MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

October 1, 2019

Ms. Mary Walker
Regional Administrator
US EPA Region 4
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. Walker:

On behalf of the Commonwealth of Kentucky, the Energy and Environment Cabinet, 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 no additional modeling is required at this time.

In accordance with 40 CFR 51.102, the proposed rule was available for public review and comment. The public comment period for the ongoing annual report began on July 2, 2019 and the public hearing took place on August 6, 2019. A copy of the public notice is included in the report.

If you have any questions or concerns, please contact Ms. Kelly Lewis, Program Planning and Administrative Branch Manager, Division for Air Quality at (502) 782-6687 or kelly.lewis@ky.gov.

Sincerely,

Melissa Duff, Director
Kentucky Division for Air Quality

Cc: Carol Kemker, Region 4 US EPA
Lynorae Benjamin, Region 4 US EPA

Final

Sulfur Dioxide Ongoing Data Requirements Rule

2019 Annual Report for Modeled Sources

Prepared by the

Kentucky Division for Air Quality

Submitted by the

Kentucky Energy and Environment Cabinet

October 1, 2019

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Tables

Appendices

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I. Introduction

On August 21, 2015, the U.S. Environmental Protection Agency (EPA) promulgated the Data Requirements Rule (DRR) for the 2010 1-Hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb).[1] The DRR requires areas 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 below the 2,000 tpy threshold.

On January 6, 2017, the Kentucky Energy and Environment Cabinet (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 – D. B. Wilson and TVA – Paradise. D. B. Wilson was designated unclassifiable and is not subject to ongoing verification. Paradise was modeled using potential to emit (PTE) emissions and is not subject to ongoing verification.

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.

II. Emissions Data Summary

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

Table 1: Counties with Sources Subject to the DRR

Source	County
Century Aluminum - Hawesville	Hancock
Duke Energy - East Bend	Boone
EKPC - H. L. Spurlock	Mason
KU - Ghent	Carroll
LG&E - Trimble County	Trimble
OMU - Elmer Smith	Daviess
TVA - Shawnee	McCracken

[1] 80 FR 51052
[2] 83 FR 1098

Table 2 displays the five electric generating units (EGUs) that chose to model actual SO_2 emissions for the model years (MY) 2012-2014. The actual SO_2 emissions modeled for 2012-2014 are compared to 2016-2018 actual SO_2 emissions.

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

Source	Modeled Years			Subsequent Years		
	2012	2013	2014	2016	2017	2018
Duke Energy – East Bend	1496.63	2197.72	2102.71	2680.71	2630.20	2012.76
EKPC – H. L. Spurlock	5131.11	4468.75	4689.09	4702.60	3700.47	3737.76
KU – Ghent	10772.18	13421.85	14851.28	10169.35	8633.70	10620.65
LG&E – Trimble County	2895.83	3521.39	3056.20	3561.58	3362.15	4008.35
TVA – Shawnee	27114.87	27210.73	29834.54	23807.76	20494.00	15149.46

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

Table 3 displays the emissions for Century Aluminum – Hawesville and OMU – Elmer Smith, which modeled actual SO_2 emissions from 2014-2016. The comparison is to the most recent available actual SO_2 emissions.

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

Source	Modeled Years			Subsequent Years	
	2014	2015	2016	2017	2018
Century Aluminum – Hawesville	2223.56	1604.46	507.04	497.50	875.67
OMU – Elmer Smith	5741.38	3901.59	2448.69	1853.47	2088.27

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

Table 4 compares the averaged modeled emissions, the averaged emissions of subsequent years, and the percent change in averaged emissions of modeled years.

Table 4: SO_2 Emissions Comparisons (tpy)

Source	Average 2012-2014 (MY)	Average 2016-2018	Average Percent Change
Duke Energy – East Bend	1932.35	2441.22	26%
EKPC – H. L. Spurlock	4762.98	4046.94	-15%
KU – Ghent	13015.10	9807.88	-25%
LG&E – Trimble County	3157.81	3643.99	15%
TVA – Shawnee	28053.38	19817.07	-29%
Source	**Average 2014-2016 (MY)**	**Average 2016-2018**	
OMU – Elmer Smith	4030.58	2130.14	-47%
Century Aluminum – Hawesville	1445.02	686.59	-57%

As part of the ongoing reporting, Kentucky must perform an annual review of SO_2 emissions for facilities and provide a recommendation for updated modeling due to increases in SO_2 emissions. Based on the information provided in Table 4, two Kentucky facilities have an increase in SO_2 emissions: Duke Energy – East Bend and LG&E – Trimble County. However, as demonstrated in the following sections, the total SO_2 emissions in the modeled areas have decreased.

Duke Energy – East Bend

The initial modeling characterization for East Bend included KU - Ghent Units 1 through 4 in Kentucky, and Dynegy - Miami Fort Units 7 and 8 in Ohio. The resulting modeled emissions and actual emissions of SO_2 for the three facilities are shown in Table 5. Since the modeling analysis, Duke Energy – East Bend has seen an increase in SO_2 emissions. Duke Energy names an increased utilization at East Bend as the cause for the increase in SO_2 emissions. Appendix A contains Duke Energy's explanation for the increase, which was submitted to the Cabinet for review.

Table 5: Duke Energy – East Bend, KU – Ghent, and Dynegy – Miami Fort Station Annual SO_2 Emissions (tpy)

Facility	Modeled Years			Subsequent Years		
	2012	2013	2014	2016	2017	2018
Duke Energy – East Bend	1496.63	2197.72	2102.71	2680.71	2630.20	2012.76
KU – Ghent	10772.18	13421.85	14851.28	10169.35	8633.7	10620.65
Dynegy - Miami Fort	10616.00	11886.00	9613.00	10213.23	10513.65	9275.50
Area Total	**22884.81**	**27505.57**	**26566.99**	**23063.29**	**21777.55**	**21908.91**

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

The KU – Ghent and Dynegy – Miami Fort facilities both had a decrease in emissions in the years following the initial modeling analysis. As seen in Table 6, although Duke Energy had an increase in average emissions of 1,527 tons, the overall decrease in SO_2 emissions in the modeled area of 10,048 tons more than offset the increase from Duke Energy – East Bend.

Table 6: Duke Energy – East Bend Modeled Area Percent Change in SO_2 Emissions

Facility	2012-2014 Total Modeled Emissions (Tons)	2016-2018 Total Emissions (Tons)	Percent Change
Duke Energy – East Bend	5797.06	7323.67	26%
KU – Ghent	39045.31	29423.7	-25%
Dynegy - Miami Fort	31954.94	30002.38	-6%
Area Total	**76797.31**	**66749.75**	**-13%**

The overall decrease of emissions in the modeled area is also reflected at the background monitor utilized during modeling. As shown in Table 7, there has been an 83% reduction in the

2012-2014 design value to the 2016-2018 design value at the Northern Kentucky University monitor.

Table 7: Northern Kentucky University SO_2 Monitor 99th Percentile (ppb)

2012	2013	2014	2012-2014 Design Value	2016	2017	2018	2016-2018 Design Value	Percent Change
85	71	61	**72.3**	12	16	9	**12.3**	**-83%**

EPA Outdoor Air Quality Monitor Values Report

The initial modeling performed by Duke produced a design value of 170 ug/m3 which is below the 2010 SO_2 standard of 196 ug/m3. The ambient air data from the Northern Kentucky monitor indicates the 2016-2018 design value of 12.3 ppb which is well below 75 ppb. Given the significant decrease of the monitor design value, Kentucky does not recommend updated modeling for Duke Energy – East Bend.

LG&E – Trimble County

The initial modeling characterization for LG&E – Trimble County included Indiana-Kentucky Electric Corporation (IKEC) – Clifty Creek station and KU – Ghent. The IKEC – Clifty Creek source was modeled using "potential to emit" emissions for the Round 3 designations, making a comparison of Modeled Years to Subsequent Years difficult. Therefore, this report will only include LG&E – Trimble County and KY – Ghent. Table 8 contains the resulting modeled emissions and subsequent actual emissions of SO_2 for the two facilities. For 2016 – 2018, LG&E – Trimble County had an average increase in SO_2 emissions over the modeled years. Based on the information provided by LG&E, found in Appendix B, the increase in SO_2 emissions was due to an increase in utilization at the facility. As seen in Table 9, despite the emissions increase at LG&E – Trimble County, the KU – Ghent facility decreased emissions which overall resulted in a 17% decrease within the modeled area.

Table 8: LG&E – Trimble County and KU – Ghent Annual SO_2 Emissions (tpy)

Facility	Modeled Years			Subsequent Years		
	2012	2013	2014	2016	2017	2018
LG&E – Trimble County	2895.83	3521.39	3056.20	3561.58	3362.15	4008.35
KU – Ghent	10772.18	13421.85	14851.28	10169.35	8633.7	10620.65
Area Total	**13668.01**	**16943.24**	**17907.48**	**13730.93**	**11995.85**	**14629**

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

Table 9: LG&E – Trimble County Area Percent Change in SO_2 Emissions

Facility	2012-2014 Total Modeled Emissions (Tons)	2016-2018 Total Emissions (Tons)	Percent Change
LG&E - Trimble County	9473.42	10932.08	15%
KU – Ghent	39045.31	29423.7	-25%
Area Total	**48518.73**	**40355.78**	**-17%**

The overall emissions reductions are also evident at the background monitor used for the original modeling characterization. Table 10 demonstrates a 71% reduction between the 2012 – 2014 design value and the 2016-2018 design value at the Green Valley Elementary monitor.

Table 10: Green Valley SO_2 Monitor 99th Percentile (ppb)

2012	2013	2014	2012-2014 Design Value	2016	2017	2018	2016-2018 Design Value	Percent Change
32	21	44	32.3	11	8	9	9.3	-71%

EPA Outdoor Air Quality Monitor Values Report

The initial design value for the LGE – Trimble analysis was 188 ug/m3, which was below the NAAQS value of 196 ug/m3. The ambient air data from the Green Valley monitor indicates the 2016-2018 design value of 9.3 ppb, which is well below 75 ppb. Given the significant decrease of the monitor design value, Kentucky does not recommend updated modeling for LG&E – Trimble County.

III. Conclusion

The Cabinet determines that five of the seven sources requiring evaluation for the annual report have decreased SO_2 emissions since the original modeling characterization, and do not require additional modeling to characterize ambient air quality. Although SO_2 emissions at Duke Energy – East Bend and LG&E – Trimble County have increased since the initial modeling characterization, those increases are offset by the significant SO_2 emission reductions of the other modeled sources. Additionally, the ambient air monitoring data design values for the nearby air monitoring stations have also dropped significantly. Therefore, the Cabinet recommends no additional modeling for the remaining two sources.

IV. Public Hearing

In accordance with 40 CFR 51.102, the Cabinet made this plan available for public inspection and provided the opportunity for comments. A public hearing was held on August 6, 2019 at 10:00 a.m. (EDT) at the Division for Air Quality offices located at 300 Sower Boulevard, Frankfort, Kentucky. No comments were received. A copy of the public hearing notice is available in Appendix C.

Appendix A

Duke Energy – East Bend Response

Cordes, Ben (EEC)

From: Coughlin, Patrick W <Patrick.Coughlin@duke-energy.com>
Sent: Tuesday, June 04, 2019 2:22 PM
To: Duff, Melissa K (EEC); Cordes, Ben (EEC)
Cc: Lewis, Kelly (EEC); Poff, Leslie M (EEC)
Subject: RE: 1-Hour SO2 Ongoing Data Requirements
Attachments: Copy of Contribution Analysis 2012-2014.xlsx

Duke Energy is providing this response to KDAQ's inquiry into the relative increase in SO_2 emissions from East Bend Generating Station between the model base year of 2012-2014 and 2016-2018. In addition, Duke Energy is providing information on the 2012-2014 SO_2 modeling analysis. A spreadsheet showing East Bend's contribution to the modeled design values based on the 2012-2014 modeling analysis is also attached.

The 26% increase in SO_2 emissions at East Bend Generating Station can be attributed to the following factors:

- An increase in the unit dispatch due to demand growth during 2016-2018. The increase in unit dispatch is reflected in an 8% increase in the Mega Watt output between 2012-2014 and 2016-2018.
- A lower SO_2 emissions rate during 2012, the year of baseline modeling. The SO_2 lbs/MMBtu emissions rate remained relatively consistent between years 2013, 2014, 2016, 2017 and 2018 with an average rate of 0.122 lbs./MMBtu. The SO_2 lbs/MMBtu emission rate during 2012 averaged 0.093 lbs/MMBtu.
- Flow data is used to calculate the SO_2 mass emissions. A review of the flow data shows a step change in the flow rate occurred in 2014. In 2014, the CEMS flow monitor was replaced with a new monitoring device intended to provide more reliable and accurate flow measurement. While both the old monitor and the new monitor have been demonstrated to meet all EPA certification and operational requirements under 40 CFR 75 and 40 CFR 60, some of the apparent increase in emissions may be attributed to a step change in reported flow values after installation and certification of the new monitoring system.

Duke Energy does not believe the increase in the SO_2 emissions between 2012-2014 compared to 2016-2018 should trigger remodeling due to following modeled impacts:

- East Bend's contribution to the modeled design value, used to demonstrate attainment with the SO_2 NAAQS of 196.5 ug/m^3, was negligible. The modeled design value was 169.84 ug/m^3, which includes background concentrations and impacts from Ghent, Miami Fort and East Bend Generating Stations. East Bend's contribution to the modeled design value was only 0.05 ug/m^3.
- East Bend's impacts over the modeling domain was not significant. East Bend's 4th high daily max concentration, averaged over 3 years, at any one receptor, was only 23.707 ug/m^3.
- The background concentrations used in the initial modeling analysis were significantly impacted by nearby sources, resulting in overly conservative impacts. The SO_2 modeling analysis included background concentrations from the Northern Kentucky SO_2 monitoring site over the period from 2013-2015. The average background concentrations reflected in the annual 4th high daily max concentration, averaged over 3 years, was 86 ug/m^3. The current design value for the Northern Kentucky SO_2 monitor is 32 ug/m^3.

Let me know if you have any questions or concerns.

Thanks

Patrick Coughlin
Duke Energy Corporation
MW Permits/Compliance Group

Office: 317-838-2108
Mobile: 317-225-9963

From: Duff, Melissa K (EEC) [mailto:melissa.duff@ky.gov]
Sent: Friday, May 31, 2019 1:26 PM
To: Coughlin, Patrick W <Patrick.Coughlin@duke-energy.com>; Cordes, Ben (EEC) <Ben.Cordes@ky.gov>
Cc: Lewis, Kelly (EEC) <kelly.lewis@ky.gov>; Poff, Leslie M (EEC) <LeslieM.Poff@ky.gov>
Subject: RE: 1-Hour SO2 Ongoing Data Requirements

Thank you Patrick. We will expect your response by June 4th.

Melissa Duff
502-782-6597
Melissa.Duff@ky.gov

From: Coughlin, Patrick W [mailto:Patrick.Coughlin@duke-energy.com]
Sent: Friday, May 31, 2019 11:48 AM
To: Cordes, Ben (EEC) <Ben.Cordes@ky.gov>
Cc: Duff, Melissa K (EEC) <melissa.duff@ky.gov>; Lewis, Kelly (EEC) <kelly.lewis@ky.gov>; Poff, Leslie M (EEC) <LeslieM.Poff@ky.gov>
Subject: RE: 1-Hour SO2 Ongoing Data Requirements

Ben

I am requesting additional time to provide our response concerning the increase in SO2 emissions. We would like until June 4th to provide our response. Please let me know if this is acceptable.

Thanks

Patrick Coughlin
Duke Energy Corporation
MW Permits/Compliance Group
Office: 317-838-2108
Mobile: 317-225-9963

From: Cordes, Ben (EEC) [mailto:Ben.Cordes@ky.gov]
Sent: Tuesday, May 28, 2019 4:50 PM
To: Coughlin, Patrick W <Patrick.Coughlin@duke-energy.com>
Cc: Duff, Melissa K (EEC) <melissa.duff@ky.gov>; Lewis, Kelly (EEC) <kelly.lewis@ky.gov>; Poff, Leslie M (EEC) <LeslieM.Poff@ky.gov>
Subject: 1-Hour SO2 Ongoing Data Requirements

attachments or click links from unknown senders or unexpected email. ***

Dear Mr. Patrick Coughlin,

On May 22, 2017, Duke Energy KY – East Bend (East Bend) delivered an air dispersion modeling demonstration that revealed modeled SO2 concentrations below the 1-Hour National Ambient Air Quality Standard (NAAQS) of 75 ppb. This was in response to the EPA's SO2 Data Requirements Rule (DRR) that was promulgated on August 21, 2015.

East Bend modeled their SO2 emissions using 2012-2014 actual emissions. Since that time SO2 emissions at East Bend have increased. A comparison of the average SO2 emissions in tons per year (tpy) from 2012-2014 to that of 2016-2018 reveals SO2 emissions at East Bend have increased by 26%.

Source	Modeled Years (tpy)			Subsequent Years (tpy)		
	2012	2013	2014	2016	2017	2018
Duke Energy – East Bend	1496.63	2197.72	2102.71	2680.71	2630.20	2012.76

Emissions data acquired from Clean Air Markets Division (CAMD) database - https://ampd.epa.gov/ampd/

Source	Average 2012-2014 (tpy)	Average 2016-2018 (tpy)	Average Percent Change
Duke Energy – East Bend	1932.35	2440.91	26%

Emissions data acquired from Clean Air Markets Division (CAMD) database - https://ampd.epa.gov/ampd/

The SO2 Data Requirements Rule Section 51.1205 states that there are ongoing data requirements for sources that chose to demonstrate compliance with the NAAQS through modeling. Section (b) states:

"For any area where modeling of actual SO2 emissions serve as the basis for designating such area as attainment for the 2010 SO2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO2 emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation."

Since an increase in SO2 emissions has been recorded since the modeled years of 2012-2014, the Kentucky Division for Air Quality is requesting Duke Energy to provide an assessment of the cause of the SO2 emissions increase at East Bend so that we may submit the assessment with the annual report required by the SO2 DRR.

Please provide the assessment/explanation for the emissions increase **on or before this Friday, May 31, 2019**. We are working to get this report drafted and out to public notice before it is finalized and sent to the EPA.

If you have any questions or would like to discuss this further, please feel free to contact me or Director Melissa Duff.

Thank You,

Ben A. Cordes, Supervisor
Evaluation Section
Kentucky Division for Air Quality
300 Sower Blvd, 2nd Floor

Frankfort, KY 40601
(502) 782-6586

Appendix B

LG&E – Trimble County Response

Cordes, Ben (EEC)

From: Burfict, Brandan <Brandan.Burfict@lge-ku.com>
Sent: Friday, May 31, 2019 12:57 PM
To: Cordes, Ben (EEC)
Cc: Duff, Melissa K (EEC); Lewis, Kelly (EEC); Poff, Leslie M (EEC); Revlett, Gary; Cash, Rebecca; Pardee, Marlene Zeckner
Subject: RE: 1-Hour SO2 Ongoing Data Requirements

Mr. Cordes,

Louisville Gas & Electric (LG&E) Trimble County Generating Station's variation in SO_2 emissions is largely attributed to an increase in utilization. Due to retirements of units in the LG&E and KU Energy (LKE) fleet, we are shifting our generation to newer units within our fleet. Individual unit utilization varies annually based on electricity usage rates, fuel costs, planned outages, etc. Planned outages for compliance with new or revised regulations requiring installation of new equipment such as emission controls and dry ash handling systems has increased utilization to displace the loss of generation from other units within the fleet during this time period. Trimble County Unit 1 has seen the largest increase in utilization since Trimble County Unit 2 is historically a base load unit.

In addition, the submitted modeling results also included contributions from the LKE Ghent Generating Station. In the time periods specified below, the Ghent SO_2 emissions decreased by 24.6%. Combining emissions from both LKE sources, data shows there is a 16.8% decrease in SO_2 emissions from the LKE sources when comparing the 2012-2014 modeled time period to the 2016-2018 time period. Thus, further validating the modeled results in demonstrating attainment with the 1 hr SO_2 NAAQS.

Source	Modeled Years (tpy)			Subsequent Years (tpy)		
	2012	2013	2014	2016	2017	2018
KU - Ghent	10772.4	13421.9	14851.2	10169.4	8633.6	10620.9

Source	Average 2012-2014 (tpy)	Average 2016-2018 (tpy)	Average Percent Change
KU – Ghent	13015.17	9807.97	-24.6%

Source	Modeled Years (tpy)			Subsequent Years (tpy)		
	2012	2013	2014	2016	2017	2018
Ghent & Trimble	13668.23	16943.29	17907.4	13730.98	11995.75	14629.25

Source	Average 2012-2014 (tpy)	Average 2016-2018 (tpy)	Average Percent Change
Ghent & Trimble	16172.97	13451.99	-16.8%

If you have any questions or would like to discuss this further, please feel free to contact me.

Thanks!

Brandan Burfict

Environmental Engineer| Environmental Affairs | LG&E and KU
220 West Main Street, Louisville, KY 40202
M: 502-991-1113 | O: 502-627-2791 | F: 502-267-2550
lge-ku.com

From: Cordes, Ben (EEC) [mailto:Ben.Cordes@ky.gov]
Sent: Tuesday, May 28, 2019 4:38 PM
To: Burfict, Brandan <Brandan.Burfict@lge-ku.com>
Cc: Duff, Melissa K (EEC) <melissa.duff@ky.gov>; Lewis, Kelly (EEC) <kelly.lewis@ky.gov>; Poff, Leslie M (EEC) <LeslieM.Poff@ky.gov>; Imber, Philip <Philip.Imber@lge-ku.com>
Subject: 1-Hour SO2 Ongoing Data Requirements

Dear Mr. Brandan Burfict,

On April 7, 2017, LG&E – Trimble Station delivered an air dispersion modeling demonstration that revealed modeled SO2 concentrations below the 1-Hour National Ambient Air Quality Standard (NAAQS) of 75 ppb. This was in response to the EPA's SO2 Data Requirements Rule (DRR) that was promulgated on August 21, 2015.

LG&E – Trimble modeled their SO2 emissions using their 2012-2014 actual emissions. Since that time SO2 emissions at Trimble Station have increased. A comparison of the average SO2 emissions in tons per year (tpy) from 2012-2014 to that of 2016-2018 reveals SO2 emissions at Trimble Station have increased by 15%.

Source	Modeled Years (tpy)			Subsequent Years (tpy)		
	2012	2013	2014	2016	2017	2018
LG&E – Trimble	2895.83	3521.39	3056.20	3561.58	3362.15	4008.35

Emissions data acquired from Clean Air Markets Division (CAMD) database - https://ampd.epa.gov/ampd/

Source	Average 2012-2014 (tpy)	Average 2016-2018 (tpy)	Average Percent Change
LG&E – Trimble	3157.81	3643.99	15%

Emissions data acquired from Clean Air Markets Division (CAMD) database - https://ampd.epa.gov/ampd/

The SO2 Data Requirements Rule Section 51.1205 states that there are ongoing data requirements for sources that chose to demonstrate compliance with the NAAQS through modeling. Section (b) states:

"For any area where modeling of actual SO2 emissions serve as the basis for designating such area as attainment for the 2010 SO2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO2 emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation."

Since an increase in SO2 emissions has been recorded since the modeled years of 2012-2014, the Kentucky Division for Air Quality is requesting LG&E to provide an assessment of the cause of the SO2 emissions increase at Trimble Station so that we may submit the assessment with the annual report required by the SO2 DRR.

Please provide the assessment/explanation for the emissions increase **on or before this Friday, May 31, 2019**. We are working to get this report drafted and out to public notice before it is finalized and sent to EPA.

If you have any questions or would like to discuss this further, please feel free to contact me or Director Melissa Duff.

Thank You,

Ben A. Cordes, Supervisor
Evaluation Section
Kentucky Division for Air Quality
300 Sower Blvd, 2nd Floor
Frankfort, KY 40601
(502) 782-6586

Appendix C

Public Hearing Notice

KENTUCKY DIVISION FOR AIR QUALITY
NOTICE OF PUBLIC HEARING FOR THE
SULFUR DIOXIDE ONGOING DATA REQUIREMENTS RULE (DRR)
2019 ANNUAL REPORT FOR MODELED SOURCES

The Kentucky Energy and Environment Cabinet will conduct a public hearing on August 6, 2019, at 10:00 a.m. (EDT) in Conference Room 111 located at 300 Sower Boulevard, Frankfort, Kentucky 40601. This hearing is being held to receive comments on the proposed Sulfur Dioxide Ongoing Data Requirements Rule (DRR) 2019 Annual Report for Modeled Sources.

This hearing is open to the public and all interested persons will be given the opportunity to present testimony. The hearing will be held, if requested, at the date, time and place given above. It is not necessary that the hearing be held or attended in order for persons to comment on the proposed submittal to EPA. To assure that all comments are accurately recorded, the Division requests that oral comments presented at the hearing also be provided in written form, if possible. To be considered part of the hearing record, written comments must be received by the close of the hearing. Written comments should be sent to the contact person. All comments must be submitted no later than August 6, 2019.

The full text of the proposed SIP revision is available for public inspection and copying during regular business hours (8:00 a.m. to 4:30 p.m.) at the following locations: Division for Air Quality, 300 Sower Boulevard, Frankfort, Kentucky 40601. Any individual requiring copies may submit a request to the Division for Air Quality in writing, by telephone or by fax. Requests for copies should be directed to the contact person. In addition, an electronic version of the proposed Sulfur Dioxide Ongoing Data Requirements Rule (DRR) 2019 Annual Report for Modeled Sources and any relevant attachments can be downloaded from the Division for Air Quality's website at: https://eec.ky.gov/Environmental-Protection/Air/Pages/Public-Notices.aspx.

The hearing facility is accessible to people with disabilities. An interpreter or other auxiliary aid or service will be provided upon request. Please direct these requests to the contact person.

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