ID	Station Call Sign	Latitude	Longitude	UTM East Zone 17 (m)	UTM North Zone 17 (m)	ASOS One Minute Data Available	Distance to Spurlock (km)
Lunken Airport	93812	KLUK	39.103	-84.419	204,336	4,333,774	Yes	68.8
Mount Sterling Montgomery Co.	146	KIOB	38.067	-83.983	238,310	4,217,451	No	71.8
Airborne Airpark Airport	13841	KILN	39.420	-83.822	257,070	4,367,187	Yes	79.9
Cincinnati/Northern Kentucky	93814	KCVG	39.043	-84.672	182,182	4,327,968	Yes	83.4
Butler Co. Regional Airport	53855	KHAO	39.364	-84.525	196,296	4,363,101	Yes	95.9
Blue Grass Airport	93820	KLEX	38.041	-84.606	183,528	4,216,506	Yes	100.6
Hook Field Municipal Airport	63887	KMWO	39.531	-84.395	208,198	4,381,211	No	105.0
Dayton-Wright Brothers Airport	53859	KMGY	39.594	-84.226	222,978	4,387,670	Yes	105.4
Capital City Airport	53841	KFFT	38.185	-84.903	158,127	4,233,546	Yes	110.8
Tri-State/M.J.Ferguson Field	3860	KHTS	38.365	-82.555	364,151	4,247,458	Yes	116.2
Springfield Beckley	3867	KSGH	39.833	-83.833	257,570	4,413,063	No	125.8
Springfield-Beckley Municipal	63888	KSGH	39.840	-83.840	256,996	4,413,859	No	126.6
Wright-Patterson AFB Airport	13840	KFFO	39.833	-84.050	238,997	4,413,674	No	127.4
Springfield AF	3867	SGH	39.850	-83.833	257,630	4,414,950	No	127.7
Julian Carroll Airport	3889	KJKL	37.591	-83.314	295,700	4,162,955	Yes	130.8
Jackson Carroll Airport	3889	KJKL	37.591	-83.314	295,700	4,162,955	Yes	130.8
J.M.Cox Dayton International	93815	KDAY	39.906	-84.219	224,825	4,422,286	Yes	138.3
Dayton Municipal Airport	93815	KDAY	39.906	-84.219	224,825	4,422,286	Yes	138.3
Rickenbacker Intl Airport	13812	KLCK	39.817	-82.933	334,554	4,409,234	No	145.6
Lockbourne	13812	KLCK	39.817	-82.933	334,554	4,409,234	No	145.6
Bolton Field Airport	63825	KTZR	39.900	-83.133	317,655	4,418,836	No	145.7
Big Sandy Regional Airport	476	KSJS	37.751	-82.637	355,786	4,179,450	No	147.6
Mason County Airport	63876	K3I2	38.915	-82.099	404,721	4,307,918	No	151.2
Fairfield County Airport	53844	KLHQ	39.756	-82.657	358,053	4,401,989	Yes	154.2

Figure 3-3 Cincinnati Municipal Lunken Airport (KLUK) Elevation Map

3.3.1. Meteorological Data Processing

The meteorological data for KCVG were acquired directly through OEPA. These data sets have been preprocessed in the past few months by OEPA for use in DRR modeling, represent the most recent versions of the AERMET processors, and are identical to what Trinity would provide and process if independently provided. The files were obtained from OEPA's AERMET (V15181) Output Files for AERMOD Modeling Input online repository.[14] This dataset includes preprocessed AERMOD ready surface (sfc) and upper air (pfl) files using the most recent versions of EPA's preprocessors. OEPA processed hourly ISHD data[15], one-minute data[16], and upper air data[17] using AERMET and AERMINUTE (v15272) to produce the AERMET files. In addition to surface meteorological data from KCVG, OEPA used data from upper air soundings in AERMET. Upper air data from the nearest representative National Weather Service (NWS) radiosonde equipped station was used. In this case, upper air data from the Wilmington, Ohio (KILN) in FSL (Forecast Systems Laboratory) format[18] was used.

OEPA also used the AERSURFACE (v13016) program along with land use land cover data files to derive the land use parameters required in AERMET (including surface roughness parameter, albedo, and Bowen ratio). A threshold wind speed of 0.5 m/s was used in AERMET as per U.S. EPA guidance. The "Ice-Free Winds Group"

[14] http://www.epa.state.oh.us/dapc/model/modeling/metfiles.aspx
[15] ftp://ftp.ncdc.noaa.gov/pub/data/noaa/
[16] ftp://ftp.ncdc.noaa.gov/pub/data/asos-onemin
[17] http://www.esrl.noaa.gov/raobs/
[18] Ibid

AERMINUTE option was selected due to the fact that a sonic anemometer has been installed at KCVG on April 24, 2007[19].

3.4. COORDINATE SYSTEM

In all modeling input and output files, the locations of emission sources, structures, and receptors was represented in the appropriate Zone of the Universal Transverse Mercator (UTM) coordinate system using the North American Datum 1983 (NAD83). The Spurlock Station and the surrounding area are within Zone 17 of the NAD83 UTM system.

3.5. RECEPTOR LOCATIONS

The dispersion modeling followed the guidance of the modeling TAD in terms of only putting receptors in areas where it is feasible to place an actual monitor. No receptors were placed in lakes, rivers or similar areas. The receptor grid used for the modeling of the Spurlock Station and regional sources combined a multi-nested, circular Cartesian grid at various spacing intervals centered on the Spurlock Station old Unit 2 stack along with receptor points along the facility's fence line. For the air dispersion modeling analyses, ground-level concentrations were calculated from the fence line out to the location and magnitude of the significant concentration gradient as specified by the modeling TAD. For the purposes of this report and to accommodate the possible farthest extent of this modeling domain and receptor grid, the receptors that were modeled included the following nested grids:

- **Fence Line Grid:** "Fence line" grid consisting of evenly-spaced receptors 50 meters apart placed along the main fence line of the Spurlock Station,
- **Fine Cartesian Grid:** A "fine" grid containing 100-meter spaced receptors extending to 3 km from the center of the property and beyond the fence line,
- **Medium-Fine Cartesian Grid:** A "medium-fine" grid containing 250-meter spaced receptors extending from 3 km to 5 km from the center of the facility, exclusive of receptors on the fine grid,
- **Medium-Coarse Cartesian Grid:** A "medium-coarse" grid containing 500-meter spaced receptors extending from 5 km to 10 km from the center of the facility, exclusive of receptors on the fine and medium-fine grids,
- **Coarse Cartesian Grid:** A "coarse grid" containing 1,000-meter spaced receptors extending from 10 km to 20 km from the center of the facility, exclusive of receptors on the fine, medium-fine, and medium-coarse grids.
- **Very Coarse Cartesian Grid:** A "very coarse grid" containing 2,000-meter spaced receptors extending from 20 km to 50 km from the center of the facility, exclusive of receptors on the fine, medium-fine, medium-coarse, and coarse grids.

Concentrations in the last, coarse grid from 20 to 50 km may not have been needed as per some of the U.S. EPA's recent guidance that consideration of sources out to 20 km should be sufficient, but due to the proximity of some of the regional sources this outer grid was included. Additionally, to ensure that maximum impacts are identified, a 100-meter receptor grid was placed around the maximum predicted SO_2 concentrations as needed.

[19] http://www.nws.noaa.gov/ops2/Surface/documents/IFW_stat.pdf

Figure 3-4 shows the entire modeling receptor grid utilized in this modeling analysis, while Figure 3-5 shows the innermost portion of the nested grids that was used in the modeling. As can be seen, receptors in the Ohio River have been excluded from consideration in the modeling as per the modeling TAD. Also shown in Figure 3-5 is the fence line of the facility (innermost line of purple receptors). The line of yellow receptors in Figure 3-5 across the property from east southeast to west northwest represents a rail right-of-way that was modeled because the area along the tracks could be considered as ambient air. All fencing is intact and prevents the public from accessing the property. All roadways are gated with limited access through guarded entryways.

Figure 3-4. Full Modeling Receptor Grid for Spurlock Station

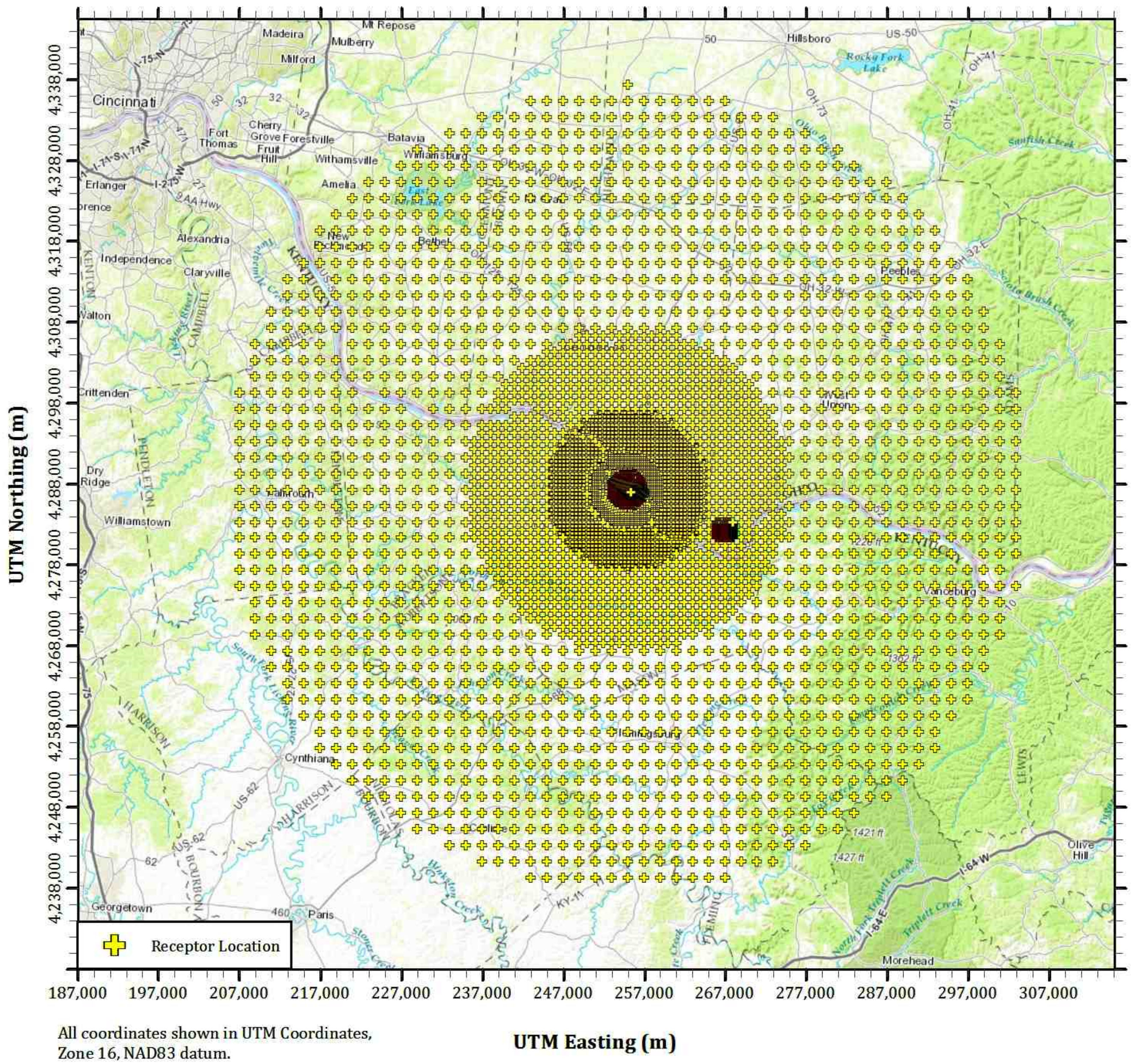
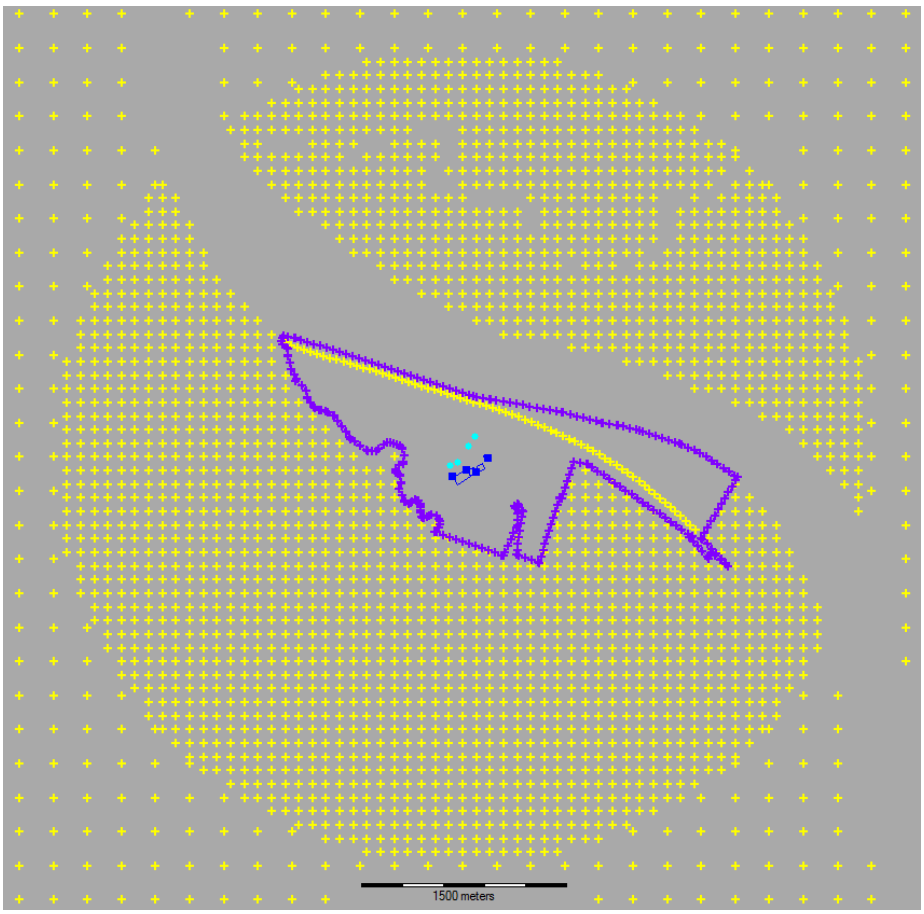


Figure 3-5. Innermost Portion of the Modeling Receptor Grid for Spurlock Station



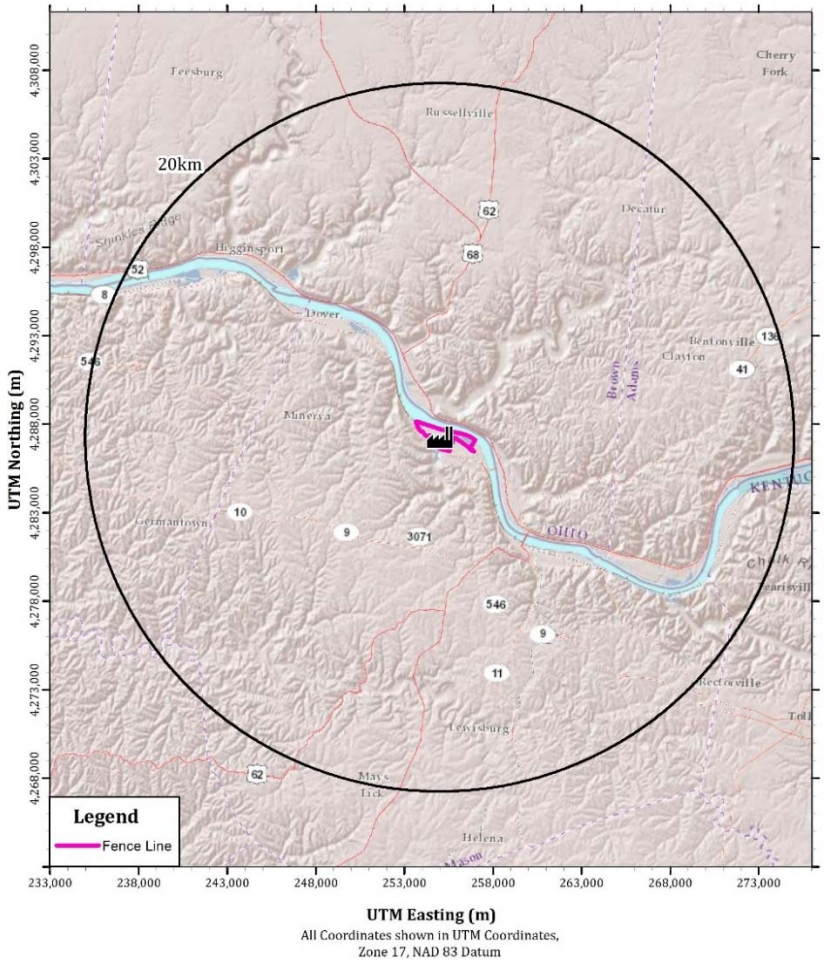
3.6. TERRAIN ELEVATIONS

The terrain elevation for each receptor, building, and emission source was determined using USGS 1 arc-second National Elevation Data (NED). The NED, obtained from the USGS[20], has terrain elevations at 30-meter intervals. Using the AERMOD terrain processor, AERMAP (version 11103), the terrain height for each receptor and onsite structure and building considered in the modeling was determined by assigning the AERMAP-interpolated height from the digital terrain elevations surrounding each source. These were used directly in the AERMOD model.

In addition, AERMAP was used to compute the hill height scales associated with each elevated receptor located above the Spurlock Station source base elevation. This computation enables the model to determine the effect that terrain will have on plumes from the sources. AERMAP searches all nearby elevation points for the terrain height and location that has the greatest influence on each receptor as well as the distance from the station to determine the hill height scale for that receptor. AERMOD then uses the hill height scale to select the point where a plume may divide between going around a terrain feature and lofting over the feature. While the initial review of the area indicates no mountains exist in the area, a few hills do exist near the Spurlock Station and thus, the inclusion of terrain elevations in the modeling is paramount. Figure 3-5 shows a relief map of the area.

[20] http://www.mrlc.gov/viewerjs/

Figure 3-6. Relief Map of Area within 20 km of Spurlock Station



3.7. SPURLOCK STATION EMISSION SOURCES

The Spurlock Station has four major and five minor sources of SO_2 emissions. Each source is tied to a dedicated stack for a total of nine stacks, four of which are associated with the coal-fired units and are large individual stacks and five of which are typical small stacks for the emergency generators. The units are identified along with any SO_2 control devices or other operational systems as:

1. Unit 1, coal-fired Indirect Heat Exchanger with scrubber,
2. Unit 2, coal-fired Indirect Heat Exchanger with scrubber,
3. Unit 3, coal-fired Circulating Fluidized Bed with scrubber,
4. Unit 4, coal-fired Circulating Fluidized Bed with scrubber,
5. Diesel-fired emergency generator,
6. Diesel-fired emergency generator,
7. Diesel-fired emergency generator,
8. Diesel-fired emergency generator and
9. Fire pump engine.

There are four (4) coal-fired units at Spurlock Station. Each unit exhausts through a single flue in a dedicated stack.

The other sources of SO_2 emissions at Spurlock Station include four (4) existing 900 hp diesel-fired emergency generators and one (1) existing fire pump engine each with a dedicated stack (some of which are attached to or exit through onsite structures). The emergency sources are currently intermittent but EKPC desires to use the four (4) emergency generators in a peak shaving capacity and thus, they were considered in the modeling as continuously operating.

The fire pump engine, on the other hand, does not operate continuously and therefore, does not normally contribute to the annual distribution of daily maximum 1-hour SO_2 concentrations.[21] Review of a non-resettable hour meter on the fire pump engine revealed that the total number of hours of operation from December 2012-March 2016 was 36.6 hours of operation including maintenance and readiness checks. The fire pump was, therefore, not modeled.

Startup and shutdown operations of the four coal-fired units were addressed in a manner consistent with the intermittent source guidance in the modeling TAD and the associated U.S. EPA clarification memorandum[22] to determine if they contribute to the annual distribution of daily maximum 1-hour SO_2 concentrations, and thus should or should not be considered as a contributor to the emissions rates assigned in the modeling analysis. They were considered intermittent but are nonetheless included in the CEMS emissions data by default because the CEMS data considers every hour.

The preferred modeling approach for establishing modeled emission rates recommended in the modeling TAD is the use of Continuous Emissions Monitoring System (CEMS) data, where available. The CEMS-derived, hour-by-hour modeled emission rate dataset provides the most accurate representation of the actual emissions history of the four (4) coal-fired units for the 2012-2014 time period considered in the modeling. To this end, the Spurlock Station modeling analysis relied on CEMS and other parametric monitoring data in the form of hourly SO_2 emission rates, boiler heat input rates, and other relevant operating parameters to construct the most representative three-year SO_2 emissions dataset for Units 1-4. The four emergency generators were included in the modeling by modeling them at their tested SO_2 emission rate assuming 8760 hours of operation. Table 3-4 below summarizes the stack parameters that were used in the modeling of the four main stacks at Spurlock Station, as well as the four generators.

Any missing hourly values for the four (4) coal-fired unit stacks for SO_2 emissions, flow rate or temperature were filled in using a load-based substitution technique.[23] Specifically, the missing data value for the specified operating load was filled using the average of hourly CEMS data (emissions, flowrate, or temperature) calculated in the corresponding load range. This approach was only necessary for filling small blocks of hours that were relatively infrequent and not spaced closely in time. All CEMS data analysis required to obtain the hour-by-hour source block for all four stacks, were prepared using Microsoft Excel® software along with the data obtained directly from the CEMS data handling system for Spurlock.

[21] *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-Hour NO_2 National Ambient Air Quality Standard*, Memorandum from Tyler Fox, Leader Air Quality Modeling Group to U.S. EPA Regional Air Division Directors, March 1, 2011.
[22] Ibid
[23] Missing Data Estimation Procedures, Appendix C, 40 CFR Part 75, Subpart H. June 12, 2002.

Table 3-4. Spurlock Station Source Characterization

Stack Identification	X Coordinate (m)[a]	Y Coordinate (m)[a]	Stack Height (ft)	Stack Diameter (ft)	Exit Velocity (ft/s)	Flow Rate (acfm)	Exit Temperature (˚F)	Emission Rate (lb/hr)
Unit 1	255,080.5	4,287,407.1	650	21.0	CEMS	CEMS	CEMS	CAMD
Unit 2	255,035.3	4,287,335.7	650	27.2	CEMS	CEMS	CEMS	CAMD
Unit 3	254,953.3	4,287,223.4	650	16.0	CEMS	CEMS	CEMS	CAMD
Unit 4	254,899.6	4,287,193.5	650	16.0	CEMS	CEMS	CEMS	CAMD
EmerGen #1[b]	255,103.2	4,287,220.5	50	1.0	142.7	4670	952.5	0.246[c]
EmerGen #2[b]	255,104.2	4,287,221.5	50	1.0	142.7	4670	952.5	0.214[c]
EmerGen #3[b]	255,060.2	4,287,075.9	100	1.0	142.7	4670	952.5	0.294[c]
EmerGen #4[b]	255,007.5	4,287,045.7	100	1.0	142.7	4670	952.5	0.333[c]

[a] UTM Zone 17, NAD 83.

[b] Identical Caterpillar Engines DM8518 at 900 hp. All stacks are vertical

[c] Emissions for the emergency engines were calculated using previous stack test results for the generators.

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3.8. OTHER REGIONAL SOURCE INVENTORY

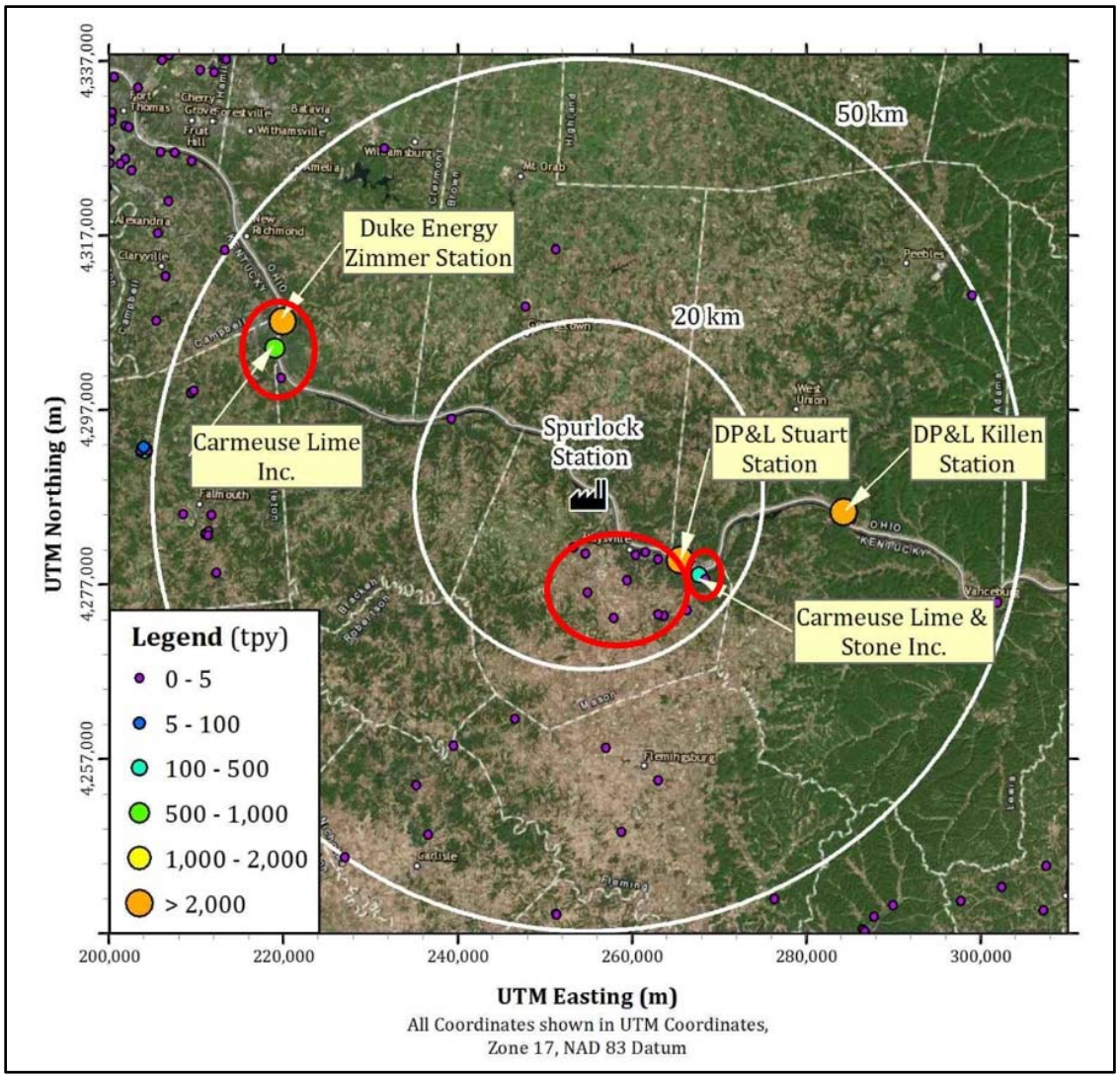
Other sources of SO_2 emissions in the area surrounding the Spurlock Station were considered, reviewed, and included as required in the modeling. Sources within approximately 50 km of Spurlock were identified from available inventories from KDAQ and Ohio EPA. Figure 3-7 shows the location of the nearby sources considered as well as an SO_2 emissions magnitude indicator (size and color of the source marker on the map, e.g., small purple sources are at or under 5 tpy).

Sources from both the Kentucky and Ohio inventories were evaluated and excluded through a number of objective considerations. Of the identified facilities in Figure 3-7, as per the modeling TAD, the determination of which sources to model followed a multi-step process as well as considering basic information on magnitude of emissions and distance from Spurlock. With the goal of the modeling to determine those sources that could cause or contribute to a NAAQS violation, the factors that were considered included 1) the magnitude of the SO_2 emissions, 2) the source parameters, 3) the proximity to Spurlock Station, and 4) the level and extent of impact of the regional source (including the consideration of the concentration gradient near Spurlock). Specifically, the regional sources to include in the modeling were determined using the following steps:

1. Used the 20D method to screen all sources within 50 km of Spurlock Station. The 20D method[24] determines that if the ratio of the emissions (Q) to the distance between sources (d) is less than 20 (Q/d < 20), a source does not need to be included in the modeling because its impacts will be insignificant in the vicinity of the subject source. Clustering of smaller sources was conducted as part of this analysis. The specification of the variables in the 20D analysis are:

[24] Eldewins Haynes, Air Permits, NC Division of Environmental Management to Lewis Nagler, Air Management Branch, EPA Region IV, *A Screening Method for PSD*, July 22, 1985.

Figure 3-7. Map Showing nearby Sources and SO_2 Emissions Magnitude near Spurlock Station



Q = Source emissions in tons/year, total of all sources at a facility
d = Distance from the regional source to Spurlock Station in kilometer

2. Used the AERSCREEN Model to estimate impacts from nearby and regional sources. Concentrations estimates were made at space intervals from the source out to about 50 km to allow the determination of the maximum impacts as well as the change in concentration as a function of distance from the source, i.e., the concentration gradient.

3. Concentration gradients and impacts due to each source in the vicinity of the Spurlock Station maximum impacts locations (determined using the refined AERMOD approach) were analyzed to determine likely regional source contributions in the vicinity of Spurlock.

4. After selection of the regional background monitor was determined (see Section 3.11 herein), some regional sources were determined to likely be captured by that monitor. The monitor located in West

Union, Ohio was determined to be the most representative monitor for characterizing both anthropogenic and natural regional source impacts near the Spurlock Station.

The results of these screening modeling and background inclusion analyses were that many sources, even when clustered with other sources, had a ratio less than 20 in the Q/d analysis and were not considered further. This analysis is provided as part of the electronic submittal for the modeling of Spurlock Station.

Other large regional sources or clusters of sources were considered on an individual basis and are summarized here.

AES-DP&L Stuart Station

The Stuart Station is located about 18 km east southeast of Spurlock Station and was included in the full refined modeling analysis.

Maysville Cluster

As shown in Figure 3-7, eleven sources at or under 5 tpy are located to the south and west of Spurlock Station at a range of about 7-15 km from Spurlock Station. Grouping the sources together and assuming that each smaller source is at its maximum 5 tpy, emissions for these eleven sources add up to a total of 55 tpy (Q). Assuming, conservatively that all sources are at the nearest distance to Spurlock of 7 km (d) and that all stacks are similar with converging plumes, the Q/d result is 7.9. Thus, these sources were not explicitly modeled.

Carmeuse (East) Cluster

Carmeuse lies to the east of Maysville and has emissions of 254 tpy according to the 2014 KyEIS reports. As shown in Figure 3-7, there is one (1) other small, <5tpy source located near Carmeuse. Adding these two together results in about 259 tpy (Q) at a distance of about 15 km from Spurlock. This Q/d is 17.9 and thus, less than 20. Thus, these two sources were not explicitly modeled.

AES-DP&L Killen Station

The Killen Station is located about 29 km east of Spurlock Station and was included in the full refined modeling analysis.

Dynegy Beckjord Station

The Beckjord Station is located about 52 km northwest of Spurlock Station. The Beckjord Station shutdown permanently in 2014 and was not modeled in the Spurlock analysis.

Zimmer Station - Carmeuse Cluster

As can be seen in Figure 3-7, a cluster of sources lies about 40 km to the west northwest of Spurlock Station. The sources in this cluster are the Dynegy Zimmer Station, Carmeuse Lime, and one smaller, < 5 tpy source. Considering the Zimmer Station separately results in total emissions from Carmeuse and the smaller source of about 655 tpy (Q), which when divided by the distance to Spurlock of 40 km results in a Q/d of 16.4. This is less than 20 and thus, Carmeuse and the < 5tpy source were not considered further in the modeling except as captured by the West Union monitor as a regional source. The Dynegy Zimmer Station, at a distance of over 40 km away, was determined to be at or near background levels near Spurlock.. Thus, the concentration contributions of Zimmer also are reflected in the regional background concentrations provided by the West Union monitor.

To further demonstrate the combined impacts of Zimmer, Carmeuse, and the one smaller source, all emissions were added together and assumed to be emitted from the tall stack at Zimmer. The AERSCREEN Model was used to calculate 1-hour highest high concentrations out to 50 km from Zimmer. Both the gradient of

concentration change as a function of distance as well as the highest high concentrations (very conservative and not in the form of the NAAQS) as a function of distance were plotted. As can be seen in Figure 3-8 a nearly flat change in concentration occurs after a few kilometers from the Zimmer-Carmeuse cluster, which when coupled with the conservative AERSCREEN modeling results (highest first high) shown in figure 3-9 indicate impacts in the vicinity of Spurlock about the same as background at the West Union monitor. Thus, a low cause and contribute likelihood to a NAAQS violation is indicated.

Figure 3-8. Zimmer Carmeuse Cluster SO_2 Concentration Gradient

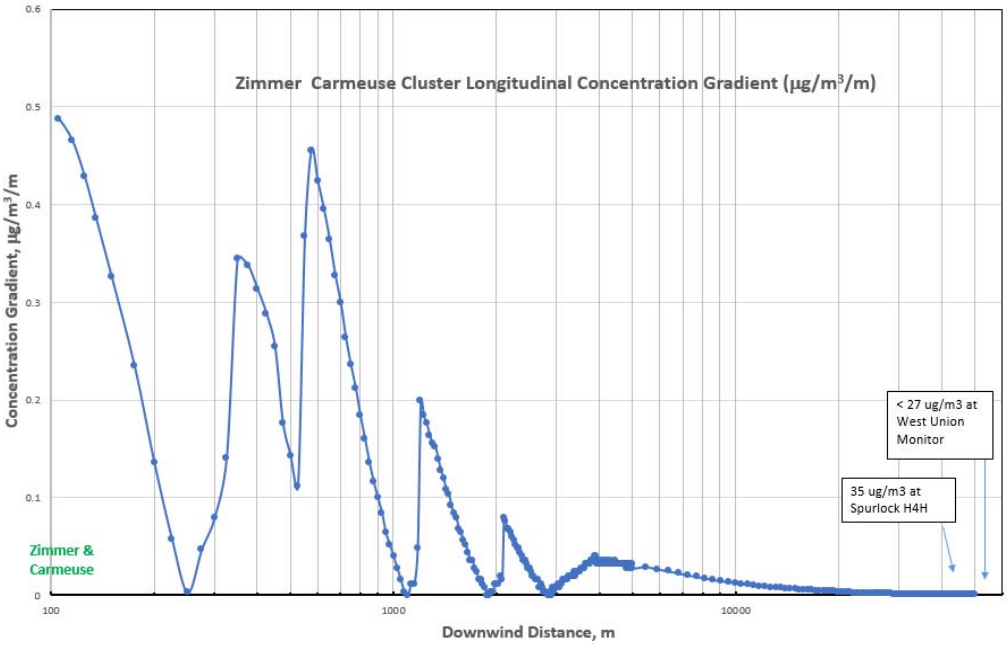


Figure 3-9. Zimmer Carmeuse Cluster SO_2 Concentration

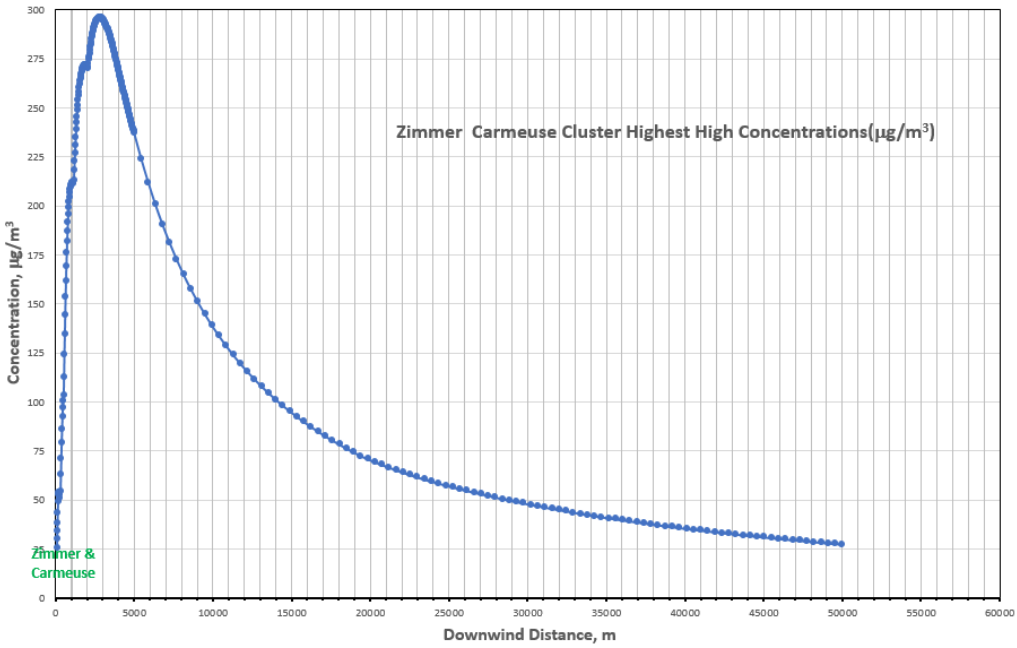


Table 3-5 provides the pertinent source parameters and emissions for the included regional sources.

Table 3-5. Regional Source Characterization Near Spurlock Station

Model ID	Description	UTM Easting[1] (m)	UTM Northing[1] (m)	Actual Emission Rate (tpy)	Actual Emission Rate (g/s)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Diameter (m)
STUB001	DP&L, J.M. Stuart Generating Station	265,541	4,279,844	2,383	68.54	243.80	325.9	17.40	7.92
STUB002	DP&L, J.M. Stuart Generating Station	265,537	4,279,835	3,663	105.39	243.80	325.9	17.40	7.92
STUB003	DP&L, J.M. Stuart Generating Station	265,529	4,279,839	2,411	69.35	243.80	325.9	17.40	7.92
STUB004	DP&L, J.M. Stuart Generating Station	265,533	4,279,848	2,311	66.49	243.80	325.9	17.40	7.92
STUB01BY	DP&L, J.M. Stuart Generating Station	265,662	4,279,842	0.019	0.00055	243.80	411.5	38.71	5.79
STUB02BY	DP&L, J.M. Stuart Generating Station	265,594	4,279,875	0.019	0.00055	243.80	411.5	38.71	5.79
STUB03BY	DP&L, J.M. Stuart Generating Station	265,529	4,279,913	0.019	0.00055	243.80	411.5	38.71	5.79
STUB04BY	DP&L, J.M. Stuart Generating Station	265,455	4,279,952	0.019	0.00055	243.80	411.5	38.71	5.79
KILUNIT2	DP&L, Killen Generating Station	284,256	4,285,316	13,095	376.71	274.32	325.9	11.28	10.06

[1] An evaluation made in support of Ohio EPA's designation process in the "*Appendix A to the Dispersion Modeling Analysis for William H. Zimmer/Clermont County 2010 SO2 NAAQS Recommended Designation",* concluded that Spurlock Station would not significantly contribute to the Zimmer Station's significant impact area. Given Spurlock's taller stacks, higher emissions facility wide, and the impacts illustrated in the same document, it follows that Zimmer Station should in turn be excluded from the Spurlock Station analysis. Also, All NAD83 coordinates are in Zone 17 including Zimmer which is actually in Zone 16 but was converted using Corpscon 6.0.1

[2] Through analysis of contour maps and impact areas, it has been determined that Carmeuse Lime Inc. (AI ID 3400) Black River site in Carntown, KY will not create significant impacts in the area surrounding Spurlock Station. Considering the conclusion reached for William H. Zimmer, the proximity of Carmeuse to Zimmer Station (~3km), and the significant differences in both stack height and emissions between Carmeuse and Zimmer Station, the same exclusion determination for Spurlock was reached.

3.9. BUILDING INFLUENCES

The U.S. EPA's Building Profile Input Program (BPIP) with Plume Rise Model Enhancements (PRIME) (version 04274), was used to account for building downwash influences at Spurlock Station. The purpose of a building downwash analysis is to determine if the plume discharged from a stack was influenced by the turbulent wake of any onsite buildings or other structures, resulting in downwash of the plume. The downwash of the plume can result in elevated ground-level concentrations in the near wake of a building and is required for consideration in the modeling. For "Other" sources that are modeled in the area, downwash was not considered.

3.10. SOURCE CONTRIBUTIONS AND OVERALL IMPACTS

A number of output options are available in AERMOD to tabulate and display the concentration estimates made. The AERMOD model's calculation of the 3-year average of the highest fourth highs (H4H) was used to determine the values for the ALL group including Spurlock, regional sources, and background. Other source groups were reported as well but mainly as informative data about specific source H4Hs rather than as contribution information to the ALL H4H. To obtain the ALL group total and contributions, the AERMOD output that was used was that called by the keyword in the AERMOD code known as "MAXDCONT". The use of MAXDCONT tells the model to generate output that indicates both the cumulative concentrations as well as individual contributions from each modeled source for the user specified range of model-tabulated data (in our case, the H4Hs were of primary interest). The output from this computation is in the format and over the time period that is commensurate with the form of the NAAQS.

3.11. BACKGROUND CONCENTRATIONS

As described in Section 8 of the modeling TAD, the inclusion of background ambient monitored concentrations as part of the modeled concentrations is important in determining the cumulative ambient air quality impacts. As with many locations in Kentucky, a nearby rural background monitor does not exist near Spurlock Station (one that would best capture both natural background as well as regional source background contributions) and, therefore, a regional site was appropriate for use to characterize the background concentrations. Specifications for the site were that it should not be directly influenced by Spurlock (in other words not an industrial based monitor) but should capture local and regional sources such that ambient air quality would be fully characterized. Figure 3-2 shows the locations of the nearest ambient monitors to Spurlock. The closest continuous and operating SO_2 monitor in the area is the West Union monitor (36-001-0001) located in Adams County, Ohio approximately 27 kilometers northeast of Spurlock. The next closest monitors are in the Cincinnati area (~70 km west northwest of Spurlock). The West Union monitor was selected as the preferred regional monitor given its location in a small rural town and therefore characteristic of natural and small population-based anthropogenic sources. Depending on winds for any given period of time, large power plants including Zimmer Station, Spurlock Station, Stuart Station, and Killen Station could have some impact at the West Union monitor. To be conservative, all data collected at the monitor were considered in generating the 99th percentile monitored concentrations. These were calculated and used in the 24-hour form suggested by the Monitoring TAD by hour of day over the whole 2012-2014 period of record at the monitor. Thus, background concentrations were represented by a 24-hour sequence of concentrations used for every hour and day at each receptor as the modeling progressed in the AERMOD application. The annual version of this technique (all Hour 1 values were used for each year to calculate the appropriate 99th percentile value followed by averaging with the same for the other years of data, Hour 2 the same and through all 24 hours) was utilized in the modeling analysis with the resulting hourly data set as shown in Table 3-6.

Other monitoring data in the Cincinnati area would have considered urban SO_2 sources which were not considered representative of the background sources in the area surrounding Spurlock Station. Additionally, given the proximity of the West Union monitor, it was unlikely an evaluation of additional monitor locations would result in identification of a more representative station.

Table 3-6. 2012–2014 SO_2 Concentrations by Hour of Day from the West Union Monitor

Hour of Day	Hourly Background 3-Year Average 99th Percentile SO_2 Concentrations at the West Union Monitor (39-001-0001), µg/m³
1	20.88
2	20.45
3	20.01
4	20.01
5	17.40
6	14.79
7	17.40
8	16.53
9	20.88
10	25.23
11	36.54
12	45.24
13	31.32
14	28.71
15	26.97
16	28.71
17	29.58
18	38.28
19	29.58
20	28.71
21	26.10
22	25.23
23	24.36
24	20.88

4. 1-HOUR SO_2 DESIGNATION MODELING RESULTS

Dispersion modeling of the EKPC Spurlock Station was conducted using the AERMOD Model (Version 15181). This refined modeling included the AES-DP&L Stuart and Killen Stations along with background concentrations from the West Union monitor. For both Stuart and Killen the hourly 2012-2014 CEMS SO_2 data were used to represent the SO_2 emissions. Modeling was conducted for the overall receptor grid described in Section 3.5 and shown in Figures 3-4 and 3-5. The maximum impacts were to the north of the Stuart Station at one of the coarse 1000-meter grid receptors. Table 4-1 presents the highest eight SO_2 concentration results of the modeling for all sources, a contribution distribution for each source and the 3-year average background concentration. The concentrations are expressed in terms of the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hr concentrations, which is the form of the 1-hour SO_2 NAAQS. This table was derived from the AERMOD's MAXDCONT outputs.

Figure 4-1 provides isopleths of the 1-hour SO_2 3-year average 99th percentile concentrations for the area (not the whole modeling domain but the nearfield within several tens of kilometers) showing the distribution of maximum 1-hour SO_2 concentrations across the part of the modeling domain where the concentrations were the highest. This figure shows that SO_2 air concentration model estimates and their spatial distribution were all less than and in compliance with the NAAQS. The highest impacts are located just north of the Stuart Station due to the high contributions of Stuart. This dominance of Stuart at the highest H4Hs is also apparent from the contributions to the total of Stuart Station in the modeling results presented in Table 4-1. At these receptors, the contributions due to Spurlock were small in comparison. Note also that the maximum concentrations to the north of Spurlock are all less than about 110 μg/m^3 (within the 90-110 μg/m^3 isopleth) where Spurlock would be expected to have its maximum impacts.

Table 4-1. Highest 4th High Modeled 1-hour SO_2 Concentrations for Overall Receptor Grid

Highest 99th% 3-yr Avg 1-hr SO_2 Concentrations[1] (μg/m^3)	All Source Group, Percent of 1-hour SO_2 NAAQS[2] (μg/m^3)	Spurlock Station Contribution (μg/m^3)	Stuart Station Contribution (μg/m^3)	Killen Station Contribution (μg/m^3)	Background Contribution[1] (μg/m^3)	UTM Easting (m)	UTM Northing (m)	Elevation (m)
183.3	93.5%	1.0	149.7	1.1	31.6	266,985	4,282,264	182.4
170.9	87.2%	0.0	142.1	0.0	28.7	267,985	4,281,264	254.4
160.8	82.0%	3.1	114.8	0.2	42.6	267,985	4,279,264	157.5
159.0	81.1%	0.3	127.2	1.0	30.5	266,985	4,283,264	266.5
153.2	78.2%	0.1	113.9	0.1	39.2	266,985	4,281,264	246.2
150.1	76.6%	0.3	113.6	1.1	35.1	267,985	4,284,264	275.3
149.8	76.4%	3.6	109.1	0.0	37.1	268,985	4,278,264	268.7
149.5	76.3%	4.2	106.9	1.2	37.1	266,985	4,279,264	160.9

[1] Modeled concentrations include an hourly background concentration determined by taking the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hr concentrations at the West Union SO_2 Monitor northeast of Spurlock Station.

[2] Based on the Primary National Ambient Air Quality Standard (NAAQS) for SO_2 for the averaging period of 1-hr, 75 ppb (196 μg/m^3).

Unfortunately, the modeling analysis presented in Table 4-1 and Figure 4-1 are only resolved to the nearest 1000-meter grid receptor. As per the *Guideline on Air Quality Models* and common modeling practice, these concentrations were resolved to a 100-meter grid spacing. Figure 4-2 shows the addition of a 100-meter grid around the highest grid coordinate from Table 4-1 (namely, East = 266,985m; North = 4,282,264m) which extended to 1000 meters in each of the cardinal directions for a total number of 100-meter receptors of 441.

Figure 4-1. Map Showing Concentration Isopleths of the 3-year Average 99th Percentile Annual Distribution of Daily Maximum 1-hr SO_2 Concentrations from All Sources for Coarse Grid

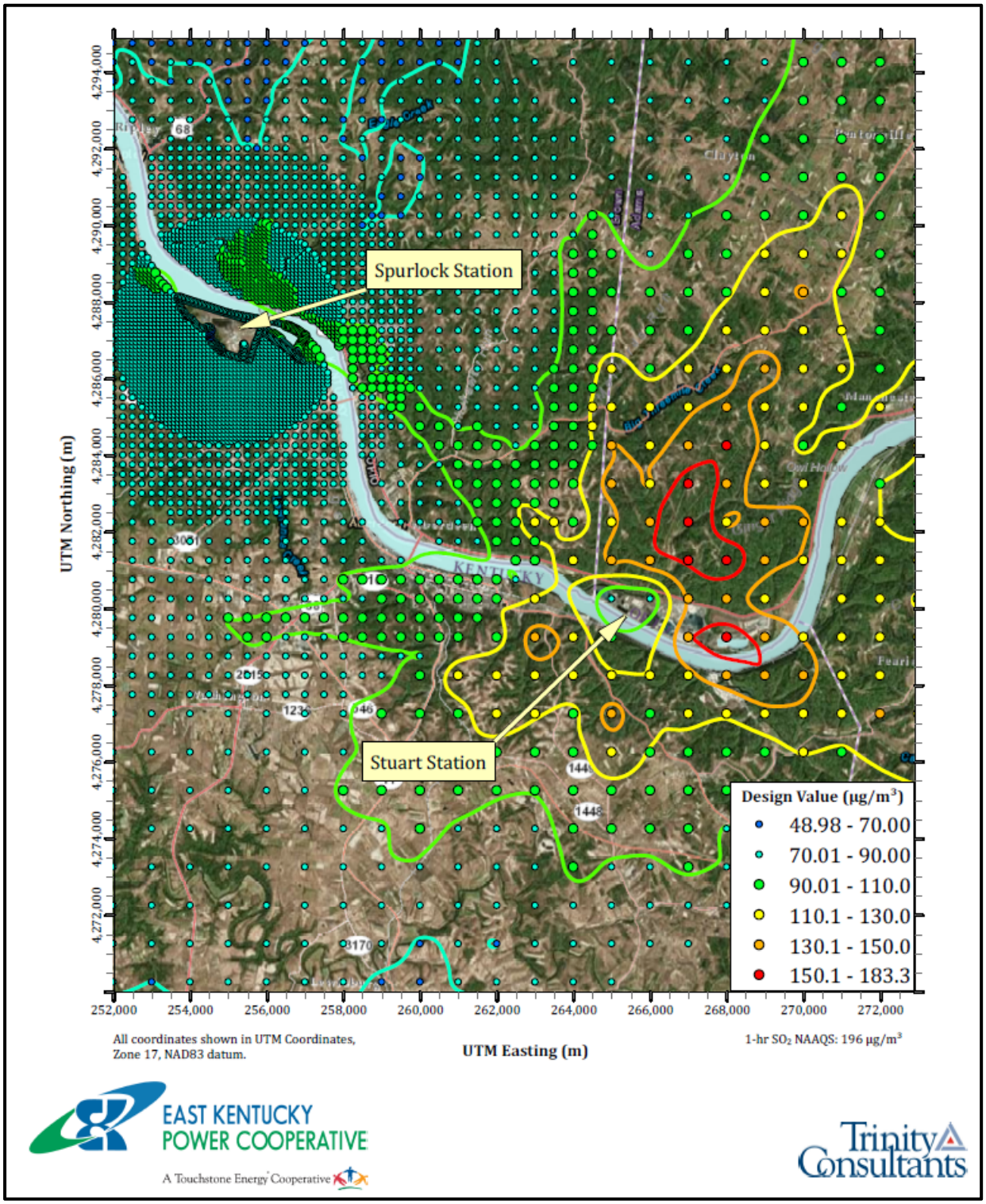
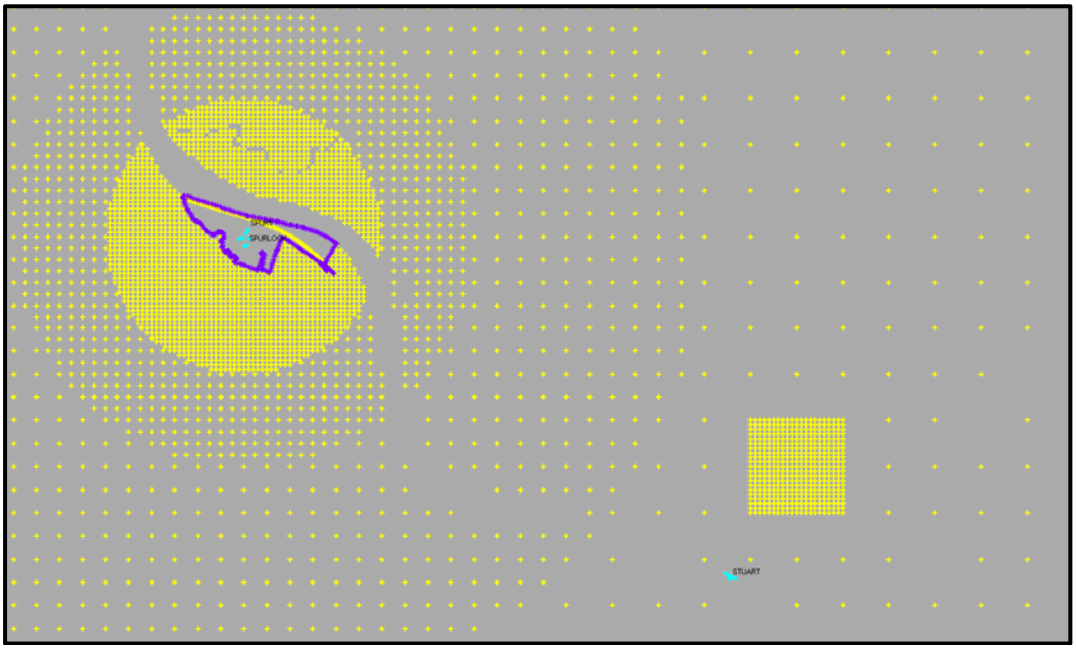


Figure 4-2. Overall Receptor Grid with Inserted 100m Grid North of Stuart Station



Revised modeling was conducted for the 100 meter-enhanced overall receptor grid shown in Figure 4-2 including all other receptors from the coarse grid analysis show in Figure 3-4. Table 4-2 presents the highest eight SO_2 concentration results of the modeling for all sources with all impacts taking place within the 100-meter grid of the modeling. The contribution due to each source and the background concentration is also shown. The concentrations are expressed in terms of the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hr concentrations, which is the form of the 1-hour SO_2 NAAQS. As can be seen, the highest of the concentrations increased slightly in the 100-meter grid but is still within the NAAQS and, thus, the area in the vicinity of Spurlock Station should be designated **attainment** including Mason and Bracken Counties in Kentucky.

Table 4-2. Highest 4th High Modeled 1-hour SO_2 Concentrations for 100m Hot Spot Grid

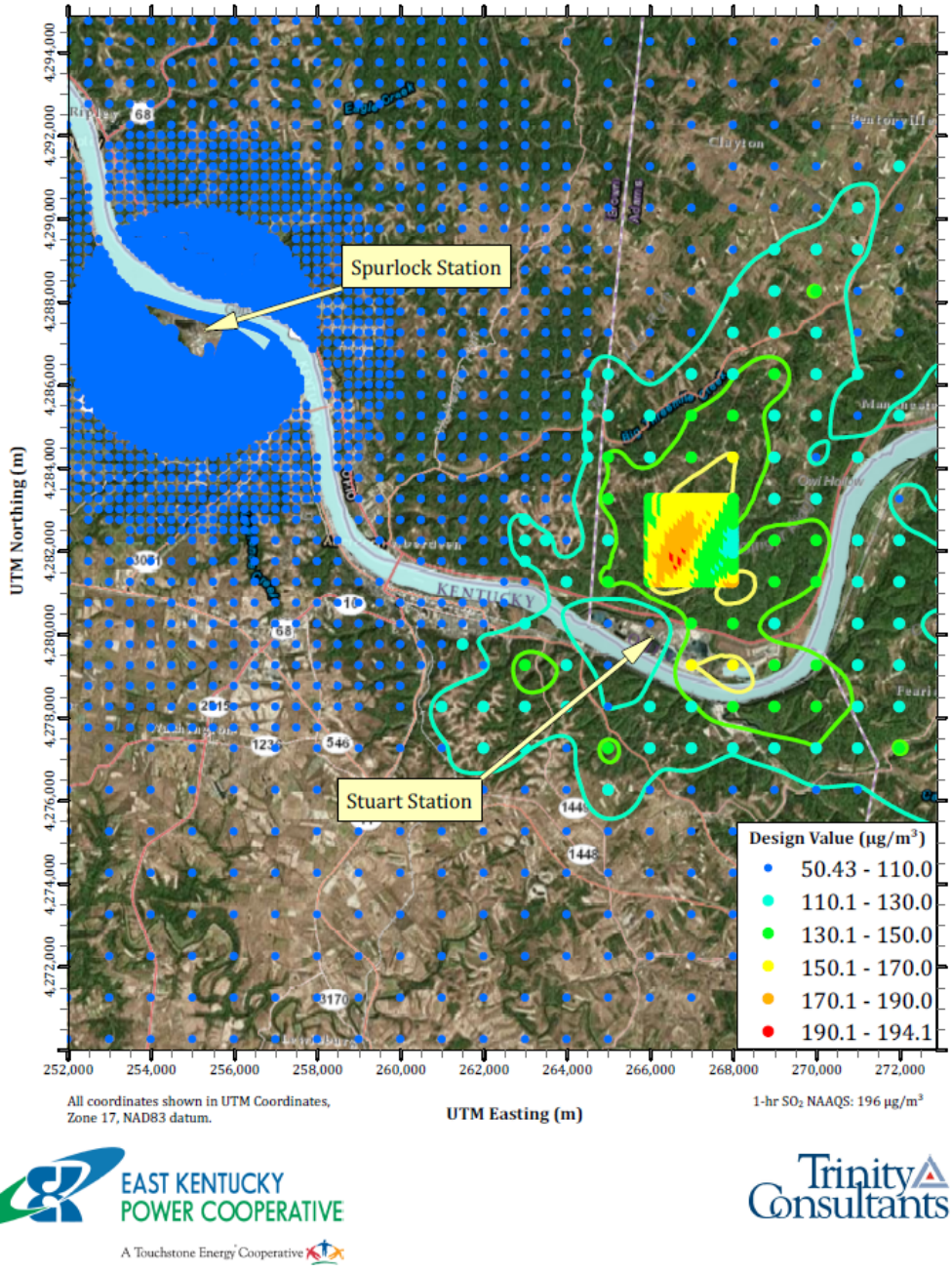
Highest 99th% 3-yr Avg 1-hr SO_2 Concentrations[1] ($\mu g/m^3$)	All Source Group, Percent of 1-hour SO_2 NAAQS[2] ($\mu g/m^3$)	Spurlock Station Contribution ($\mu g/m^3$)	Stuart Station Contribution ($\mu g/m^3$)	Killen Station Contribution ($\mu g/m^3$)	Background Contribution[1] ($\mu g/m^3$)	UTM Easting (m)	UTM Northing (m)	Elevation (m)
194.1	99.0%	1.1	157.7	1.1	34.2	266,685	4,281,664	211.9
193.0	98.5%	1.0	161.6	1.1	29.3	266,785	4,281,864	238.6
192.7	98.3%	0.1	158.9	0.1	33.6	266,585	4,281,964	171.3
192.3	98.1%	1.0	164.1	1.1	26.1	266,785	4,281,764	262.4
191.5	97.7%	1.0	155.2	1.1	34.2	266,885	4,282,064	195.3
191.2	97.5%	0.1	163.4	0.1	27.6	266,585	4,281,864	169.9
190.0	96.9%	1.0	155.9	1.1	31.9	266,985	4,282,164	199.7
189.6	96.8%	1.0	153.3	1.1	34.2	266,685	4,282,164	215.3

[1] Modeled concentrations include an hourly background concentration determined by taking the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hr concentrations at the West Union SO_2 Monitor northeast of Spurlock Station.

[2] Based on the Primary National Ambient Air Quality Standard (NAAQS) for SO_2 for the averaging period of 1-hr, 75 ppb (196 $\mu g/m^3$).

Figure 4-3 shows the concentration isopleths with the 100-meter grid added and Figure 4-4 shows the same results but at a closer view of the 100-meter grid area north of Stuart.

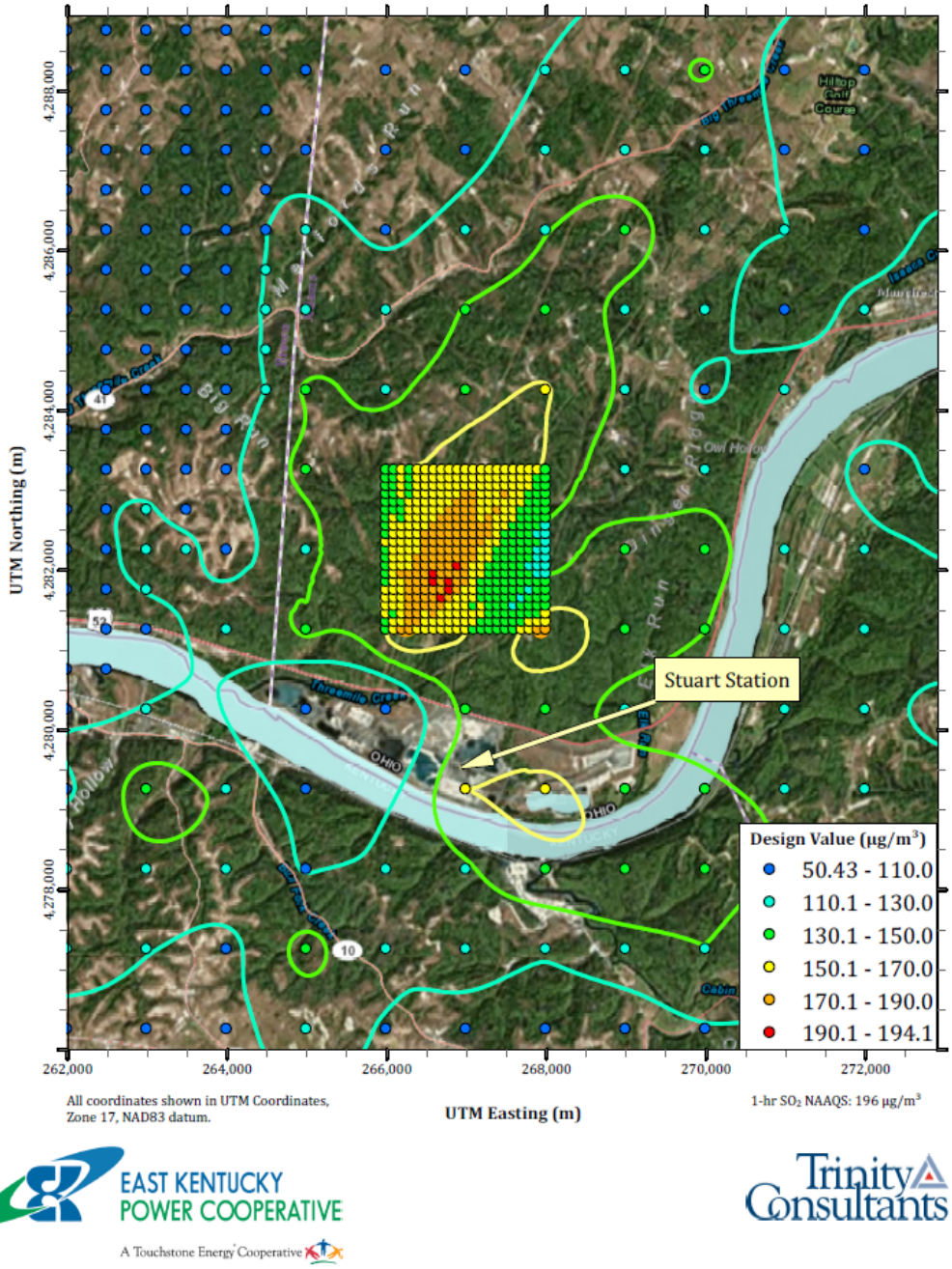
Figure 4-3. Map Showing Concentration Isopleths of the 3-year Average 99th Percentile Annual Distribution of Daily Maximum 1-hr SO_2 Concentrations from All Sources for 100m Grid



EAST KENTUCKY POWER COOPERATIVE
A Touchstone Energy Cooperative

Trinity Consultants

Figure 4-4. Close Up Map Showing Concentration Isopleths of the 3-year Average 99th Percentile Annual Distribution of Daily Maximum 1-hr SO_2 Concentrations from All Sources for 100m Grid



In both tables presented thus far, the contributions of Spurlock Station have been below the interim Significant Impact Levels (SILs) for 1-hour SO_2 (7.8 µg/m^3). However, Spurlock has higher impacts elsewhere in the modeling domain. To demonstrate Spurlock Station's highest impacts, Table 4-3 is provided to show the top eight 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hr SO_2 concentrations for Spurlock-only (no other source contributions included). Table 4-3 shows that the highest Spurlock 1-hour SO_2 concentrations derived in the form of the NAAQS were less than 25 percent of the NAAQS. These are presented to show the Spurlock ambient concentration impacts alone and to differentiate them from those of other regional sources. Figure 4-1 shows the overall maximum impacts (from all sources modeled and background) in the vicinity of Spurlock were in the 100-110 µg/m^3 range, well below the NAAQS.

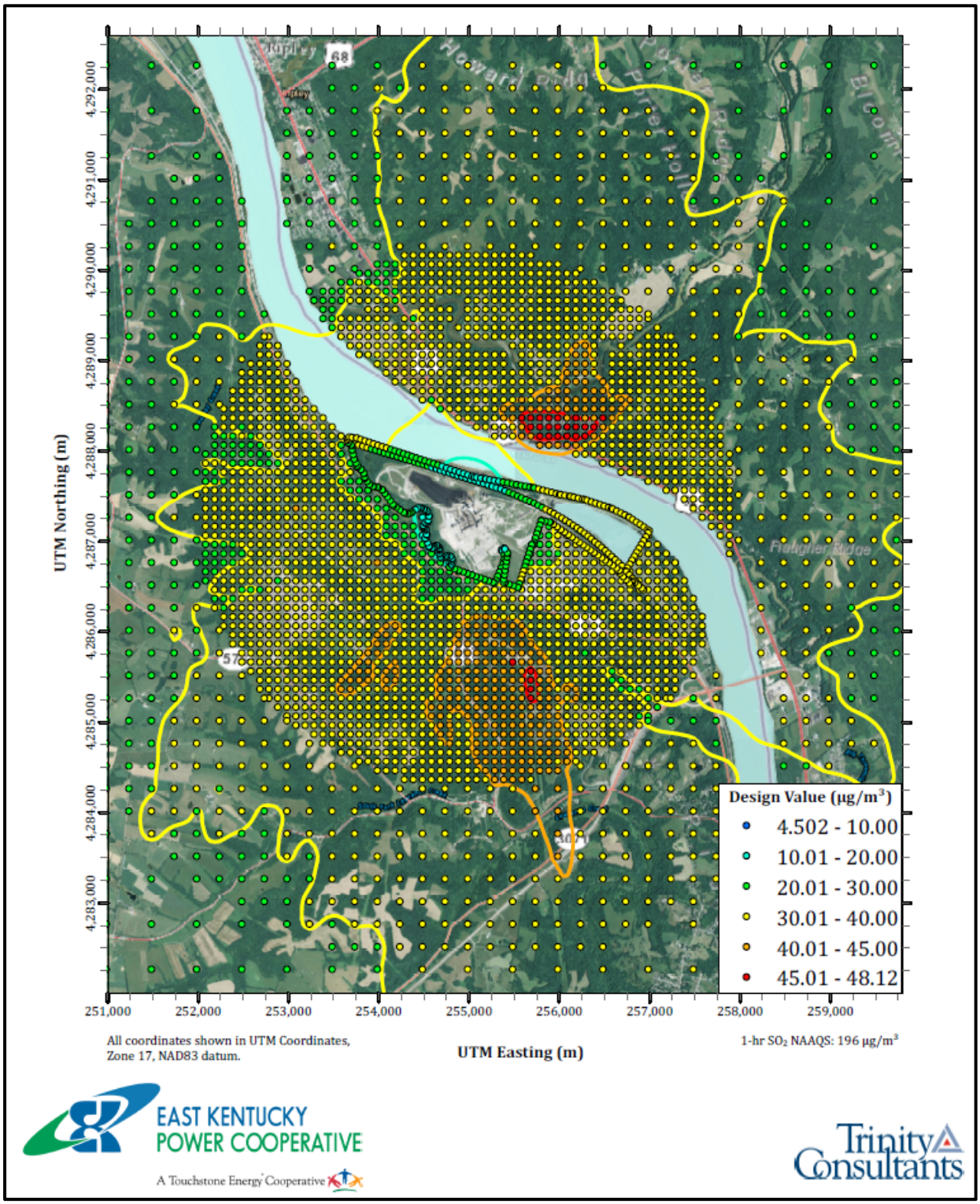
Figure 4-5 is presented to show the spatial distribution of the Spurlock SO_2 concentrations alone. As can be seen in Figure 4-5, for Spurlock alone the receptors with greater impacts were on the hills surrounding the facility with the highest concentrations to the northeast and southeast. The legend on Figure 4-5 reflects these much lower ambient concentration estimates than those presented in Figures 4-1 through 4-4 for all sources.

Table 4-3. Eight Highest 4th High Modeled 1-hour SO_2 Results for Spurlock Station Alone

Spurlock-only Highest 99th% 3-yr Avg 1-hr SO_2 Concentrations (µg/m^3)	Spurlock-only Percent of 1-hour SO_2 NAAQS[1] (µg/m^3)	Spurlock 2012 1-hr SO_2 Concentrations (µg/m^3)	Spurlock 2013 1-hr SO_2 Concentrations (µg/m^3)	Spurlock 2014 1-hr SO_2 Concentrations (µg/m^3)	UTM Easting (m)	UTM Northing (m)	Elevation (m)
48.1	24.6%	47.3	37.0	60.1	255,885	4,288,264	215.1
47.6	24.3%	48.7	32.7	61.4	255,785	4,288,264	214.3
47.5	24.2%	48.9	34.6	58.9	255,685	4,288,364	235.3
46.8	23.9%	55.8	35.1	49.6	255,685	4,285,364	268.9
46.6	23.8%	50.4	30.8	58.4	255,685	4,288,264	207.3
46.5	23.7%	42.3	47.9	49.3	256,385	4,288,264	264.6
46.5	23.7%	48.2	31.7	59.5	255,785	4,288,364	220.2
46.5	23.7%	44.2	50.4	44.8	256,285	4,288,264	267.8

[1] Based on the Primary National Ambient Air Quality Standard (NAAQS) for SO_2 for the averaging period of 1-hr, 75 ppb (196 µg/m^3).

Figure 4-5. Map Showing Concentrations Isopleths of the 3-year Average 99th Percentile Annual Distribution of Daily Maximum 1-hr SO_2 Concentrations Due to Spurlock



4.1. MODELING FILES

All modeling files will be provided to KDAQ in electronic format on via an online file transfer utility. Model and processor input, output, and data files will also be provided. Spreadsheets tabulating source, emission, and other input data sets will also be provided. Delivery of all files will be in the week of May 2-6, 2016 as discussed with Mr. Ben Cordes on April 27, 2016.

Figure A-1. Wind Rose for 2012-2014 at KCVG

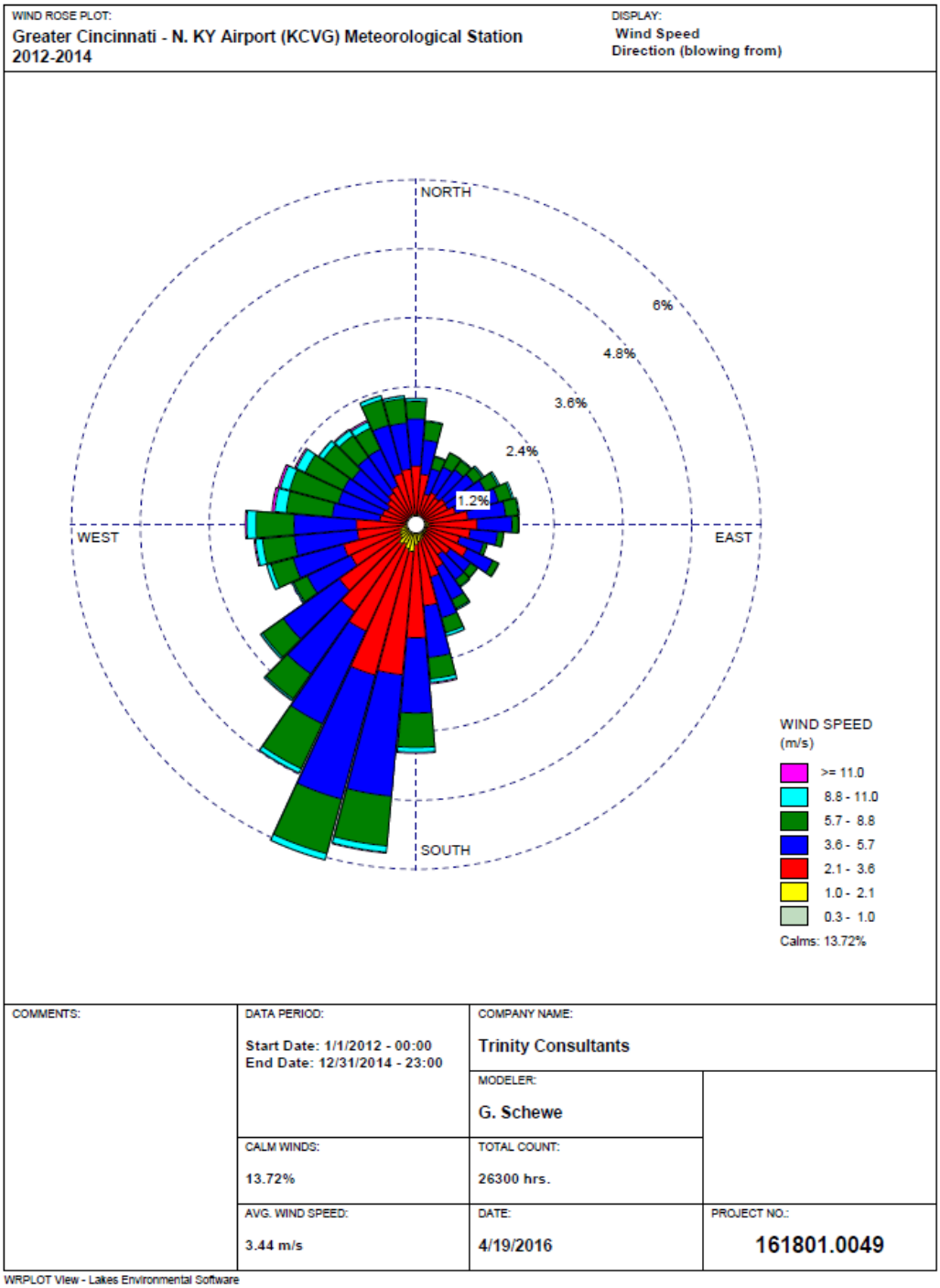
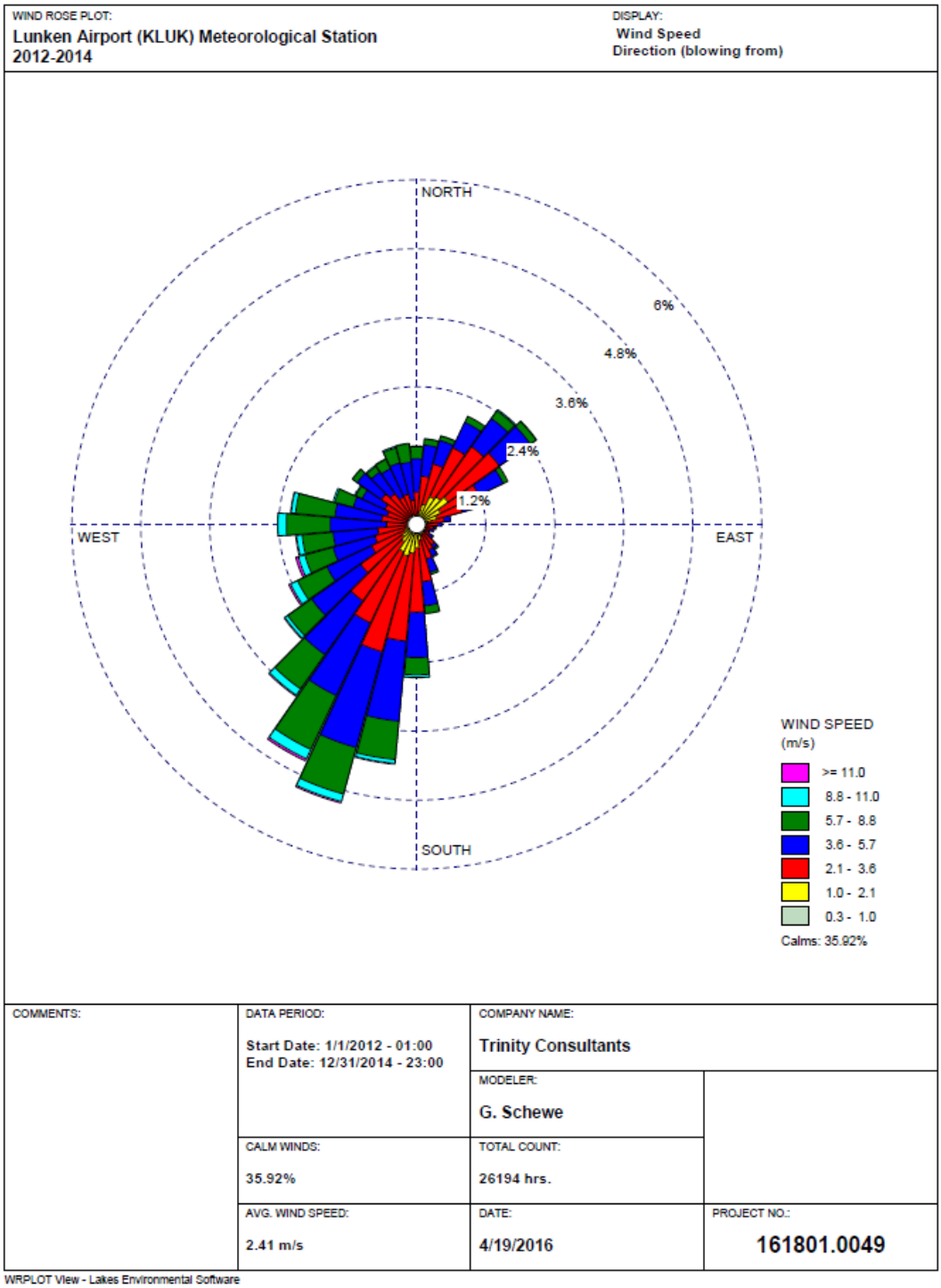


Figure A-2. Wind Rose for 2012-2014 at KLUK



Appendix D

Ohio Dayton Power & Light J.M. Stuart and Killen Station Shutdown Documents

STARS2

epaPortal Help Logout

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Facilities >

Facility Profile

Facility ID: 0701000060 **Current Permitting Classification:** TV **Facility Profile Start Date:** 4/30/2020

Facility Name: Kingfisher Development LLC - Killen **Operating Status:** Operating **Facility Profile End Date:** Current

Facility Profile checked out for edit?: No

Expand Facility Tree

- 0701000060
  - Invalid EUs
  - Shutdown EUs
    - B001
      - B001-Biofuel
        - ESP No. 2
          - SCR No. 2
            - FGD No. 2
              - B-2
      - B001-coal
        - ESP No. 2
          - SCR No. 2
            - FGD No. 2
              - B-2
      - B001-oil
        - ESP No. 2
          - SCR No. 2
            - FGD No. 2
              - B-2

Emissions Unit Information

DAPC Emissions Unit ID: B001

DAPC Description: Babcock and Wilcox pulverized coal-fired, dry-bottom boiler having a nominal capacity of 5,928 MMBtu/hr, and controlled with an electrostatic precipitator(ESP). B001-modification only to install a flue gas desulfurization scrubber.

Company Equipment ID: Boiler No. 2

Company Description: Pulverized coal-fired, dry bottom, wall-fired utility boiler (Babcock and Wilcox, Model RBC 69/HB); 5,928 MMBtu/h nominal heat input. Boiler #2 modified to add capability to burn renewable fuel (wood/grass briquettes, or other approved clean cellulosic biomass) with renewable fuel combustion comprising up to 5 pct. of total heat input (296.4 MMBtu/hr) or

Operating Status: Permanently Shutdown **Shutdown Date:** 6/1/2018 **Shutdown Notification Date:** 4/10/2019

Completion of Initial Installation Date: 12/1/1981

Begin Installation/Modification Date: 1/1/2011

Commence Operation After Installation or Latest Modification Date: 2/1/2011

Permitting Classification and Status

Title V EU Classification: Significant

Exemption Status: NA

Permit History

EIS Information

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

Design Capacity: 5928 **Design Capacity Units:** mmBTU/hr

ORIS Boiler ID: 6031

Allowable Emissions

The following table will be used for SIP development and for the PSD/Non-Attainment inventory. Please

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Facilities >

Facility Profile

Facility ID: 0701000007 **Current Permitting Classification:** TV **Facility Profile Start Date:** 4/30/2020

Facility Name: Kingfisher Development LLC - Stuart **Operating Status:** Operating **Facility Profile End Date:** Current

Facility Profile checked out for edit?: No

Expand Facility Tree

- 0701000007
  - Not Installed EUs
  - Invalid EUs
  - Shutdown EUs
    - B001
      - B001-Coal
        - SCR No. 1
          - ESP No. 1
            - FGD No. 1
              - Boiler#1 FGD
              - Boiler#1 ESP
      - B001-Oil
        - SCR No. 1
          - ESP No. 1
            - FGD No. 1
              - Boiler#1 FGD
              - Boiler#1 ESP

Emissions Unit Information

DAPC Emissions Unit ID: B001

DAPC Description: B001- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 1

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown **Shutdown Date:** 9/30/2017 **Shutdown Notification Date:** 3/27/2019

Completion of Initial Installation Date: 6/1/1971

Begin Installation/Modification Date: 6/1/1971

Commence Operation After Installation or Latest Modification Date: 6/1/1971

Permitting Classification and Status

Title V EU Classification: Significant

Exemption Status: NA

Permit History

EIS Information

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

Design Capacity: 5649 **Design Capacity Units:** mmBTU/hr

ORIS Boiler ID: 2850

Allowable Emissions

The following table will be used for SIP development and for the PSD/Non-Attainment inventory. Please

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Facilities >

Facility Profile

Facility ID: 0701000007 **Current Permitting Classification:** TV **Facility Profile Start Date:** 4/30/2020

Facility Name: Kingfisher Development LLC - Stuart **Operating Status:** Operating **Facility Profile End Date:** Current

Facility Profile checked out for edit?: No

Expand Facility Tree

- 0701000007
  - Not Installed EUs
  - Invalid EUs
  - Shutdown EUs
    - B002
      - B002-Coal
        - SCR No. 2
          - ESP No. 2
            - FGD No. 2
              - Boiler#2 FGD
              - Boiler#2 ESP
      - B002-Oil
        - SCR No. 2
          - ESP No. 2
            - FGD No. 2
              - Boiler#2 FGD
              - Boiler#2 ESP

Emissions Unit Information

DAPC Emissions Unit ID: B002

DAPC Description: B002- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 2

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown **Shutdown Date:** 6/1/2018 **Shutdown Notification Date:** 3/27/2019

Completion of Initial Installation Date: 6/1/1970

Begin Installation/Modification Date: 6/1/1970

Commence Operation After Installation or Latest Modification Date: 6/1/1970

Permitting Classification and Status

Title V EU Classification: Significant

Exemption Status: NA

Permit History

EIS Information

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

Design Capacity: 5649 **Design Capacity Units:** mmBTU/hr

ORIS Boiler ID: 2850

Allowable Emissions

The following table will be used for SIP development and for the PSD/Non-Attainment inventory. Please

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Facilities >

Facility Profile

Facility ID: 0701000007 **Current Permitting Classification:** TV **Facility Profile Start Date:** 4/30/2020

Facility Name: Kingfisher Development LLC - Stuart **Operating Status:** Operating **Facility Profile End Date:** Current

Facility Profile checked out for edit?: No

Expand Facility Tree

- 0701000007
  - Not Installed EUs
  - Invalid EUs
  - Shutdown EUs
    - B003
      - B003-Coal
        - SCR No. 3
          - ESP No. 3
            - FGD No. 3
              - Boiler#3 FGD
            - Boiler#3 ESP
      - B003-Oil
        - SCR No. 3
          - ESP No. 3
            - FGD No. 3
              - Boiler#3 FGD
            - Boiler#3 ESP

Emissions Unit Information

DAPC Emissions Unit ID: B003

DAPC Description: B003- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 3

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown **Shutdown Date:** 6/1/2018 **Shutdown Notification Date:** 3/27/2019

Completion of Initial Installation Date: 6/1/1972

Begin Installation/Modification Date: 6/1/1972

Commence Operation After Installation or Latest Modification Date: 6/1/1972

Permitting Classification and Status

Title V EU Classification: Significant

Exemption Status: NA

Permit History

EIS Information

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

Design Capacity: 5649 **Design Capacity Units:** mmBTU/hr

ORIS Boiler ID: 5820

Allowable Emissions

The following table will be used for SIP development and for the PSD/Non-Attainment inventory. Please

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Facilities >

Facility Profile

Facility ID: 0701000007 **Current Permitting Classification:** TV **Facility Profile Start Date:** 4/30/2020

Facility Name: Kingfisher Development LLC - Stuart **Operating Status:** Operating **Facility Profile End Date:** Current

Facility Profile checked out for edit?: No

Expand Facility Tree

- 0701000007
  - Not Installed EUs
  - Invalid EUs
  - Shutdown EUs
    - B004
      - B004-Coal
        - LNB4
          - SCR No. 4
            - ESP No. 4
              - FGD No. 4
                - Boiler#4 FGD
                - Boiler#4 ESP
      - B004-Oil
        - LNB4
          - SCR No. 4
            - ESP No. 4

Emissions Unit Information

DAPC Emissions Unit ID: B004

DAPC Description: B004- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 4

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown **Shutdown Date:** 6/1/2018 **Shutdown Notification Date:** 3/27/2019

Completion of Initial Installation Date: 6/1/1974

Begin Installation/Modification Date: 6/1/1974

Commence Operation After Installation or Latest Modification Date: 6/1/1974

Permitting Classification and Status

Title V EU Classification: Significant

Exemption Status: NA

Permit History

EIS Information

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

Design Capacity: 5649 **Design Capacity Units:** mmBTU/hr

ORIS Boiler ID: 5820

Allowable Emissions

The following table will be used for SIP development and for the PSD/Non-Attainment inventory. Please

United States Environmental Protection Agency
Acid Rain and CSAPR Trading Programs

OMB Nos. 2060-0258 and 2060-0667
Approval Expires 11/30/2018

Retired Unit Exemption

For more information, see instructions and refer to 40 CFR 72.8, 97.405, 97.505, 97.605, 97.705 and 97.805, or a comparable state regulation, as applicable.

This submission is: ☒ New ☐ Revised

STEP 1
Identify the unit by plant (source) name, State, plant code and unit ID#.

Plant (Source) Name	State	Plant Code	Unit ID#
Killen Station	OH	6031	2

STEP 2
Indicate the program(s) that the unit is subject to

- ☒ Acid Rain Program
- ☒ CSAPR NO_x Annual Trading Program
- ☒ CSAPR NO_x Ozone Season Trading Program
- ☒ CSAPR SO_2 Annual Trading Program

STEP 3
Identify the date on which the unit was (or will be) permanently retired.

June 1, 2018

STEP 4
If the unit is subject to the Acid Rain Program, identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.8(d).

January 1, 2019

STEP 5
Read the appropriate special provisions.

Acid Rain Program Special Provisions

(1) A unit exempt under 40 CFR 72.8 shall not emit any sulfur dioxide and nitrogen oxides starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with 40 CFR part 73 subpart B.
(2) A unit exempt under 40 CFR 72.8 shall not resume operation unless the designated representative of the source that includes the unit submits a complete Acid Rain permit application under 40 CFR 72.31 for the unit not less than 24 months prior to the date on which the unit is first to resume operation.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.8 shall comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) For any period for which a unit is exempt under 40 CFR 72.8, the unit is not an affected unit under the Acid Rain Program and 40 CFR part 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.
(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.8 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. The owners and operators bear the burden of proof that the unit is permanently retired.
(6) On the earlier of the following dates, a unit exempt under 40 CFR 72.8(b) or (c) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR part 70 and 71: (i) the date on which the designated representative submits an Acid Rain permit application under paragraph (2); or (ii) the date on which the designated representative is required under paragraph (2) to submit an Acid Rain permit application. For the purpose of applying monitoring requirements under 40 CFR part 75, a unit that loses its exemption under 40 CFR 72.8 shall be treated as a new unit that commenced commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Annual Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.405 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.405 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.405 shall comply with the requirements of the CSAPR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.405 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart AAAAA, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.505 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.505 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.505 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.505 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart BBBBB, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.805 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.805 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.805 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.805 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart EEEEE, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.605 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.605 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.605 shall comply with the requirements of the CSAPR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.605 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart CCCCC, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.705 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.705 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.705 shall comply with the requirements of the CSAPR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.705 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart DDDDD, as a unit that commences commercial operation on the first date on which the unit resumes operation.

STEP 6
Read the statement of compliance and the appropriate certification statements and sign and date.

Statement of Compliance
I certify that the unit identified above at STEP 1 was (or will be) permanently retired on the date identified at STEP 3 and will comply with the appropriate Special Provisions listed at STEP 5.

Certification (for designated representatives or alternate designated representatives only)
I am authorized to make this submission on behalf of the owners and operators of the source and unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Daniel W. Sweeney	Title Director
Owner Company Name AES Ohio Generation, LLC	
Phone 937-259-7716	Email dan.sweeney@aes.com
Signature Daniel W. Sweeney	Date 8/10/18

Certification (for certifying officials of units subject to the Acid Rain Program only)
I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine orimprisonment.

Name	Title
Owner Company Name	
Phone	Email
Signature	Date

Retired Unit Exemption

For more information, see instructions and refer to 40 CFR 72.8, 97.405, 97.505, 97.605, 97.705 and 97.805, or a comparable state regulation, as applicable.

This submission is: ☒ **New** ☐ **Revised**

STEP 1
Identify the unit by plant (source) name, State, plant code and unit ID#.

Plant (Source) Name	State	Plant Code	Unit ID#
J.M. Stuart Station	OH	2850	1

STEP 2
Indicate the program(s) that the unit is subject to

☒ Acid Rain Program
☒ CSAPR NO_x Annual Trading Program
☒ CSAPR NO_x Ozone Season Trading Program
☒ CSAPR SO_2 Annual Trading Program

STEP 3
Identify the date on which the unit was (or will be) permanently retired.

September 30, 2017

STEP 4
If the unit is subject to the Acid Rain Program, identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.8(d).

January 1, 2018

STEP 5
Read the appropriate special provisions.

Acid Rain Program Special Provisions

(1) A unit exempt under 40 CFR 72.8 shall not emit any sulfur dioxide and nitrogen oxides starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with 40 CFR part 73 subpart B.
(2) A unit exempt under 40 CFR 72.8 shall not resume operation unless the designated representative of the source that includes the unit submits a complete Acid Rain permit application under 40 CFR 72.31 for the unit not less than 24 months prior to the date on which the unit is first to resume operation.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.8 shall comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) For any period for which a unit is exempt under 40 CFR 72.8, the unit is not an affected unit under the Acid Rain Program and 40 CFR part 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.
(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.8 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. The owners and operators bear the burden of proof that the unit is permanently retired.
(6) On the earlier of the following dates, a unit exempt under 40 CFR 72.8(b) or (c) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR part 70 and 71: (i) the date on which the designated representative submits an Acid Rain permit application under paragraph (2); or (ii) the date on which the designated representative is required under paragraph (2) to submit an Acid Rain permit application. For the purpose of applying monitoring requirements under 40 CFR part 75, a unit that loses its exemption under 40 CFR 72.8 shall be treated as a new unit that commenced commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Annual Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.405 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.405 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.405 shall comply with the requirements of the CSAPR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.405 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart AAAAA, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.505 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.505 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.505 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.505 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart BBBBB, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.805 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.805 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.805 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.805 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart EEEEE, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.605 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.605 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.605 shall comply with the requirements of the CSAPR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.605 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart CCCCC, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.705 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.705 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.705 shall comply with the requirements of the CSAPR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.705 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart DDDDD, as a unit that commences commercial operation on the first date on which the unit resumes operation.

STEP 6
Read the statement of compliance and the appropriate certification statements and sign and date.

Statement of Compliance
I certify that the unit identified above at STEP 1 was (or will be) permanently retired on the date identified at STEP 3 and will comply with the appropriate Special Provisions listed at STEP 5.

Certification (for designated representatives or alternate designated representatives only)
I am authorized to make this submission on behalf of the owners and operators of the source and unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Daniel W. Sweeney	Title Director
Owner Company Name AES Ohio Generation, LLC	
Phone 937-259-7716	Email dan.sweeney@aes.com
Signature Daniel W Sweeney	Date 8/10/18

Certification (for certifying officials of units subject to the Acid Rain Program only)
I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine orimprisonment.

Name	Title
Owner Company Name	
Phone	Email
Signature	Date

United States Environmental Protection Agency
Acid Rain and CSAPR Trading Programs

OMB Nos. 2060-0258 and 2060-0667
Approval Expires 11/30/2018

Retired Unit Exemption

For more information, see instructions and refer to 40 CFR 72.8, 97.405, 97.505, 97.605, 97.705 and 97.805, or a comparable state regulation, as applicable.

This submission is: ☒ New ☐ Revised

STEP 1
Identify the unit by plant (source) name, State, plant code and unit ID#.

Plant (Source) Name	State	Plant Code	Unit ID#
J. M. Stuart Station	OH	2850	2

STEP 2
Indicate the program(s) that the unit is subject to

☒ Acid Rain Program
☒ CSAPR NO_x Annual Trading Program
☒ CSAPR NO_x Ozone Season Trading Program
☒ CSAPR SO_2 Annual Trading Program

STEP 3
Identify the date on which the unit was (or will be) permanently retired.

June 1, 2018

STEP 4
If the unit is subject to the Acid Rain Program, identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.8(d).

January 1, 2019

STEP 5
Read the appropriate special provisions.

Acid Rain Program Special Provisions

(1) A unit exempt under 40 CFR 72.8 shall not emit any sulfur dioxide and nitrogen oxides starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with 40 CFR part 73 subpart B.
(2) A unit exempt under 40 CFR 72.8 shall not resume operation unless the designated representative of the source that includes the unit submits a complete Acid Rain permit application under 40 CFR 72.31 for the unit not less than 24 months prior to the date on which the unit is first to resume operation.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.8 shall comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) For any period for which a unit is exempt under 40 CFR 72.8, the unit is not an affected unit under the Acid Rain Program and 40 CFR part 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.
(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.8 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. The owners and operators bear the burden of proof that the unit is permanently retired.
(6) On the earlier of the following dates, a unit exempt under 40 CFR 72.8(b) or (c) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR part 70 and 71: (i) the date on which the designated representative submits an Acid Rain permit application under paragraph (2); or (ii) the date on which the designated representative is required under paragraph (2) to submit an Acid Rain permit application. For the purpose of applying monitoring requirements under 40 CFR part 75, a unit that loses its exemption under 40 CFR 72.8 shall be treated as a new unit that commenced commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Annual Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.405 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.405 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.405 shall comply with the requirements of the CSAPR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.405 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart AAAAA, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.505 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.505 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.505 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.505 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart BBBBB, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.805 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.805 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.805 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.805 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart EEEEE, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.605 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.605 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.605 shall comply with the requirements of the CSAPR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.605 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart CCCCC, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.705 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.705 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.705 shall comply with the requirements of the CSAPR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.705 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart DDDDD, as a unit that commences commercial operation on the first date on which the unit resumes operation.

STEP 6
Read the statement of compliance and the appropriate certification statements and sign and date.

Statement of Compliance
I certify that the unit identified above at STEP 1 was (or will be) permanently retired on the date identified at STEP 3 and will comply with the appropriate Special Provisions listed at STEP 5.

Certification (for designated representatives or alternate designated representatives only)
I am authorized to make this submission on behalf of the owners and operators of the source and unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Daniel W. Sweeney	Title Director
Owner Company Name AES Ohio Generation, LLC	
Phone 937-259-7716	Email dan.sweeney@aes.com
Signature Daniel W. Sweeney	Date 8/10/18

Certification (for certifying officials of units subject to the Acid Rain Program only)
I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine orimprisonment.

Name	Title
Owner Company Name	
Phone	Email
Signature	Date

Retired Unit Exemption

For more information, see instructions and refer to 40 CFR 72.8, 97.405, 97.505, 97.605, 97.705 and 97.805, or a comparable state regulation, as applicable.

This submission is: ☒ New ☐ Revised

STEP 1
Identify the unit by plant (source) name, State, plant code and unit ID#.

Plant (Source) Name	State	Plant Code	Unit ID#
J. M. Stuart Station	OH	2850	3

STEP 2
Indicate the program(s) that the unit is subject to

☒ Acid Rain Program
☒ CSAPR NO_X Annual Trading Program
☒ CSAPR NO_X Ozone Season Trading Program
☒ CSAPR SO_2 Annual Trading Program

STEP 3
Identify the date on which the unit was (or will be) permanently retired.

June 1, 2018

STEP 4
If the unit is subject to the Acid Rain Program, identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.8(d).

January 1, 2019

STEP 5
Read the appropriate special provisions.

Acid Rain Program Special Provisions

(1) A unit exempt under 40 CFR 72.8 shall not emit any sulfur dioxide and nitrogen oxides starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with 40 CFR part 73 subpart B.
(2) A unit exempt under 40 CFR 72.8 shall not resume operation unless the designated representative of the source that includes the unit submits a complete Acid Rain permit application under 40 CFR 72.31 for the unit not less than 24 months prior to the date on which the unit is first to resume operation.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.8 shall comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) For any period for which a unit is exempt under 40 CFR 72.8, the unit is not an affected unit under the Acid Rain Program and 40 CFR part 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.
(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.8 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. The owners and operators bear the burden of proof that the unit is permanently retired.
(6) On the earlier of the following dates, a unit exempt under 40 CFR 72.8(b) or (c) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR part 70 and 71: (i) the date on which the designated representative submits an Acid Rain permit application under paragraph (2); or (ii) the date on which the designated representative is required under paragraph (2) to submit an Acid Rain permit application. For the purpose of applying monitoring requirements under 40 CFR part 75, a unit that loses its exemption under 40 CFR 72.8 shall be treated as a new unit that commenced commercial operation on the first date on which the unit resumes operation.

CSAPR NO_x Annual Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.405 shall not emit any NO_x, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.405 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.405 shall comply with the requirements of the CSAPR NO_x Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.405 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart AAAAA, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_x Ozone Season Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.505 shall not emit any NO_x, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.505 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.505 shall comply with the requirements of the CSAPR NO_x Ozone Season Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.505 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart BBBBB, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_x Ozone Season Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.805 shall not emit any NO_x, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.805 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.805 shall comply with the requirements of the CSAPR NO_x Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.805 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart EEEEE, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.605 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.605 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.605 shall comply with the requirements of the CSAPR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.605 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart CCCCC, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.705 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.705 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.705 shall comply with the requirements of the CSAPR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.705 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart DDDDD, as a unit that commences commercial operation on the first date on which the unit resumes operation.

STEP 6
Read the statement of compliance and the appropriate certification statements and sign and date.

Statement of Compliance
I certify that the unit identified above at STEP 1 was (or will be) permanently retired on the date identified at STEP 3 and will comply with the appropriate Special Provisions listed at STEP 5.

Certification (for designated representatives or alternate designated representatives only)
I am authorized to make this submission on behalf of the owners and operators of the source and unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Daniel W. Sweeney	Title Director
Owner Company Name AES Ohio Generation, LLC	
Phone 937-259-7716	Email dan.sweeney@aes.com
Signature Daniel W. Sweeney	Date 8/10/18

Certification (for certifying officials of units subject to the Acid Rain Program only)
I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine orimprisonment.

Name	Title
Owner Company Name	
Phone	Email
Signature	Date

United States Environmental Protection Agency
Acid Rain and CSAPR Trading Programs

OMB Nos. 2060-0258 and 2060-0667
Approval Expires 11/30/2018

Retired Unit Exemption

For more information, see instructions and refer to 40 CFR 72.8, 97.405, 97.505, 97.605, 97.705 and 97.805, or a comparable state regulation, as applicable.

This submission is: ☒ New ☐ Revised

STEP 1
Identify the unit by plant (source) name, State, plant code and unit ID#.

Plant (Source) Name	State	Plant Code	Unit ID#
J. M. Stuart Station	OH	2850	4

STEP 2
Indicate the program(s) that the unit is subject to

☒ Acid Rain Program
☒ CSAPR NO_X Annual Trading Program
☒ CSAPR NO_X Ozone Season Trading Program
☒ CSAPR SO_2 Annual Trading Program

STEP 3
Identify the date on which the unit was (or will be) permanently retired.

June 1, 2018

STEP 4
If the unit is subject to the Acid Rain Program, identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.8(d).

January 1, 2019

STEP 5
Read the appropriate special provisions.

Acid Rain Program Special Provisions

(1) A unit exempt under 40 CFR 72.8 shall not emit any sulfur dioxide and nitrogen oxides starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with 40 CFR part 73 subpart B.
(2) A unit exempt under 40 CFR 72.8 shall not resume operation unless the designated representative of the source that includes the unit submits a complete Acid Rain permit application under 40 CFR 72.31 for the unit not less than 24 months prior to the date on which the unit is first to resume operation.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.8 shall comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) For any period for which a unit is exempt under 40 CFR 72.8, the unit is not an affected unit under the Acid Rain Program and 40 CFR part 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.
(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.8 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. The owners and operators bear the burden of proof that the unit is permanently retired.
(6) On the earlier of the following dates, a unit exempt under 40 CFR 72.8(b) or (c) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR part 70 and 71: (i) the date on which the designated representative submits an Acid Rain permit application under paragraph (2); or (ii) the date on which the designated representative is required under paragraph (2) to submit an Acid Rain permit application. For the purpose of applying monitoring requirements under 40 CFR part 75, a unit that loses its exemption under 40 CFR 72.8 shall be treated as a new unit that commenced commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Annual Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.405 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.405 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.405 shall comply with the requirements of the CSAPR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.405 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart AAAAA, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.505 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.505 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.505 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.505 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart BBBBB, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR NO_X Ozone Season Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.805 shall not emit any NO_X, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.805 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.805 shall comply with the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.805 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart EEEEE, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 1 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.605 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.605 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.605 shall comply with the requirements of the CSAPR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.605 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart CCCCC, as a unit that commences commercial operation on the first date on which the unit resumes operation.

CSAPR SO_2 Group 2 Trading Program Special Provisions

(1) A unit exempt under 40 CFR 97.705 shall not emit any SO_2, starting on the date that the exemption takes effect.
(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 97.705 shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.
(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 97.705 shall comply with the requirements of the CSAPR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
(4) A unit exempt under 40 CFR 97.705 shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under 40 CFR part 97 subpart DDDDD, as a unit that commences commercial operation on the first date on which the unit resumes operation.

STEP 6
Read the statement of compliance and the appropriate certification statements and sign and date.

Statement of Compliance
I certify that the unit identified above at STEP 1 was (or will be) permanently retired on the date identified at STEP 3 and will comply with the appropriate Special Provisions listed at STEP 5.

Certification (for designated representatives or alternate designated representatives only)
I am authorized to make this submission on behalf of the owners and operators of the source and unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Daniel W. Sweeney	Title Director
Owner Company Name AES Ohio Generation, LLC	
Phone 937-259-7716	Email dan.sweeney@aes.com
Signature Daniel W. Sweeney	Date 8/10/18

Certification (for certifying officials of units subject to the Acid Rain Program only)
I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine orimprisonment.

Name	Title
Owner Company Name	
Phone	Email
Signature	Date

Facility Profile Report
Facility Name: Kingfisher Development, LLC
ID: 0701000007

Facility : 0701000007

Sep 4 2020, 12:00:44

- Facility Information

Facility ID: 0701000007

FacilityName: Kingfisher Development, LLC

Facility Description: Former Stuart Electric Generating Station

Address1: 745 U.S. Route 52

Address2:

City: Manchester State: Ohio

Zip Code: 45144

Portable:

Operating Status: Operating

Permitting Classification: TV PER Due Date: None

Transitional Status: None

Title V Permit Status: Active Title V Certification Report Due Date: April 30

Emissions Reporting Category for 2019: TV Status: Submitted

Anticipated Emissions Reporting Category for 2020: TV

Core Place ID: 1889

Latitude: 38.636112

Longtitude: -83.693886

- Yearly Emissions Reporting Category

Year	Category	Enabled	Status
2019	TV	X	Submitted
2018	TV	X	Submitted
2017	TV	X	Submitted
2016	TV	X	Submitted
2015	TV	X	Submitted
2014	TV	X	Submitted
2013	TV	X	Submitted
2012	TV	X	Submitted
2011	TV	X	Submitted
2010	TV	X	Submitted
2009	TV	X	Submitted
2008	TV	X	Submitted
2007	TV	X	Submitted
2006	TV	X	Submitted
2005	TV	X	Submitted
2004	TV	X	Submitted
2003	TV	X	Submitted
2002	TV	X	Submitted
2001	TV	X	Submitted
2000	TV	X	Submitted
1999	TV	X	Submitted

1998	TV	X	Submitted
1997	TV	X	Submitted

- **SIC Codes**

4911 Electric Services

- **NAICS Codes**

221112 Fossil Fuel Electric Power Generation

- **Contacts**

Contact Type	Contact Person	Phone Number	Email	Start Date	End Date
Billing	Denison, Linda	(614)565-2297	Linda.Denison.2297@gmail.com	12/21/2019	
Primary	Denison, Linda	(614)565-2297	Linda.Denison.2297@gmail.com	12/21/2019	
On Site	Denison, Linda	(614)565-2297	Linda.Denison.2297@gmail.com	12/21/2019	
Owner	Kingfisher Development, LLC	(314)686-4514		12/21/2019	
Operator	Kingfisher Development, LLC	(314)686-4514		12/21/2019	
Responsible Official	Froh, Ronald	(314)858-0038	admin@clpstl.com	12/21/2019	
Primary	Williams, Troy	(937)331-4910	troy.williams@aes.com	03/27/2019	12/20/2019
On Site	Williams, Troy	(937)331-4910	troy.williams@aes.com	03/27/2019	12/20/2019
Billing	Williams, Troy	(937)331-4910	troy.williams@aes.com	03/27/2019	12/20/2019
Other	Williams, Troy	(937)331-4910	troy.williams@aes.com	01/01/2012	03/26/2019
Responsible Official	Sweeney, Daniel William	(937)259-7716	dan.sweeney@aes.com	01/01/2019	12/20/2019
Owner	AES Ohio Generation , LLC	(937)259-7716		10/01/2017	12/20/2019
Operator	AES Ohio Generation , LLC	(937)259-7716		10/01/2017	12/20/2019
On Site	Gregory, Bryan	(937)549-2641	bryan.gregory@aes.com	01/23/2017	01/04/2019
Billing	Gregory, Bryan	(937)549-2641	bryan.gregory@aes.com	01/23/2017	01/04/2019
Primary	Gregory, Bryan	(937)549-2641	bryan.gregory@aes.com	01/23/2017	01/04/2019
Responsible Official	Miller, Mark	(937)549-2641	mark.miller@aes.com	04/29/2015	01/01/2019
Other	Newberry, Randall	(937)549-2641	randall.newberry@aes.com	01/01/2017	06/01/2018
Operator	The Dayton Power & Light Company			06/16/2008	09/30/2017
Owner	DPL Inc.			12/31/2007	09/30/2017
On Site	Perry, Mesa	(937)549-2641	mesa.perry@aes.com	03/21/2016	10/31/2016
Primary	Perry, Mesa	(937)549-2641	mesa.perry@aes	03/21/2016	10/31/2016

			.com		
Billing	Perry, Mesa	(937)549-2641	mesa.perry@aes.com	03/21/2016	10/31/2016
On Site	Perry, Mesa	(937)549-2641	mesa.perry@aes.com	07/14/2015	10/31/2016
Billing	Newberry, Randall	(937)549-2641	josh.manley@dplinc.com	01/01/2011	03/20/2016
On Site	Newberry, Randall	(937)549-2641	josh.manley@dplinc.com	01/01/2011	03/20/2016
Primary	Newberry, Randall	(937)549-2641	josh.manley@dplinc.com	01/01/2011	03/20/2016
Responsible Official	Orme, David			01/01/2011	12/31/2015
Responsible Official	Orme, David			06/16/2008	11/01/2008
Responsible Official	Scott, Brad	(937)549-2641		06/01/2014	04/28/2015
Responsible Official	Guerriero, Mark	(937)549-2641	mark.guerriero@dplinc.com	11/01/2008	12/31/2010
Primary	Lemaster, Leslia	(937)549-2641	leslialemaster@dplinc.com	06/16/2008	12/31/2010
Billing	Lemaster, Leslia	(937)549-2641	leslialemaster@dplinc.com	06/16/2008	12/31/2010
On Site	Lemaster, Leslia	(937)549-2641	leslialemaster@dplinc.com	06/16/2008	12/31/2010
On Site	Moore, Dave	(937)549-2641		06/16/2008	06/17/2008

Contact Detail For : Denison, Linda

Prefix:
First Name: Linda
Middle Name:
Last Name: Denison
Suffix:
Company Title:
Operating Company Name: Kingfisher Development, LLC
Address 1: 5430 Fox Hill Road
Address 2:
City: Hilliard
Zip Code: 43026
State: Ohio
Work Phone No: (614)565-2297
Secondary Phone No.:
Address 2:
Secondary Ext. No.:
Mobile Phone No.:
Pager No.:
Fax No:
Pager PIN No.:
Email: Linda.Denison.2297@gmail.com
Email Pager Address:

Contact Detail For : Kingfisher Development, LLC

Prefix:
First Name:
Middle Name:
Last Name:
Suffix:
Company Title:
Operating Company Name: Kingfisher Development, LLC
Address 1: 2275 Cassens Drive

Address 2:	Suite 118		
City:	Fenton	Zip Code:	63026
State:	Missouri		
Work Phone No:	(314)686-4514	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Froh, Ronald

Prefix:		First Name:	Ronald
Middle Name:		Last Name:	Froh
Suffix:			
Company Title:	President	Operating Company Name:	Kingfisher Development, LLC
Address 1:	2275 Cassens Drive		
Address 2:	Suite 118		
City:	Fenton	Zip Code:	63026
State:	Missouri		
Work Phone No:	(314)858-0038	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	admin@clpstl.com		
Email Pager Address:			

Contact Detail For : Williams, Troy

Prefix:		First Name:	Troy
Middle Name:		Last Name:	Williams
Suffix:			
Company Title:	Project Manager - Environmental Manager	Operating Company Name:	AES Ohio Generation, LLC
Address 1:	745 US Highway 52		
Address 2:			
City:	Manchester	Zip Code:	45144
State:	Ohio		
Work Phone No:	(937)331-4910	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:	(937)213-2069	Pager No.:	
Fax No:		Pager PIN No.:	
Email:	troy.williams@aes.com		
Email Pager Address:			

Contact Detail For : Sweeney, Daniel William

Prefix:	Mr.	First Name:	Daniel
Middle Name:	William	Last Name:	Sweeney
Suffix:			
Company Title:	Vice President	Operating Company Name:	AES Ohio Generation, LLC
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:	(937)259-7716	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:	(937)475-8501	Pager No.:	
Fax No:		Pager PIN No.:	
Email:	dan.sweeney@aes.com		
Email Pager Address:			

Contact Detail For : AES Ohio Generation , LLC

Prefix:		First Name:	
Middle Name:		Last Name:	
Suffix:			
Company Title:		Operating Company Name:	AES Ohio Generation , LLC
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:	(937)259-7716	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Gregory, Bryan

Prefix:		First Name:	Bryan
Middle Name:		Last Name:	Gregory
Suffix:			
Company Title:	Environmental Specialist	Operating Company Name:	DP&L - J.M. Stuart Station
Address 1:	PO Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		

Work Phone No:	(937)549-2641	Secondary Phone No.:	5810
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:	(937)892-0382	Pager No.:	
Fax No:		Pager PIN No.:	
Email:	bryan.gregory@aes.com		
Email Pager Address:			

Contact Detail For : Miller, Mark

Prefix:		First Name:	Mark
Middle Name:		Last Name:	Miller
Suffix:			
Company Title:	Vice President - Ohio Generation	Operating Company Name:	DP&L - J.M. Stuart Station
Address 1:	745 US 52		
Address 2:			
City:	Aberdeen	Zip Code:	45144
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	5732
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:	(937)549-4281	Pager PIN No.:	
Email:	mark.miller@aes.com		
Email Pager Address:			

Contact Detail For : Newberry, Randall

Prefix:		First Name:	Randall
Middle Name:		Last Name:	Newberry
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	PO Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	5856
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	randall.newberry@aes.com		
Email Pager Address:			

Contact Detail For : The Dayton Power & Light Company

Prefix:		First Name:	
Middle Name:		Last Name:	

Suffix:			
Company Title:		Operating Company Name:	The Dayton Power & Light Company
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:		Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : DPL Inc.

Prefix:		First Name:	
Middle Name:		Last Name:	
Suffix:			
Company Title:		Operating Company Name:	DPL Inc.
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:		Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Perry, Mesa

Prefix:		First Name:	Mesa
Middle Name:		Last Name:	Perry
Suffix:			
Company Title:		Operating Company Name:	The Dayton Power & Light Company
Address 1:	PO Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	5810
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	

Fax No:		Pager PIN No.:	
Email:	mesa.perry@aes.com		
Email Pager Address:			

Contact Detail For : Perry, Mesa

Prefix:	Ms.	First Name:	Mesa
Middle Name:		Last Name:	Perry
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	745 U.S. Route 52		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	5810
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	mesa.perry@aes.com		
Email Pager Address:			

Contact Detail For : Newberry, Randall

Prefix:		First Name:	Randall
Middle Name:		Last Name:	Newberry
Suffix:			
Company Title:		Operating Company Name:	The Dayton Power & Light Company
Address 1:	P.O. Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	josh.manley@dplinc.com		
Email Pager Address:			

Contact Detail For : Orme, David

Prefix:		First Name:	David
Middle Name:		Last Name:	Orme
Suffix:			
Company Title:		Operating Company Name:	

Address 1:	U.S. Route 52		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:		Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Scott, Brad

Prefix:	Mr.	First Name:	Brad
Middle Name:		Last Name:	Scott
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	745 U.S. Route 52		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Guerriero, Mark

Prefix:		First Name:	Mark
Middle Name:		Last Name:	Guerriero
Suffix:			
Company Title:	Plant Manager	Operating Company Name:	
Address 1:	PO Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	5600
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	mark.guerriero@dplinc.com		
Email Pager Address:			

Contact Detail For : Lemaster, Leslia

Prefix:		First Name:	Leslia
Middle Name:		Last Name:	Lemaster
Suffix:			
Company Title:	Engineer II	Operating Company Name:	
Address 1:	P.O. Box 468		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	leslialemaster@dplinc.com		
Email Pager Address:			

Contact Detail For : Moore, Dave

Prefix:		First Name:	Dave
Middle Name:		Last Name:	Moore
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	U.S. Route 52		
Address 2:			
City:	Aberdeen	Zip Code:	45101
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

- **Federal Rules Applicability**

Subject to MACT:	X	Subject to PSD:	
Subject to NESHAPS:		Subject to non-attainment NSR:	
Subject to NSPS:	X	Subject to 112(r):	
Subject to Title IV:			

MACT Subparts

DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters
ZZZZ - Reciprocating Internal Combustion Engines

NSPS Subparts

OOO - Nonmetallic Mineral Processing Plants

Emission Unit : B013

- Emission Unit Information

DAPC Emissions Unit ID: B013

DAPC Description: 70.157 mmBTU/hr fire tube auxiliary steam boiler.

Company Equipment ID: B013

Company Description: 70.157 mmBTU/hr fire tube auxiliary steam boiler.

Operating Status: Not Installed

Completion of Initial Installation Date:

Begin Installation/Modification Date:

Commence Operation After Installation or Latest Modification Date:

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B013 Fuel Oil

Company Process Description:

Source Classification Code (SCC): 1-02-005-02

Egress points(s) directly associated with this process

Aux B Stack

Emission Unit : F001

- Emission Unit Information

DAPC Emissions Unit ID: F001

DAPC Description: Plant Grounds, Roadways and Parking Areas

Company Equipment ID: Plant Grounds, Roadways and Parking Areas

Company Description: General vehicular traffic on paved/unpaved roads and areas, vehicular traffic associated with ash handling

Operating Status: Operating

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F001-Paved Roads

Company Process Description: Paved roads

Source Classification Code (SCC): S-01-001-01

Egress points(s) directly associated with this process

Roads

- Emission Process Information

Process ID: F001-Unpaved HDV/LDV

Company Process Description: Unpaved roads heavy duty vehicles

Source Classification Code (SCC): S-01-002-01

Egress points(s) directly associated with this process

Roads

Emission Unit : F002

- Emission Unit Information

DAPC Emissions Unit ID: F002

DAPC Description: Coal Storage Piles

Company Equipment ID: Coal Storage Piles

Company Description: Outside storage of coal and yard traffic

Operating Status: Operating

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F002-Coal Storage

Company Process Description:

Source Classification Code (SCC): 3-05-010-43

Egress points(s) directly associated with this process

Coal Stg

Emission Unit : F003

- **Emission Unit Information**

DAPC Emissions Unit ID: F003

DAPC Description: Coal and Ash Handling

Company Equipment ID: Coal and Ash Handling

Company Description: Coal unloading, transfer, and crushing operations; includes ash handling operations

Operating Status: Operating

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- **Processes**
  - **Emission Process Information**

Process ID: F003-Ash Handling

Company Process Description:

Source Classification Code (SCC): 3-05-888-01

Egress points(s) directly associated with this process

Ash Hndl

  - **Emission Process Information**

Process ID: F003-Coal Crushing

Company Process Description:

Source Classification Code (SCC): 3-05-010-10

Egress points(s) directly associated with this process

Matl Hndl

  - **Emission Process Information**

Process ID: F003-Coal Transfer

Company Process Description:

Source Classification Code (SCC): 3-05-010-11

Egress points(s) directly associated with this process

Coal Hndl

- **Emission Process Information**

Process ID: F003-Coal Unloading
Company Process Description:
Source Classification Code (SCC): 3-05-010-08

Egress points(s) directly associated with this process

Coal Hndl

Emission Unit : F004

- Emission Unit Information

DAPC Emissions Unit ID: F004

DAPC Description: flue gas desulfurization (FGD) material handling, transfer, conveying, bins, wet ball mills, and screens - Limestone and gypsum handling system.

Company Equipment ID: FGD Handling System

Company Description: flue gas desulfurization (FGD) material handling, transfer, conveying, bins, wet ball mills, and screens - Limestone and gypsum handling system.

Operating Status: Operating

Completion of Initial Installation Date: 05/21/2008

Begin Installation/Modification Date:

Commence Operation After Installation or Latest Modification Date: 01/31/2008

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F004 - Gyp. Handling

Company Process Description:

Source Classification Code (SCC): 3-05-015-03

Egress points(s) directly associated with this process

FGD Matl Hdl

- Emission Process Information

Process ID: F004 - Lime Handling

Company Process Description:

Source Classification Code (SCC): 3-05-101-05

Egress points(s) directly associated with this process

FGD Matl Hdl

Emission Unit : F005

- Emission Unit Information

DAPC Emissions Unit ID: F005

DAPC Description: Limestone and gypsum storage piles - load in and load out of storage piles and wind erosion from storage piles (see Section A.I.2.a for identification of storage piles)

Company Equipment ID: FGD Storage Piles

Company Description: Limestone and gypsum storage piles - load in and load out of storage piles and wind erosion from storage piles (see Section A.I.2.a for identification of storage piles)

Operating Status: Operating

Completion of Initial Installation Date: 03/31/2008

Begin Installation/Modification Date:

Commence Operation After Installation or Latest Modification Date: 02/07/2008

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F005 - L&G Storage

Company Process Description:

Source Classification Code (SCC): 3-05-016-10

Egress points(s) directly associated with this process

FGD Matl Stg

Emission Unit : F006

- Emission Unit Information

DAPC Emissions Unit ID: F006

DAPC Description: Carter Hollow Landfill -paved roads

Company Equipment ID: Carter Hollow Landfill - Unpaved Roads

Company Description: Carter Hollow Landfill Unpaved roads

Operating Status: Not Installed

Completion of Initial Installation Date: 01/01/2012

Begin Installation/Modification Date: 06/01/2011

Commence Operation After Installation or Latest Modification Date:

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: CHL - Unpaved Roads

Company Process Description: Unpaved Roads

Source Classification Code (SCC): 3-03-008-33

Egress points(s) directly associated with this process

CHL - Roads

Emission Unit : F007

- **Emission Unit Information**

DAPC Emissions Unit ID: F007

DAPC Description: Gypsum, fly ash, bottom ash landfill.

Company Equipment ID: Carter Hollow Landfill - Landfill Operations

Company Description: Unloading, grading/compacint & wind erosion in Carter Hollow Landfill

Operating Status: Not Installed

Completion of Initial Installation Date: 01/01/2012

Begin Installation/Modification Date: 06/01/2011

Commence Operation After Installation or Latest Modification Date:

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- **Processes**
  - **Emission Process Information**

Process ID: CHL - Grading

Company Process Description: Grading and compacting of gypsum

Source Classification Code (SCC): 3-05-010-47

Egress points(s) directly associated with this process

CHL-Landfill

  - **Emission Process Information**

Process ID: CHL - Unloading

Company Process Description: Unloading gypsum to landfill

Source Classification Code (SCC): 3-05-010-08

Egress points(s) directly associated with this process

CHL-Landfill

  - **Emission Process Information**

Process ID: CHL - Wind

Company Process Description: Wind erosion

Source Classification Code (SCC): 3-05-010-49

Egress points(s) directly associated with this process

CHL-Landfill

Emission Unit : L001

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L001

DAPC Description: Green Sands Cold Cleaner

Company Equipment ID: Green Sands Cold Cleaner

Company Description: Model 23 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L002

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L002

DAPC Description: Plant Maintenance Cold Cleaner

Company Equipment ID: Plant Maintenance Cold Cleaner

Company Description: Model 33 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L003

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L003

DAPC Description: Coal Handling Cold Cleaner

Company Equipment ID: Coal Handling Cold Cleaner

Company Description: Model 33 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L004

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L004

DAPC Description: Vehicle Maintenance Cold Cleaner

Company Equipment ID: Vehicle Maintenance Cold Cleaner

Company Description: Model 33 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/08/2012

Begin Installation/Modification Date: 03/08/2012

Commence Operation After Installation or Latest Modification Date: 03/08/2012

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L005

- Emission Unit Information

DAPC Emissions Unit ID: L005

DAPC Description: Tool Shop Cold Cleaner

Company Equipment ID: Tool Shop Cold Cleaner

Company Description: Model 60 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L006

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L006

DAPC Description: FGD Shop Cold Cleaner

Company Equipment ID: FGD Shop Cold Cleaner

Company Description: Model 81 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 12/14/2011

Begin Installation/Modification Date: 12/14/2011

Commence Operation After Installation or Latest Modification Date: 12/14/2011

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L007

- Emission Unit Information

DAPC Emissions Unit ID: L007

DAPC Description: Control Shop Cold Cleaner

Company Equipment ID: Control Shop Cold Cleaner

Company Description: Model 58 Safety-Kleen cold colvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L008

- Emission Unit Information

DAPC Emissions Unit ID: L008

DAPC Description: Machine Shop Cold Cleaner

Company Equipment ID: Machine Shop Cold Cleaner

Company Description: Model 52 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L009

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: L009

DAPC Description: Vehicle Maintenance Cold Cleaner

Company Equipment ID: Vehicle Maintenance Cold Cleaner

Company Description: Model 150 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L010

- Emission Unit Information

DAPC Emissions Unit ID: L010

DAPC Description: H Row (Unit 2 Boiler Feed Pump) Cold Cleaner

Company Equipment ID: H Row (Unit 2 Boiler Feed Pump) Cold Cleaner

Company Description: Model 152 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 03/19/2008

Begin Installation/Modification Date: 03/19/2008

Commence Operation After Installation or Latest Modification Date: 03/19/2008

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : L011

- Emission Unit Information

DAPC Emissions Unit ID: L011

DAPC Description: H Row (Unit 4 Boiler Feed Pump) Cold Cleaner

Company Equipment ID: H Row (Unit 4 Boiler Feed Pump) Cold Cleaner

Company Description: Model152 Safety-Kleen cold solvent degreaser

Operating Status: Operating

Completion of Initial Installation Date: 11/04/2010

Begin Installation/Modification Date: 11/04/2010

Commence Operation After Installation or Latest Modification Date: 11/04/2010

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : P001

- Emission Unit Information

DAPC Emissions Unit ID: P001

DAPC Description: Fire Protection Pump

Company Equipment ID: Fire Protection Pump

Company Description: 281 hp (0.7 MMBtu/hr) oil-fired fire protection pump

Operating Status: Operating

Completion of Initial Installation Date: 12/01/1982

Begin Installation/Modification Date: 12/01/1982

Commence Operation After Installation or Latest Modification Date: 12/01/1982

Title V EU Classification: Insignificant

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: No. 2 Oil

Company Process Description: Fire Pump

Source Classification Code (SCC): 2-02-001-02

Egress points(s) directly associated with this process

Fire Pump

Emission Unit : T001

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: T001

DAPC Description: Dechlorination tank

Company Equipment ID: DECHLORINATION TANK

Company Description: 1,580 GAL VERTICAL CYLINDRICAL DECHLORINATION TANK

Operating Status: Operating

Completion of Initial Installation Date: 10/07/1994

Begin Installation/Modification Date: 10/07/1994

Commence Operation After Installation or Latest Modification Date: 10/07/1994

Title V EU Classification: Trivial

Exemption Status: De minimis

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T002

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: T002

DAPC Description: Dechlorination tank

Company Equipment ID: DECHLORINATION TANK

Company Description: 1,580 GAL VERTICAL CYLINDRICAL DECHLORINATION TANK

Operating Status: Operating

Completion of Initial Installation Date: 10/07/1994

Begin Installation/Modification Date: 10/07/1994

Commence Operation After Installation or Latest Modification Date: 10/07/1994

Title V EU Classification: Trivial

Exemption Status: De minimis

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T003

- Emission Unit Information

DAPC Emissions Unit ID: T003

DAPC Description: Dechlorination tank

Company Equipment ID: DECHLORINATION TANK

Company Description: 1,580 GAL VERTICAL CYLINDRICAL DECHLORINATION TANK

Operating Status: Operating

Completion of Initial Installation Date: 10/07/1994

Begin Installation/Modification Date: 10/07/1994

Commence Operation After Installation or Latest Modification Date: 10/07/1994

Title V EU Classification: Trivial

Exemption Status: De minimis

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T004

- Emission Unit Information

DAPC Emissions Unit ID: T004

DAPC Description:

Company Equipment ID: BLEACH TANK

Company Description: 10,500 GALLON VERTICAL CYLINDRICAL BLEACH TANK

Operating Status: Operating

Completion of Initial Installation Date: 10/07/1994

Begin Installation/Modification Date: 10/07/1994

Commence Operation After Installation or Latest Modification Date: 10/07/1994

Title V EU Classification: Trivial

Exemption Status: De minimis

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T005

- Emission Unit Information

DAPC Emissions Unit ID: T005

DAPC Description:

Company Equipment ID: Light Oil Storage Tank

Company Description: 250,000 gallon aboveground storage tank for light oil

Operating Status: Operating

Completion of Initial Installation Date: 01/01/1995

Begin Installation/Modification Date: 01/01/1995

Commence Operation After Installation or Latest Modification Date: 06/01/1996

Title V EU Classification: Insignificant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T006

- Emission Unit Information

DAPC Emissions Unit ID: T006

DAPC Description:

Company Equipment ID: Gasoline Storage Tank and Dispensing Facility

Company Description: 4,000 gallon underground storage tank and fuel dispensing nozzle

Operating Status: Operating

Completion of Initial Installation Date: 01/01/1981

Begin Installation/Modification Date: 01/01/1981

Commence Operation After Installation or Latest Modification Date: 01/01/1981

Title V EU Classification: Insignificant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : T007

- Emission Unit Information

DAPC Emissions Unit ID: T007

DAPC Description:

Company Equipment ID: Gasoline Storage Tank and Dispensing Facility

Company Description: 4,000 gallon underground storage tank and fuel dispensing nozzle

Operating Status: Operating

Completion of Initial Installation Date: 01/01/1981

Begin Installation/Modification Date: 01/01/1981

Commence Operation After Installation or Latest Modification Date: 01/01/1981

Title V EU Classification: Trivial

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Emission Unit : TMP188499

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: TMP188499

DAPC Description:

Company Equipment ID: Boiler No. 3

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Operating

Completion of Initial Installation Date:

Begin Installation/Modification Date:

Commence Operation After Installation or Latest Modification Date:

Title V EU Classification: Not Applicable

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID: 2850

- Processes

Emission Unit : TMP188500

Sep 4 2020, 12:00:45

- Emission Unit Information

DAPC Emissions Unit ID: TMP188500

DAPC Description:

Company Equipment ID: Boiler No. 4

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Operating

Completion of Initial Installation Date:

Begin Installation/Modification Date:

Commence Operation After Installation or Latest Modification Date:

Title V EU Classification: Not Applicable

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID: 2850

- Processes

Emission Unit : B001

- Emission Unit Information

DAPC Emissions Unit ID: B001

DAPC Description: B001- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 1

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 09/30/2017

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1971

Begin Installation/Modification Date: 06/01/1971

Commence Operation After Installation or Latest Modification Date: 06/01/1971

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID: 2850

- Processes

- Emission Process Information

Process ID: B001-Coal

Company Process Description:

Source Classification Code (SCC): 1-01-002-02

Control equipment(s) directly associated with this process

SCR No. 1

- Emission Process Information

Process ID: B001-Oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Control equipment(s) directly associated with this process

SCR No. 1

Emission Unit : B002

- Emission Unit Information

DAPC Emissions Unit ID: B002

DAPC Description: B002- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 2

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID: 2850

- Processes

- Emission Process Information

Process ID: B002-Coal

Company Process Description:

Source Classification Code (SCC): 1-01-002-02

Control equipment(s) directly associated with this process

SCR No. 2

- Emission Process Information

Process ID: B002-Oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Control equipment(s) directly associated with this process

SCR No. 2

Emission Unit : B003

- Emission Unit Information

DAPC Emissions Unit ID: B003

DAPC Description: B003- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 3

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1972

Begin Installation/Modification Date: 06/01/1972

Commence Operation After Installation or Latest Modification Date: 06/01/1972

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID: 5820

- Processes

- Emission Process Information

Process ID: B003-Coal

Company Process Description:

Source Classification Code (SCC): 1-01-002-02

Control equipment(s) directly associated with this process

SCR No. 3

- Emission Process Information

Process ID: B003-Oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Control equipment(s) directly associated with this process

SCR No. 3

Emission Unit : B004

- Emission Unit Information

DAPC Emissions Unit ID: B004

DAPC Description: B004- Babcock and Wilcox boiler

Company Equipment ID: Boiler No. 4

Company Description: Dry bottom, wall fired, pulverized coal utility boiler (Babcock and Wilcox, Model UP) with cell burner technology; 5,649 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1974

Begin Installation/Modification Date: 06/01/1974

Commence Operation After Installation or Latest Modification Date: 06/01/1974

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID: 5820

- Processes

- Emission Process Information

Process ID: B004-Coal

Company Process Description:

Source Classification Code (SCC): 1-01-002-02

Control equipment(s) directly associated with this process

LNB4

- Emission Process Information

Process ID: B004-Oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Control equipment(s) directly associated with this process

LNB4

Emission Unit : B005

- Emission Unit Information

DAPC Emissions Unit ID:	B005		
DAPC Description:	Auxillary Boiler		
Company Equipment ID:	Auxiliary Boiler		
Company Description:	Oil-fired back-up boiler (Babcock and Wilcox, Model CPB-7); 285 MMBtu/h nominal heat input		
Operating Status:	Permanently Shutdown	Shurdown Date:	12/01/2009
Shutdown Notification Date:	05/17/2012		
Completion of Initial Installation Date:	06/01/1970	Begin Installation/Modification Date:	06/01/1970
Commence Operation After Installation or Latest Modification Date:	06/01/1970		
Title V EU Classification:	Significant	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Boiler/Heater	ORIS Boiler ID:	

- Processes

- Emission Process Information

Process ID:	B005-Oil
Company Process Description:	
Source Classification Code (SCC):	1-02-005-01

Egress points(s) directly associated with this process

Aux. Boiler

Emission Unit : B006

- Emission Unit Information

DAPC Emissions Unit ID: B006

DAPC Description: Diesel Generator No.1

Company Equipment ID: Generator No. 1

Company Description: Stationary internal combustion engine, large bore oil-fired electric generator (General Motors, Model MU-20E); 33 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B006-Oil

Company Process Description:

Source Classification Code (SCC): 2-01-001-02

Control equipment(s) directly associated with this process

DOC No. 1

Emission Unit : B007

- Emission Unit Information

DAPC Emissions Unit ID: B007

DAPC Description: Diesel Generator No.2

Company Equipment ID: Generator No. 2

Company Description: Stationary internal combustion engine, large bore oil-fired electric generator (General Motors, Model MU-20E); 33 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B007-Oil

Company Process Description:

Source Classification Code (SCC): 2-01-001-02

Control equipment(s) directly associated with this process

DOC No. 2

Emission Unit : B008

- Emission Unit Information

DAPC Emissions Unit ID: B008

DAPC Description: Diesel Generator No.3

Company Equipment ID: Generator No. 3

Company Description: Stationary internal combustion engine, large bore oil-fired electric generator (General Motors, Model MU-20E); 33 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B008-Oil

Company Process Description:

Source Classification Code (SCC): 2-01-001-02

Control equipment(s) directly associated with this process

DOC No. 3

Emission Unit : B009

- Emission Unit Information

DAPC Emissions Unit ID: B009

DAPC Description: Diesel Generator No.4

Company Equipment ID: Generator No. 4

Company Description: Stationary internal combustion engine, large bore oil-fired electric generator (General Motors, Model MU-20E); 33 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 06/01/1970

Begin Installation/Modification Date: 06/01/1970

Commence Operation After Installation or Latest Modification Date: 06/01/1970

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B009-Oil

Company Process Description:

Source Classification Code (SCC): 2-01-001-02

Control equipment(s) directly associated with this process

DOC No. 4

Emission Unit : B010

- Emission Unit Information

DAPC Emissions Unit ID: B010

DAPC Description: 70.157 mmBTU/hr fire tube auxilary steam boiler

Company Equipment ID: Auxilary Boiler

Company Description: 70.157 mmBTU/hr fire tube auxiliary steam boiler

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 01/18/2010

Begin Installation/Modification Date: 11/01/2008

Commence Operation After Installation or Latest Modification Date: 01/18/2010

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B010 Fuel Oil

Company Process Description:

Source Classification Code (SCC): 1-02-005-02

Egress points(s) directly associated with this process

Aux B Stack

Emission Unit : B011

- Emission Unit Information

DAPC Emissions Unit ID: B011

DAPC Description: 70.157 mm BTU/hr fire tube auxilary steam boiler.

Company Equipment ID: Auxilary Boiler

Company Description: 70.157 mm BTU/hr fire tube auxiliary steam boiler.

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 01/18/2010

Begin Installation/Modification Date: 11/01/2008

Commence Operation After Installation or Latest Modification Date: 01/18/2010

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B011 Fuel Oil

Company Process Description:

Source Classification Code (SCC): 1-02-005-02

Egress points(s) directly associated with this process

Aux B Stack

Emission Unit : B012

- Emission Unit Information

DAPC Emissions Unit ID: B012

DAPC Description: 70.157 mmBTU/hr fire tube auxiliary steam boiler.

Company Equipment ID: Auxilary Boiler

Company Description: 70.157 mmBTU/hr fire tube auxiliary steam boiler.

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 03/27/2019

Completion of Initial Installation Date: 01/18/2010

Begin Installation/Modification Date: 11/01/2008

Commence Operation After Installation or Latest Modification Date: 01/18/2010

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B012 Fuel Oil

Company Process Description:

Source Classification Code (SCC): 1-02-005-02

Egress points(s) directly associated with this process

Aux B Stack

Emission Unit : Z100

- Emission Unit Information

DAPC Emissions Unit ID:	Z100		
DAPC Description:			
Company Equipment ID:	Light Oil Storage Tank No. 1		
Company Description:	50,000 gallon underground storage tank for No. 2 fuel oil		
Operating Status:	Permanently Shutdown	Shurdown Date:	06/30/1996
Shutdown Notification Date:	06/30/1996		
Completion of Initial Installation Date:	04/01/1968	Begin Installation/Modification Date:	04/01/1968
Commence Operation After Installation or Latest Modification Date:	04/01/1968		
Title V EU Classification:	Not Applicable	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : Z101

- Emission Unit Information

DAPC Emissions Unit ID:	Z101		
DAPC Description:			
Company Equipment ID:	Light Oil Storage Tank No. 2		
Company Description:	50,000 gallon underground storage tank for No. 2 fuel oil		
Operating Status:	Permanently Shutdown	Shurdown Date:	06/30/1996
Shutdown Notification Date:	06/30/1996		
Completion of Initial Installation Date:	04/01/1968	Begin Installation/Modification Date:	04/01/1968
Commence Operation After Installation or Latest Modification Date:	04/01/1968		
Title V EU Classification:	Not Applicable	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Control Equipment : DOC No. 1

Sep 4 2020, 12:00:45

- **Control Equipment Information**

Equipment Type: Other
DAPC Description:
Company ID: DOC No. 1
Company Description: Diesel Oxidation Catalyst
Operating Status: Operating
Initial Installation Date: 07/01/2013
Manufacturer:
Model:

- **Specific Equipment Type information**

Equipment Description: Diesel Oxidation Catalyst

- **Pollutants Controlled**

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
CO - Carbon Monoxide	90	90	100	90

- **Associated Control Equipments And Egress Points**

Egress points(s) directly associated with this control equipment

Gen 1

Control Equipment : DOC No. 2

Sep 4 2020, 12:00:45

- Control Equipment Information

Equipment Type: Other

DAPC Description:

Company ID: DOC No. 2

Company Description: Diesel Oxidation Catalyst

Operating Status: Operating

Initial Installation Date: 07/01/2013

Manufacturer:

Model:

- Specific Equipment Type information

Equipment Description: Diesel Oxidation Catalyst

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
CO - Carbon Monoxide	90	90	100	90

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Gen 2

Control Equipment : DOC No. 3

- Control Equipment Information

Equipment Type: Other
DAPC Description:
Company ID: DOC No. 3
Company Description: Diesel Oxidation Catalyst
Operating Status: Operating
Initial Installation Date: 07/01/2013
Manufacturer:
Model:

- Specific Equipment Type information

Equipment Description: Diesel Oxidation Catalyst

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
CO - Carbon Monoxide	90	90	100	90

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Gen 3

Control Equipment : DOC No. 4

Sep 4 2020, 12:00:45

- **Control Equipment Information**

Equipment Type: Other
DAPC Description:
Company ID: DOC No. 4
Company Description: Diesel Oxidation Catalyst
Operating Status: Operating
Initial Installation Date: 07/01/2013
Manufacturer:
Model:

- **Specific Equipment Type information**

Equipment Description: Diesel Oxidation Catalyst

- **Pollutants Controlled**

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
CO - Carbon Monoxide	90	90	100	90

- **Associated Control Equipments And Egress Points**

Egress points(s) directly associated with this control equipment

Gen 4

Control Equipment : ESP No. 1

Sep 4 2020, 12:00:45

- **Control Equipment Information**

Equipment Type: Electrostatic Precipitator
DAPC Description: Max Emission Rate UNKNOWN
Company ID: ESP No. 1
Company Description: Max Emission Rate UNKNOWN
Operating Status: Operating
Initial Installation Date: 06/01/1971
Manufacturer: Buell Engineering
Model: BA1.2X54K-33P-2P

- **Specific Equipment Type information**

Precipitator Type: Dry
Equipment Description:
Number of Operating Fields: 0
Secondary Voltage Range: 0-45 kV
Secondary Current Milliamps Range:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000

- **Pollutants Controlled**

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	99.50	99.50	100	99.5
PM10 (Filt) - Primary PM10, Filterable Portion Only	99.5	99.5	100	99.5

- **Associated Control Equipments And Egress Points**

Control equipment(s) directly associated with this control equipment

FGD No. 1

Egress points(s) directly associated with this control equipment

Boiler#1 ESP

Control Equipment : ESP No. 2

Sep 4 2020, 12:00:45

- Control Equipment Information

Equipment Type: Electrostatic Precipitator
DAPC Description: Max Emission Rate UNKNOWN
Company ID: ESP No. 2
Company Description: Max Emission Rate UNKNOWN
Operating Status: Operating
Initial Installation Date: 06/01/1970
Manufacturer: Buell Engineering
Model: BA1.2X54K-33P-2P

- Specific Equipment Type information

Precipitator Type: Dry
Equipment Description:
Number of Operating Fields: 0
Secondary Voltage Range: 0-45 kV
Secondary Current Milliamps Range:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	99.50	99.50	100	99.5
PM10 (Filt) - Primary PM10, Filterable Portion Only	99.5	99.5	100	99.5

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

FGD No. 2

Egress points(s) directly associated with this control equipment

Boiler#2 ESP

Control Equipment : ESP No. 3

- Control Equipment Information

Equipment Type: Electrostatic Precipitator
DAPC Description: Max Emission Rate UNKNOWN
Company ID: ESP No. 3
Company Description: Max Emission Rate UNKNOWN
Operating Status: Operating
Initial Installation Date: 06/01/1972
Manufacturer: Buell Engineering
Model: BA1.2X54K-33P-2P

- Specific Equipment Type information

Precipitator Type: Dry
Equipment Description:
Number of Operating Fields: 0
Secondary Voltage Range: 0-45 kV
Secondary Current Milliamps Range:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	99.50	99.50	100	99.5
PM10 (Filt) - Primary PM10, Filterable Portion Only	99.5	99.5	100	99.5

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

FGD No. 3

Egress points(s) directly associated with this control equipment

Boiler#3 ESP

Control Equipment : ESP No. 4

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- Control Equipment Information

Equipment Type: Electrostatic Precipitator

DAPC Description: Max Emission Rate UNKNOWN

Company ID: ESP No. 4

Company Description: Max Emission Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 06/01/1974

Manufacturer: Buell Engineering

Model: BA2.1X54K-33-2P

- Specific Equipment Type information

Precipitator Type: Dry

Equipment Description:

Number of Operating Fields: 0

Secondary Voltage Range: 0-45 kV

Secondary Current Milliamps Range:

Inlet Gas Flow Rate: 2000000

Outlet Gas Flow Rate: 2000000

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	99.50	99.50	100	99.5
PM10 (Filt) - Primary PM10, Filterable Portion Only	99.5	99.5	100	99.5

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

FGD No. 4

Egress points(s) directly associated with this control equipment

Boiler#4 ESP

Control Equipment : FGD No. 1

- Control Equipment Information

Equipment Type: Wet Scrubber
DAPC Description:
Company ID: FGD No. 1
Company Description: No. 1 Boiler Scrubber
Operating Status: Operating
Initial Installation Date: 05/05/2008
Manufacturer: Chiyoda
Model:

- Specific Equipment Type information

Wet Scrubber Type: Other
Equipment Description: No. 1 Boiler Scrubber
Operating Pressure Drop Range: 1-24
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated:
Scrubber Liquid Flow Rate:
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000
Inlet Gas Temp: 127
Outlet Gas Temp: 127

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	94	94	100	94
PM10 (Filt) - Primary PM10, Filterable Portion Only	94	94	100	94
SO2 - Sulfur Dioxide	97	97	100	97
VOC - Volatile Organic Compounds	10	10	100	10

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Boiler#1 FGD

Control Equipment : FGD No. 2

- Control Equipment Information

Equipment Type: Wet Scrubber
DAPC Description:
Company ID: FGD No. 2
Company Description: No. 2 Boiler Scrubber
Operating Status: Operating
Initial Installation Date: 05/23/2008
Manufacturer: Chiyoda
Model:

- Specific Equipment Type information

Wet Scrubber Type: Other
Equipment Description: No. 2 Boiler Scrubber
Operating Pressure Drop Range: 1-24
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated:
Scrubber Liquid Flow Rate:
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000
Inlet Gas Temp: 127
Outlet Gas Temp: 127

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	94	94	100	94
PM10 (Filt) - Primary PM10, Filterable Portion Only	94	94	100	94
SO2 - Sulfur Dioxide	97	97	100	97
VOC - Volatile Organic Compounds	10	10	100	10

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Boiler#2 FGD

Control Equipment : FGD No. 3

- Control Equipment Information

Equipment Type: Wet Scrubber
DAPC Description:
Company ID: FGD No. 3
Company Description: No. 3 Boiler Scrubber
Operating Status: Operating
Initial Installation Date: 02/28/2008
Manufacturer: Chiyoda
Model:

- Specific Equipment Type information

Wet Scrubber Type: Other
Equipment Description: No. 3 Boiler Scrubber
Operating Pressure Drop Range: 1-24
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated:
Scrubber Liquid Flow Rate:
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000
Inlet Gas Temp: 127
Outlet Gas Temp: 127

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	94	94	100	94
PM10 (Filt) - Primary PM10, Filterable Portion Only	94	94	100	94
SO2 - Sulfur Dioxide	97	97	100	97
VOC - Volatile Organic Compounds	10	10	100	10

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Boiler#3 FGD

Control Equipment : FGD No. 4

- Control Equipment Information

Equipment Type: Wet Scrubber
DAPC Description:
Company ID: FGD No. 4
Company Description: No. 4 Boiler Scrubber
Operating Status: Operating
Initial Installation Date: 02/01/2008
Manufacturer: Chiyoda
Model:

- Specific Equipment Type information

Wet Scrubber Type: Other
Equipment Description: No. 4 Boiler Scrubber
Operating Pressure Drop Range: 1-24
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated:
Scrubber Liquid Flow Rate:
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 2000000
Outlet Gas Flow Rate: 2000000
Inlet Gas Temp: 127
Outlet Gas Temp: 127

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	94	94	100	94
PM10 (Filt) - Primary PM10, Filterable Portion Only	94	94	100	94
SO2 - Sulfur Dioxide	97	97	100	97
VOC - Volatile Organic Compounds	10	10	100	10

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

Boiler#4 FGD

Control Equipment : LNB4

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- Control Equipment Information

Equipment Type: Other

DAPC Description: Max Emission Rate UNKNOWN; flow rate & temp. N/A

Company ID: LNB4

Company Description: Max Emission Rate UNKNOWN; flow rate & temp. N/A

Operating Status: Operating

Initial Installation Date: 10/01/1991

Manufacturer: Babcock & Wilcox

Model: LNCB

- Specific Equipment Type information

Equipment Description: B004 was retrofitted with Low NOx Cell Burners in 1991 as a result of a cooperative agreement with the Department of Energy's Clean Coal III Program. The project was a full scale demonstration of Low NOx Cell Technology.

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	50	50	100	50

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

SCR No. 4

Control Equipment : SCR No. 1

- Control Equipment Information

Equipment Type: Other

DAPC Description: Max Emission Rate UNKNOWN

Company ID: SCR No. 1

Company Description: Max Emission Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 04/01/2004

Manufacturer: Black & Veatch

Model: N/A

- Specific Equipment Type information

Equipment Description: Selective catalytic reduction - use of ammonia injected into the flue gas stream for reduction of NOx

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	85	85	100	85

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

ESP No. 1

Control Equipment : SCR No. 2

- Control Equipment Information

Equipment Type: Other

DAPC Description: Max Emission Rate UNKNOWN

Company ID: SCR No. 2

Company Description: Max Emission Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 04/01/2004

Manufacturer: Black & Veatch

Model: N/A

- Specific Equipment Type information

Equipment Description: Selective catalytic reduction - use of ammonia injected into the flue gas stream for reduction of NOx

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	85	85	100	85

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

ESP No. 2

Control Equipment : SCR No. 3

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- Control Equipment Information

Equipment Type: Other

DAPC Description: Max Emission Rate UNKNOWN

Company ID: SCR No. 3

Company Description: Max Emission Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 04/01/2004

Manufacturer: Black & Veatch

Model: N/A

- Specific Equipment Type information

Equipment Description: Selective catalytic reduction - use of ammonia injected into the flue gas stream for reduction of NOx

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	85	85	100	85

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

ESP No. 3

Control Equipment : SCR No. 4

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- **Control Equipment Information**

Equipment Type: Other

DAPC Description: Max Emission Rate UNKNOWN

Company ID: SCR No. 4

Company Description: Max Emission Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 04/01/2004

Manufacturer: Black & Veatch

Model: N/A

- **Specific Equipment Type information**

Equipment Description: Selective catalytic reduction - use of ammonia injected into the flue gas stream for reduction of NOx

- **Pollutants Controlled**

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	85	85	100	85

- **Associated Control Equipments And Egress Points**

Control equipment(s) directly associated with this control equipment

ESP No. 4

Egress Point : Ash Hndl

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- Egress Point Information

Release Type: Fugitive-Area
DAPC Description:
Company ID: Ash Hndl
Company Description: Ash Hndl
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1250.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Area Source Dimensions

Length (ft): 10000.0
Width (ft): 10000.0
Release Height (ft):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work
Plume Temp (F): 50.0

Egress Point : Aux B Stack

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- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Aux B Stack
Company Description: Auxiliary Boiler Stack
Operating Status: Operating
Base Elevation (ft):
Fenceline Distance (ft):
Release Height (ft): 123.0

- Building Dimension

Length (ft)
Width (ft):
Height (ft):

- Egress Latitude and Longitude

Latitude:
Longitude:

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 41.3
Diameter (ft): 7.25
Temp At Max. Oper (F): 450.0
Flow At Max. Oper (acfm): 106084.0
Temp At Avg. Oper (F):
Flow At Avg. Oper (acfm):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Aux. Boiler

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Aux. Boiler
Company Description: Aux. Boiler
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1000.0
Release Height (ft): 123.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 34.94
Diameter (ft): 6.67
Temp At Max. Oper (F): 660.0
Flow At Max. Oper (acfm): 123800.0
Temp At Avg. Oper (F): 660.0
Flow At Avg. Oper (acfm): 123800.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Boiler#1 ESP

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#1 ESP
Company Description: Boiler #1 ESP Stack
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1000.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283
Diameter (ft): 19
Temp At Max. Oper (F): 290.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 290.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #1 ESP CEM		X	X										

Egress Point : Boiler#1 FGD

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#1 FGD
Company Description: Boiler #1
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 500.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283.53
Diameter (ft): 26
Temp At Max. Oper (F): 127.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 127.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #1 FGD CEM		X	X										

Egress Point : Boiler#2 ESP

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#2 ESP
Company Description: Boiler #2 ESP Stack
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1000.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283
Diameter (ft): 19
Temp At Max. Oper (F): 290.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 290.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #2 ESP CEM		X	X										

Egress Point : Boiler#2 FGD

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#2 FGD
Company Description: Boiler #2
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 500.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283.53
Diameter (ft): 26
Temp At Max. Oper (F): 127.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 127.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #2 FGD CEM		X	X										

Egress Point : Boiler#3 ESP

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#3 ESP
Company Description: Boiler #3 ESP Stack
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1000.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283
Diameter (ft): 19
Temp At Max. Oper (F): 290.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 290.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #3 ESP CEM		X	X										

Egress Point : Boiler#3 FGD

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#3 FGD
Company Description: Boiler #3
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 500.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283.53
Diameter (ft): 26
Temp At Max. Oper (F): 127.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 127.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #3 FGD CEM		X	X										

Egress Point : Boiler#4 ESP

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#4 ESP
Company Description: Boiler #4 ESP Stack
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1000.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283
Diameter (ft): 19
Temp At Max. Oper (F): 290.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 290.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #4 ESP CEM		X	X										

Egress Point : Boiler#4 FGD

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Boiler#4 FGD
Company Description: Boiler #4
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 500.0
Release Height (ft): 800.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 283.53
Diameter (ft): 26
Temp At Max. Oper (F): 127.0
Flow At Max. Oper (acfm): 2000000.0
Temp At Avg. Oper (F): 127.0
Flow At Avg. Oper (acfm): 2000000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
Boiler #4 FGD CEM		X	X										

Egress Point : CHL - Roads

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	CHL - Roads		
Company Description:	Landfill roadways		
Operating Status:	Operating		
Base Elevation (ft):	500.0	Fenceline Distance (ft):	100.0

- Building Dimension

Length (ft)	25766.0	Width (ft):	50.0
Height (ft):	10.0		

- Egress Latitude and Longitude

Latitude:	38.64525	Longitude:	-83.65602

- Area Source Dimensions

Length (ft):	10000.0	Width (ft):	50.0
Release Height (ft):	3.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	60.0

Egress Point : CHL-Landfill

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	CHL-Landfill		
Company Description:	landfilling activities		
Operating Status:	Operating		
Base Elevation (ft):	500.0	Fenceline Distance (ft):	300.0

- Building Dimension

Length (ft)	933.0	Width (ft):	933.0
Height (ft):	10.0		

- Egress Latitude and Longitude

Latitude:	38.64871	Longitude:	-83.65665

- Area Source Dimensions

Length (ft):	933.0	Width (ft):	933.0
Release Height (ft):	3.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	60.0

Egress Point : Coal Hndl

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Fugitive-Area
DAPC Description:
Company ID: Coal Hndl
Company Description: Coal Hndl
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1250.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Area Source Dimensions

Length (ft): 10000.0
Width (ft): 10000.0
Release Height (ft): 243.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work
Plume Temp (F): 50.0

Egress Point : Coal Stg

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	Coal Stg		
Company Description:	Coal Stg		
Operating Status:	Operating		
Base Elevation (ft):	532.0	Fenceline Distance (ft):	1250.0

- Building Dimension

Length (ft)	120.0	Width (ft):	120.0
Height (ft):	212.0		

- Egress Latitude and Longitude

Latitude:	38.636112	Longitude:	-83.693886

- Area Source Dimensions

Length (ft):	10000.0	Width (ft):	10000.0
Release Height (ft):	41.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	50.0

Egress Point : FGD Matl Hdl

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Fugitive-Area
DAPC Description:
Company ID: FGD Matl Hdl
Company Description: Limestone and Gypsum Handling
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft): 1250.0

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Area Source Dimensions

Length (ft): 10000.0
Width (ft): 10000.0
Release Height (ft):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work
Plume Temp (F): 60.0

Egress Point : FGD Matl Stg

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area
DAPC Description:	
Company ID:	FGD Matl Stg
Company Description:	Limestone and Gypsum Storage
Operating Status:	Operating
Base Elevation (ft):	532.0
Fenceline Distance (ft):	1250.0

- Building Dimension

Length (ft)	120.0	Width (ft):	120.0
Height (ft):	212.0		

- Egress Latitude and Longitude

Latitude:	38.636112	Longitude:	-83.693886

- Area Source Dimensions

Length (ft):	767.0	Width (ft):	304.0
Release Height (ft):			

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	60.0

Egress Point : Fire Pump

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Horizontal
DAPC Description:
Company ID: Fire Pump
Company Description: Fire Pump
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft):
Release Height (ft): 12.0

- Building Dimension

Length (ft)
Width (ft):
Height (ft):

- Egress Latitude and Longitude

Latitude:
Longitude:

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 0.2
Diameter (ft): 0.5
Temp At Max. Oper (F): 0.0
Flow At Max. Oper (acfm):
Temp At Avg. Oper (F): 0.0
Flow At Avg. Oper (acfm):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Gen 1

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Gen 1
Company Description: Gen 1
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft):
Release Height (ft):

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 5.23
Diameter (ft): 2.58
Temp At Max. Oper (F): 718.0
Flow At Max. Oper (acfm): 26000.0
Temp At Avg. Oper (F): 718.0
Flow At Avg. Oper (acfm): 26000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Gen 2

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Gen 2
Company Description: Gen 2
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft):
Release Height (ft):

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 5.23
Diameter (ft): 2.58
Temp At Max. Oper (F): 718.0
Flow At Max. Oper (acfm): 26000.0
Temp At Avg. Oper (F): 718.0
Flow At Avg. Oper (acfm): 26000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Gen 3

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Gen 3
Company Description: Gen 3
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft):
Release Height (ft):

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 5.23
Diameter (ft): 2.58
Temp At Max. Oper (F): 718.0
Flow At Max. Oper (acfm): 26000.0
Temp At Avg. Oper (F): 718.0
Flow At Avg. Oper (acfm): 26000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Gen 4

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Gen 4
Company Description: Gen 4
Operating Status: Operating
Base Elevation (ft): 532.0
Fenceline Distance (ft):
Release Height (ft):

- Building Dimension

Length (ft) 120.0
Width (ft): 120.0
Height (ft): 212.0

- Egress Latitude and Longitude

Latitude: 38.636112
Longitude: -83.693886

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 5.23
Diameter (ft): 2.58
Temp At Max. Oper (F): 718.0
Flow At Max. Oper (acfm): 26000.0
Temp At Avg. Oper (F): 718.0
Flow At Avg. Oper (acfm): 26000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Matl Hndl

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	Matl Hndl		
Company Description:	Matl Hndl		
Operating Status:	Operating		
Base Elevation (ft):	532.0	Fenceline Distance (ft):	1250.0

- Building Dimension

Length (ft)	120.0	Width (ft):	120.0
Height (ft):	212.0		

- Egress Latitude and Longitude

Latitude:	38.636112	Longitude:	-83.693886

- Area Source Dimensions

Length (ft):	10000.0	Width (ft):	10000.0
Release Height (ft):	243.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	50.0

Egress Point : Roads

Sep 4 2020, 12:00:45

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	Roads		
Company Description:	Roads		
Operating Status:	Operating		
Base Elevation (ft):	532.0	Fenceline Distance (ft):	3000.0

- Building Dimension

Length (ft)	120.0	Width (ft):	120.0
Height (ft):	212.0		

- Egress Latitude and Longitude

Latitude:	38.636112	Longitude:	-83.693886

- Area Source Dimensions

Length (ft):	10000.0	Width (ft):	50.0
Release Height (ft):	3.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	50.0

Facility Profile Report
Facility Name: Kingfisher Development LLC - Killen
ID: 0701000060

Facility : 0701000060

Sep 4 2020, 12:04:37

- Facility Information

Facility ID: 0701000060
FacilityName: Kingfisher Development LLC - Killen
Facility Description: Former Electric Generating Station
Address1: 14869 U.S. Route 52
Address2:
City: Manchester
State: Ohio
Zip Code: 45144
Portable:
Operating Status: Operating
Permitting Classification: TV
PER Due Date: None
Transitional Status: None
Title V Permit Status: Extended
Title V Certification Report Due Date: April 30
Emissions Reporting Category for 2019: TV
Status: Submitted
Anticipated Emissions Reporting Category for 2020: TV
Core Place ID: 1890
Latitude: 38.690277
Longtitude: -83.48028

- Yearly Emissions Reporting Category

Year	Category	Enabled	Status
2019	TV	X	Submitted
2018	TV	X	Submitted
2017	TV	X	Submitted
2016	TV	X	Submitted
2015	TV	X	Submitted
2014	TV	X	Submitted
2013	TV	X	Submitted
2012	TV	X	Submitted
2011	TV	X	Submitted
2010	TV	X	Submitted
2009	TV	X	Submitted
2008	TV	X	Submitted
2007	TV	X	Submitted
2006	TV	X	Submitted
2005	TV	X	Submitted
2004	TV	X	Submitted
2003	TV	X	Submitted
2002	TV	X	Submitted
2001	TV	X	Submitted
2000	TV	X	Submitted
1999	TV	X	Submitted

1998	TV	X	Submitted
1997	TV	X	Submitted

- **SIC Codes**

1799 Special Trade Contractors, Nec

- **NAICS Codes**

562910 Remediation Services

- **Contacts**

Contact Type	Contact Person	Phone Number	Email	Start Date	End Date
Billing	Denison, Linda	(614)565-2297	Linda.denison.2297@gmail.com	01/14/2020	
Primary	Denison, Linda	(614)565-2297	Linda.denison.2297@gmail.com	01/14/2020	
Operator	Kingfisher Development, LLC - Killen	(314)686-4514		12/21/2019	
Owner	Kingfisher Development, LLC - Killen	(314)686-4514		12/21/2019	
Responsible Official	Froh, Ronald	(314)858-0038	admin@clpstl.com	12/20/2019	
Responsible Official	Sweeney, Daniel William	(937)259-7716	dan.sweeney@aes.com	04/09/2019	01/23/2020
Billing	Sweeney, Daniel William	(937)259-7716	dan.sweeney@aes.com	01/04/2020	01/13/2020
Primary	Sweeney, Daniel William	(937)259-7716	dan.sweeney@aes.com	01/04/2020	01/13/2020
Other	Miller, Mark .	(937)224-6000		01/03/2020	01/14/2020
Primary	Stice, Jim	(937)549-3911	jim.stice@aes.com	06/16/2008	01/03/2020
On Site	Stice, Jim	(937)549-3911	jim.stice@aes.com	06/16/2008	01/03/2020
Billing	Stice, Jim	(937)549-3911	jim.stice@aes.com	06/16/2008	01/03/2020
Operator	AES Ohio Generation, LLC	(937)259-7716		04/09/2019	12/20/2019
Owner	AES Ohio Generation, LLC	(937)259-7716		10/01/2017	12/20/2019
Other	Basl, Bob	(937)865-3940	rbasl@ehstech.com	05/30/2015	04/09/2019
Responsible Official	Miller, Mark	(937)549-2641	mark.miller@aes.com	04/30/2015	04/08/2019
Operator	The Dayton Power & Light Company			06/16/2008	04/08/2019
Owner	DPL Inc.			12/31/2007	09/30/2017
Responsible Official	Scott, Brad	(937)549-3911		06/01/2014	04/29/2015
Responsible Official	Orme, David A.	(937)549-2641	david.orme@dplinc.com	02/27/2012	05/31/2014
Responsible Official	Harrell, Micheal	(937)549-3911		04/14/2009	02/27/2012
Responsible Official	Waits, Cliff			06/16/2008	04/14/2009

Contact Detail For : Denison, Linda

Prefix:		First Name:	Linda
Middle Name:		Last Name:	Denison
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	5430 Fox Hill Road		
Address 2:			
City:	Hilliard	Zip Code:	43026
State:	Ohio		
Work Phone No:	(614)565-2297	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	Linda.denison.2297@gmail.com		
Email Pager Address:			

Contact Detail For : Kingfisher Development, LLC - Killen

Prefix:		First Name:	
Middle Name:		Last Name:	
Suffix:			
Company Title:		Operating Company Name:	Kingfisher Development, LLC - Killen
Address 1:	2275 Cassens Drive		
Address 2:	Suite 118		
City:	Fenton	Zip Code:	63026
State:	Missouri		
Work Phone No:	(314)686-4514	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Froh, Ronald

Prefix:		First Name:	Ronald
Middle Name:		Last Name:	Froh
Suffix:			
Company Title:	President	Operating Company Name:	Kingfisher Development, LLC
Address 1:	2275 Cassend Drive		
Address 2:	Suite 118		
City:	Fenton	Zip Code:	63026
State:	Missouri		

Work Phone No:	(314)858-0038	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	admin@clpstl.com		
Email Pager Address:			

Contact Detail For : Sweeney, Daniel William

Prefix:	Mr.	First Name:	Daniel
Middle Name:	William	Last Name:	Sweeney
Suffix:			
Company Title:	Vice President	Operating Company Name:	AES Ohio Generation, LLC
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:	(937)259-7716	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:	(937)475-8501	Pager No.:	
Fax No:		Pager PIN No.:	
Email:	dan.sweeney@aes.com		
Email Pager Address:			

Contact Detail For : Miller, Mark .

Prefix:		First Name:	Mark
Middle Name:	.	Last Name:	Miller
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	1065 Woodman Drive		
Address 2:			
City:	Dayton	Zip Code:	45432
State:	Ohio		
Work Phone No:	(937)224-6000	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Stice, Jim

Prefix:		First Name:	Jim
Middle Name:		Last Name:	Stice

Suffix:

Company Title: Operating Company Name:

Address 1: 14869 U.S. Route 52

Address 2:

City: Manchester Zip Code: 45144

State: Ohio

Work Phone No: (937)549-3911 Secondary Phone No.:

Address 2: Secondary Ext. No.:

Mobile Phone No.: Pager No.:

Fax No: Pager PIN No.:

Email: jim.stice@aes.com

Email Pager Address:

Contact Detail For : AES Ohio Generation, LLC

Prefix: First Name:

Middle Name: Last Name:

Suffix:

Company Title: Operating Company Name: AES Ohio Generation, LLC

Address 1: 1065 Woodman Drive

Address 2:

City: Dayton Zip Code: 45432

State: Ohio

Work Phone No: (937)259-7716 Secondary Phone No.:

Address 2: Secondary Ext. No.:

Mobile Phone No.: Pager No.:

Fax No: Pager PIN No.:

Email:

Email Pager Address:

Contact Detail For : Basl, Bob

Prefix: First Name: Bob

Middle Name: Last Name: Basl

Suffix:

Company Title: Vice President Operating Company Name: EHS Technology Group

Address 1: 965 Capstone Drive

Address 2: Suite 420

City: Miamisburg Zip Code: 45342

State: Ohio

Work Phone No: (937)865-3940 Secondary Phone No.:

Address 2: Secondary Ext. No.:

Mobile Phone No.: (937)478-8062 Pager No.:

Fax No: (937)865-3611 Pager PIN No.:

Email: rbasl@ehstech.com

Email Pager Address:

Contact Detail For : Miller, Mark

Prefix: Mr.

First Name: Mark

Middle Name:

Last Name: Miller

Suffix:

Company Title: VP Ohio Generation

Operating Company Name:

Address 1: 14869 U.S. Route 52

Address 2:

City: Manchester

Zip Code: 45144

State: Ohio

Work Phone No: (937)549-2641

Secondary Phone No.: 5732

Address 2: (937)549-3911

Secondary Ext. No.: 2140

Mobile Phone No.:

Pager No.:

Fax No:

Pager PIN No.:

Email: mark.miller@aes.com

Email Pager Address:

Contact Detail For : The Dayton Power & Light Company

Prefix:

First Name:

Middle Name:

Last Name:

Suffix:

Company Title:

Operating Company Name: The Dayton Power & Light Company

Address 1: 1065 Woodman Drive

Address 2:

City: Dayton

Zip Code: 45432

State: Ohio

Work Phone No:

Secondary Phone No.:

Address 2:

Secondary Ext. No.:

Mobile Phone No.:

Pager No.:

Fax No:

Pager PIN No.:

Email:

Email Pager Address:

Contact Detail For : DPL Inc.

Prefix:

First Name:

Middle Name:

Last Name:

Suffix:

Company Title:

Operating Company Name: DPL Inc.

Address 1: Courthouse Plaza, Southwest

Address 2:

City:	Dayton	Zip Code:	45402
State:	Ohio		
Work Phone No:		Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Scott, Brad

Prefix:	Mr.	First Name:	Brad
Middle Name:		Last Name:	Scott
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	14869 U.S. Route 52		
Address 2:			
City:	Manchester	Zip Code:	45144
State:	Ohio		
Work Phone No:	(937)549-3911	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Orme, David A.

Prefix:	Mr.	First Name:	David
Middle Name:	A.	Last Name:	Orme
Suffix:			
Company Title:	V.P. Plant Operations	Operating Company Name:	Dayton Power & Light
Address 1:	14869 U.S. Route 52		
Address 2:	Killen Station		
City:	Manchester	Zip Code:	45144
State:	Ohio		
Work Phone No:	(937)549-2641	Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:	david.orme@dplinc.com		
Email Pager Address:			

Contact Detail For : Harrell, Micheal

Prefix:	Mr.	First Name:	Micheal
Middle Name:		Last Name:	Harrell
Suffix:			
Company Title:	Plant Manger	Operating Company Name:	
Address 1:	14869 U.S. Route 52		
Address 2:			
City:	Manchester	Zip Code:	45144
State:	Ohio		
Work Phone No:	(937)549-3911	Secondary Phone No.:	2264
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

Contact Detail For : Waits, Cliff

Prefix:		First Name:	Cliff
Middle Name:		Last Name:	Waits
Suffix:			
Company Title:		Operating Company Name:	
Address 1:	14869 U.S. Route 52		
Address 2:			
City:	Manchester	Zip Code:	45144
State:	Ohio		
Work Phone No:		Secondary Phone No.:	
Address 2:		Secondary Ext. No.:	
Mobile Phone No.:		Pager No.:	
Fax No:		Pager PIN No.:	
Email:			
Email Pager Address:			

- **Federal Rules Applicability**

Subject to MACT:	X	Subject to PSD:	
Subject to NESHAPS:		Subject to non-attainment NSR:	
Subject to NSPS:	X	Subject to 112(r):	
Subject to Title IV:	X		

MACT Subparts

DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters
YYYY - Stationary Combustion Turbines
ZZZZ - Reciprocating Internal Combustion Engines

NSPS Subparts

D - Fossil-Fuel Steam Generator Constructed After August 17, 1971
Db - Industrial-Commercial-Institutional Steam Generating Units
OOO - Nonmetallic Mineral Processing Plants

Emission Unit : F003

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- Emission Unit Information

DAPC Emissions Unit ID: F003

DAPC Description: Roadways and parking areas

Company Equipment ID: Plant Grounds, Roadways, and Parking Areas

Company Description: General grounds, paved and unpaved roads and parking areas

Operating Status: Operating

Completion of Initial Installation Date: 06/01/1979

Begin Installation/Modification Date: 06/01/1979

Commence Operation After Installation or Latest Modification Date: 06/01/1979

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F003-paved, all

Company Process Description: Paved roads

Source Classification Code (SCC): S-01-001-01

Egress points(s) directly associated with this process

Roads

- Emission Process Information

Process ID: F003-unpaved,HDV&LDV

Company Process Description: Unpaved roads all vehicles

Source Classification Code (SCC): S-01-002-01

Egress points(s) directly associated with this process

Roads

Emission Unit : F005

- Emission Unit Information

DAPC Emissions Unit ID: F005

DAPC Description: Limestone and gypsum storage piles

Company Equipment ID: FGD Material Storage

Company Description: Limestone and gypsum storage piles

Operating Status: Operating

Completion of Initial Installation Date: 05/01/2007

Begin Installation/Modification Date: 05/01/2007

Commence Operation After Installation or Latest Modification Date: 06/01/2007

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F005-lime/gyp stg

Company Process Description:

Source Classification Code (SCC): 3-05-016-10

Egress points(s) directly associated with this process

FGD Mtl Stg

Emission Unit : B001

- Emission Unit Information

DAPC Emissions Unit ID: B001

DAPC Description: Babcock and Wilcox pulverized coal-fired, dry-bottom boiler having a nominal capacity of 5,928 MMBtu/hr, and controlled with an electrostatic precipitator(ESP). B001-modification only to install a flue gas desulfurization scrubber.

Company Equipment ID: Boiler No. 2

Company Description: Pulverized coal-fired, dry bottom, wall-fired utility boiler (Babcock and Wilcox, Model RBC 69/HB); 5,928 MMBtu/h nominal heat input. Boiler #2 modified to add capability to burn renewable fuel (wood/grass briquettes, or other approved clean cellulosic biomass) with renewable fuel combustion comprising up to 5 pct. of total heat input (296.4 MMBtu/hr) or approximately 7.5 wt. pct. of total fuel input.

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 04/10/2019

Completion of Initial Installation Date: 12/01/1981

Begin Installation/Modification Date: 01/01/2011

Commence Operation After Installation or Latest Modification Date: 02/01/2011

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID: 6031

- Processes

- Emission Process Information

Process ID: B001-Biofuel

Company Process Description:

Source Classification Code (SCC): 1-01-009-08

Control equipment(s) directly associated with this process

ESP No. 2

- Emission Process Information

Process ID: B001-coal

Company Process Description:

Source Classification Code (SCC): 1-01-002-02

Control equipment(s) directly associated with this process

ESP No. 2

- Emission Process Information

Process ID: B001-oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Control equipment(s) directly associated with this process

ESP No. 2

Emission Unit : B002

- Emission Unit Information

DAPC Emissions Unit ID: B002

DAPC Description: No. 2 fuel oil-fired backup boiler (Babcock and Wilcox, Model FM 103-88); 95.7 MMBtu/h maximum heat input

Company Equipment ID: Auxiliary Boiler A

Company Description: No. 2 fuel oil-fired backup boiler (Babcock and Wilcox, Model FM 103-88); 95.7 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 04/10/2019

Completion of Initial Installation Date: 12/01/1981

Begin Installation/Modification Date: 12/01/1981

Commence Operation After Installation or Latest Modification Date: 12/01/1981

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B002-oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Egress points(s) directly associated with this process

Aux. A&B

Emission Unit : B003

- Emission Unit Information

DAPC Emissions Unit ID: B003

DAPC Description: No. 2 fuel oil-fired backup boiler (Babcock and Wilcox, Model FM 103-88); 95.7 MMBtu/h maximum heat input

Company Equipment ID: Auxiliary Boiler B

Company Description: No. 2 fuel oil-fired backup boiler (Babcock and Wilcox, Model FM 103-88); 95.7 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 04/10/2019

Completion of Initial Installation Date: 12/01/1981

Begin Installation/Modification Date: 12/01/1981

Commence Operation After Installation or Latest Modification Date: 12/01/1981

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Boiler/Heater

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B003-oil

Company Process Description:

Source Classification Code (SCC): 1-01-005-01

Egress points(s) directly associated with this process

Aux. A&B

Emission Unit : B004

- Emission Unit Information

DAPC Emissions Unit ID: B004

DAPC Description: No. 2 fuel oil-fired stationary combustion turbine (General Electric, Model PG5341P) with diesel fuel-fired starter; 299.4 MMBtu/h maximum heat input

Company Equipment ID: Combustion Turbine Unit

Company Description: No. 2 fuel oil-fired stationary combustion turbine (General Electric, Model PG5341P) with diesel fuel-fired starter engine (465 hp); 299.4 MMBtu/h nominal heat input

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 04/10/2019

Completion of Initial Installation Date: 06/01/1981

Begin Installation/Modification Date: 06/01/1981

Commence Operation After Installation or Latest Modification Date: 06/01/1981

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Turbine

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: B004-oil

Company Process Description:

Source Classification Code (SCC): 2-01-001-01

Egress points(s) directly associated with this process

Turbine

Emission Unit : F001

- Emission Unit Information

DAPC Emissions Unit ID: F001

DAPC Description: Barge unloading and conveying, coal transfer and crushing, and handling operations

Company Equipment ID: Coal Unloading, Transfer, Crushing, & Handling Fac.

Company Description: Barge unloading and conveying, coal transfer and crushing, and handling operations

Operating Status: Permanently Shutdown

Shurdown Date: 01/01/2020

Shutdown Notification Date: 04/30/2020

Completion of Initial Installation Date: 12/01/1981

Begin Installation/Modification Date: 12/01/1981

Commence Operation After Installation or Latest Modification Date: 12/01/1981

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F001-coal crushing

Company Process Description:

Source Classification Code (SCC): 3-05-010-10

Egress points(s) directly associated with this process

Coal Hnd.

- Emission Process Information

Process ID: F001-coal transfer

Company Process Description:

Source Classification Code (SCC): 3-05-010-11

Egress points(s) directly associated with this process

Coal Hnd.

- Emission Process Information

Process ID: F001-coal unloading

Company Process Description:

Source Classification Code (SCC): 3-05-010-08

Egress points(s) directly associated with this process

Coal Hnd.

Emission Unit : F002

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- **Emission Unit Information**

DAPC Emissions Unit ID:	F002		
DAPC Description:	Storage Piles		
Company Equipment ID:	Coal Storage		
Company Description:	Outside storage of coal and yard traffic		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	12/01/1981	Begin Installation/Modification Date:	12/01/1981
Commence Operation After Installation or Latest Modification Date:	12/01/1981		
Title V EU Classification:	Significant	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- **Processes**
  - **Emission Process Information**

Process ID:	F002-coal storage
Company Process Description:	
Source Classification Code (SCC):	3-05-010-43

Egress points(s) directly associated with this process

Coal Stg.

Emission Unit : F004

- Emission Unit Information

DAPC Emissions Unit ID: F004

DAPC Description: Limestone and gypsum handling system including material handling, transfer, conveying, silos, and wet ball mills

Company Equipment ID: FGD Material Handling

Company Description: Limestone and gypsum handling system including material handling, transfer, conveying, silos, and wet ball mills

Operating Status: Permanently Shutdown

Shurdown Date: 01/01/2020

Shutdown Notification Date: 04/30/2020

Completion of Initial Installation Date: 05/01/2007

Begin Installation/Modification Date: 05/01/2007

Commence Operation After Installation or Latest Modification Date: 05/01/2007

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: F004-gypsum hndlng

Company Process Description:

Source Classification Code (SCC): 3-05-015-03

Egress points(s) directly associated with this process

FGD Mtl Hdl

- Emission Process Information

Process ID: F004-limestone hndl

Company Process Description:

Source Classification Code (SCC): 3-05-101-05

Egress points(s) directly associated with this process

FGD Mtl Hdl

Emission Unit : F006

- Emission Unit Information

DAPC Emissions Unit ID: F006

DAPC Description: Biofuel briquette delivery truck tip unloading at storage building, material storage building and handling operations, conveyor to conveyor transfer to existing coal conveying system.

Company Equipment ID: Biofuel Storage and Handling

Company Description: Biofuel briquette delivery truck tip unloading at storage building, material storage building and handling operations, conveyor to conveyor transfer to existing coal conveying system.

Operating Status: Permanently Shutdown

Shurdown Date: 06/01/2018

Shutdown Notification Date: 08/01/2019

Completion of Initial Installation Date: 11/01/2010

Begin Installation/Modification Date: 09/01/2010

Commence Operation After Installation or Latest Modification Date: 11/01/2010

Title V EU Classification: Significant

Exemption Status: NA

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

- Emission Process Information

Process ID: BF Storage/Handling

Company Process Description: Biofuel briquette truck tip unloading, material storage and handling, conveyor-to-conveyor transfer

Source Classification Code (SCC): 3-05-010-99

Control equipment(s) directly associated with this process

BF Truck DC

Egress points(s) directly associated with this process

Coal Hnd.

Emission Unit : G001

- Emission Unit Information

DAPC Emissions Unit ID:	G001		
DAPC Description:	1,000 gallon storage tank and fuel dispensing nozzle		
Company Equipment ID:	Plant Vehicle Gasoline Storage Tank/Dispensing Facility		
Company Description:	1,000 gallon storage tank and fuel dispensing nozzle		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	06/01/1981	Begin Installation/Modification Date:	06/01/1981
Commence Operation After Installation or Latest Modification Date:	06/01/1981		
Title V EU Classification:	Insignificant (no applicable requirements)	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : J001

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- Emission Unit Information

DAPC Emissions Unit ID:	J001		
DAPC Description:	Single arm loading rack used to load fuel into tanker trucks for transport to tug boat and other heavy equipment filling stations		
Company Equipment ID:	Fuel Oil Loading Facility		
Company Description:	Single arm loading rack used to load fuel into tanker trucks for transport to tug boat and other heavy equipment filling stations		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	04/01/1981	Begin Installation/Modification Date:	04/01/1981
Commence Operation After Installation or Latest Modification Date:	04/01/1981		
Title V EU Classification:	Insignificant (no applicable requirements)	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L003

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- Emission Unit Information

DAPC Emissions Unit ID:	L003		
DAPC Description:	Oil room cold cleaner		
Company Equipment ID:	Oil Room Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L004

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- Emission Unit Information

DAPC Emissions Unit ID:	L004		
DAPC Description:	Coal handling cold cleaner		
Company Equipment ID:	Coal Handling Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L005

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- Emission Unit Information

DAPC Emissions Unit ID:	L005		
DAPC Description:	Maintenance #1 cold cleaner		
Company Equipment ID:	Maintenance #1 Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L006

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	L006		
DAPC Description:	Maintenance #2 cold cleaner		
Company Equipment ID:	Maintenance #2 Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L007

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	L007		
DAPC Description:	Maintenance #3 cold cleaner		
Company Equipment ID:	Maintenance #3 Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : L008

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	L008		
DAPC Description:	Water intake cold cleaner		
Company Equipment ID:	Water Intake Cold Cleaner		
Company Description:	Mineral spirits degreaser		
Operating Status:	Permanently Shutdown	Shurdown Date:	09/01/2013
Shutdown Notification Date:	04/15/2016		
Completion of Initial Installation Date:	10/01/2004	Begin Installation/Modification Date:	10/01/2004
Commence Operation After Installation or Latest Modification Date:	10/01/2004		
Title V EU Classification:	Insignificant	Exemption Status:	Permit Exempt
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : P001

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	P001		
DAPC Description:	Emergency Generator		
Company Equipment ID:	Emergency Generator		
Company Description:	Tandem driven diesel fuel-fired emergency electric generating unit, two Detroit Diesel Model 127-149T-1 engines; 5.3 MMBtu/h total maximum heat input		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	06/01/1981	Begin Installation/Modification Date:	06/01/1981
Commence Operation After Installation or Latest Modification Date:	06/01/1981		
Title V EU Classification:	Insignificant	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

- Emission Process Information

Process ID:	Emergency Generator
Company Process Description:	Tandem diesel fuel-fired emergency, two Detroit Diesel Model 127-149
Source Classification Code (SCC):	2-01-001-02

Emission Unit : P002

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	P002		
DAPC Description:	Fire Protection Pump		
Company Equipment ID:	Fire Protection Pump		
Company Description:	325 hp (0.8 MMBtu/h) diesel fuel-fired pump motor		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	08/01/1981	Begin Installation/Modification Date:	08/01/1981
Commence Operation After Installation or Latest Modification Date:	08/01/1981		
Title V EU Classification:	Insignificant	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

- Emission Process Information

Process ID:	FW Pump Engine
Company Process Description:	325 hp (0.8 MMBtu/h) diesel fuel-fired pump engine
Source Classification Code (SCC):	2-01-001-02

Egress points(s) directly associated with this process

Fire Pump

Emission Unit : T001

Sep 4 2020, 12:04:37

- Emission Unit Information

DAPC Emissions Unit ID:	T001		
DAPC Description:	1,350,000 gallon aboveground storage tank		
Company Equipment ID:	East Fuel Oil Storage Tank		
Company Description:	1,350,000 gallon aboveground storage tank		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	04/01/1981	Begin Installation/Modification Date:	04/01/1981
Commence Operation After Installation or Latest Modification Date:	04/01/1981		
Title V EU Classification:	Insignificant (no applicable requirements)	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : T002

- Emission Unit Information

DAPC Emissions Unit ID:	T002		
DAPC Description:	1,350,000 gallon aboveground storage tank		
Company Equipment ID:	West Fuel Oil Storage Tank		
Company Description:	1,350,000 gallon aboveground storage tank		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	04/01/1981	Begin Installation/Modification Date:	04/01/1981
Commence Operation After Installation or Latest Modification Date:	04/01/1981		
Title V EU Classification:	Insignificant (no applicable requirements)	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : T003

- Emission Unit Information

DAPC Emissions Unit ID:	T003		
DAPC Description:	5000 GALLON VERTICAL CYLINDRICAL TANK		
Company Equipment ID:	SODIUM HYPOCHLORITE TANK		
Company Description:	5000 GALLON VERTICAL CYLINDRICAL TANK		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	01/01/2000	Begin Installation/Modification Date:	01/01/2000
Commence Operation After Installation or Latest Modification Date:	01/01/2000		
Title V EU Classification:	Trivial	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : T004

- Emission Unit Information

DAPC Emissions Unit ID:	T004		
DAPC Description:	4000 GALLON VERTICAL CYLINDRICAL TANK		
Company Equipment ID:	SODIUM BROMIDE TANK		
Company Description:	4000 GALLON VERTICAL CYLINDRICAL TANK		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	01/01/2000	Begin Installation/Modification Date:	01/01/2000
Commence Operation After Installation or Latest Modification Date:	01/01/2000		
Title V EU Classification:	Trivial	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : T005

- Emission Unit Information

DAPC Emissions Unit ID:	T005		
DAPC Description:	1500 GALLON VERTICAL CYLINDRICAL TANK		
Company Equipment ID:	AMMONIUM BISULFITE TANK		
Company Description:	1500 GALLON VERTICAL CYLINDRICAL TANK		
Operating Status:	Permanently Shutdown	Shurdown Date:	01/01/2020
Shutdown Notification Date:	04/30/2020		
Completion of Initial Installation Date:	01/01/2000	Begin Installation/Modification Date:	01/01/2000
Commence Operation After Installation or Latest Modification Date:	01/01/2000		
Title V EU Classification:	Trivial	Exemption Status:	NA
Boiler/Turbine/Generator Design Capacity:	Not Applicable	Design Capacity Units:	
ORIS Boiler ID:			

- Processes

Emission Unit : T009

- Emission Unit Information

DAPC Emissions Unit ID: T009

DAPC Description: 150,000 gallon AGST for mixing dry sodium carbonate with water for injection into the flue gas for SO3 reduction

Company Equipment ID: Sodium Carbonate Slurry Tank

Company Description: 150,000 gallon AGST for mixing dry sodium carbonate with water for injection into the flue gas for SO3 reduction

Operating Status: Permanently Shutdown

Shurdown Date: 01/01/2020

Shutdown Notification Date: 04/30/2020

Completion of Initial Installation Date: 06/01/2007

Begin Installation/Modification Date: 06/01/2007

Commence Operation After Installation or Latest Modification Date: 06/01/2007

Title V EU Classification: Trivial

Exemption Status: Permit Exempt

Boiler/Turbine/Generator Design Capacity: Not Applicable

Design Capacity Units:

ORIS Boiler ID:

- Processes

Control Equipment : BF Truck DC

Sep 4 2020, 12:04:37

- Control Equipment Information

Equipment Type: Filter/Baghouse

DAPC Description:

Company ID: BF Truck DC

Company Description: Fabric filter/dust collector used to capture and control dust geneated by truck dumping of biofuel b

Operating Status: Not Operating

Initial Installation Date: 10/01/2010

Manufacturer: To be determined

Model:

- Specific Equipment Type information

Filter/Baghouse Type: Pulse Jet

Equipment Description: Negative presure fabric filter/baghouse

Pressure type: negative

Fabric Cleaning Mechanism:

Operating Pressure Drop Range: 1-8

Lime Injection/fabric Coating Agent: 1-8

Lime Injection/Fabric Coating Agent Type:

Lime Injection/Fabric Coating Feed Rate:

Bag Leak Detection System:

Inlet Gas Flow Rate: 5000

Outlet Gas Flow Rate: 5000

Inlet Gas Temp: 70

Outlet Gas Temp: 70

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE (Filt) - Primary PM, Filterable Portion Only	99	95	100	95

- Associated Control Equipments And Egress Points

Egress points(s) directly associated with this control equipment

BF DC Stk

Control Equipment : ESP No. 2

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- Control Equipment Information

Equipment Type: Electrostatic Precipitator
DAPC Description: Op Eff, Max Em Rate UNKNOWN
Company ID: ESP No. 2
Company Description: Op Eff, Max Em Rate UNKNOWN
Operating Status: Operating
Initial Installation Date: 12/01/1981
Manufacturer: UOP/Arr Correction Div.
Model: 33 (4.5X9) 240-8-24

- Specific Equipment Type information

Precipitator Type: Dry
Equipment Description:
Number of Operating Fields: 72
Secondary Voltage Range: 0-45 kV
Secondary Current Milliamps Range:
Inlet Gas Flow Rate: 3702500
Outlet Gas Flow Rate: 3702500

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	99.5	99.5	100	99.5
PM10 (Filt) - Primary PM10, Filterable Portion Only	99.5	99.5	100	99.5

- Associated Control Equipments And Egress Points

Control equipment(s) directly associated with this control equipment

SCR No. 2

Control Equipment : FGD No. 2

- Control Equipment Information

Equipment Type: Wet Scrubber
DAPC Description: Op Eff, Max Em Rate UNKNOWN
Company ID: FGD No. 2
Company Description: Op Eff, Max Em Rate UNKNOWN
Operating Status: Operating
Initial Installation Date: 05/01/2007
Manufacturer: Chiyoda
Model: CT-121

- Specific Equipment Type information

Wet Scrubber Type: Impingement
Equipment Description:
Operating Pressure Drop Range: 0.9 to 20.4
pH Range for Scrubbing Liquid: 4.0 - 6.0
Scrubber Liquid Recirculated: 4.0 - 6.0
Scrubber Liquid Flow Rate:
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 2081000
Outlet Gas Flow Rate: 1630000
Inlet Gas Temp: 295
Outlet Gas Temp: 130

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	94	94	100	94
SO2 - Sulfur Dioxide	97	97	100	97

- Associated Control Equipments And Egress Points

Control Equipment : SCR No. 2

- **Control Equipment Information**

Equipment Type: Other

DAPC Description: Op Eff, Max Em Rate UNKNOWN

Company ID: SCR No. 2

Company Description: Op Eff, Max Em Rate UNKNOWN

Operating Status: Operating

Initial Installation Date: 04/01/2004

Manufacturer: Black & Veatch

Model: N/A

- **Specific Equipment Type information**

Equipment Description: Selective catalytic reduction - use of ammonia injected into the flue gas stream for reduction of NOx

- **Pollutants Controlled**

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
PE - Primary PM (Includes Filterables + Condensibles)	85	85	100	85
PM10 (Filt) - Primary PM10, Filterable Portion Only	85	85	100	85

- **Associated Control Equipments And Egress Points**

Control equipment(s) directly associated with this control equipment

FGD No. 2

Egress points(s) directly associated with this control equipment

B-2

Egress Point : Aux. A&B

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- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Aux. A&B
Company Description: Aux. A&B
Operating Status: Operating
Base Elevation (ft): 533.0
Fenceline Distance (ft): 700.0
Release Height (ft): 294.42001

- Building Dimension

Length (ft) 185.0
Width (ft): 100.0
Height (ft): 265.0

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.48028

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 28.27
Diameter (ft): 6
Temp At Max. Oper (F): 332.0
Flow At Max. Oper (acfm): 60000.0
Temp At Avg. Oper (F): 332.0
Flow At Avg. Oper (acfm): 60000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : B-2

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: B-2
Company Description: B-2
Operating Status: Operating
Base Elevation (ft): 533.0
Fenceline Distance (ft): 800.0
Release Height (ft): 900.0

- Building Dimension

Length (ft) 185.0
Width (ft): 100.0
Height (ft): 265.0

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.48028

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 660.2
Diameter (ft): 29
Temp At Max. Oper (F): 121.0
Flow At Max. Oper (acfm): 2182030.0
Temp At Avg. Oper (F): 121.0
Flow At Avg. Oper (acfm): 2182030.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
B002 CEM		X	X										X

Egress Point : BF DC Stk

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- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: BF DC Stk
Company Description: Exhaust stack serving dust collector operated for biofuel truck dumping
Operating Status: Not Operating
Base Elevation (ft): 525.0
Fenceline Distance (ft):
Release Height (ft):

- Building Dimension

Length (ft)
Width (ft):
Height (ft):

- Egress Latitude and Longitude

Latitude: 38.6903
Longitude: -83.497

- Stack Details

Shape: Round
Cross Sectional Area (square ft): 0.83
Diameter (ft): 1.0
Temp At Max. Oper (F): 70.0
Flow At Max. Oper (acfm): 5000.0
Temp At Avg. Oper (F): 70.0
Flow At Avg. Oper (acfm): 5000.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Coal Hnd.

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- Egress Point Information

Release Type:	Fugitive-Area
DAPC Description:	
Company ID:	Coal Hnd.
Company Description:	Coal Hnd.
Operating Status:	Operating
Base Elevation (ft):	525.0
Fenceline Distance (ft):	1000.0

- Building Dimension

Length (ft)	120.0
Width (ft):	60.0
Height (ft):	50.0

- Egress Latitude and Longitude

Latitude:	38.690277
Longitude:	-83.48028

- Area Source Dimensions

Length (ft):	1000.0
Width (ft):	650.0
Release Height (ft):	154.0

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	50.0

Egress Point : Coal Stg.

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- Egress Point Information

Release Type:	Fugitive-Area
DAPC Description:	
Company ID:	Coal Stg.
Company Description:	Coal Stg.
Operating Status:	Operating
Base Elevation (ft):	525.0
Fenceline Distance (ft):	1000.0

- Building Dimension

Length (ft)	185.0
Width (ft):	100.0
Height (ft):	265.0

- Egress Latitude and Longitude

Latitude:	38.690277
Longitude:	-83.49695

- Area Source Dimensions

Length (ft):	1000.0
Width (ft):	650.0
Release Height (ft):	21.0

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	50.0

Egress Point : FGD Mtl Hdl

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type: Fugitive-Area
DAPC Description:
Company ID: FGD Mtl Hdl
Company Description: FGD Mtl Hdl
Operating Status: Operating
Base Elevation (ft): 525.0
Fenceline Distance (ft): 350.0

- Building Dimension

Length (ft) 120.0
Width (ft): 60.0
Height (ft): 50.0

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.48028

- Area Source Dimensions

Length (ft): 500.0
Width (ft): 350.0
Release Height (ft):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work
Plume Temp (F): 50.0

Egress Point : FGD Mtl Stg

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type: Fugitive-Area
DAPC Description:
Company ID: FGD Mtl Stg
Company Description: FGD Mtl Stg
Operating Status: Operating
Base Elevation (ft): 525.0
Fenceline Distance (ft): 350.0

- Building Dimension

Length (ft) 185.0
Width (ft): 100.0
Height (ft): 265.0

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.49695

- Area Source Dimensions

Length (ft): 500.0
Width (ft): 350.0
Release Height (ft):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work
Plume Temp (F): 50.0

Egress Point : Fire Pump

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Fire Pump
Company Description: Fire Pump
Operating Status: Operating
Base Elevation (ft): 533.0
Fenceline Distance (ft): 700.0
Release Height (ft): 12.0

- Building Dimension

Length (ft)
Width (ft):
Height (ft):

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.48028

- Stack Details

Shape: Round
Cross Sectional Area (square ft):
Diameter (ft):
Temp At Max. Oper (F):
Flow At Max. Oper (acfm):
Temp At Avg. Oper (F):
Flow At Avg. Oper (acfm):

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Egress Point : Roads

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type:	Fugitive-Area		
DAPC Description:			
Company ID:	Roads		
Company Description:	Roads		
Operating Status:	Operating		
Base Elevation (ft):	525.0	Fenceline Distance (ft):	500.0

- Building Dimension

Length (ft)	185.0	Width (ft):	100.0
Height (ft):	265.0		

- Egress Latitude and Longitude

Latitude:	38.690277	Longitude:	-83.48028

- Area Source Dimensions

Length (ft):	10000.0	Width (ft):	10000.0
Release Height (ft):	0.0		

- EIS Information

Horizontal Collection Method:	Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure:	100 Meter Accuracy
Reference Point:	Point where a substance is released
Horizontal Reference Datum:	World Geodetic System of 1984
Coordinate Data Source Code:	An Organization or individual that contracts to perform work
Plume Temp (F):	68.0

Egress Point : Turbine

Sep 4 2020, 12:04:37

- Egress Point Information

Release Type: Stack-Vertical
DAPC Description:
Company ID: Turbine
Company Description: Turbine
Operating Status: Operating
Base Elevation (ft): 533.0
Fenceline Distance (ft): 700.0
Release Height (ft): 37.5

- Building Dimension

Length (ft) 185.0
Width (ft): 100.0
Height (ft): 265.0

- Egress Latitude and Longitude

Latitude: 38.690277
Longitude: -83.48028

- Stack Details

Shape: Square
Cross Sectional Area (square ft): 121
Diameter (ft): 12.41
Temp At Max. Oper (F): 925.0
Flow At Max. Oper (acfm): 521920.0
Temp At Avg. Oper (F): 925.0
Flow At Avg. Oper (acfm): 521920.0

- EIS Information

Horizontal Collection Method: Global Positioning Method, with unspecified parameters
Horizontal Accuracy Measure: 100 Meter Accuracy
Reference Point: Point where a substance is released
Horizontal Reference Datum: World Geodetic System of 1984
Coordinate Data Source Code: An Organization or individual that contracts to perform work

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM

Appendix E

Ohio EPA 2021-2022 Air Monitoring Network Plan

Ohio Environmental Protection Agency

2021-2022 Ohio EPA Air Monitoring Network Plan

Ohio EPA
Division of Air Pollution Control
July 2021

Table of Contents

List of Tables

Table of Appendices

Acronyms and Glossary

AADT	Annual Average Daily Traffic
AMNP	Air Monitoring Network Plan
AQI	Air Quality Index
AQS	Air Quality System
ATMP	Air Toxics Monitoring Program
BAM	Beta Attenuation Monitor
CAA	Clean Air Act
CBSA	Core Based Statistical Area
CDO	Central District Office
CFR	Code of Federal Regulations
CSA	Combined Statistical Area
CSN	Chemical Speciation Network
CO	Carbon Monoxide
CPQAO	Central Primary Quality Assurance Organization
DAPC	Division of Air Pollution Control
DO	District Office
DRR	Data Requirement Rule
DV	Design Value
EIS	Emission Inventory System
FDMS	Filter Dynamic Measurement System
FEM	Federal Equivalent Method
FID	Flame Ionization Detector
FR	Federal Register
FRM	Federal Reference Method
GC	Gas Chromatograph
GC/MS	Gas Chromatograph / Mass Spectrometry
ICP/MS	Inductive Coupled Plasma / Mass Spectrometry
LAA	Local Air Agency
LADCO	Lake Michigan Air Directors Consortium
MSA	Metropolitan Statistical Area
MTAPCA	Mahoning-Trumbull Air Pollution Control Agency
NAAQS	National Ambient Air Quality Standard
NATTS	National Air Toxics Trends Station
NCore	National Core multi-pollutant monitoring stations
NEDO	Northeast District Office
NEI	National Emissions Inventory
NEPQAO	Northeast Primary Quality Assurance Organization
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Oxides of Nitrogen
NO_y	Total Reactive Nitrogen Oxides
NWDO	Northwest District Office
O_3	Ozone
OAQPS	Office of Air Quality Planning and Standards
Ohio EPA	Ohio Environmental Protection Agency
Pb	Lead
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers
$PM_{10-2.5}$	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers, and greater than or equal to 2.5 micrometers
PAMS	Photochemical Assessment Monitoring Station
ppb	parts per billion
ppm	parts per million
PQAO	Primary Quality Assurance Organization
PWEI	Population Weighted Emissions Index

Acronyms and Glossary

RAPCA	Regional Air Pollution Control Agency
QA	Quality Assurance
QC	Quality Control
SASS	Speciation Air Sampling System
SEDO	Southeast District Office
SHARP	Synchronized Hybrid Ambient Real-time Particulate
SLAMS	State or Local Air Monitoring Stations
SO_2	Sulfur Dioxide
SWOAQA	Southwest Ohio Air Quality Agency
SPM	Special Purpose Monitor
STN	Speciation Trends Network
TEOM	Tapered Element Oscillating Microbalance
TRI	Toxic Release Inventory
TSP	Total Suspended Particulate
$\mu g/m^3$	micrograms per cubic meter
U.S. EPA	United States Environmental Protection Agency
U.V.	Ultraviolet
VOC	Volatile Organic Compounds
VSCC	Very Sharp Cut Cyclone

Explanations

AQS contains ambient air pollution data collected by U.S. EPA, state, local, and tribal air pollution control agencies from over thousands of monitors. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator), and data quality assurance/quality control information. Each monitoring site in AQS has an identification number. In the AQS identification number, the first two digits refers to the state (39 is Ohio), the next three digits is the county (ex. '035' Cuyahoga), and the last four digits designate a specific site within the county.

PM is particulate matter. PM_{10} means particulate matter of 10 microns in diameter or smaller. A micron is one millionth of a meter. $PM_{2.5}$ is particulate matter 2.5 millionths of a meter in diameter or smaller. PM_{10} is coarse particulate matter and $PM_{2.5}$ is fine particulate matter. $PM_{2.5}$ sequential FRM samplers test for $PM_{2.5}$ and can hold multiple samples for sequential sampling.

Monitoring instruments used for comparing to the NAAQS are designated as FRM or Federal Equivalent Methods (FEM); however; not all FEM instruments are used for comparison to the NAAQS. For example, some $PM_{2.5}$ FEM instruments may be used for AQI purposes only. Some $PM_{2.5}$ FEM instruments are operated in a manner to categorize them as non-FEM instruments, and in those cases, are not comparable to the NAAQS.

Sites (or monitors at a site) that are designated as industrial sites or designated as SPM are typically not comparable to the NAAQS.

AQI is an index for reporting daily air quality. It tells you how clean or polluted your air is, and what associated health effects might be a concern for you. The AQI focuses on health effects that you may experience within a few hours or days after breathing polluted air. U.S. EPA calculates the AQI for five major air pollutants regulated by the CAA: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. All SLAMS continuous ozone and $PM_{2.5}$ monitors in Ohio report to the AQI.

Collocated or "colo" indicates a site with duplicate samplers for quality assurance purposes. Data is statistically compared from the two samplers for the same days. Duplicate samplers may sample at a 1 in 6-day schedule or possibly at a 1 in 12-day schedule.

U.V. photometric is a method of detection for ozone concentrations.

U.V. fluorescence is a method of detection for sulfur dioxide concentrations.

TSP metals is the method of collecting total suspended particulate by drawing an air sample through a filter media that is analyzed at a laboratory for airborne metals including lead, arsenic, cadmium, chromium, nickel, zinc, manganese and beryllium and sometimes particulate mercury. Analysis is by ICP Emission Spectroscopy or Graphic Furnace Atomic Absorption.

BAM and TEOM are methods of detection for fine particulates.

Broadband Spectroscopy is a method of detection for both coarse and fine particulates.

1.0 Introduction and Requirements

As required by 40 CFR 58.10, Ohio EPA is providing the 2021-2022 AMNP to the U.S. EPA Region 5. This document addresses the Ohio air monitoring network, as it exists as of July 1, 2021, and as it is expected or anticipated to be modified through December 31, 2022. Ohio's air monitoring network as presented in this report meets all the applicable requirements of 40 CFR Part 58 including the requirements of Appendices A, B, C, D, and E.

1.1 Priorities

The Ohio EPA, DAPC, is responsible for regulating air quality to protect public health and the environment in the State of Ohio. As part of achieving these goals, Ohio EPA DAPC, with four DOs and eight LAAs, operates and maintains an extensive network of monitoring sites that collect air quality data in each of the numerous metropolitan areas and in many rural areas. Much of the monitoring sites are in urban areas where the majority of the population resides. There are over 110 monitoring sites operating in Ohio with over 270 air monitors sampling on an hourly or intermittent 24-hour basis.

The Ohio EPA monitors six criteria pollutants: ozone, $PM_{2.5}$, PM_{10}, SO_2, NO_2 CO and lead. Other pollutants that are monitored by Ohio EPA which are not associated with NAAQS include metals, $PM_{10\text{-}2.5}$, toxics, VOC, carbonyls, $PM_{2.5}$ speciated compounds, and ozone precursors. In addition, meteorological data are collected at some sites to support the monitoring and aid in air quality modeling analyses.

The following designations describe the various types of monitors at the sites within Ohio's air monitoring network:

- SLAMS: For parameters (pollutants and/or meteorological data) addressed by 40 CFR Part 58. The SLAMS make up the ambient air quality monitoring sites that are primarily needed for NAAQS comparisons but may serve other data purposes.
- SPM: Not all monitors and monitoring sites in the air quality monitoring network are included in the SLAMS network. In order to provide monitoring for complaint studies, modeling verification, or compliance status, certain monitors are reserved for short-term studies and designated as SPM. These monitors are not necessarily committed to any one location or for any specified time period. They may be located as separate monitoring sites or be included at SLAMS locations. Monitoring data may be reported to U.S. EPA, provided that the monitors and sites conform to all requirements as if they are a part of the SLAMS network. Monitors in this category are included in the network plan but are not used to determine compliance with the NAAQS. However, if an SPM is operated for over 24 months, in accordance with 40 CFR 58.20(c) it is eligible for comparison to the relevant NAAQS, unless demonstrated otherwise by the state or local air agency (herein referred to as "agency"). Appendix A identifies the start date of all Ohio SPMs. In accordance with 40 CFR 58.20, the purposes for each SPM monitor is included in Appendix A. All Ohio SPM monitors reporting to the AQS meet the requirements of 40 CFR Part 58, Appendix A and Appendix E. In addition, all Ohio FRM/FEM SPMs meet the requirements of 40 CFR 58.11 and 40 CFR 58.12.
- Industrial: A monitor that is operated (in total or partially) by a private industry entity rather than under the control of a state, local or tribal government. The private industry entity may choose to contract with a local government organization for the operation of the monitor.

- NCore: NCore is a multi-pollutant network that integrates several advanced measurement systems for particles, pollutant gases and meteorology. Most NCore stations have been operating since the formal start of the network on January 1, 2011.
- Near Road: Located near busy roadways, near road sites measure the peak hourly concentrations of CO, NO_2 and/or $PM_{2.5}$ in urban areas with MSA populations greater than 1 million people.
- PAMS: PAMS monitoring is enhanced monitoring of ozone, NOx, VOCs, and meteorology to obtain more comprehensive and representative data on ozone air pollution.

Monitors should be sited and operated to support U.S. EPA's monitoring objectives of providing data to the public in a timely manner, to support compliance with the NAAQS and emissions strategy development, and to support research. To accomplish this, monitors are sited to monitor: 1) areas of expected high concentrations, 2) areas of high population density, 3) areas with significant sources, 4) general background concentration, and 5) areas of regional transport of a pollutant. However, not all air pollutants need to have sites for all categories.

The minimum number of monitoring sites required for each of the U.S. EPA criteria pollutants is established in the federal regulations in 40 CFR Part 58, Appendix D. The minimum number of required sites is often dependent on the population count within large and small statistical areas. These areas are referred to as MSA, micropolitan-statistical areas, CBSA, and CSA. A CBSA associated with at least one urbanized area of 50,000 population or greater is termed an MSA. A CBSA associated with at least one urbanized cluster of at least 10,000 population but less than 50,000 is termed a micropolitan statistical area.

The Ohio air monitoring network meets, or in most cases exceeds, the applicable minimum network requirements. In areas where Ohio shares a CBSA or MSA with a neighboring state, Ohio meets or exceeds the minimum requirements without the need to rely on a monitor(s) located in the neighboring state. Therefore, Ohio does not need to rely on a memorandum of agreement or understanding with any other state.

In addition to the monitors operated by Ohio as described in this plan, U.S. EPA operates three Clean Air Status and Trends Network (CASTNET) sites in Ohio:

- 39-121-8001 St. Johns Rd., Quaker City (PM_{10} Local, PM coarse & ozone)
- 39-017-9991 Miami University, Oxford (ozone)
- 39-047-9991 Deer Creek State Park, Mt. Sterling (ozone)

1.2 Quality Assurance/Quality Control

A fundamental consideration for all air monitoring projects and sites is that the monitoring locations meet U.S. EPA's requirements as specified in 40 CFR Part 58, Appendices D & E and that the agencies are available to operate and maintain the sites and equipment, to provide sample analyses, and for data collection and reporting.

Ohio EPA also operates and maintains a QA/QC program in accordance with U.S. EPA requirements and guidelines as specified in 40 CFR Part 58. The purpose of this program is to assure the quality and validity of the data collected. The QA/QC program includes but is not limited to the following activities:

- Instrument performance audits;
- Monitor siting evaluations;

- Precision and span checks;
- Instrument bias determinations;
- Flow rate audits;
- Instrument air flow leak checks; and
- Data validation.

To comply with U.S. EPA's independent QA requirements, Ohio EPA, including the DOs and LAAs participates in the National Performance Audit and the Performance Evaluation Programs for criteria pollutant monitoring and performance. Additionally, inter-laboratory comparisons are performed periodically for air toxics monitoring.

1.3 Ohio Primary Quality Assurance Organizations

A PQAO refers to a monitoring organization that is responsible for a set of stations that monitor the same pollutant and for which data quality assessments can be pooled. Each criteria pollutant sampler/monitor at a monitoring station in the SLAMS and SPM networks is associated with one PQAO.

There are three PQAOs operating in Ohio. All PQAOs include Ohio EPA's DOs and the LAAs. The PQAOs are:

The NEPQAO consists of the following monitoring organizations (AQS PQAO code 1454):

- Akron Regional Air Quality Management District (Akron)
- Canton City Public Health, Air Pollution Control Division (Canton)
- Cleveland Dept. of Public Health Division of Air Quality (Cleveland)
- Lake County General Health District, Air Pollution Control (Lake LAA)
- Ohio EPA, NEDO

The CPQAO consists of the following monitoring organizations (AQS PQAO code 1453):

- Ohio EPA, NWDO
- Ohio EPA, CDO
- Ohio EPA, SEDO
- City of Toledo, Division of Environmental Services (Toledo)

The SWPQAO consists of the following monitoring organizations (AQS PQAO code 1455):

- Southwest Ohio Air Quality Agency, SWOAQA
- Public Health Dayton and Montgomery County, RAPCA
- Portsmouth City Health Dept., Air Pollution Unit (Portsmouth)

2.0 Proposed Network for 2021-2022

This report presents the proposed AMNP for 2021-2022. Appendix A contains details regarding each monitor that comprises Ohio's proposed 2021-2022 network, including indications of changes that have, will, or may occur to the network through December 31, 2022. This section identifies a summary of all proposed network changes for the various pollutants. Section 3.0 provides greater detail of the changes for each pollutant being monitored, including how Ohio meets the minimum monitoring requirements for monitoring that pollutant.

2.1 Summary of Proposed Network Modifications

A critical component of this report is to identify the network changes that have taken place since Ohio's 2020-2021AMNP and the changes that are planned or anticipated for the remainder of 2021 and 2022.

It should be noted when proposing what the monitoring network might look like a year from now, unplanned site changes occur to monitoring networks each year. Changes or temporary interruptions of sampling may occur because of events such as building or roof maintenance, construction, change of ownership of the site, or other changes at the site that require moving the instruments. Some changes that may not be planned could include adding sites to investigate complaints or for a new or proposed facility. Planned network changes may not be implemented due to unforeseen circumstances, such as the inability to secure a new site or because of other constraints.

In accordance with 40 CFR 58.10(c), if a $PM_{2.5}$ FRM monitoring site were lost due to circumstances beyond Ohio's control, a replacement site would be established if the lost site exceeded the NAAQS or if it is the "design value site" for a particular MSA. In this case, all possible efforts would be made to find a new site that is physically close to the lost site and has a similar scale and monitoring objective. However, if the "design value site" for that MSA is still operational, Ohio EPA may not establish a replacement site if remaining $PM_{2.5}$ sites are sufficient to determine compliance with the $PM_{2.5}$ NAAQS.

All proposed site and parameter changes to the approved monitoring network are made in consultation with, and, when necessary, approval of the U.S. EPA Region 5 air monitoring staff. Ohio EPA retains the right to install, operate and discontinue operation of ambient air quality monitors for special projects that go beyond federal minimum requirements without federal approval.

All monitoring changes that have occurred since Ohio's 2020-2021AMNP and all planned, proposed and potential network changes are summarized in Table 1 below. Additional details on these changes can be found in the specific pollutant sections under Section 3.0. None of these changes involve relocating or deleting a site or monitor where a design value is in violation of any NAAQS.

Table 1. Summary of Network Changes

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
Changes highlighted in 2020-2021 AMNP that were approved (when required) and completed					
$PM_{2.5}$, SO_2	West Union	39-001-0001	West Union	Terminate site.	December 2, 2020
PM_{10}	Shadyside	39-013-0006	Shadyside	Primary instrument changed from BGI PQ200 to GMW 1200 and then collocated monitoring discontinued.	March 9, 2021

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
PM_{10}	Middletown	39-017-0015	Ohio Bell	Collocated monitor from 39-061-0040 relocated to this site.	January 1, 2021
SO_2	Enon	39-023-0003	Mud Run	Discontinue monitoring.	October 31, 2020
$PM_{2.5}$	Springfield	39-023-0005	Springfield Fire St1	Continuous instrument changed from Thermo Sharp 5030 VSCC to Teledyne API T640.	December 22, 2020
PM_{10}	Cleveland	39-035-0038	St. Theodosius	Replaced four out of five GMW-1200 filterable units with continuous Teledyne API T640x. One filterable unit remains.	March 25, 2021
$PM_{2.5}$	Cleveland	39-035-0038	St. Theodosius	$PM_{2.5}$ continuous monitoring began upon installation of a new Teledyne API T640x unit at the site.	March 25, 2021
PM_{10}, $PM_{2.5}$, $PM_{10-2.5}$	Cleveland	39-035-0060	GT Craig NCore	Replaced continuous $PM_{2.5}$ Met One BAM 1020, PM_{10} continuous R&P 1400, and $PM_{10-2.5}$ Partisol 2025i with Teledyne API T640x; unit also replaced PM_{10} filterable sampling which was discontinued.	$PM_{2.5}$, and $PM_{10-2.5}$- replaced on January 27, 2021 PM_{10},cont- replaced on February 4, 2021 PM_{10},filt- replaced on February 11, 2021
PAMS	Cleveland	39-035-0060	GT Craig NCore	Installed additional equipment and began PAMS operation.	All by June 1, 2021
NO_2	Cleveland	39-035-0060	GT Craig NCore	As a result of PAMS requirements, began operating a true NO_2, Teledyne T500U instrument at site to replace Thermo 42i NO_2 instrument.	May 18, 2021
PM_{10}	Columbus	39-049-0034	Fairgrounds	Collocated monitor from 39-081-0017 moved here upon discontinuing monitor at that site when Teledyne API T640x was installed.	February 9, 2021
PM_{10}, $PM_{2.5}$, $PM_{10-2.5}$	Cincinnati	39-061-0040	Taft NCore	Replaced continuous $PM_{2.5}$ Thermo 5030i, PM_{10} continuous R&P 1400, and $PM_{10-2.5}$ BGI PQ200 with Teledyne API T640x; unit also replaced PM_{10} filterable sampling which discontinued. Collocated PM_{10} monitor relocated to 39-017-0015. Collocated $PM_{10-2.5}$ was discontinued.	$PM_{2.5}$, and $PM_{10-2.5}$- replaced on November 1, 2020 and January 1, 2021, respectively PM_{10},cont- replaced on January 1, 2021 PM_{10},filt- removed on December 31, 2020
$PM_{2.5}$	Cincinnati	39-061-0040	Taft NCore	Discontinue collocated monitor.	January 1, 2021
PAMS	Cincinnati	39-061-0040	Taft NCore	Installed additional equipment and began PAMS operation.	All by June 1, 2021

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
SO_2	Fostoria	39-063-0005	Sunny Farms West	Start new industrial source-oriented monitoring.	January 23, 2020
PM_{10}, $PM_{2.5}$	Steubenville	39-081-0017	Steubenville	Replaced continuous $PM_{2.5}$ MetOne BAM with Teledyne API T640x; unit also replaced PM_{10} filterable sampling which was discontinued. Terminated collocated PM_{10} monitoring and moved to 39-049-0034.	PM_{10}- January 31, 2021 $PM_{2.5}$- February 4, 2021
$PM_{2.5}$	Ironton	39-087-0012	ODOT Ironton	Replaced continuous non-FEM Anderson BAM with FEM Teledyne API T640.	June 16, 2020
$PM_{2.5}$	Sheffield	39-093-3002	Barr School	Discontinued collocated monitor.	January 1, 2021
PM_{10}, $PM_{2.5}$, $PM_{10\text{-}2.5}$	New Paris	39-135-1001	Preble NCore	Replaced continuous $PM_{2.5}$ Thermo Sharp 5030, and $PM_{10\text{-}2.5}$ Partisol 2025i with Teledyne API T640x; unit also replaced PM_{10} filterable sampling which discontinued. Terminated collocated PM_{10} monitoring.	December 15, 2020
$PM_{2.5}$	Haverhill	39-145-0015	East Haverhill	Start new source-oriented monitoring.	September 4, 2020
$PM_{2.5}$	Canton	39-151-0020	Canton	Continuous instrument changed from Thermo Sharp 5030i VSCC to Teledyne API T640.	December 17, 2020
O_3	Akron	39-153-0026	North HS	New SPM site started as potential replacement site for Patterson Park.	March 18, 2021
Changes highlighted in 2019-2020 or 2020-2021 AMNP that were not completed					
$PM_{2.5}$, Pb/Metals	Columbus	39-049-xxxx	TBD	May start new monitoring to replace 39-049-0039.	2020-2021
PM_{10}, $PM_{2.5}$	Youngstown	39-099-0005	Youngstown Fire St7	Site unexpectedly discontinued. Relocation delayed. Will relocate along with 39-099-0005 and 39-099-0014 into one site.	Discontinued December 19, 2019 PM_{10} relocation delayed until 2021.
SO_2, O_3	Youngstown	39-099-0013	Oakhill	Relocation delayed. Will relocate along with 39-099-0005 and 39-099-0014 into one site.	Summer 2019, delayed until 2021.
$PM_{2.5}$	Youngstown	39-099-0014	Headstart	Relocation delayed. Will relocate along with 39-099-0005 and 39-099-0013 into one site.	Summer 2019, delayed until 2021.
Unexpected changes that were necessary, requested independently, and completing/completed					
SO_2	Brilliant	39-081-0018	Cardinal Brilliant	Site discontinued.	December 31, 2020
SO_2	Brilliant	39-081-0020	Self Storage	Site discontinued.	December 31, 2020
SO_2	Beech Bottom	54-009-6000	Trailer Sales	Site discontinued.	December 31, 2020
Unexpected changes that were necessary and completed; Approval not required					
O_3	Conneaut	39-007-1001	Conneaut	Instrument changed from Thermo 49i to Thermo 49iQ.	July 14, 2020
SO_2	Conneaut	39-007-1001	Conneaut	Instrument changed from 43C to Thermo 43iQ.	July 14, 2020

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
$PM_{2.5}$	Amesville	39-009-0003	Gifford	Instrument changed from BGI PQ200 VSSC to Partisol 2025i. Site changed from operating two monitors for parameter to one.	January 20, 2021
O_3	Middletown	39-017-0018	Middletown	Site relocated from one side of the building to the other side.	July 22, 2020
PM_{10}, $PM_{2.5}$	Middletown	30-017-0020	Yankee	Replace $PM_{2.5}$ continuous instrument with a Teledyne API T640x. At that time PM_{10} continuous began and PM_{10} filterable was discontinued.	January 14, 2021
O_3	Wilmington	39-027-1002	Wilmington	Instrument changed from Thermo 49 to Teledyne API 400E.	June 1, 2020
SO_2	East Liverpool	39-029-0019	Port Authority	Instrument changed from Thermo 43C to Thermo 43iQ.	August 13, 2020
SO_2	Cleveland	39-035-0038	St. Theodosius	Instrument changed from Thermo 43C to Teledyne API T100.	December 29, 2020
SO_2	Cleveland	39-035-0045	Cleveland Fire St13	Instrument changed from Ecotech Serinus 50 to Teledyne API T100.	January 26, 2021
CO	Cleveland	39-035-0060	GT Craig NCore	Instrument changed from Thermo 48i-TLE to Teledyne T300U.	May 7, 2021
CO	Warrensville Hts.	39-035-0073	Cleveland Near Road	Instrument changed from Teledyne API T300U to Thermo 43iQ.	August 18, 2020
$PM_{2.5}$	New Albany	39-049-0029	New Albany	Instrument changed from Met One BAM SCC to Met One BAM 1020.	November 3, 2020
O_3	New Albany	39-049-0029	New Albany	Instrument changed from Thermo 49i to Thermo 49iQ.	March 1, 2021
SO_2	Columbus	39-049-0034	Fairgrounds	Instrument changed from Thermo 43i to Teledyne API T100.	December 9, 2020
$PM_{2.5}$	Columbus	39-049-0038	Smoky Row Near Road	Continuous instrument changed from from Met One BAM VSCC to Teledyne API T640.	January 29, 2021
SO_2	Cheshire	39-053-0006	Guiding Hand	Instrument changed from Thermo 43C to Thermo 43iQ.	May 28, 2020
SO_2	Byesville	39-059-0003	AMG North	Began operating an industrial site to monitor AMG Vanadium.	December 9, 2020
SO_2	Byesville	39-059-0004	AMG South	Began operating an industrial site to monitor AMG Vanadium.	December 9, 2020
O_3	Steubenville	39-081-0017	Steubenville	Instrument changed from Thermo 49 to Thermo 49iQ.	March 1, 2021
SO_2	Steubenville	39-081-0017	Steubenville	Instrument changed from Teledyne API 100 to Thermo 43iQ.	February 3, 2021

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
$PM_{2.5}$	Steubenville	39-081-0017	Steubenville	Instrument changed from Partisol 2025 VSCC to Partisol 2025i.	February 4, 2021
PM_{10}	Ironton	39-087-0012	ODOT Ironton	Instrument changed from Wedding to BGI PQ200.	September 5, 2020
O_3	Heath	39-089-0005	Heath	Instrument changed from Thermo 49C to Thermo 49i.	March 1, 2021
O_3	Reynoldsburg	39-089-0008	Reynoldsburg	Instrument changed from Thermo 49C to Thermo 49iQ.	March 1, 2021
$PM_{2.5}$	Sheffield	39-093-3002	Barr School	Instrument changed from Thermo Anderson RAAS to Partisol 2025i.	January 1, 2021
SO_2	Toledo	39-095-0008	Collins Park WTP	Ohio EPA unexpectedly lost access to this site in December 2020. A new replacement site on the property has resumed monitoring.	June 11, 2021
O_3	London	39-097-0007	London	Instrument changed from Thermo 49C to Thermo 49iQ.	June 29, 2020
O_3	Youngstown	39-099-0013	Oakhill	Instrument changed from Thermo 49C to Thermo 49iQ.	March 1, 2021
SO_2	Youngstown	39-099-0013	Oakhill	Instrument changed from Teledyne API 100E to Thermo 43i.	April 20, 2021
O_3	Medina	39-103-0004	Chippewa	Instrument changed from Teledyne API T40 to Thermo 49iQ.	March 22, 2021
SO_2	Hackney	39-115-0004	Hackney	Instrument changed from Thermo 43i to Thermo 43iQ.	October 21, 2020
PM_{10}	Portsmouth	39-145-0013	Portsmouth WTP	Instrument changed from Wedding to BGI PQ200.	September 5, 2020
PM_{10}	Portsmouth	39-145-0019	PCAB	Instrument changed from Wedding to BGI PQ200.	September 5, 2020
Pb	Canton	39-151-0024	Republic Steel	Added additional monitor to run on a random sampling schedule for lead.	March 1, 2021
SO_2	Akron	39-153-0017	East HS	Instrument changed from Teledyne API T100 to Thermo 43iQ.	April 28, 2021
SO_2	Akron	39-153-0025	NIHF STEM MS	Changed instrument from Teledyne API 100E to Ecotech Serinus 50.	March 11, 2021
O_3	Vienna	39-155-0011	TCSE	Instrument changed from Thermo 49C to Thermo 49iQ.	March 1, 2021
O_3	Kinsman	39-155-0013	Kinsman	Instrument changed from Thermo 49C to Thermo 49iQ.	March 1, 2021
O_3	Marietta	39-167-0004	Marietta WTP	Instrument changed from Thermo 49C to Thermo 49iQ.	August 4, 2020
SO_2	Beverly	39-167-0011	Globe	Began operating an industrial site to monitor Globe Metallurgical.	January 1, 2021

Pollutant	Location	AQS Site No.	Site Name	Action/Change	When
Proposed changes that are requested in the 2021-2022 AMNP and will need approval before being completed					
$PM_{2.5}$	Lima	39-003-0009	Lima	Discontinue collocated monitor when instrument switched from BGI PQ200 VSCC to Partisol 2025i. Method code will switch from 142 to 145.	2021-2022
SO_2	Conneaut	39-007-1001	Conneaut	Discontinue monitor.	2021-2022
SO_2	East Liverpool	39-029-0019	Port Authority	Discontinue monitor.	2021-2022
SO_2	Cleveland	39-035-0045	Cleveland Fire St13	Discontinue monitor.	2021-2022
$PM_{2.5}$	Columbus	39-049-0034	Fairgrounds	Add collocated monitor to site upon instrument change at 39-003-0009.	2021-2022
SO_2	Eastlake	39-085-0003	Easlake	Discontinue monitor.	2021-2022
SO_2	Akron	39-153-0025	NIHF STEM MS	Terminate site.	2021-2022
Proposed changes that will be completed or are under consideration; Approval not required					
PM_{10}, $PM_{2.5}$	Middletown	30-017-0019	Amanda Elem	May replace $PM_{2.5}$ continuous instrument with a Teledyne API T640x. At that time PM_{10} continuous would begin and PM_{10} filterable would discontinue.	2021-2022
Proposed changes that will be completed or are under consideration; Ohio will submit a request to Region 5 before completion					
O_3	Akron	39-153-0020	Patterson Park	Relocation delayed. Running comparison study with new SPM site at 39-153-0026.	Following 2021 ozone season

3.0 Pollutant Specific Proposed Network for 2021-2022

3.1 Ozone Network

Ohio currently operates 48[1] ozone sites as identified in Appendix A. As discussed below, 21 of these sites are required in certain MSAs based upon a combination of population and concentration levels. Ohio operates 43 sites, a surplus of 23 sites, within these MSAs and the remaining five in counties not in an MSA. The monitors are operated from March 1 through October 31, in accordance with 40 CFR Part 58, Appendix D, Section 4.1(i). However, ozone monitors at Ohio's NCore sites in Cleveland, Cincinnati and in Preble County collect measurements year-round. As discussed below, Ohio exceeds the minimum requirements under 40 CFR Part 58, Appendix D, Section 4.1.

3.1.1 Population/Concentration Requirements

Table 2 below identifies the minimum ozone monitoring sites as required under 40 CFR Part 58, Appendix D, Table D-2. Minimum monitoring requirements for ozone are based on population and whether the design value is less than 85% of the NAAQS or greater than 85% of the NAAQS. Since the NAAQS for ozone is 0.070 ppm of ozone, 85% of the NAAQS is 0.059 ppm (truncated). The total number of ozone sites needed to support the basic monitoring objectives of public data reporting, air quality mapping, compliance, and understanding ozone-related atmospheric processes include more sites than these minimum numbers required.

Table 2. SLAMS Minimum Ozone Monitoring Requirements

MSA population[1,2]	Most recent 3-year design value concentrations ≥85% of any O_3 NAAQS[3]	Most recent 3-year design value Concentrations <85% of any O_3 NAAQS[3,4]
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000[5]	1	0

1 Minimum monitoring requirements apply to the Metropolitan Statistical Area (MSA)
2 Population based on latest available census figures.
3 The ozone (O3) National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.
4 These minimum monitoring requirements apply in the absence of a design value.
5 Metropolitan Statistical Areas (MSA) must contain an urbanized area of 50,000 or more population.

In 2021-2022, Ohio is operating 48 SLAMS ozone monitoring sites, exceeding the minimum 20 sites required. Ohio's analysis can be found in Appendix C and is summarized below in Table 3. Full details on each site can be found in Appendix A.

[1] 48 sites are presented in Appendix A with their specific details. In addition to the 48 sites operating at the time of this report, 1 SPM site exists in the state (not comparable to the NAAQS) and is represented as such in Appendix A.

Table 3. Ohio's SLAMS Ozone Monitoring Network

Area Name	2019 MSA Population	2021-2022 Monitors	AQS Site No.	Site Name	Design Value <85% of NAAQS	Urban Area with Pop. >= 50,000	No. Required Monitors	Monitors Exceeding Requirement
Monitors in MSAs With Populations >= 50,000								
Akron, OH	703,479	2	39-133-1001	Lake Rockwell	No	Yes	2	0
			39-153-0020*	Patterson Park				
Canton-Massillon, OH	397,520	3	39-151-0016	Malone Univ	No	Yes	2	1
			39-151-0022	Brewster				
			39-151-4005	Alliance				
Cincinnati OH-KY-IN	2,192,575	7	39-017-0018	Middletown Airport	No	Yes	2	5
			39-017-0023	Crawford Woods				
			39-025-0022	Batavia				
			39-061-0006	Sycamore				
			39-061-0010	Colerain				
			39-061-0040	Taft NCore				
			39-165-0007	Lebanon				
Cleveland-Elyria, OH	2,048,449	9	39-035-0034	District 6	No	Yes	2	7
			39-035-0060	GT Craig NCore				
			39-035-0064	Berea BOE				
			39-035-5002	Mayfield				
			39-055-0004	Notre Dame				
			39-085-0003	Eastlake				
			39-085-0007	Paineville				
			39-093-0018	Sheffield				
			39-103-0004	Chippewa				
Columbus, OH	2,122,271	6	39-041-0002	Delaware	No	Yes	2	4
			39-049-0029	New Albany				
			39-049-0081	Maple Canyon				
			39-089-0005	Heath				
			39-089-0008	Reynoldsburg				
			39-097-0007	London				
Dayton, OH	807,611	3	39-057-0006	Xenia	No	Yes	2	1
			39-109-0005	Miami East HS				
			39-113-0037	Eastwood				
Huntington-Ashland, WV-KY-OH	349,485	2	39-087-0011	Wilgus	No	Yes	1	1
			39-087-0012	ODOT Ironton				
Lima, OH	102,351	1	39-003-0009	Lima	No	Yes	1	0
Mansfield, OH	121,154	0	n/a	n/a	No	Yes	0	0
Springfield, OH	134,083	2	39-023-0001	Springfield Well Fd	No	Yes	1	1
			39-023-0003	Mud Run				
Toledo, OH	601,291	4	39-095-0024	Erie	No	Yes	2	2
			39-095-0027	Waterville				
			39-095-0035	Cooley				
			39-173-0003	Bowling Green				
Weirton-Steubenville, WV-OH	116,074	1	39-081-0017	Steubenville	No	Yes	1	0
Wheeling WV-OH	138,948	0	n/a	n/a	No	Yes	0	0
Youngstown-Warren-Boardman, OH-PA	540,891	3	39-099-0013**	Oakhill	No	Yes	2	1
			39-155-0011	TCSE				
			39-155-0013	Kinsman Maintenance				
Totals		**43**					**20**	**23**
Monitors in all Other Areas								
Ashtabula County		1	39-007-1001	Conneaut				
Washington County		1	39-167-0004	Marietta WTP				
Knox County		1	39-083-0003	Centerburg WWTP				
Preble County		1	39-135-1001	Preble NCore				
Clinton County		1	39-027-1002	Wilmington				
Totals		**5**						
Grand Totals		**48**						

*may need to relocate site following 2021 ozone season within the same MSA and county.

**likely to relocate within the same MSA and county.

3.1.2 Photochemical Assessment Monitoring Stations (PAMS)

In accordance with 40 CFR 58.10, 40 CFR Part 58, Appendix C, Section 4.0 and 40 CFR Part 58, Appendix D, Section 5.0, PAMS are established to obtain more comprehensive data in areas with high levels of ozone pollution by also monitoring NOx and VOCs. More extensive monitoring of meteorological measurements is also conducted. In October 2015, U.S. EPA promulgated a more stringent air quality standard for ozone. As a result, 40 CFR Part 58, Appendix D, Section 5.0 was amended to require that PAMS stations be set up at all NCore sites located in CBSAs whose population is greater than or equal to one million people. In Ohio there are three NCore sites: Cleveland (MSA 2019 population 2,048,449), Cincinnati (MSA 2019 population 2,192,575, and Preble County (not in a CBSA). Therefore, the new rule required Cleveland and Cincinnati NCore sites to have a PAMS operational by the monitoring deadline of June 1, 2019.

Ohio EPA has been participating extensively on local, regional and national work groups to prepare for meeting the PAMS requirement deadline. However, U.S. EPA faced challenges in providing the resources necessary for states to begin implementation, including procuring the necessary monitoring equipment under a national contract. Therefore, Ohio did not begin making PAMS measurements at the required NCore location in 2019. On January 8, 2020, U.S. EPA issued final rulemaking to delay the start date for PAMS monitoring until June 1, 2021 (85 FR 834). Ohio EPA has fully implement PAMS monitoring by June 1, 2021 in accordance with U.S. EPA's rulemaking extension. The PAMS monitoring season occurs each year from June through August.

The PAMS Monitoring Network Implementation Plans for the Cleveland and Cincinnati NCore sites (39-035-0060 and 39-061-0040, respectively) are included in Appendix B detailing how Ohio fulfilled the specific monitoring requirements for each required parameter. At this time, Ohio is not required to submit an Enhanced Monitoring Plan, as it does not have any areas designated moderate or above for the 2008 or 2015 ozone standards.

3.1.3 Ozone Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All ozone monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential ozone network changes through December 31, 2022 include:

On August 14, 2020, Ohio EPA replaced the Thermo 49C instrument at Conneaut (39-007-1001) with a Thermo 49iQ instrument.

On July 22, 2020, Ohio EPA relocated the ozone instrument at the Middletown Airport site (39-017-0018) from one side of the building to the other side to allow monitoring staff easier access to equipment. A new AQS ID number was deemed not necessary for this minor relocation.

On June 1, 2020, Ohio EPA replaced the Thermo 49 instrument at Wilmington (39-027-1002) with a Teledyne API 400E instrument.

On March 1, 2021, Ohio EPA replaced the Thermo 49C instrument at Heath (39-089-0005) with a Thermo 49i instrument.

On March 1, 2021, Ohio EPA replaced the Thermo 49i instrument at New Albany (39-049-0029) with a Thermo 49iQ instrument.

On March 1, 2021, Ohio EPA replaced the Thermo 49 instrument at Steubenville (39-081-0017) with a Thermo 49iQ instrument.

On September 11, 2020, Ohio EPA replaced the Thermo 49C instrument at Reynoldsburg (39-089-0008) with a Thermo 49iQ instrument.

On June 29, 2020, Ohio EPA replaced the Thermo 49C instrument at London (39-097-0007) with a Thermo 49iQ instrument.

On March 1, 2021, Ohio EPA replaced the thermo 49C instrument at Oakhill (39-099-0013) with a Thermo 49iQ instrument.

On March 22, 2021 Ohio EPA replaced the Teledyne API T400 instrument at Chippewa (39-103-0004) with a Thermo 49iQ instrument.

On March 1, 2021, Ohio EPA replaced the Thermo 49C instrument at TCSE (39-155-0011) with a Thermo 49iQ instrument.

On March 1, 2021, Ohio EPA replaced the Thermo 49C instrument at Kinsman Maintenance (39-155-0013) with a Thermo 49iQ instrument.

On August 4, 2020, Ohio EPA replaced the Thermo 49C instrument at Marietta WTP (39-167-0004) with a Thermo 49iQ instrument.

As discussed in the 2020-2021 AMNP, on April 12, 2019, Ohio EPA submitted a letter to U.S. EPA Region 5 requesting approval to relocate and consolidate several monitors in the Youngstown area as part of NEDO assuming monitoring network responsibility for the former MTAPCA sites. This was requested so that Ohio EPA could allocate monitoring resources more efficiently. Ohio EPA requested to consolidate the following three sites: Oakhill (39-099-0013), Youngstown Fire St7 (39-099-0005) and Headstart (39-099-0014) into one site at a new location at Youngstown State University. Ozone monitoring is conducted at Oakhill (39-099-0013). The proposed completion date of Summer 2019 was delayed. Ohio EPA continues to work toward consolidating these sites. The consolidation is expected to be completed in 2021.

Ohio EPA continues to seek a suitable site to relocate the Patterson Park (39-153-0020) ozone monitor. Ohio EPA operated an SPM for ozone at East HS (39-153-0017) during the 2018 ozone season. Analysis of the data indicated it would not be suitable as a relocation site for Patterson Park; therefore, the site was terminated on November 1, 2018. On March 18, 2021, Ohio EPA started a new ozone SPM monitor at 985 Gorge Boulevard in Akron, named North HS (39-153-0026). A Thermo 49iQ instrument is operating at the site. Ohio EPA will analyze the data to confirm if the new site will be an appropriate relocation site. If the site is determined to be suitable, Ohio EPA will submit a separate letter for this request. Until a suitable location is found and approved by U.S. EPA, ozone monitoring at Patterson Park will continue.

3.2 $PM_{2.5}$ Network

Ohio currently operates 41[2] $PM_{2.5}$ SLAMS sites as identified in Appendix A. As discussed in Section 3.2.1 below, 19[3] of these sites are required in certain MSAs based upon a combination of population and concentration levels. Ohio operates 37 sites within our MSAs; three in MSAs that do not require monitoring and 34 (a surplus of 15 sites) in MSAs requiring monitoring. In addition, Ohio operates four sites in counties not in an MSA. Section 3.2.3 below identifies collocated monitors also required at these sites.

Ohio also operates 27 continuous $PM_{2.5}$ sites, as identified in Appendix A. As discussed in Section 3.2.4 below, 13 are required in certain MSAs based upon the number of $PM_{2.5}$ SLAMS sites required. Ohio operates 23 sites within the required MSAs and three sites in MSAs with no required monitors. The remaining site is in a county not in an MSA.

As discussed below for each of these requirements, Ohio exceeds the minimum requirements under 40 CFR Part 58, Appendix D, Section 4.7.

3.2.1 Population/Concentration Requirements

Table 4 below identifies the minimum number of $PM_{2.5}$ SLAMS monitoring sites required under 40 CFR Part 58, Appendix D, Table D-5. Minimum monitoring requirements for $PM_{2.5}$ are based on population and whether the design value is less than 85% of the NAAQS or greater than or equal to 85% of the NAAQS. 85% of the annual and short term NAAQS are 10.2 $\mu g/m^3$ and 29.7 $\mu g/m^3$ respectively. Design values are the three-year averages of the calculated annual and the 98th percentile of the 24-hour average concentrations recorded from the highest-reading monitor in each attainment or nonattainment area or state county.

Table 4. SLAMS Minimum $PM_{2.5}$ Monitoring Requirements

MSA population[1,2]	Most recent 3-year design value ≥85% of any PM2.5 NAAQS[3]	Most recent 3-year design value <85% of any PM2.5 NAAQS[3,4]
> 1,000,000	3	2
500,000-1,000,000	2	1
50,000-<500,000[5]	1	0

1 Minimum monitoring requirements apply to the Metropolitan Statistical Area (MSA).
2 Population based on latest available census figures.
3 The $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.
4 These minimum monitoring requirements apply in the absence of a design value.
5 Metropolitan Statistical Areas (MSA) must contain an urbanized area of 50,000 or more populations.

Table 5 shows Ohio is operating 41 SLAMS $PM_{2.5}$ monitoring sites in required MSAs at the time of this report, which exceeds the 19 minimum number of required sites based on population and

[2] The 41 sites are presented in Appendix A with their specific details. In addition to the 41 sites operating at the time of this report, three industrial sites and one special purpose site (not comparable to the NAAQS) exist in the state and are represented as such in Appendix A.

[3] Incomplete $PM_{2.5}$ FRM data due to COVID-19 sampling restrictions is the sole reason for the Wheeling WV-OH area triggering a required monitor for the first time. Analysis of monitoring requirement counts reflect this is now a required monitor and impacts the continuous monitors required in the area, which is addressed in section 3.2.4.

concentration. Ohio's analysis can be found in Appendix C and full details on each site can be found in Appendix A.

In addition, Ohio operates four SLAMS sites not required based upon population and concentration and has designated one of those sites as a regional transport site and one as a regional background site. The majority of SLAMS sites monitor using FRMs; however, the Sycamore (39-061-0006) and Cincinnati Near Road (39-061-0048) sites each have a continuous FEM instrument designated as the primary monitor.

40 CFR Part 58, Appendix D, Section 4.7.1(b) establishes the hierarchy for siting monitors. In accordance with Section 4.7.1(b)(1), at least one site is a neighborhood-measurement scale or larger in an area of expected maximum concentration. In accordance with Section 4.7.1(b)(2), each CBSA with a population of 1,000,000 or more persons (i.e. Cleveland, Columbus and Cincinnati) has at least one $PM_{2.5}$ collocated at a near road NO_2 station. If an additional monitor is required, it is located in an area of poor air quality in accordance with Section 4.7.1(b)(3).

40 CFR 58.12(d) establishes operating schedule requirements for manual $PM_{2.5}$ samplers. As shown in Table 5, all manual $PM_{2.5}$ samplers operate on a 1 in 3 sample frequency, meeting the requirements, with the exception of the Lima (39-003-0009) site, where the operating schedule requirements are considered not applicable as the minimum site requirements for the MSA is met without this site.

Table 5. Ohio's SLAMS $PM_{2.5}$ Monitoring Network

Area Name	2019 MSA Population	2021-2022 Monitors	AQS Site No.	Site Name	Sample Frequency	Measurement Scale	Primary Method (Code)	Collocated Monitor	Design Value <85% of NAAQS	Urban Area with Pop. >= 50,000	No. Required Monitors	Monitors Exceeding Requirement
Monitors in MSAs With Populations >= 50,000												
Akron, OH	703,479	3	39-133-0002	Ravenna	1 in 3	Neighborhood	FRM (145)		Yes	Yes	2	1
			39-153-0017	East HS	1 in 3	Neighborhood	FRM (145)	FRM (145)				
			39-153-0023	Five Points	1 in 3	Neighborhood	FRM (145)					
Canton-Massillon, OH	397,520	2	39-151-0017	Canton Fire St8	1 in 3	Neighborhood	FRM (142)	FRM (142)	Yes	Yes	1	1
			39-151-0020	Canton	1 in 3	Neighborhood	FRM (142)					
Cincinnati OH-KY-IN	2,192,575	8	39-017-0015	Ohio Bell	1 in 3	Neighborhood	FRM (142)		No	Yes	3	5
			39-017-0016	Sacred Heart Elem	1 in 3	Urban	FRM (142)					
			39-017-0022	BPG	1 in 3	Neighborhood	FRM (142)					
			39-061-0006	Sycamore	Continuous	Neighborhood	FEM (184)					
			39-061-0014	Carthage	1 in 3	Neighborhood	FRM (142)	FRM (142)				
			39-061-0040	Taft Ncore	1 in 3	Neighborhood	FRM (142)					
			39-061-0042	Lower Price Hill	1 in 3	Neighborhood	FRM (142)					
			39-061-0048***	Cincinnati Near Road	Continuous	Microscale	FEM (184)	FRM (142)				
Cleveland-Elyria, OH	2,048,449	10	39-035-0034	District 6	1 in 3	Urban	FRM (145)		No	Yes	3	7
			39-035-0038	St. Theodosius	1 in 3	Neighborhood	FRM (145)	FRM (145)				
			39-035-0045	Cleveland Fire St13	1 in 3	Neighborhood	FRM (145)					
			39-035-0060	GT Craig NCore	1 in 3	Neighborhood	FRM (145)					
			39-035-0065	Harvard Yards	1 in 3	Neighborhood	FRM (145)					
			39-035-0073***	Cleveland Near Road	1 in 3	Microscale	FRM (145)					
			39-035-1002	Brookpark	1 in 3	Neighborhood	FRM (145)					
			39-085-0007	Painesville	1 in 3	Urban	FRM (142)					
			39-093-3002	Barr School	1 in 3	Neighborhood	FRM (145)					
			39-103-0004	Chippewa	1 in 3	Neighborhood	FRM (145)					
Columbus, OH	2,122,271	3	39-049-0034	Fairgrounds	1 in 3	Neighborhood	FRM (145)		Yes	Yes	3	0
			39-049-0038***	Smoky Row Near Road	1 in 3	Microscale	FRM (145)					
			39-049-0081	Maple Canyon	1 in 3	Neighborhood	FRM (145)					
Dayton, OH	807,611	1	39-113-0038	Sinclair	1 in 3	Neighborhood	FRM (145)	FRM (145)	Yes	Yes	1	0
Huntington-Ashland, WV-KY-OH	349,485	1	39-087-0012	ODOT Ironton	1 in 3	Neighborhood	FRM (145)		Yes	Yes	0	1
Lima, OH	102,351	1	39-003-0009	Lima	1 in 6****	Neighborhood	FRM (142)~	FRM (142)~~	Yes	Yes	0	1
Mansfield, OH	121,154	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Yes	0	0
Springfield, OH	134,083	1	39-023-0005	Springfield Fire St1	1 in 3	Neighborhood	FRM (145)		Yes	Yes	0	1
Toledo, OH	601,291	3	39-095-0024	Erie	1 in 3	Neighborhood	FRM (145)		Yes	Yes	2	1
			39-095-0026	RAPS	1 in 3	Neighborhood	FRM (145)					
			39-095-1003	Eastside Pump St	1 in 3	Neighborhood	FRM (145)					
Weirton-Steubenville, WV-OH	116,074	1	39-081-0017	Steubenville	1 in 3	Neighborhood	FRM (145)	FRM (145)	Yes	Yes	1	0
Wheeling WV-OH	138,948	1	39-013-0006	Shadyside	1 in 3	Neighborhood	FRM(145)		Yes	Yes	1	0
Youngstown-Warren-Boardman, OH-PA	540,891	2	39-099-0014*****	Headstart	1 in 3	Neighborhood	FRM (142)		Yes	Yes	2	0
			39-155-0014	Laird Eng Bldg	1 in 3	Neighborhood	FRM (142)					
Totals		**37**									**19**	**18**
Monitors in all Other Areas												
Athens County	n/a	1	39-009-0003*	Gifford	1 in 3	Regional	FRM (145)				1	0
Scioto County	n/a	2	39-145-0013	Portsmouth WTP	1 in 3	Middle	FRM (145)				0	1
			39-145-0015	East Haverhill	1 in 6	Neighborhood	FRM (142)				0	1
Preble County	n/a	1	39-135-1001**	Preble NCore	1 in 3	Regional	FRM (145)				1	0
Totals		**4**									**2**	**2**
Grand Totals		**41**									**21**	**20**

* Regional background site (40 CFR Part 58, Appendix D, Section 4.7.3).
** Regional transport site (40 CFR Part 58, Appendix D, Section 4.7.3)
*** PM2.5 collocated at a Near Road NO2 station (40 CFR Part 58, Appendix D, Section 4.7.1(b)(2)).
****Minimum site requirements for the MSA are met without this site, so 40 CFR 58.12(d) operating schedule requirements are considered not applicable
*****Site may relocate within the same MSA in 2021.
~Method may change to 145. Minimum network requirements will still be maintained.
~~Upon approval and method code change to 145, collocated monitor will discontinue. Minimum network requirements will still be maintained as collocated monitor will move to 39-049-0034.

3.2.2 Regional Background and Transport Requirements

In addition to the minimum number of required SLAMS sites based on population and concentration, each state is required to operate a regional background and a regional transport site in accordance with 40 CFR Part 58, Appendix D, Section 4.7.3. In Ohio, our NCore site (Preble NCore, 39-135-1001) in Preble County near the Indiana border is designated as the state's regional transport site. In Ohio, the regional background site (Gifford, 39-009-0003) is located in Athens County next to Gifford Forest.

In general, a regional transport site should include an area where transport between or upwind of Ohio is expected to occur. Ohio selected the Preble NCore site as it is a rural area on the southwest border of Ohio where it would not be influenced by local sources and would represent emissions transported into Ohio based on the predominant wind patterns entering the state (southwest winds). In general, a regional background site should include an area distant from source areas. The Athens County site was selected because it is distant from sources that could impact the monitor and is located in a state forest in an area of the state dominated by state and national forests.

3.2.3 $PM_{2.5}$ Quality Control Collocation

According to 40 CFR Part 58, Appendix A, Section 3.2.3, for each distinct monitoring method designation (FRM or FEM) used in a PQAO, 15 percent of the primary monitors of each method designation must be collocated with a quality control monitor. A primary monitor designated as an FRM shall be collocated with a quality control monitor having the same FRM designation. For each primary monitor designated as an FEM, fifty percent of the monitors designated for collocation (or the first in only one collocation is necessary) shall be collocated with an FRM quality control monitor, and fifty percent shall be collocated with a monitor having the same method designation as the FEM primary monitor. 40 CFR Part 58, Appendix A, Section 3.2.3.4 requires collocated quality control monitors to sample on a 1 in 12 day schedule.

Fifty percent of the collocated quality control monitors should be deployed at sites where sampled pollutant concentrations for $PM_{2.5}$ are plus or minus 20 percent of either the annual or 24-hour NAAQS. The remainder of quality control monitors can be located at the state PQAO's discretion. If a monitoring organization has no sites where annual average or daily concentrations are within plus or minus 20 percent of the annual NAAQS or 24-hour NAAQS, then 50 percent of the collocated quality control monitors should be deployed at those sites where the annual mean concentrations or 24-hour concentrations are among the highest reading sites in the network. The remainder of quality control monitors can be located at the state PQAO's discretion.

Ohio's $PM_{2.5}$ collocation network is presented in Table 6. The collocated $PM_{2.5}$ monitors in Ohio meet all quality control collocation requirements as specified in 40 CFR Part 58, Appendix A, Section 3.2.3.

As shown in Table 6, at least 15 percent of primary monitors for each method in each PQAO are collocated with a quality control monitor. Primary FRM monitors are collocated with an FRM monitor of the same method. At least fifty percent of the primary FEM monitors are collocated with an FRM quality control monitor. All collocated quality control monitors sample at a 1 in 6 frequency or greater, exceeding the requirement.

With the exception of the CPQAO and NEPQAO, at least fifty percent of the collocated quality control monitors in CPQAO and NEPQAO are deployed at sites where sampled pollutant concentrations for $PM_{2.5}$ are within plus or minus 20 percent of either the annual or 24-hour NAAQS, or if not applicable, at sites among the highest reading sites.

Ohio EPA currently operates nine out of ten instruments in the CPQAO under method 145. As part of this network plan the remaining instrument will switch to method 145 which will allow the last remaining method 142 collocated monitor to be discontinued but then require a second collocated method 145 monitor for the PQAO to be installed. The one currently required collocated method 145

monitor is located at the third highest reading site (Steubenville, 39-081-0017). Ohio EPA plans to add a collocated monitor at the second highest reading site, Fairgrounds (39-049-0034) in 2021. Based on designs values with 2020 data, the highest reading site for the PQAO is located at Eastside Pump St. (39-095-1003). Historically, this site has ranked below the Steubenville and Fairgrounds sites. With the unusual circumstances surrounding 2020 data due to numerous sites with incomplete data due to COVID-19, Ohio EPA believes the Steubenville and Fairgrounds sites are the appropriate locations for the collocated monitors for the CPQAO at this time. Collocated monitors at the second and third highest sites out of ten are among the highest reading sites and therefore satisfy the requirement. Ohio will continue to evaluate the collocations requirements and make adjustments as needed in the future.

For the NEPQAO, the Harvard Yards (39-035-0065) site is within plus or minus 20 percent of the annual NAAQS but the required collocated monitor is located at the third highest reading site (St. Theodosius, 39-035-0038) which is not within plus or minus 20 percent of the annual NAAQS. For this method, there are twelve sites; therefore, St. Theodosius is among the highest reading. Ohio also has a collocated monitor for the NEPQAO located at the fourth highest site East HS (39-153-0017). Historically, a collocated monitor was located at GT Craig NCore however, an equipment failure occurred in early 2020 resulting in removal of the collocated monitor. Again, with the unusual circumstances surrounding 2020 data due to numerous sites with incomplete data due to COVID-19, Ohio will continue to evaluate the collocation requirements for this area and make adjustments as necessary in the future.

Table 6. Ohio's $PM_{2.5}$ Quality Control Collocation Monitors by PQAO

PQAO	Primary Method (Code)	No. SLAMS Sites	No. Collocated Required	AQS Site No.	Site Name	Collocated Monitor	2018-2020 Annual DV	2018-2020 24-hr DV	Within 20% of NAAQS (Annual, 24-hr)	Collocated Sample Frequency
CPQAO	FRM (142)**	1	1	39-003-0009	Lima	FRM (142)**	7.0	16	N, N	1 in 6
	FRM (145)	9***	1***	39-009-0003	Gifford		6.4	14	N, N	
				39-013-0006	Shadyside		7.8	18	N^^^, N^^^	
				39-081-0017	Steubenville	FRM (145)	8.8	21	N, N^^	1 in 6
				39-095-0024	Erie		8.2	21	N, N^^	
				39-049-0034	Fairgrounds	***	8.8	22	N^^, N^^	
				39-049-0038	Smoky Row Near Road		8.8	21	N, N	
				39-049-0081	Maple Canyon		8.5	21	N^, N^	
				39-095-0026	RAPS		7.7	20	N^, N^	
				39-095-1003	Eastside Pump St		9.1	23	N^, N^	
NEPQAO	FRM (142)	5	1	39-151-0017	Canton Fire St8	FRM (142)	8.9	19	N^, N^	1 in 6
				39-151-0020	Canton		9.0	22	N, N	
				39-085-0007	Painesville		6.6	16	N, N	
				39-099-0014	Headstart*		8.0	20	N, N^^	
				39-155-0014	Laird Eng Bldg		7.1	18	N, N	
	FRM (145)	12	2	39-153-0017	East HS	FRM (145)	8.8	20	N, N	1 in 6
				39-035-0038	St Theodosius	FRM (145)	9.1	22	N, N^^	1 in 3
				39-133-0002	Ravenna		7.3	17	N^^^, N^^^	
				39-153-0023	Five Points		7.8	22	N^, N^	
				39-035-0034	District 6		7.2	17	N, N	
				39-035-0045	Cleveland Fire St13		9.1	20	N^, N^	
				39-035-0060	GT Craig Ncore		9.3	25	N, N	
				39-035-0065	Harvard Yards		10.8	24	Y^, N^	
				39-035-0073	Cleveland Near Road		8.5	20	N, N	
				39-035-1002	Brookpark		7.0	18	N^, N^	
				39-103-0004	Chippewa		7.3	18	N, N	
				39-093-3002	Barr School		7.2	18	N, N	1 in 6
SWPQAO	FEM (184)	2	1	39-061-0048	Cincinnati Near Road	FRM (142)	11.6	24	Y, N	1 in 6
				39-061-0006	Sycamore		9.0	18	N, N	
	FRM (142)	7	1	39-061-0040	Taft Ncore		9.4	20	N, N	
				39-061-0014	Carthage	FRM (142)	9.9	22	Y,N	1 in 6
				39-017-0015	Ohio Bell		9.2	19	N, N^^	
				39-017-0016	Sacred Heart Elem		8.5	20	N, N^^	
				39-017-0022	BPG		10.2	24	Y, N^^	
				39-061-0042	Lower Price Hill		9.1	21	N, N	
				39-145-0015	East Haverhill		6.8	15	N^^,N^^	
	FRM (145)	5	1	39-023-0005	Springfield Fire St1		8.9	21	N, N^^	
				39-113-0038	Sinclair	FRM (145)	9.1	21	N,N	1 in 6
				39-145-0013	Portsmouth WTP		6.8	15	N, N^^	
				39-087-0012	ODOT Ironton		6.9	15	N, N	
				39-135-1001	Preble NCore		8.1	18	N, N	

^ Invalid due to incomplete data during 2020.

^^ Invalid due to incomplete data during 3-year design value period only because the site was established within 3-year period.

^^^ Invalid due to incomplete data during 2020 for 24-hr values.

^^^ Invalid due to incomplete data during 3-year design value period

*Site may relocate within the same MSA in 2021.

** Method may change to 145. Upon approval, collocated monitor will discontinue. Minimum network requirements will still be maintained.

***Upon approval and completion of footnote ** numbers will be one more. Additional collocated monitor will begin at 39-049-0034. Minimum network requirements will still be maintained.

3.2.4 $PM_{2.5}$ Continuous Network

40 CFR Part 58, Appendix D, Section 4.7.2 requires continuous $PM_{2.5}$ analyzers in each MSA be equal to at least one-half (round up) of the minimum required SLAMS monitoring sites as identified in Table 5. At least one of the required continuous analyzers in each MSA must be collocated with one of the required FRM/FEM monitors, unless at least one of the required FRM/FEM monitors is itself a continuous FEM in which case no collocation requirement applies.

Table 7 shows Ohio is operating 23 sites in required MSAs and three sites in MSAs with no required monitors at the time of this report, which exceeds the 13 minimum number of required sites. One additional site is operated in an area that is not an MSA for a total of 27 SLAMS sites. Ohio's analysis can be found in Appendix C and full details on each site can be found in Appendix A.

Incomplete $PM_{2.5}$ FRM data due to COVID-19 sampling restrictions at the Shadyside (39-013-0006) site is the sole reason for triggering the requirement for location of a $PM_{2.5}$ FRM instrument in the Wheeling, WV-OH MSA for the first time. This in turn triggered the requirement for a continuous instrument to be established in this MSA. At this time, Ohio EPA is not establishing a continuous instrument due solely to the $PM_{2.5}$ FRM instrument having incomplete data due to COVID-19 sampling restrictions.

Table 7. Ohio's $PM_{2.5}$ Continuous Monitoring Network

MSAs	SLAMS Monitors Required	Continuous Monitors Required	Continuous Monitors Operated	AQS Site No.	Site Name	FEM or non-FEM	Primary at site?	Monitors Exceeding Requirement
Monitors in MSAs With Populations >= 50,000								
Akron, OH	2	1	1	39-153-0017	East HS	FEM	no	0
Canton-Massillon, OH	1	1	1	39-151-0020	Canton	FEM	no	0
Cincinnati OH-KY-IN	3	2	1	39-025-0022	Batavia	non-FEM	no	6
			1	39-061-0006	Sycamore	FEM	yes	
			1	39-061-0010	Colerain	non-FEM	no	
			1	39-061-0014	Carthage	FEM	no	
			1	39-061-0040	Taft Ncore	FEM	no	
			1	39-061-0042	Lower Price Hill	FEM	no	
			1	39-061-0048	Cincinnati Near Road	FEM	yes	
			1	39-165-0007	Lebanon	non-FEM	no	
Cleveland-Elyria, OH	3	2	1	39-035-0038	St. Theodosius	FEM	no	4
			1	39-035-0060	GT Craig NCore	FEM	no	
			1	39-035-0073	Cleveland Near Road	FEM	no	
			1	39-085-0007	Painesville	non-FEM	no	
			1	39-103-0004	Chippewa	FEM	no	
			1	39-093-3002	Barr School	FEM	no	
Columbus, OH	3	2	1	39-049-0038	Smoky Row Near Road	FEM	no	0
			1	39-049-0029	New Albany	non-FEM	no	
Dayton, OH	1	1	1	39-113-0038	Sinclair	FEM	no	0
Huntington-Ashland, WV-KY-OH	0	0	1	39-087-0012	ODOT Ironton	FEM	no	1
Lima, OH	0	0	1	39-003-0009	Lima	FEM	no	1
Mansfield, OH	0	0	0	n/a	n/a	n/a	no	0
Springfield, OH	0	0	1	39-023-0005	Springfield Fire St1	FEM	no	1
Toledo, OH	2	1	1	39-095-0024	Erie	non-FEM	no	0
Weirton-Steubenville, WV-OH	1	1	1	39-081-0017	Steubenville	FEM	no	0
Wheeling, WV-OH	1	1**	0	n/a	n/a	n/a	no	0
Youngstown-Warren-Boardman, OH-PA	2	1	1	39-099-0014*	Headstart	non-FEM	no	1
			1	39-155-0014	Laird Eng Bldg	FEM	no	
Totals	**19**	**13**	**26**					**14**
Monitors in all Other Areas								
Preble County	n/a	n/a	1	39-135-1001	Preble Ncore	FEM	no	1
Totals			**1**					**1**
Grand Totals			**27**					**15**
*Site will relocate within the same MSA and county in 2021.								
**Due to monitor completeness criteria not being met, a continuous monitor is required in this MSA.								

Some $PM_{2.5}$ continuous monitors are considered FEM instruments while others are non-FEM. A monitor may be a non-FEM unit because it either never qualified as an FEM (as manufactured) or because the unit is not operated in a manner to categorize them as an FEM instruments. Non-FEM units are not comparable to the NAAQS. Generally, FEM units are comparable to the NAAQS although some historical periods of data may be excluded from comparison when requested by a state and approved by U.S. EPA. As identified in Table 7, Ohio currently has 19 FEM SLAMS monitors. The remaining seven monitors are non-FEM monitors.

U.S. EPA developed a comparability assessment tool which compares pollutant concentrations collected in any one year between the hourly instrument and the collocated filter-based instruments. This tool is used for Ohio sites to make statistical comparisons to determine the suitability of comparison to the NAAQS. Ohio has performed a number of comparability assessment studies during the last plan period and will continue assessing comparability of our

continuous instruments during future plan periods as a part of our continued efforts to improve comparability performance.

When a state deems a site is sufficiently comparable, the state may choose to designate their FEM monitor as primary for the site. Currently two sites have FEM monitors designated as primary (Cincinnati Near Road, 39-061-0048 and Sycamore, 39-061-0006). Ohio is not proposing any additional FEM monitors be designated as primary as a part of this plan period.

3.2.5 $PM_{2.5}$ Chemical Speciation Network

As part of the $PM_{2.5}$ NAAQS review completed in 1997, U.S. EPA established a $PM_{2.5}$ CSN consisting of STN sites and supplemental speciation sites. The CSN is a component of the national $PM_{2.5}$ monitoring network; however, CSN data are not used for NAAQS comparison. CSN data are used for multiple objectives, including:

- The assessment of trends;
- The development of effective SIPs and determination of regulatory compliance;
- The development of emission control strategies and tracking progress of control programs;
- Aiding in the interpretation of health studies by linking effects to $PM_{2.5}$ constituents;
- Characterizing annual and seasonal spatial variation of aerosols; and
- Comparison to chemical speciation data collected from the Interagency Monitoring of Protected Visual Environments (IMPROVE) network.

U.S. EPA implemented the CSN in 2000. In 2014, a nationwide assessment was conducted of the CSN to create an optimized network that meets primary monitoring objectives. In Ohio, this resulted in U.S. EPA terminating funding for the speciation sites in Columbus, Toledo, Youngstown and Portsmouth. Subsequently, U.S. EPA committed to financially supporting two additional speciation monitors (Harvard Yards, 39-035-0065 and Southerly WWTP, 39-035-0076) that were added in the Cleveland area in 2017 under the multipurpose grant.

Ohio EPA operates 11 $PM_{2.5}$ chemical speciation monitors as identified in Table 8 below. The GT Craig NCore site (39-035-0060) is the only STN site in Ohio with the remainder being supplemental CSN sites. The operation of two of the supplemental CSN sites, Harvard Yards (39-035-0065) and Southerly WWTP (39-035-0076) are not funded by the Section 103 grant. Full details on these sites can be found in Appendix A.

The GT Craig NCore site (39-035-0060) operates on a 1 in 3 sample frequency in accordance with the operating schedule requirements for STN monitors established in 40 CFR 58.12(d)(3).

Table 8. Ohio's $PM_{2.5}$ Chemical Speciation Monitoring Network

CBSA Name or non-MSA	AQS Site No.	Site Name	Samping Began	Sampling Frequency	Collocated (Y/N)
Akron, OH	39-153-0023	Five Points	11/21/2001	1 in 6	N
Canton-Massillon, OH	39-151-0017	Canton Fire St8	1/6/2005	1 in 6	N
Cincinnati, OH-KY-IN	39-061-0040	Taft NCore	12/12/2003	1 in 3	N
Cleveland-Elyria, OH	39-035-0038	St.Theodosius	1/8/2002	1 in 6	N
Cleveland-Elyria, OH	39-035-0060	GT Craig Ncore (STN)	12/26/2000	1 in 3	Y
Cleveland-Elyria, OH	39-035-0065	Harvard Yards	1/1/2017	1 in 6	N
Cleveland-Elyria, OH	39-035-0076	Southerly WWTP	8/5/2017	1 in 6	N
Cleveland-Elyria, OH	39-093-3002	Barr School	1/1/2006	1 in 6	N
Dayton, OH	39-113-0038	Sinclair	1/1/2007	1 in 6	N
Preble County	39-135-1001	Preble NCore	1/1/2011	1 in 3	N
Weirton-Steubenville	39-081-0017	Steubenville	12/1/2013	1 in 6	N
State Totals	**11 sites**				**1 collocated**

3.2.6 $PM_{2.5}$ Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All $PM_{2.5}$ monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential $PM_{2.5}$ network changes through December 31, 2022 include:

As part of the 2020-2021 AMNP, Ohio EPA requested approval to discontinue the West Union (39-001-0001) site that monitored for $PM_{2.5}$ and SO_2. U.S. EPA granted approval on September 28, 2020 and the site was discontinued on December 2, 2020 (see Appendix F).

Ohio EPA anticipates replacing the BGI PQ200 VSCC (method 142) instrument at Lima (39-003-0009) with a Partisol 2025i (method 145) instrument. With the elimination of method 142 as the primary monitor, a collocated monitor will no longer be required at the site. Ohio EPA is requesting approval to remove the method 142 collocated monitor at the site upon completion of the instrument change. Furthermore, when the Partisol 2025i instrument is installed at Lima, the CPQAO will have a total of ten SLAMS site operating under method 145 requiring two collocated monitors instead of the one currently required (Steubenville, 39-081-0017). Ohio EPA is proposing to locate the second required 145 collocated monitor at Fairground (39-049-0034) due to the $PM_{2.5}$ concentrations being among the highest readings for the PQAO.

On January 20, 2021, Ohio EPA removed two BGI PQ200 VSSC instrumnets at Gifford (39-009-0003) and replaced them with one Partisol 2025i instrument. Prior to this change, the site operated two monitors on a 1 in 6 schedule to achieve a 1 in 3 schedule, the Partisol 2025i is operating on a 1 in 3 schedule.

Ohio EPA anticipates replacing the $PM_{2.5}$ continuous Thermo 5030 VSCC instrument at industrial site Amanda Elem (39-017-0019) with a Teledyne API T640x continuous instruments. The instrument will then be designated as FEM instruments rather than non-FEM instrument.

On November 3, 2020, Ohio EPA replaced the Met One BAM SCC continuous instrument at New Albany (39-049-0029) with a Met One BAM 1020 continuous instrument.

On February 4, 2021, Ohio EPA replaced the Partisol 2025 VSCC instrument at Steubenville (39-081-0017) with a (145) Partisol 2025i instrument.

On January 1, 2021, Ohio EPA replaced the Thermo Anderson RAAS instrument at Barr School (39-093-3002) with a Partisol 2025i instrument. At that time, the collocated $PM_{2.5}$ FRM instrument was discontinued. The collocated discontinuation was requested as part of Ohio EPA's 2020-2021 AMNP and U.S. EPA granted approval on September 28, 2020 (see Appendix F).

On September 4, 2020, Ohio EPA established a new source-oriented $PM_{2.5}$ FRM site, named East Haverhill (39-145-0015) to monitor the Haverhill Coke facility. This site is located in the SWPQAO at 1526 Haverhill-Ohio Furnace Road and is run by the Portsmouth City Health Deptment. A BGI PQ200 VSCC instrument was installed and is operated on a 1 in 6 day frequency.

As part of the 2020-2021 AMNP, Ohio EPA requested to begin $PM_{2.5}$ continuous monitoring at St. Theodosius (39-035-0038) upon installation of a new Teledyne API T640x instrument. $PM_{2.5}$ continuous monitoring was not previously conducted at this site. A Teledyne API T640x instrument was installed so that several filterable units could be replaced with a continuous unit for PM_{10} sampling. These changes were originally scheduled to take place in 2020 but were delayed until March 25, 2021.

As discussed in the 2020-2021 AMNP, Ohio EPA intends to start a neighborhood scale $PM_{2.5}$ FRM monitor in Franklin County to replace the former Barack Rec Center (39-049-0039) site. This new site was originally scheduled to start in 2020 but has been delayed and will start in the fall of 2021. This monitor will cover a similar purpose and area as the Barack Rec Center monitor.

As part of the 2020-2021 AMNP, Ohio EPA requested approval to discontinue the collocated $PM_{2.5}$ FRM instrument at Taft NCore (39-061-0040). Upon approval, two monitors would run on a 1 in 6 schedule to achieve a 1 in 3 schedule at the site. U.S. EPA granted approval of Ohio's request on September 28, 2020 (see Appendix F). The above mentioned site changes were completed on January 1, 2021.

As discussed in the 2020-2021 AMNP, on April 12, 2019, Ohio EPA submitted a letter to U.S. EPA Region 5 requesting approval to relocate and consolidate several monitors in the Youngstown area as part of NEDO assuming monitoring network responsibility for the former MTAPCA sites. This was requested so that Ohio EPA could allocate monitoring resources more efficiently. Ohio EPA requested to consolidate the following three sites: Oakhill (39-099-0013), Youngstown Fire St7 (39-099-0005) and Headstart (39-099-0014) into one site at a new location at Youngstown State University. Therefore, FEM $PM_{2.5}$ continuous and $PM_{2.5}$ FRM monitoring at Headstart (39-099-0014) and $PM_{2.5}$ FRM monitoring at Youngstown Fire St7 (39-099-0005) will be consolidated into one site and there will be a reduction in $PM_{2.5}$ FRM monitoring when the new site is in place. The area will still meet all monitoring requirements with this reduction. Ohio EPA has experienced substantial delays but is currently working to consolidate these sites and anticipates completion in 2021. Also discussed in the 2020-2021 AMNP, sampling at Youngstown Fire St7 (39-099-0005) was discontinued abruptly when power at the building was disconnected on December 12, 2019. Because this monitor is consolidating with others in the near future, as noted above, Ohio EPA did not seek a relocation site prior to start up of the Youngstown State University site.

Ohio EPA replaced several $PM_{2.5}$ continuous instruments with Teledyne API T640 or T640x instruments to allow for better use of Agency resources during 2020-2021. The monitors at the following sites were replaced on:

- Yankee (39-017-0020) January 14, 2021
- Springfield Fire St1 (39-023-0005) December 22, 2020
- GT Craig NCore (39-035-0060) January 27, 2021
- Smoky Row Near Road (39-049-0038) January 29, 2021
- Taft NCore (39-061-0040) November 1, 2020
- Steubenville (39-081-0017) February 4, 2021
- ODOT Ironton (39-087-0012) June 16, 2020
- Preble NCore (39-135-1001)December 15, 2020
- Canton (39-151-0020) December 17, 2020

The above changes at NCore sites were part of Ohio EPA's 2020-2021 AMNP proposed changes to the PM_{10} and $PM_{2.5}$ network to utilize Teledyne API T640x samplers (see Section 4.0). U.S. EPA granted approval of these changes on September 28, 2020 (see Appendix F).

3.3 PM_{10} Network

Ohio currently operates 23[4] PM_{10} sites as identified in Appendix A. PM_{10} monitors sample particulates that are less than 10 microns in diameter. The particle size collected in the instruments contrast the much smaller particle size collected in $PM_{2.5}$ instruments. As discussed below, 10 to 22 of these sites are required in certain MSAs based upon a combination of population and concentration levels. Ohio operates 18 sites within these MSAs with the remaining five sites outside of the MSAs. As discussed below, Ohio meets, and often exceeds, the minimum sites required under 40 CFR Part 58, Appendix D, Section 4.6.

3.3.1 Population/Concentration Requirements

40 CFR Part 58, Appendix D, Section 4.6, Table D-4 requires Ohio operate PM_{10} sites in accordance with the following requirements.

Table 9. Minimum PM_{10} Monitoring Requirements [1]

Population category	High concentrations[2]	Medium concentrations[3]	Low concentrations[4,5]
>1,000,000	**6-10**	**4-8**	**2-4**
500,000-1,000,000	**4-8**	**2-4**	**1-2**
250,000-500,000	**3-4**	**1-2**	**0-1**
100,000-250,000	**0-1**	**0-1**	**0**

1 Selection of urban areas and actual numbers of stations per area within the ranges shown in this table will be jointly determined by U.S. EPA and the state Agency.
2 High concentration areas are those for which ambient PM_{10} data show ambient concentrations exceeding the PM_{10} NAAQS by 20 percent or more.
3 Medium concentration areas are those for which ambient PM_{10} data show ambient concentrations exceeding 80 percent of the PM_{10} NAAQS.
4 Low concentration areas are those for which ambient PM_{10} data show ambient concentrations less than 80 percent of the PM_{10} NAAQS.
5 These minimum monitoring requirements apply in the absence of a design value.

The number of PM_{10} sites required is based on population in MSAs and the level of concentrations that are measured in these areas. Ohio does not have any high or medium concentration areas. All monitoring shows values less than 80% of the PM_{10} NAAQS (120 ug/m^3). Based on the low

[4] The 23 sites are presented in Appendix A with their specific details. In addition to the 23 sites operating at the time of this report, five industrial sites and one special purpose site exist in the state (not comparable to the NAAQS) and are also represented as such in Appendix A.

concentration category defined in Table 9 above, Ohio is required to operate between 10 and 22 PM_{10} sites. As can be seen in Table 10 below, Ohio operates 18 sites in these areas. Ohio's analysis can be found in Appendix C with details on each site in Appendix A.

Table 10. Ohio's PM_{10} Monitoring Network

Area Name	2019 MSA Population	2021-2022 Monitors	AQS Site No.	Site Name	Continuous or Manual?	No. Required Monitors	New Monitors Needed
Monitors in MSAs With Populations > 100,000							
Akron, OH	703,479	0*	n/a	n/a	n/a	1-2	0
Canton-Massillon, OH	397,520	0*	n/a	n/a	n/a	0-1	0
Cincinnati OH-KY-IN	2,192,575	3	39-017-0015	Ohio Bell	Manual	2-4	0
			39-061-0014	Carthage	Manual		
			39-061-0040	Taft NCore	Continuous		
Cleveland-Elyria, OH	2,048,449	7	39-035-0038	St. Theodosius	Manual and Continuous	2-4	0
			39-035-0045	Cleveland Fire St13	Manual		
			39-035-0060	GT Craig NCore	Continuous		
			39-035-0065	Harvard Yards	Manual		
			39-035-1002	Brookpark	Manual		
			39-085-0008	Fairport Harbor Lake	Manual		
			39-093-3002	Barr School	Manual		
Columbus, OH	2,078,725	1*	39-049-0034	Fairgrounds	Manual	2-4	0
Dayton, OH	807,611	1	39-113-0038	Sinclair	Continuous	1-2	0
Huntington-Ashland, WV-KY-OH	349,485	1	39-087-0012	ODOT Ironton	Manual	0-1	0
Lima, OH	102,351	0	n/a	n/a	n/a	0	0
Mansfield, OH	121,154	0	n/a	n/a	n/a	0	0
Springfield, OH	134,083	0	n/a	n/a	n/a	0	0
Toledo, OH	601,291	0*	n/a	n/a	n/a	1-2	0
Weirton-Steubenville, WV-OH	116,074	2	39-081-0001	Brilliant	Manual	0	0
			39-081-0017	Steubenville	Continuous		
Wheeling, WV-OH	138,948	1	39-013-0006	Shadyside	Manual	0	0
Youngstown-Warren-Boardman, OH-PA	540,891	2**	39-155-0006	Warren WWTP	Manual	1-2	0
			39-155-0014	Laird Eng Bldg	Manual		
Total		**18**				10-22	0
All Other Monitors							
Columbiana County	n/a	2	39-029-0020	East Liverpool WTP	Manual	n/a	n/a
			39-029-0023	Eastside Elem	Manual		
Scioto County		2	39-145-0013	Portsmouth WTP	Manual		
			39-145-0019	PCAB	Manual		
Preble County		1	39-135-1001	Preble Ncore	Continuous		
Total		**5**					
State Totals		**23**					

*Waivers granted by U.S. EPA.

**Monitor to begin in 2021 in this PQAO, totals will be one more.

Based on Table 10 above, Columbus, Akron, and Toledo MSAs appear to not meet the minimum PM_{10} monitoring requirements. However, monitoring waivers were granted by U.S. EPA Region 5 in the late 1990s and early 2000s. At that time, the emphasis of the national monitoring strategy was to re-allocate limited monitoring resources to emerging areas of more critical air pollution concerns. Because PM_{10} concentrations had been low for many years at many locations nationwide,

including Ohio, U.S. EPA Region 5 approved discontinuation of a number of PM_{10} sites. This reduction of PM_{10} sites in Ohio involved removing one site in each of the following MSAs: Columbus, Akron, Canton, Lima, Mansfield and Toledo. Columbus continues to maintain one PM_{10} site at Fairgrounds (39-049-0034) which continues to measure attainment of the standard.

3.3.2 PM_{10} Monitor Collocation

The number of manual (filter-based) PM_{10} collocated monitors must be at least 15 percent of the total number of manual PM_{10} sites operating within any PQAO (values of 0.5 and greater round up). In addition, each PQAO must have at least one collocated quality control monitor (if the total number of monitors is less than three). The collocation requirements apply only to manual (filter-based) monitors and not continuous monitors.

Table 11 demonstrates that Ohio meets the monitor collocation requirement in accordance with 40 CFR Part 58, Appendix A, Section 3.3.4. Currently, Ohio has one more collocated monitor than required. All collocated sites meeting the requirement use sampling and analytical methods consistent with the primary sampler and all sample at a frequency of no less than 1 in 6 days.

Table 11. Ohio's PM_{10} Manual Collocation Monitors by PQAO

PQAO	No. PM_{10} Manual Sites	No. Collocated Required	No. of Collocated Monitors	Collocated AQS Site No.	Collocated Site Name
NEPQAO					
Cleveland	4		1	39-035-0045	Cleveland Fire St13
Lake	1		0		
NEDO	5^		1	39-029-0023	Eastside Elem
Totals	**10**	**2**	**2**		
CPQAO					
CDO	1		1	39-049-0034	Fairgrounds
SEDO	2		0		
Totals	**3**	**1**	**1**		
SWPQAO					
SWOAQA	2		1	39-017-0015	Ohio Bell
Portsmouth	3		0		
Totals	**5**	**1**	**1**		
State Total	**18***	**4**	**4**		

*This number is 5 less than the total number of PM_{10} monitors in the network (see table above) because collocation requirements apply only to manual monitors and the following sites operate only continuous instruments: GT Craig NCore, Preble NCore, Sinclair, Steubenville, and Taft NCore.

^Monitor to begin in 2021 in this PQAO, totals will be one more.

3.3.3 PM_{10} Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All PM_{10} monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential PM_{10} network changes through December 31, 2022 include:

As part of the 2020-2021 AMNP, Ohio EPA, added a collocated monitor at Ohio Bell (39-017-0015). This collocated monitor was previously located at Taft NCore (39-061-0040) but was relocated on January 1, 2021 when Taft NCore discontinued filterable sampling after installing a Teledyne API

T640x. U.S. EPA granted approval for collocation relocation on September 28, 2020 (see Appendix F).

Ohio EPA anticipates replacing the PM_{10} Lo-Vol. filterable instrument at industrial site Amanda Elem (39-017-0019), with a Teledyne API T640x continuous instrument. When the continuous instrument begins the filterable instrument will discontinue.

On January 14, 2021, Ohio EPA replaced the PM_{10} Lo-Vol. filterable instrument at industrial site Yankee (39-017-0020) with a Teledyne API T640x continuous instrument. PM_{10} filterable sampling at the site discontinued on January 1, 2021.

On February 4, 2021, Ohio EPA replaced the R&P 1400 instrument at GT Craig NCore (39-035-0060) with a Teledyne API T640x. After the installation of the Teledyne API T640x, Ohio EPA removed the GMW 1200 Hi-Vol filterable instrument at the site on February 11, 2021. The Teledyne API T640x change was approved as part of Ohio's 2020-2021 AMNP.

As part of the 2020-2021 AMNP, Ohio EPA requested to relocate a PM_{10} collocated monitor for the CPQAO from the Steubenville (39-081-0017) site to the Fairgrounds (39-049-0034) site. U.S. EPA granted approval for this relocation on September 28, 2020 (see Appendix F). On February 9, 2021, Ohio EPA began operating the PM_{10} collocated monitor at Fairgrounds. At that time, Ohio EPA replaced the GMW 1200 instrument at Fairgrounds (39-049-0034) with a Tisch 6070BL instrument for both the designated and collocated monitor.

As part of the 2020-2021 AMNP, Ohio EPA replaced the R&P continuous instrument at Taft NCore (39-061-0040) with a Teledyne API T640x on January 1, 2021. At the same time the PM_{10} Lo-Vol. filterable instrument was discontinued and the collocated monitor was moved to the Ohio Bell (39-017-0015) site. U.S. EPA granted approval for the above mentioned site changes on September 28, 2020. (see Appendix F).

On February 4, 2021, Ohio EPA replaced the GMW 1200 Hi-Vol. filterable instrument at Steubenville (39-081-0017) with a Teledyne API T640x continuous instrument.

On September 5, 2020, Ohio EPA replaced the Wedding instrument at ODOT Ironton (39-087-0012) with a BGI PQ200 instrument.

As part of the 2020-2021 AMNP, Ohio EPA requested approval to replace the PM_{10} Partisol 2025i Lo-Vol filterable instrument and the continuous Thermo Sharp 5030 instrument at Preble NCore (39-135-1001) with a Teledyne API T640x continuous instrument. U.S. EPA granted approval for these changes on September 28, 2020 and Ohio EPA replaced the instruments on December 15, 2020. At that time, collocated monitoring terminiated. Minimum collocation requirements continue to be met in the SWPQAO with the collocated PM_{10} monitor located at Ohio Bell (39-017-0015).

On September 4, 2020, Ohio EPA replaced the Wedding instrument at Portsmouth WTP (39-145-0013) with a BGI PQ200 instrument.

On September 5, 2020, Ohio EPA replaced the Wedding instrument at PCAB (39-145-0019) with a BGI PQ200 instrument.

On March 9, 2021, Ohio EPA replaced the Lo-Vol BGI PQ200 instrument with a Hi-Vol GMW 1200 instrument and discontinued the PM_{10} collocated monitor at Shadyside (39-013-0006). This did not

affect the ability for Ohio to meet the minimum requirements for collocation (when considered in conjunction with the collocated monitor from 39-081-0017 moving to 39-049-0034 upon discontinuing filterable monitoring at that site when the Teledyne API T640x was installed). Ohio EPA requested this change to allow for the air monitoring network to utilize PM_{10} Hi-Vol monitors, when possible. . This was in accordance with the approved changes from the 2020-2021 AMNP (see Appendix F).

As part of the 2020-2021 AMNP, Ohio EPA intended to replace four out of five GMW 1200 Hi-Vol filterable instruments at St. Theodosius (39-035-0038) with a continuous Teledyne API T640x instrument. Upon completion of this change, the sampling schedule would change from 1 in 1 day to continuous and 1 in 6 for the remaining filterable monitor. These changes were originally scheduled to take place in 2020 but were delayed until March 25, 2021.

As part of the 2020-2021 AMNP, Ohio EPA requested approval to replace the PM_{10} BGI PQ200 Lo-Vol filterable instrument and the continuous R&P 1400 instrument at Taft NCore (39-061-0040) with a Teledyne API T640x continuous instrument. At that time, the PM_{10} BGI PQ200 collocated monitor located at Taft NCore (39-061-0040) would be relocated to Ohio Bell (39-017-0015). This request was to ensure collocation requirements for the SWPQAO area were met as part of Ohio EPA's changes to the PM_{10} and $PM_{2.5}$ network at NCore sites to utilize Teledyne API T640x samplers (see Section 4.0). U.S. EPA granted approval of the above mentioned site changes on September 28, 2020 (see Appendix F). All changes were completed on January 1, 2021.

As discussed in the 2020-2021 AMNP, on April 12, 2019, Ohio EPA submitted a letter to U.S. EPA Region 5 requesting approval to relocate and consolidate several monitors in the Youngstown area as part of NEDO assuming monitoring network responsibility for the former MTAPCA sites. This was requested so that Ohio EPA could allocate monitoring resources more efficiently. Ohio EPA requested to consolidate the following three sites: Oakhill (39-099-0013), Youngstown Fire St7 (39-099-0005) and Headstart (39-099-0014) into one site at a new location at Youngstown State University. PM_{10} monitoring occurs at Youngstown Fire St7 (39-099-0005). Ohio EPA has experienced substantial delays but is currently working to consolidate these sites and anticipates completion in 2021. Also discussed in the 2020-2021 AMNP, sampling at Youngstown Fire St7 (39-099-0005) was discontinued abruptly when power at the building was disconnected on December 12, 2019. Because this monitor is consolidating with others in the near future, as noted above, Ohio EPA did not seek a relocation site prior to start up of the Youngstown State University site.

3.4 SO_2 Network

Ohio currently operates 25[5] SO_2 sites as identified in Appendix A. All SO_2 sites measure hourly and 5-minute maximum averages. As discussed below, three of these sites are required based upon a PWEI (with eight sites "qualifying" as PWEI sites) and four of these sites are required under U.S. EPA's DRR. The remainder of the sites, 17, are monitors that exceed the minimum required under 40 CFR Part 58, Appendix D, Section 4.4. As part of the 2021-2022 AMNP, Ohio EPA is seeking approval to terminate five of the monitors that exceed the minimum requirements. Table 12 identifies the current SO_2 network in Ohio as well as the monitors proposed to be terminated upon

[5] 25 sites are presented in Appendix A with their specific details. In addition to the 25 sites operating at the time of this report, nine industrial sites exist in the state (not comparable to the NAAQS) and are also represented as such in Appendix A.

U.S EPA approval of the 2021-2022 AMNP. Details of this request can be found below in Section 3.4.3.

Table 12. Ohio's SO_2 Monitoring Network

AQS Site No.	Site Name	Requirement
Monitors Qualifying as Required Monitors		
39-061-0040	Taft NCore	PWEI - Cincinnati OH-KY-IN CBSA (NCore)
39-061-0010	Colerain	PWEI - Cincinnati OH-KY-IN CBSA
39-035-0060	GT Craig NCore	PWEI - Cleveland-Elyria OH CBSA (NCore)
39-035-0038	St Theodosius	PWEI - Cleveland-Elyria OH CBSA
39-035-0045	Cleveland Fire St13*	PWEI - Cleveland-Elyria OH CBSA
39-035-0065	Harvard Yards	PWEI - Cleveland-Elyria OH CBSA
39-085-0003	Eastlake*	PWEI - Cleveland-Elyria OH CBSA
39-085-0007	Painesville	PWEI - Cleveland-Elyria OH CBSA
39-053-0004	Cheshire Elem	DRR
39-053-0005	Ridge	DRR
39-053-0006	Guiding Hand	DRR
54-053-0001	Lakin WV	DRR
	Total	12
All Other Monitors		
39-007-1001	Conneaut*	n/a
39-153-0017	East HS	
39-153-0025	NIHF STEM MS*	
39-095-0008	Collins Park WTP**	
39-099-0013	Oakhill***	
39-049-0034	Fairgrounds	
39-013-0006	Shadyside	
39-081-0017	Steubenville	
39-087-0012	ODOT Ironton	
39-003-0009	Lima	
39-029-0019	Port Authority*	
39-135-1001	Preble NCore	
39-115-0004	Hackney	
	Total	13
	State Total	25****

*Site likely to discontinue upon approval of 2021-2022 AMNP. Minimum network requirements will still be maintained.

**Site was unexpectedly discontinued. Ohio EPA is seeking a new location nearby.

***Site likely to relocate within the same MSA and county.

****Total site count could be five less if discontinuations approved.

3.4.1 Population Weighted Emissions Index Sites

40 CFR Part 58, Appendix D, Section 4.4, requires that each state calculate the PWEI for each CBSA within the state, or shared with another state, for use in identifying sites for the SO_2 monitoring network due to U.S. EPA's revision to the SO_2 NAAQS promulgated in 2010. These PWEI must be calculated and re-evaluated each year using the latest available population census and emission inventories. For this plan period, population was updated from 2018 to the 2019 estimates from the U.S. Census Bureau. Emissions from the 2017 were used for this planning period, as this is the

most recent emissions inventory available. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA.

The minimum PWEI monitoring requirements can be satisfied by an existing or new SO_2 site that is sited within the boundaries of the parent CBSA provided the site is one of the following station types: population exposure, highest concentration, source impacts, general background, or regional transport. SO_2 monitors at NCore stations can be counted towards satisfying the minimum monitoring requirements if that monitor is located within a CBSA. Any monitor that is sited outside of a CBSA to assess the highest concentration resulting from the impact of significant sources or source categories existing within that CBSA shall be allowed to count towards minimum monitoring requirements for that CBSA.

The two CBSAs, the Cincinnati OH-KY-IN CBSA and the Cleveland-Elyria OH CBSA, require two and one PWEI monitors, respectively. As can be seen in Table 12, the Cincinnati OH-KY-IN CBSA has two monitors in Hamilton County (both population exposure and one being an NCore site). Also seen in Table 12, the Cleveland-Elyria OH CBSA has a total of six monitors with four monitors in Cuyahoga County (two being highest concentration and two being population exposure and one being an NCore site) and two monitors in Lake County (both source impacts). Therefore, current SO_2 monitoring in both areas fulfills the PWEI requirements. Ohio's PWEI analysis can be found in Appendix C. Appendix A provides the full details for all of these sites. As part of the 2021-2022 AMNP, Ohio EPA is requesting to discontinued two of the six PWEI monitors in the Cleveland-Elyria OH CBSA, one in Cuyahoga County and one in Lake County. Details on this request can be found below in Section 3.4.3.

3.4.2 Data Requirement Rule Sites

On August 21, 2015, U.S. EPA promulgated the DRR (80 FR 51052). Under the DRR, states are required to characterize concentrations of SO_2 from emission sources with actual annual emissions of 2000 tons or more. The state can accomplish this either through air monitoring or air quality modeling. The results of any monitoring or modeling may be used in future determinations of attainment status. In order to use the option for monitoring, the monitoring network was required to begin operation by January 1, 2017. Ohio EPA elected to use ambient air quality monitoring to characterize air quality around two adjacent power plant sources that emit more than 2000 tons a year. These are Lightstone Generation LLC's General James M. Gavin and the Ohio Valley Electric Corporation (OVEC) Kyger Creek power plants. A DRR monitoring network was installed in late 2016 and began operating January 1, 2017. The network consists of four sites each equipped with SO_2 monitors and two sites with 10-meter meteorological sampling towers. Three SO_2 sites are operated by OVEC and their contractor, Shell Engineering. The fourth site in Cheshire near the Gavin Power Plant is operated by Ohio EPA. All four sites are designated as a SLAMS sites. The entire network is located along the Ohio River in Gallia County. Table 12 above identifies the four sites and details for the sites can be found in Appendix A.

Ohio EPA reviews emissions on an annual basis to determine if additional sources warrant analysis under the DRR. When warranted, Ohio EPA will address any sources that will have characterization through air monitoring as a part of Ohio's AMNP.

3.4.3 SO_2 Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All SO_2 monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential SO_2 network changes through December 31, 2022 include:

As part of the 2020-2021 AMNP, Ohio EPA requested approval to discontinue two SO_2 monitors that were not needed to meet minimum monitoring network requirements: West Union (39-001-0001) and Mud Run (39-023-0003). U.S. EPA granted approval to discontinue the SO_2 monitors on September 28, 2020 (see Appendix F). The sites were subsequently terminated on December 2, 2020 and October 31, 2020, respectively.

Ohio EPA is requesting to discontinue the SO_2 monitors at Conneaut (39-007-1001), Port Authority (39-029-0019), Cleveland Fire St13 (39-035-0045), Eastlake (39-085-0003) and NIHF STEM MS (39-153-0025) to better allocate monitoring resources due to the consistently low SO_2 values, for all the monitors, over the last five years and the absence of SO_2 sources.

Summarized below are the results of Ohio's analysis that demonstrates there is less than a 10 percent probability of exceeding 80 percent of the SO_2 NAAQS during the next three year (details in Appendix G). The design values for the last 5-year calendar period of 2016-2020 were used for three of the sites to determine the monitors meet the requirements to be terminated. Ohio EPA has included additional design value years for two sites, 39-035-0045, and 39-153-0025, to account for invalid design values during the 5-year calendar period that is traditionally used for site termination probability analysis. These two sites also meet the requirements to be terminated even when considering data from additional years when SO_2 design values were higher at the monitoring locations. For these two sites, Ohio EPA has included an additional weight of evidence analysis in Appendix G. All monitors Ohio EPA is requesting to terminate display a clear reduction in SO_2 concentrations over the years analyzed.

Table 13. Conneaut (39-007-1001) SO_2 Design Values (ppb)

	2016	2017	2018	2019	2020	<10% probability of exceeding this percentage of the NAAQS
	20	16	6	4	4	23%

Table 14. Port Authority (39-029-0019) SO_2 Design Values (ppb)

	2016	2017	2018	2019	2020	<10% probability of exceeding this percentage of the NAAQS
	17	13	10	7	5	20%

Table 15. Cleveland Fire St13 (39-035-0045) SO_2 Design Values (ppb)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	<10% probability of exceeding this percentage of the NAAQS
	42	55	48	41	22	23	19	10	7	9	50%

Table 16. Eastlake (39-085-0003) SO_2 Design Values (ppb)

	2016	2017	2018	2019	2020	<10% probability of exceeding this percentage of the NAAQS
	26	17	6	5	5	28%

Table 17. NIHF STEM MS (39-153-0025) SO_2 Design Values (ppb)

	2015	2016	2017	2018	2019	2020	<10% probability of exceeding this percentage of the NAAQS
	25	18	13	6	4	4	25%

As discussed in the 2020-2021 AMNP, on April 12, 2019, Ohio EPA submitted a letter to U.S. EPA Region 5 requesting approval to relocate and consolidate several monitors in the Youngstown area as part of NEDO assuming monitoring network responsibility for the former MTAPCA sites. This was requested so that Ohio EPA could allocate monitoring resources more efficiently. Ohio EPA requested to consolidate the following three sites: Oakhill (39-099-0013), Youngstown Fire St7 (39-099-0005) and Headstart (39-099-0014) into one site at a new location at Youngstown State University. SO_2 monitoring occurs at Oakhill (39-099-0013). Ohio EPA has experienced substantial delays but is currently working to consolidate these sites and anticipates completion in 2021.

On December 23, 2020, Ohio EPA started a new source-oriented SO_2 monitor located in Hancock County to monitor the Sunny Farms Landfill facility. This is an industrial site, named Sunny Farms West (39-063-0005), located at 23921 Township Road 214. This site is located in the CPQAO and is operated by Ohio EPA NWDO. A Thermo 43iQ was installed at the site. In our previous AMNP, we indicated this site would be located in Seneca County, the site was established just over the county line in Hancock County.

On August 14, 2020, Ohio EPA replaced the Thermo 43C instrument at Conneaut (39-007-1001) with a Thermo 43iQ instrument.

On August 13, 2020, Ohio EPA replaced the Thermo 43C instrument at Port Authority (39-029-0019) with a Thermo 43iQ instrument.

On December 29, 2020, Ohio EPA replaced the Thermo 43C instrument at St. Theodosious (39-035-0038) with a Teledyne API T100 instrument.

On January 26, 2021, Ohio EPA replaced the Ecotech Serinus 50 instrument at Cleveland Fire St13 (39-035-0045) with a Teledyne API T100 instrument.

On December 9, 2020, Ohio EPA replaced the Thermo 43i instrument at Fairgrounds (39-049-0034) with a Teledyne API T100 instrument.

On May 28, 2020, Ohio EPA replaced the Thermo 43C instrument at Guiding Hand (39-053-0006) with a Thermo 43iQ instrument.

On December 9, 2020, two new industrial SO_2 monitoring sites were established in Guernsey County to monitor the AMG Vanadium facility. The sites are funded by AMG Vanadium and are named AMG North (39-059-0003) and AMG South (39-059-0004). They are located in Byesville on County Highway 35 and Ohio-209, respectively. The sites are in the CPQAO and both are operating Teledyne API T100 instruments.

On February 3,2021, Ohio EPA replaced the Teledyne API 100 instrument at Steubenville (39-081-0017) with a Thermo 43iQ instrument.

On August 27, 2020, Ohio EPA requested to discontinue three SO_2 monitors in the Steubenville, OH-WV area (Jefferson County) operated by the Cardinal Power Plant. U.S. EPA granted approval of this request on September 28, 2020 (see Appendix F). The three sites: Cardinal Brilliant (39-081-0018), Self Storage (39-081-0020) and, Trailer Sales (54-009-6000) were discontinued on December 31, 2020.

On December 23, 2020, Ohio EPA was informed the location of the Collins Park WTP (39-095-0008) SO_2 site was under heavy construction and the property owner was no longer allowing monitoring staff access to the building. Ohio EPA has since found a new location nearby on the same property and resumed SO_2 monitoring for the area on June 11, 2021. We consulted with U.S. EPA in establishing a suitable replacement site and a new AQS ID was determined not necessary. SO_2 design values for the monitor over the last five years have been well below the SO_2 NAAQS of 75ppb.

Table 18. Collins Park WTP (39-095-0008) SO_2 Design Values (ppb)

	2016	2017	2018	2019	2020
	20	19	22	23	21

On April 20, 2021, Ohio EPA replaced the Teledyne API 100E instrument at Oakhill (39-099-0013) with a Thermo 43i instrument.

On October 21, 2020, Ohio EPA replaced the Thermo 43i instrument at Hackney (39-115-0004) with a Thermo 43iQ instrument.

On April 28, 2021, Ohio EPA replaced the Teledyne API T100 instrument at East HS (39-153-0017) with a Thermo 43iQ instrument.

On March 11, 2021, Ohio EPA replaced the Teledyne API 100E instrument at NIHF STEM MS (39-153-0025) with a Ecotech Serinus 50 instrument.

On January,1 2021, Ohio EPA established a new industrial site, named Globe (39-167-0011), located at 22275 State Route 60, Beverly. This site is located in the CPQAO and is run by the Ohio EPA Southeast District Office. A Thermo 43iQ instrument was installed to monitor SO_2 emission from Globe Metallurgical located across the Muskingum River.

3.5 NO_2 Network

Ohio currently operates seven NO_2 sites as identified in Appendix A. As discussed below, three of these sites are based upon area-wide requirements and three of these sites are based upon near road requirements. The remaining site is not a required monitor and exceeds the minimum requirements under 40 CFR Part 58, Appendix D, Section 4.3 Table 15 presents Ohio's NO_2 network in 2021-2022.

Table 19. Ohio's NO_2 Monitoring Network

AQS Site No.	Site Name	Requirement
Required Monitors		
39-049-0038	Smoky Row Near Road	Columbus CBSA
39-049-0034	Fairgrounds	Area Wide Columbus CBSA > 1,000,000
39-061-0040	Taft NCore	Area Wide Cincinnati CBSA > 1,000,000
39-061-0048	Cincinnati Near Road	Cincinnati CBSA
39-035-0060	GT Craig NCore	Area Wide Cleveland-Elyria CBSA > 1,000,000
39-035-0073	Cleveland Near Road	Cleveland-Elyria CBSA
	Total	6
All Other Monitors		
39-013-0006	Shadyside	n/a
	Total	1
	State Total	7

3.5.1 Area-Wide Sites

40 CFR Part 58, Appendix D, Section 4.3.3 specifies minimum area-wide monitoring requirements. Area-wide monitoring must be conducted in CBSAs with populations of 1,000,000 or more. In these areas, a minimum of one monitor is required and should be sited to capture the expected highest concentrations at a neighborhood or larger spatial scale. Ohio operates area-wide NO_2 monitors at the NCore sites in Cleveland (GT Craig NCore, 39-035-0060) and Cincinnati (Taft NCore, 39-061-0040). In Columbus, to meet this requirement, a NO_2 monitor is operated at the Fairgrounds (39-049-0034) site.

3.5.2 Near Road Sites

40 CFR Part 58, Appendix D, Section 4.3.2 specifies minimum near road NO_2 monitoring requirements. Ohio is required to operate three near road sites. Near road NO_2 monitoring requirements are based on population of CBSAs and AADT counts of road segments within the CBSAs. One monitor is required in CBSAs with 1,000,000 or more people near a road with high AADT counts. Near road monitors are to be located to capture maximum one-hour concentrations at a micro-spatial scale. The near road sites in Ohio meet these requirements and are in the following areas: Cleveland (Cleveland Near Road, 39-035-0073), Columbus (Smoky Row Near Road, 39-049-0038) and Cincinnati (Cincinnati Near Road, 39-061-0048). These locations were selected based, in part, upon the AADT at these sites being 168,200, 142,361 and 131,242 respectively. Ohio's analysis can be found in Appendix C and details of each site can be found in Appendix A.

In addition, a second near road NO_2 monitoring station is required for any CBSA with a population of 2,500,000 persons or more, or in any CBSA with a population of 1,000,000 or more persons that

has one or more roadway segments with 250,000 or greater AADT counts. Ohio does not have locations that prompt this requirement.

3.5.3 NO_2 Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All NO_2 monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential NO_2 network changes through December 31, 2022 include:

On May 18, 2021, Ohio EPA replaced the (074) Thermo 42i instrument at GT Craig NCore (39-035-0060) with a Teledyne T500U, true NO_2 instrument. The true NO_2 instruments satisifies PAMS requirements.

3.6 CO Network

Ohio is currently operating CO monitors at 7[6] sites. As discussed below, three of these sites are required based upon near road sites. The remainder of the sites, four, are monitors that exceed the minimum required under 40 CFR Part 58, Appendix D, Section 4.2[7]. Table 16 below identifies the CO network in Ohio

Table 20. Ohio's CO Monitoring Network

AQS Site No.	Site Name	Requirement
Required Monitors		
39-035-0073	Cleveland Near Road	Near-road site
39-049-0038	Smoky Row Near Road	Near-road site
39-061-0048	Cincinnati Near Road	Near-road site
	Total	3
All Other Monitors		
39-035-0051	Galleria	n/a
39-035-0060	GT Craig NCore	
39-061-0040	Taft Ncore	
39-135-1001	Preble NCore	
	Total	4
	State Total	7

3.6.1 CO Near Road Sites

40 CFR Part 58, Appendix D, Section 4.2.1 requires one CO monitor to be collocated with any required NO_2 near-road monitor in CBSAs having a population of 1,000,000 or more persons. There

[6] Details of the 7 sites are presented in Appendix A. In addition to the 7 sites operating at the time of this report, one special purpose site exist in the state (not comparable to the NAAQS) and is also represented as such in Appendix A.

[7] 40 CFR Part 58, Appendix D, Section 4.2, CO monitoring requirements, does not require CO monitoring at NCore sites although 40 CFR Part 58, Appendix D, Section 3.0, NCore monitoring requirements, does. This section of the AMNP is dedicated to showing Ohio EPA meets the requirements of Section 4.2. Table 16 does acknowledge CO monitoring occurs at NCore sites in the "all other monitors" section but these monitors are not "required monitors" for the purpose of Section 4.2.

is one CO monitor at each of Ohio's three near road sites. These sites are located in the Cleveland, Columbus and Cincinnati CBSAs and identified in Table 16 above. Ohio's analysis can be found in Appendix C.

3.6.2 CO Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All CO monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential CO network changes through December 31, 2022 include:

On August 18, 2020, Ohio EPA replaced the Teledyne API 300E instrument at Cleveland Near Road (39-035-0073) with a Thermo 48iQ instrument.

On May 7, 2021, Ohio EPA replaced the Thermo 48i-TLE instrument at GT Craig NCore (39-035-0060) with Teledyne T300U instrument.

3.7 Pb Network

Ohio currently operates 9[8] Pb sites as identified in Appendix A. As discussed below, eight of these sites are based upon source-oriented monitoring and one of these sites are based upon population monitoring. Table 17 shows Ohio's Pb network in 2021-2022. Note that all Pb sites also include metals analysis.

Table 21. Ohio's Pb Monitoring Network

AQS Site No.	Site Name	Monitoring Objective Notes
39-029-0019	Port Authority	Source-oriented
39-029-0020	East Liverpool WTP	Source-oriented
39-029-0023	Eastside Elem	Source-oriented
39-035-0038	St. Theodosius	Population
39-035-0049	Ferro	Source-oriented
39-051-0001	Delta	Source-oriented
39-101-0003	Marion Hawthorne	Source-oriented
39-151-0024	Republic Steel	Source-oriented
39-167-0008	Washington Career	Source-oriented (shutdown facility)
Statewide Totals	**9***	
* A new site is expected to begin in 2021 to replace a site that shutdown in Franklin County.		

3.7.1 Source-Oriented Pb Monitoring and Waivers

In 2008, U.S. EPA revised the NAAQS for Pb. In the 2008 rulemaking (referred to as "first round"), U.S. EPA set minimum monitoring requirements for source-oriented monitoring. 40 CFR Part 58, Appendix D, Section 4.5(a) requires agencies to conduct ambient air Pb monitoring near Pb sources which are expected to or have been shown to contribute to a maximum Pb concentration exceeding the NAAQS, taking into account the logistics and potential for population exposure. However, the level of emissions at which Pb monitoring is required has changed over time.

[8] Details of the 9 sites are presented in Appendix A. In addition to the 9 sites operating at the time of this report, one special purpose monitoring site exist in the state (not comparable to the NAAQS) and is also represented as such in Appendix A. In addition to the 9 sites operating at the time of this report, 1 SLAMS site will start up in 2021 as represented as such in Appendix A.

Beginning in 2010, facilities with actual emissions of Pb greater than one ton per year were required to be monitored. Facilities with actual emissions of Pb greater than 0.70 ton per year were required to be modeled to determine if they would exceed more than 50% of the new Pb standard. States could request a waiver for monitoring if it was shown the Pb source would not contribute to a maximum Pb concentration in ambient air in excess of 50 percent of the NAAQS (based on historical monitoring data, modeling, or other means). Once a source was determined to require monitoring, Ohio EPA used dispersion modeling to determine the appropriate location for siting.

With respect to source-oriented monitoring for the first round of Pb monitoring, Ohio EPA reviewed current emissions inventories and found several sources with actual emissions greater than one ton per year. The following sources were modeled for monitor placement and monitoring commenced in 2010: American Spring Wire in Cuyahoga County (39-035-0072[9]), Ellwood Engineering Castings in Trumbull County (39-155-0012[10]), Nucor Marion Steel in Marion County (39-101-0003[11]), and TimkenSteel in Stark County (39-151-0017[12]). Two sources were identified with actual emissions of Pb greater than 0.7 ton per year but less than one ton per year. These sources, Lightstone Generation LLC-Gavin Power Plant in Gallia County and Bunting Bearings in Fulton County, were modeled and their impacts were less than 50% of the NAAQS. However, Bunting Bearings was already a monitored source with exceedances of the revised Pb NAAQS and monitoring continues at this site (Delta, 39-051-0001) although not required by the Pb monitoring rule.

Subsequently, in December 2010, U.S. EPA strengthened the Pb monitoring rule ("round two") to require source-oriented monitors for sources greater than 0.50 ton per year. Again, states could request a waiver with a proper demonstration. For this round, Ohio EPA reviewed current emissions inventories and found the following three facilities with Pb emissions exceeding 0.50 ton per year, not currently being monitored: Lightstone Generation LLC- Gavin Power Plant in Gallia County, Severstal Warren Steel Facility (now BDM) in Trumbull County, and I. Schumann in Cuyahoga County. All facilities were determined to have less than a 50 percent impact of the Pb standard and waivers were requested, and granted, for each facility. These were presented in Ohio's 2011-2012 AMNP. In 2012, BDM demolished the steel facility and operations ceased in 2012. Therefore, BDM is no longer reviewed annually.

Waivers for the remaining two facilities were granted based upon modeling of actual emissions. Ohio EPA reviewed actual emissions from the TRI, Ohio's annual EIS, and the NEI for years 2005 to 2009 when performing the original modeling. The highest reported emissions from that period for each facility was used in the waiver modeling in order to be conservative. The following presents the actual emissions which produced the following modeling results to compare to half of the Pb NAAQS (0.075 ug/m^3):

- Gavin –modeled 0.8 tons per year of Pb emissions and obtained a result of 0.00742 ug/m^3 inclusive of background.

[9] Due to low monitoring concentrations this site was approved by U.S. EPA for discontinuance as part of Ohio's 2016-2017 Monitoring Network Plan.

[10] Due to low monitoring concentrations this site was approved by U.S. EPA for discontinuance as part of Ohio's 2014-2015 Monitoring Network Plan.

[11] A second site, 39-101-0004, also monitors Pb at Nucor; however, this monitor is a special purpose monitor and not a required monitor for the 2008 Pb NAAQS.

[12] Due to low monitoring concentrations this site was approved by U.S. EPA for discontinuance as part of Ohio's 2014-2015 Monitoring Network Plan.

- I.Schumann - modeled 0.79 tons per year of Pb emissions and obtained a result of 0.0270 ug/m^3 inclusive of background.

All waivers (which can be found in Appendix H) must be renewed once every five years as part of this network assessment. Ohio performed a review in the 2017-2018 AMNP by analyzing reported emissions from 2010 to 2015. Ohio determined the waivers should remain approved. The next five-year review of the waivers will be conducted as a part of the 2022-2023 AMNP.

On an annual basis, Ohio EPA works with U.S. EPA in reviewing the latest emissions inventories to determine if additional sources warrant monitoring (or a waiver) in accordance with the Pb NAAQS source-oriented monitoring requirements. These inventories include the most recent versions of the NEI (2017), TRI (2019), and Ohio's EIS (2019) that were available at the time this report was developed. Ohio EPA reviewed current emissions inventories and determined no new sources exceed the 0.50 ton per year threshold.

3.7.2 Pb Collocation Network

The number of Pb monitors that must be collocated with the same measurement method must be at least 15 percent of the total number of manual Pb sites operating within any PQAO (values of 0.5 and greater round up). In addition, each PQAO must have at least one collocated quality control monitor (if the total number of monitors is less than three). Ohio EPA continues to exceed the minimum collocation requirements. All collocated sites meet the requirement to use sampling and analytical methods consistent with the primary sampler and all sample at a frequency of no less than 1 in 6 days. Table 22 demonstrates Ohio is meeting the monitor collocation requirement in accordance with 40 CFR Part 58, Appendix A, Section 3.4.4.

Table 22. Ohio's Pb Collocation Monitors Using the Same Measurement Method by PQAO

PQAO*	No. Pb Sites	No. Collocated Required	# Collocated	Collocated AQS Site No.	Collocated Site Name
NEPQAO					
Canton	1		0	n/a	n/a
Cleveland	2		1	39-035-0049	Ferro
NEDO	3		1	39-029-0023	Eastside Elem
Totals	**6**	**1**	**2**		
CPQAO					
SEDO	1		1	39-167-0008	Washington Career
NWDO	2		1	39-051-0001	Delta
Totals	**3**	**1**	**2**		
State Total	**9**	**2**	**4**		
* There are no Pb monitors in the SWPQAO; therefore, there are no collocation requirements.					

3.7.3 Pb Network Modifications

Changes below do not require U.S. EPA approval unless otherwise stated. All Pb monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential Pb network changes through December 31, 2022 include:

On March 1, 2021, Ohio EPA began operating a second SLAMS monitor at the Republic Steel (39-151-0024) site to collect additional lead samples on a random sampling schedule.

As discussed in the 2020-2021 AMNP, Ohio EPA intends to start a neighborhood scale Pb monitor in Franklin County to replace the former Barack Rec Center (39-049-0039) site. This new site was originally scheduled to start in 2020 but has been delayed and will start in the fall of 2021. This monitor will cover a similar purpose and area as the Barack Rec Center monitor.

3.8 Toxics Network

Ohio operates a network of air toxics monitors as part of a state-wide ATMP. This ATMP sampling network is modeled after programs and methodologies recommended by U.S. EPA. The emphasis has been on urban toxics monitoring for VOC and heavy metals.

The main focus of the ATMP is on urban monitoring to identify major risk areas where people live. In this effort, sampling has concentrated on VOCs such as benzene, chloroform, styrene and toluene and metals such as arsenic, beryllium, cadmium, chromium, iron, Pb, manganese, nickel and zinc.

3.8.1 Toxics Sampling and Analysis

Ohio will continue to conduct, except where otherwise indicated, sampling and analysis in 2021-2022 at the 17 monitoring sites listed in Table 19 (note that two of the 17 sites began operating by June 1st of 2021 as a part of PAMS).

Table 23. Ohio's Toxics Monitoring Network

AQS Site No.	Site Name	VOCs	Metals	Monitoring Objective Notes
39-017-0019	Amanda Elem	x		Source-oriented
39-017-0020	Yankee	x		Source-oriented
39-029-0019	Port Authority		x	Source-oriented
39-029-0020	East Liverpool WTP		x	Source-oriented
39-029-0023	Eastside Elem		x	Source-oriented
39-035-0038	St. Theodosius	x	x	Population
39-035-0049	Ferro		x	Source-oriented
39-035-0060	GT Craig NCore^	x		Population
39-035-1002	Brookpark	x		Population
39-049-0034	Fairgrounds	x		Population
39-061-0014	Carthage	x		Population
39-061-0040	Taft NCore^	x		Population
39-061-0047	Kibby	x		Population
39-067-0005	Hopedale	x		Source-oriented
39-081-0017	Steubenville	x		Population
39-151-0024	Republic Steel		x	Source-oriented
39-167-0008	Washington Career		x	Source-oriented (shutdown facility)
Statewide Totals	**17***			
^Two VOC sites started as part of the PAMS network.				
* A new site is expected to begin in 2021 to replace a metals site that shutdown in Franklin County.				

3.8.2 Toxics Network Modification

Changes below do not require U.S. EPA approval unless otherwise stated. All toxics monitoring changes that have occurred since Ohio's 2020-2021 AMNP and all planned, proposed and potential toxics network changes through December 31, 2022 include:

As discussed in the 2020-2021 AMNP, Ohio EPA intends to start a neighborhood scale metals monitor in Franklin County to replace the former Barack Rec Center (39-049-0039) site. This new site was originally scheduled to start in 2020 but has been delayed and will start in the fall of 2021. This monitor will cover a similar purpose and area as the Barack Rec Center monitor.

The Taft NCore (39-061-0040) and GT Craig NCore (39-035-0060) sites added VOC auto GC sampling by June 1, 2021 as a part of the PAMS network requirements.

4.0 NCore Monitoring Network

NCore is a multi-pollutant approach to air monitoring that provides support to integrating air quality management data needs. NCore sites are intended to support multiple objectives, with a greater emphasis on assessment of the impact-abatement control measures on improving air quality. Air pollution data from the national NCore network can be used to supplement data collected by researchers working on health-effect assessments and atmospheric processes, or for monitoring methods-development work.

Each state is required to operate at least one NCore site. States with many MSAs, like Ohio, often have multiple air sheds with unique characteristics. Therefore, states like Ohio were required to establish 1-2 additional sites in order to account for unique situations. Ohio operates one urban

NCore site in each Cleveland and Cincinnati and one rural NCore site as a regional transport site in Preble County near the Ohio-Indiana border.

NCore sites are required under 40 CFR Part 58, Appendix D, Section 3.0 to measure the following pollutants; $PM_{2.5}$ particle mass using continuous and integrated filter base samplers, speciated $PM_{2.5}$, $PM_{10\text{-}2.5}$ particle mass, ozone, SO_2, CO, nitrogen oxides (NO/NOy), total reactive nitrogen oxides (NOy), and meteorological monitoring (wind speed, wind direction, relative humidity, and ambient temperature). Ozone is to be measured year-round and many of the other monitoring instruments are to be trace-level units designed to reliably measure much lower pollutant concentrations.

Ohio's three NCore sites identified in Table 20 began operating in 2011. Appendix A provides the details regarding parameters monitored at each NCore site demonstrating Ohio meets all of the requirements.

Table 24. Ohio's NCore Monitoring Network

AQS Site No.	Site Name	MSA	Measurement Scale
39-035-0060	GT Craig NCore	Cleveland-Elyria	Neighborhood
39-061-0040	Taft NCore	Cincinnati, OH-KY-IN	Neighborhood
39-135-1001	Preble NCore	Non-MSA	Regional

4.1 NCore Network Modification

As part of the 2020-2021 AMNP, Ohio EPA requested approval forchanges to the PM_{10} and $PM_{2.5}$ network at NCore sites that would allow Ohio to more efficiently implement the NCore monitoring requirements and to allocate monitoring resources more efficiently. In accordance with 40 CFR Part 58, Appendix D, Section 3.0, modifications to NCore sites require approval from the Administrator. U.S. EPA granted approval of the PM_{10} and $PM_{2.5}$ instrument changes at Ohio's NCore site on September 28, 2020 (see Appendix F).

A Teledyne API T640x instrument was installed on February 4, 2021 at the Cleveland NCore site (30-035-0060) and on January 1, 2021 at the Cincinnati NCore site (39-061-0040). On these respective dates, filterable sampling was eliminated at both sites. The Teledyne API T640x instrument is responsible for PM_{10} continuous, $PM_{2.5}$ continuous and $PM_{10\text{-}2.5}$ continuous sampling at each site. All changes are discussed in the relevant sections of this document and also identified in Appendix A.

As described in Section 3.1.2, PAMS stations were installed and operational at the Cleveland and Cincinnati NCore sites (39-035-0060 and 39-061-0040, respectively) by June 1, 2021, in accordance with the extension published on January 8, 2020 (85 FR 834).

5.0 SEDO Community Scale Grant Project

Ohio EPA received funding from U.S. EPA to conduct a Community Scale Air Toxics monitoring project near Hopedale in Harrison County. The purpose of the project is to characterize near-source concentrations of criteria and toxic pollutants from Ohio's oil and gas industry. This will allow Ohio EPA to assess the need for emission reduction measures, and to characterize risk for the most highly impacted populations.

Both ambient pollutant and meteorological monitoring will be conducted for approximately two and a half years. The monitoring program consists of $PM_{2.5}$, PM_{10}, CO, operation of a gas chromatograph for collection of hydrocarbons, hydrogen sulfide, and fielding stainless steel canisters for sampling various VOCs and hydrocarbons.

Monitoring at the previous Hopedale (39-067-0004) site began on January 1, 2018 except for VOCs which began in May of 2017. Difficulties were encountered with the site location and site access, resulting in intermittent data collection, and ultimately necessitating the site be relocated. Working closely in consultation with U.S. EPA Region 5, this site was relocated adjacent to the original location and resumed operating on August 24, 2018 under a new site identification, Hopedale (39-067-0005), remaining an SPM site.

At this time, Ohio EPA does not plan to discontinue sampling although the grant period has ended. On September 10, 2020, Ohio EPA provided a letter to U.S. EPA committing to operate this site through at least September 30, 2022.

6.0 Black Carbon Monitoring Network

Black Carbon is a solid form of mostly pure carbon which absorbs solar radiation (light) at all wavelengths. It is formed by incomplete combustion of fossil fuels, biofuels, or biomass. Black Carbon is one of the types of particles which constitute PM and is one of the key components of soot.

Ohio EPA currently operates three continuous black carbon monitors.

Table 25. Ohio Black Carbon Monitoring Network

AQS Site No.	Site Name	Started
39-049-0038	Smoky Row Near Road	5/26/2017
39-061-0048	Cincinnati Near Road	1/1/2016
39-061-0040	Taft NCore	10/1/2018

6.1 Black Carbon Network Modification

All Black Carbon monitoring changes that have occurred since Ohio's 2020-2021 AMNP and Ohio does not have any planned, proposed and potential Black Carbon network changes through December 31, 2022.

7.0 5-Year Regional Network Assessment

Along with the AMNP, every five years U.S. EPA requires states to complete a regional network assessment in accordance with 40 CFR 59.10(d). Ohio collaborates with other Region 5 states (Illinois, Indiana, Michigan, Minnesota and Wisconsin) with the guidance of the LADCO to develop the Regional Network Assessment. The purpose of the regional assessment is to provide a detailed evaluation of the regional air monitoring network, reevaluate the types of pollutants monitored and the network's objectives and costs. The assessment also provides network history, spatial analysis of ambient air monitoring data and reviews the placement of monitors based on changes in land use and populations.

The results of the 2020 Regional Network Assessment can be found on LADCO's websites at: https://www.ladco.org/reports/monitoring-reports/

7.1 Network Assessment Recommendations

A summary of key findings from the 2020 assessment:

- Criteria pollutant monitoring network is adequate in Ohio to meet minimum monitoring criteria set by U.S. EPA.
- The assessment focused on if any ozone or $PM_{2.5}$ monitoring were candidates for discontinuation. Meeting discontinuation criteria for these two parameters is difficult.
    - Ohio does not have any ozone monitors eligible for discontinuation.
    - Ohio has nine $PM_{2.5}$ monitors that would possibly meet discontinuation criteria for both the annual and 24-hr NAAQS. One of the nine sites, Yellow Springs (39-057-0005), was discontinued in December 2018. Ohio EPA determined that the remaining eight monitors: Gifford (39-003-0003), District 6 (39-035-0034), Brookpark (39-035-1002), Painesville (39-085-0007), ODOT Ironton (39-087-0012), Barr School (39-093-3002), Chippewa (39-103-0004), and Preble NCore (39-135-1001), were beneficial or still needed to meet other monitoring network requirements. At this time, Ohio EPA is not requesting to discontinue any of these monitors.
- As a part of the network assessment, Ohio EPA reexamined the network requirements and the usefulness of SO_2 monitors across the state.
    - This analysis identified five SO_2 monitors that had consistently low SO_2 concentrations and an absence of SO_2 sources in the areas. The sites Ohio EPA is requesting for discontinuation are identified in Section 3.4 above.
- The network assessment identified that the region's monitoring technology is aging overall.
    - Ohio EPA is making great strides to modernize our network equipment and has focus the last few years on purchasing replacement monitors for our aging equipment.
- Over the years, there have been difficulties in obtaining equipment and funding for the rollout of the PAMS network which has caused delays.

8.0 Public Review and Comment

The annual monitoring network plan must be made available for public inspection for at least thirty days prior to submission to U.S. EPA. For the 2021-2022 AMNP submittal, this document was placed on Ohio EPA's website on May 7, 2021 to begin the public review period. The comment period was also noticed in Ohio's Weekly Review. The comment period closed on June 8, 2021. Two sets of comments were received. Appendix I contains a copy of the public notice and the response to comments.

This document can be accessed at the following link:
http://epa.ohio.gov/dapc/ams/amsmain

For questions about the Ohio Air Monitoring Network please contact:
Erica Fetty Davis
DAPC, Air Quality Evaluation & Planning
614-644-2310
erica.fettydavis@epa.ohio.gov.

Appendix F

U.S. EPA Approval to Terminate DRR Ongoing Verification Requirements for OMU – Elmer Smith

REGION 4 ADMINISTRATOR

ATLANTA, GA 30303

November 18, 2024

Rebecca Goodman
Secretary
Energy and Environment Cabinet
300 Sower Boulevard
Frankfort, Kentucky 40601

Dear Secretary Goodman:

This letter approves the Kentucky Energy and Environment Cabinet's request to terminate requirements under the Data Requirements Rule (DRR)[1] for the 2010 1-hour sulfur dioxide (SO_2) primary national ambient air quality standards (NAAQS) for ongoing verification that applies to the Owensboro Municipal Utilities – Elmer Smith Power Plant (Elmer Smith Plant) in Daviess County, Kentucky. The request to terminate was transmitted to the Environmental Protection Agency by the Kentucky Energy and Environment Cabinet, Division for Air Quality (DAQ), on December 15, 2023. The reason for approval is set forth below.

On December 21, 2017, effective, April 9, 2018, the EPA designated the entire Daviess County attainment/unclassifiable.[2] The DRR provides that "[f]or any area where modeling of actual SO_2 emissions serve[s] as the basis for designating such area as attainment for the 2010 SO_2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator" providing specified types of information, including a recommendation as to the need for further modeling to assess whether the area is continuing to attain the NAAQS. *See* 40 CFR 51.1205(b). However, "[a]n air agency will no longer be subject to [these requirements] if it provides air quality modeling demonstrating that air quality values at all receptors in the analysis are no greater than 50 percent of the 1-hour SO_2 NAAQS, and such demonstration is approved by the EPA Regional Administrator." *See* 40 CFR 51.1205(b)(2).

Kentucky's December 15, 2023, termination request for Elmer Smith is based on a qualitative characterization of air quality in the vicinity of the source due to the permanent retirement of the two-remaining coal-fired units and the shutdown of the facility that have significantly reduced SO_2 emissions in the area.

[1] 40 CFR part 51, subpart BB.
[2] *See* 83 FR 1098.

The EPA's consideration of Kentucky's termination request for the Elmer Smith facility is based upon the Agency's qualitative assessment of available SO_2 emissions data, including information provided by DAQ summarized in the enclosed technical support document. The EPA believes that the initial DRR modeled characterization in 2017 is still representative of air quality in the area and, in fact, air quality has improved with the operational changes at the Elmer Smith facility. Therefore, the EPA has determined DAQ's request supports the termination of the annual SO_2 emission reporting requirements pursuant to 40 CFR 51.1205 for the Elmer Smith Power Plant in Daviess County. Consequently, the Commonwealth is no longer required to submit annual emission reports for the Elmer Smith facility Plant pursuant to 40 CFR 51.1205(b) and (c).

Thank you all for the work your agency does to support improved air quality. If you have any questions, please contact Denisse Diaz, Director of the Air and Radiation Division, at diaz.denisse@epa.gov.

Sincerely,

Jeaneanne M. Gettle
Acting Regional Administrator

Appendix G

Public Notice

KENTUCKY DIVISION FOR AIR QUALITY
PUBLIC NOTICE FOR THE SULFUR DIOXIDE DATA REQUIREMENTS RULE
2024 ANNUAL REPORT

The Kentucky Energy and Environment Cabinet (Cabinet) is proposing this annual report for the Sulfur Dioxide (SO_2) Data Requirements Rule (DRR) for the 2010 1-Hour SO_2 National Ambient Air Quality Standards (NAAQS). The United States Environmental Protection Agency (EPA) established this rule for air agencies to annually characterize current air quality in areas with large sources of SO_2 emissions.

In accordance with 40 CFR 51.102, the Cabinet is making this proposed plan available for public inspection and provides the opportunity for public comment. The proposed plan can be found at **https://eec.ky.gov/Environmental-Protection/Air/Pages/Public-Notices.aspx.** The public comment period will be open from December 3, 2024 through January 8, 2025. Comments should be submitted in writing to the contact person by either mail or email.

The Cabinet will conduct a virtual public hearing on January 8, 2025, at 10:00 a.m. (Eastern Time). This hearing will be held to receive comments on the proposed SIP revision. This hearing is open to the public and all interested persons will be given the opportunity to present testimony. To assure that all comments are accurately recorded, the Division requests that oral comments presented at the hearing are also provided in written form, if possible. It is not necessary that the hearing be held or attended in order for persons to comment on the proposed submittal to EPA. If no request for a public hearing is received by January 1, 2025, the hearing will be cancelled, and notice of the cancellation will be posted at **https://eec.ky.gov/Environmental-Protection/Air/Pages/Public-Notices.aspx**. Written comments should be sent to the contact person and must be received by close of business on January 8, 2025, to be considered part of the public record.

Please note that registration is required to participate in this hearing. You must either email your name and mailing address to blake.borwig@ky.gov or mail this information to Blake Borwig, Division for Air Quality, 300 Sower Building, 2nd Floor, Frankfort, KY 40601. Please put "Registration for SO2 DRR Annual Report Hearing" as the subject line, and state in the body of the message if you plan to speak during the hearing.

CONTACT PERSON: Blake Borwig, Environmental Scientist III, Evaluation Section, Program Planning & Administrative Branch, Division for Air Quality, 300 Sower Boulevard, Frankfort, Kentucky 40601. Phone: (502) 782-2751; Email: blake.borwig@ky.gov

The Energy and Environment Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion, or disability and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs, and activities.