Henderson-Webster SO_2 Nonattainment Area Boundary Recommendation & Technical Support Document

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Kentucky Division for Air Quality

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Contents

Introduction

On August 13, 2020, the United States Environmental Protection Agency (EPA) notified the Commonwealth of Kentucky, through a letter addressed to Governor Andy Beshear, of their proposal to designate a portion of Henderson County and a portion of Webster County as nonattainment for the 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS). The EPA proposed a boundary for the SO_2 nonattainment area encompassing portions of Henderson and Webster counties. The Kentucky Division for Air Quality (Division) performed a modeling analysis to evaluate the actual impact of SO_2 in EPA's proposed nonattainment area.

As recommended in the 2010 1-hour SO_2 Modeling TAD, the Division used the EPA preferred near field dispersion model system, American Meteorological Society/EPA Regulatory Model - AERMOD (19191). By incorporating the pollutant type "SO_2" in AERMOD, the derived SO_2 design value, based on the multi-year average of ranked daily maximum 1-hour concentration values (the 99th percentile daily maximum), is required for comparison with the 1- hour SO_2 NAAQS of 75 ppb (196 $\mu g/m^3$).

SO_2 Emission Source Description

The Division identified three SO_2 sources for the modeling demonstration: the Robert A. Reid Station (Reid) and the Henderson Municipal Power and Light Station (HMP&L) collectively of Big Rivers Electric Corporation (BREC), the Robert D. Green Station (Green), also a BREC facility, and Century Aluminum Sebree, LLC (Century).

The BREC facilities are electric power generating stations which utilize ash, coal, and limestone handling equipment onsite. For simplicity, the BREC facilities have been labeled as "Big Rivers - Sebree Station" in the modeling and discussion. The Century facility consists of three primary aluminum potlines and associated operations, and produces primary aluminum from raw alumina (Al2O3) by applying electric current. The Century facility is located just north and adjacent to Big Rivers - Sebree Station. Both facilities are bounded on the east by the Green River and open farmland, and on the west by the Edward T. Breathitt Pennyrile Parkway (I-69), light industry, and farmland/wooded areas. To the north of Century and to the south of Big Rivers - Sebree Station ash landfill area is primarily wooded areas.

Emissions Inventory Data

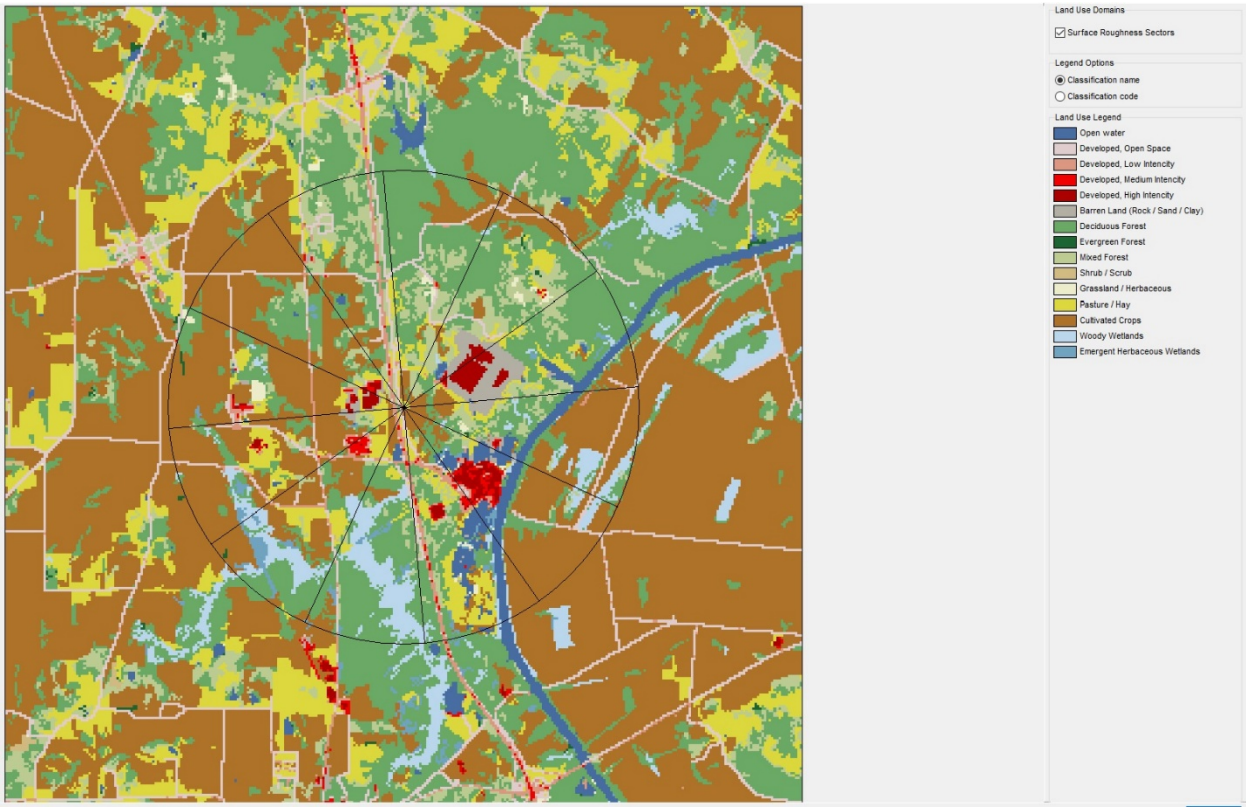
The modeling TAD recommends establishment of hourly emissions rates be derived from Continuous Emissions Monitoring Systems (CEMS) data. The CEMS, hourly dataset, provides the most accurate representation of the actual operation of a source for the three year time period modeled. For this analysis, the hourly SO_2 emissions from BREC (six) emission points were derived from the CEMS obtained from the U.S. EPA's Air Markets Program (CAMD). Since CEMS are not installed at the Century facility, the most recent stack test data and monthly production records were utilized to produce temporally variable actual emissions for the anode bake furnace and potlines. Smaller and insignificant sources of SO_2 were modeled at potential emissions rates, as in previous modeling demonstrations. The parameters utilized for all emission sources in the modeling demonstration can be found in Appendix A.

Model Parameters

Urban Versus Rural Determination

The facilities modeled in this analysis were all modeled as rural. The rural setting was chosen based on the AUER land used categories (USGS NLCD 2016). The land use procedure, classifies land use within an area circumscribed by a circle, centered on the source, with a radius of 3 kilometers. If AUER land use types I-1, I-2, C-1, R-2, and R-3 or USGS land cover types 23 and 24 account for 50 percent or more of the land use within 3 kilometers of the source, then the modeling regime is considered urban. Otherwise the land use is considered rural. In addition, none of the facilities modeled fall into a highly industrialized category. The land cover classification and corresponding land use diagram, shown in Figure 1, display the majority of land use as undeveloped, pasture and farmland.

Figure 1: 3 km land use diagram surrounding Century and BREC



Meteorological Data

As noted in the modeling TAD, the modeling performed for the facilities relied on three years of consecutive meteorological data taken from the most representative surface and upper air meteorological station. The meteorological data was chosen in part due to the representative terrain, proximity to the monitoring site, period of time data was collected and the completeness of the data. Hourly surface meteorological data from the Evansville, IN Airport (KEVV) for January 1, 2017 through December 31, 2019 was processed in AERMET (19191). The AERMET run was supplemented with ASOS 1-minute wind data, also from KEVV, processed using the latest version of AERMINUTE (version 15272). The "Ice-Free Winds Group" AERMINUTE option was selected for processing. To complete the AERMET processing, the required upper air data was utilized from Nashville, TN upper air station (KBNA) for the same period of record. In addition, the meteorological data was processed by applying Adjust Surface Friction Velocity (ADJ_U*) and 1-minute ASOS threshold wind speed of 0.5 m/s.

Representativeness/Surface Characteristics

According to the AERMOD Implementation Modeling Guidelines, the meteorological stations should be representative of the facility. The National Weather Service (NWS) meteorological stations chosen for each facility depended on the facility's location, topography, land use, and surface characteristics in reference to each facility. The land use data (surface roughness parameter, Bowen ratio, and albedo) is also required by the AERMET utility. In AERSURFACE (20060), the default 1 km radius was chosen, temporal resolution was set to "monthly," twelve 30º sectors and average surface moisture was used throughout in the analysis. The land use was classified based on the 2016 National Land Cover Data (NLCD 2016) which is available from the United States Geological Survey (USGS). The NLCD 2016, based on land cover, canopy and impervious data, contains a 20-category land cover classification.

Building Downwash

Building downwash was considered in each modeling demonstration. The Building Profile Input Program algorithm with Plume Rise Model Enhancements (04274) was utilized to process building inputs for AERMOD. The actual facility stack heights were utilized in each modeling demonstration. Downwash on the plume may increase the ground level concentrations in the wake of a building.

Receptors/Terrain

As stated in Section 9.2.2 (d) of Appendix W of 40 C.F.R. 51, "Receptor sites for refined dispersion modeling should be located within the modeling domain (section 8.1). In designing a receptor network, the emphasis should be placed on receptor density and location, not total number of receptors. Typically, the density of receptor sites should be progressively more resolved near the new or modifying source, areas of interest, and areas with the highest concentrations with sufficient detail to determine where possible violations of a NAAQS or PSD increments are most likely to occur. The placement of receptor sites should be determined on a case-by-case basis, taking into consideration the source characteristics, topography, climatology, and monitor sites."

In accordance with this principal, spacing and number of receptors in the grid were chosen in a way to encompass a majority of the plume, as well as the significant impact area, in which the maximum impact occurs with the EPA proposed nonattainment boundary. Table 1 displays a general receptor summary. The summary includes the number the receptors inside the proposed boundary and discrete receptors, number of boundaries receptors, and total receptors utilized.

Table 1: Modeling Receptor General Summary

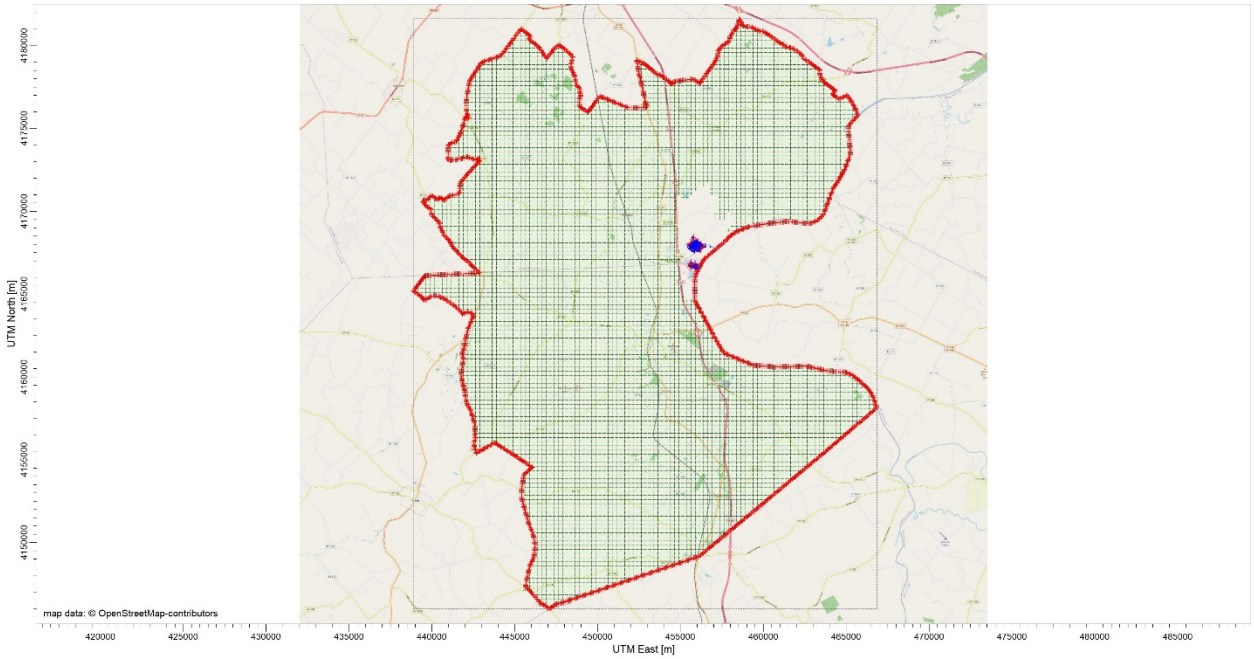
	Inside Boundary Receptors	**Discrete Sensitive Receptors**	**Plant Boundary Receptors**	**Total Receptors**
SO_2 Proposed Boundary	Discrete Cartesian Receptors - 9128	Discrete Receptor - 1 (monitor)	Cartesian Boundary receptors - 3031	12,160

The grid receptor spacing for the area of analysis is as follows:

- Fine cartesian receptor grid, 250 meters spacing within the proposed non-attainment boundary
- Cartesian boundary receptors along the fence line every 50 meters

The receptor domain utilized in the modeling can be found in Figure 2. The proposed nonattainment boundary is depicted with red outline. Receptors were not placed inside the Century and BREC property lines or outside of the proposed nonattainment boundary.

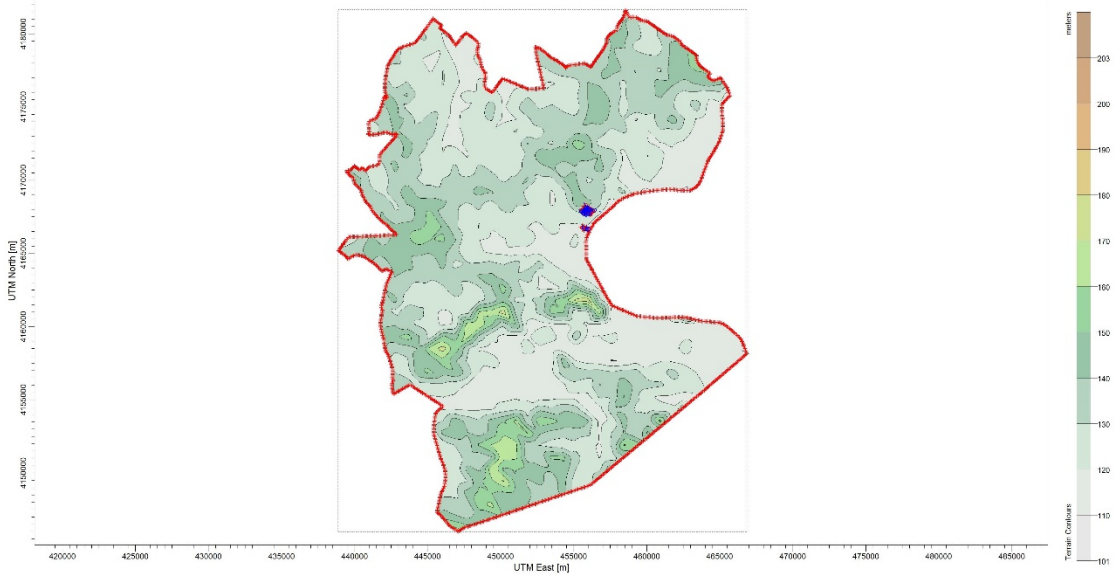
Figure 2: Receptor Grid Proposed Boundary



The location of emission sources, structures, and receptors for all modeling analyses were represented in the Universal Transverse Mercator (UTM) coordinate system. The datum utilized was located in the UTM Zone 16 of North American Datum 1983 (NAD83). National Elevation

Data (NED) maps available from the USGS were used in the AERMAP (18081) processor for the modeling demonstration. The emission sources, structures, and receptor elevation/hill heights were derived using the AERMAP with the terrain option set to elevated. AERMOD uses the hill height scale to represent the terrain that dominates the flow in the area of the receptor during stable conditions. Figure 3 shows nearby elevation within and outside the EPA proposed non-attainment boundary in the vicinity of Century and BREC.

Figure 3: Terrain Elevation Diagram



Background Concentrations

The Division considered several SO_2 monitors for use as background in the model, but determined the Evansville, Indiana monitor was most appropriate for the boundary recommendation modeling.

The Mammoth Cave monitor, although rural and in a similar setting to the Sebree area, is not impacted by any nearby sources. The Sebree area is not only impacted by the BREC and Century emissions, but may also be affected by SO_2 sources within a 50 km radius. For this reason, the Mammoth Cave monitor was ruled out.

The Baskett monitor was also considered, but there was not enough air quality data to use in the model due to the discontinuation and removal of the monitor in 2019, and for this reason the Division ruled out Baskett monitor.

The Owensboro monitor was ruled out for use as background due to the nearby Owensboro Municipal Utilities-Elmer Smith Generating Station, which would not provide concentrations that closely represent the background at Sebree.

The Evansville monitor, though in an urban location, is more representative of the Sebree area background due to the influences of SO_2 sources in the area. The Evansville SO_2 monitor sits

approximately 16 km northeast of the Vectren-A. B. Brown Generating Station. The monitor is also 25 km northwest of the Vectren-F. B. Culley Generating Station, Alcoa-Vectren-Warrick Generating Station, and the Alcoa Warrick aluminum smelter operation in Newburgh, IN.

Because the Evansville monitor is impacted by the above named facilities, it provides a more appropriate and representative background monitor value. Though the use of the Evansville monitor for background within the model is a much more conservative approach than using the Mammoth Cave monitor, or any rural monitor, the Division deems the Evansville monitor the appropriate background monitor for this particular modeling scenario.

Table 2 displays the nearest ambient monitors to the BREC and Century facilities.

Table 2: SO_2 Background Monitoring Sites

Site ID	Site Name	Site Address	Distance from Sebree Monitor	Direction Degrees
21-061-0501	Mammoth Cave	Mammoth Cave NP -Alfred Cook Rd, Edmonson County	135 km	116º
18-163-0021	Evansville	1110 W. Buena Vista Rd, Vanderburgh County	40 km	349º
21-059-0005	Owensboro	716 Pleasant Valley Rd, Daviess County	40 km	71º
21-101-0014	Baskett	Baskett Fire Department, Henderson County	24 km	7º

Figure 4: SO_2 Monitors in relation to Sources

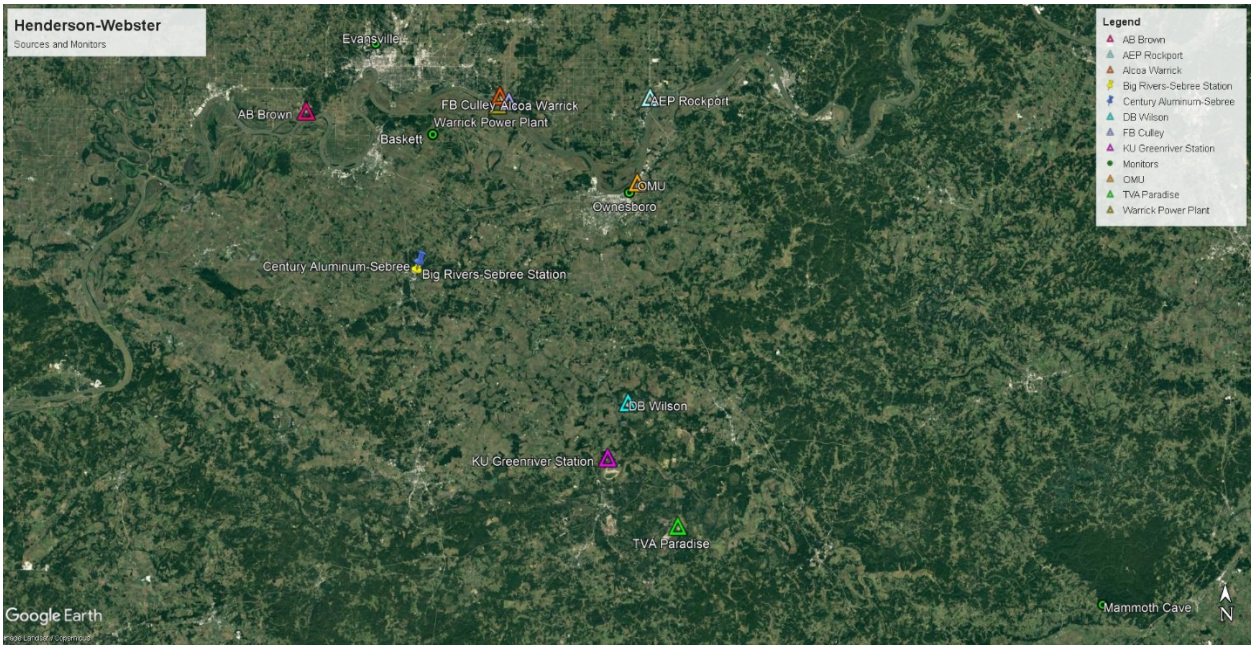


Table 3: SO_2 Measured Annual 99th Percentile and Design Value (ppb)

Site ID	Site Name	2017	2018	2019	3 year DV
21-061-0501	Mammoth Cave	3	5	2	3
18-163-0021	Evansville	9	11	8	9
21-059-0005	Owensboro	17	17	34	23
21-101-0014	Baskett	10	13	12	12

The 2nd highest measured 1-hour SO_2 concentration for each hour of the day per season were averaged across the 2017-2019 period.

Table 4: Seasonal Hourly SO_2 Concentration at Evansville Monitor (ppb)

AERMOD ready format (MET HOUR 0 = AERMOD HOUR 1				
Hour (Ending of Hour Period)	**Winter**	**Spring**	**Summer**	**Fall**
01:00	2.67	2.57	2.63	2.03
02:00	3.83	2.90	2.00	1.83
03:00	2.77	2.57	1.97	1.60
04:00	2.70	2.77	2.13	1.37
05:00	2.53	2.83	2.07	1.27
06:00	2.53	3.03	2.03	1.47
07:00	2.57	3.37	2.27	1.17
08:00	2.83	4.00	4.13	1.73
09:00	3.97	4.33	5.03	3.73
10:00	4.07	6.40	5.17	3.30
11:00	4.50	5.53	5.20	3.73
12:00	4.70	4.57	4.27	3.83
13:00	6.70	4.53	3.77	3.47
14:00	6.13	5.77	3.67	4.53
15:00	5.30	5.60	3.57	3.27
16:00	4.13	4.77	3.50	3.83
17:00	4.10	3.87	3.40	3.83
18:00	2.97	4.23	3.43	2.47
19:00	3.33	3.97	4.47	1.70
20:00	3.73	3.13	3.70	1.70
21:00	3.10	3.30	3.67	1.57
22:00	3.20	2.70	3.10	2.03
23:00	3.53	2.37	3.00	2.23
24:00	2.83	2.37	2.67	1.87

Results

Using the parameters discussed above, the model demonstration was completed and the multi-year average of ranked daily maximum 1-hour concentration values (the 99th percentile daily maximum), was compared against 1- hour SO_2 NAAQS of 75 ppb (196 µg/m^3) threshold. Only predicted impact values above the 196 µg/m^3 threshold are represented inside the boundary. Although the majority of the predicted impact is contained within the threshold isopleth, there are a few hotspots scattered inside of the proposed boundary. Hotspots, to the south of the Sebree, are not in close proximity of the modeled facilities but are at a higher elevation than the modeled sources. Significant terrain features can be associated with higher concentrations.

Figures 5, 6 and 7 below contain the predicted 1-hour concentration values (the 99th percentile daily maximum) inside the EPA proposed nonattainment boundary.

Figure 5: Predicted Modeled Area of Impact 1

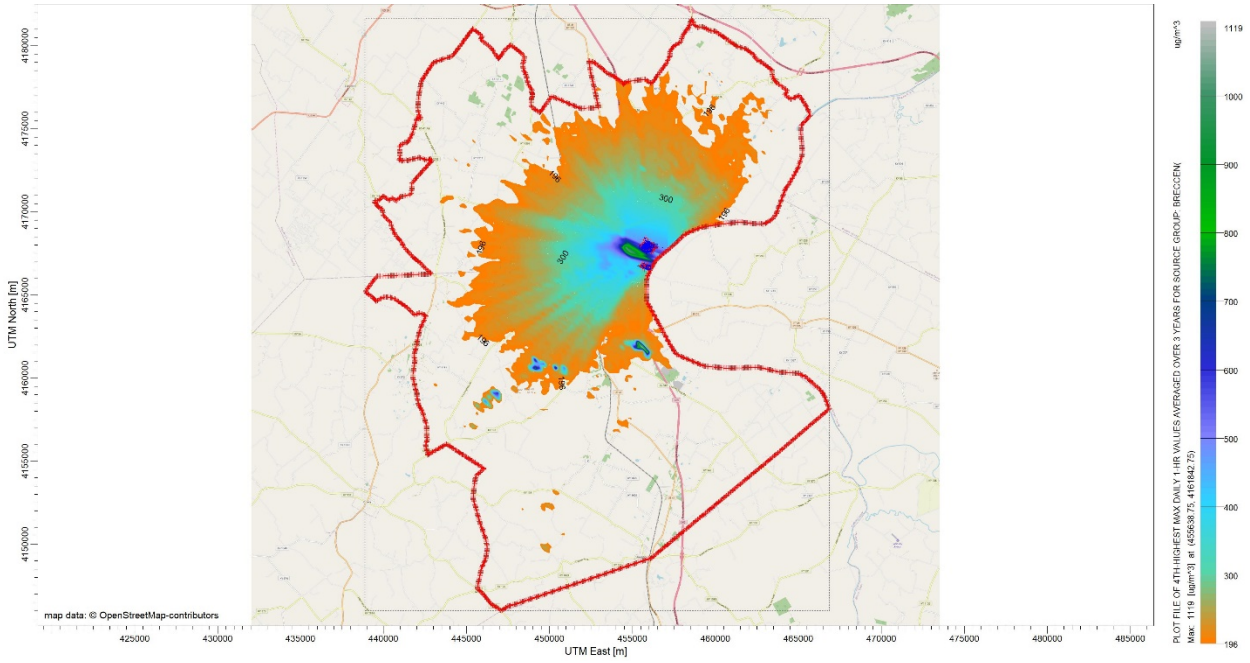


Figure 6: Predicted Modeled Area of Impact 2

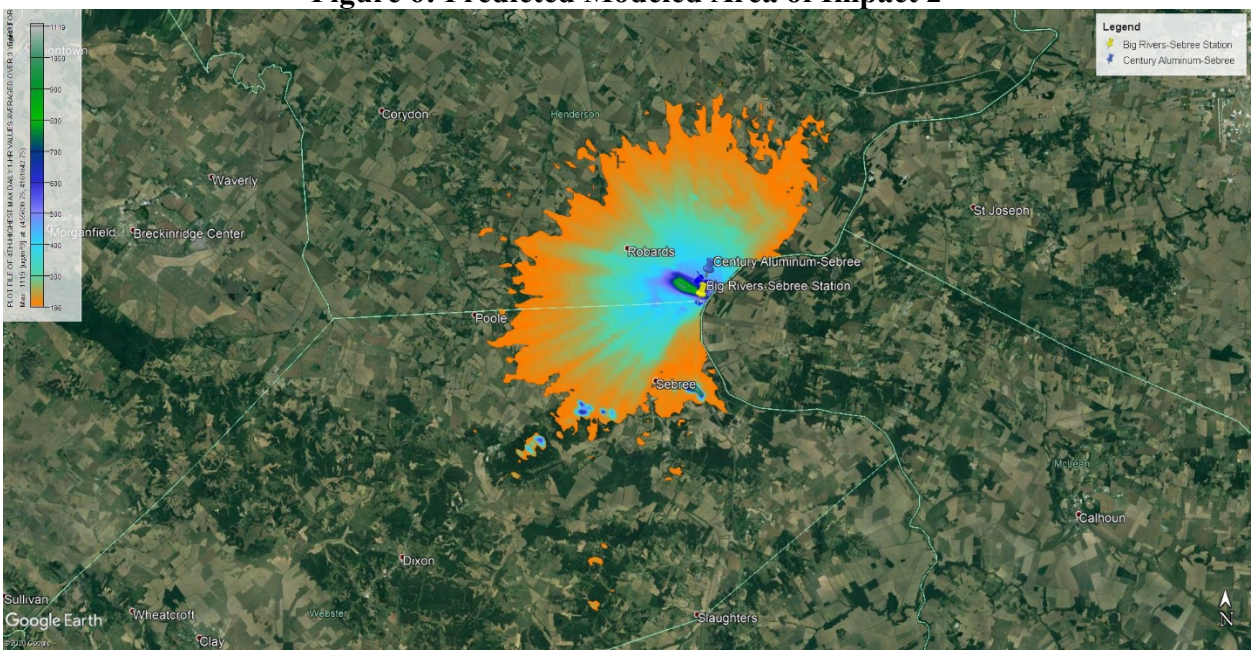
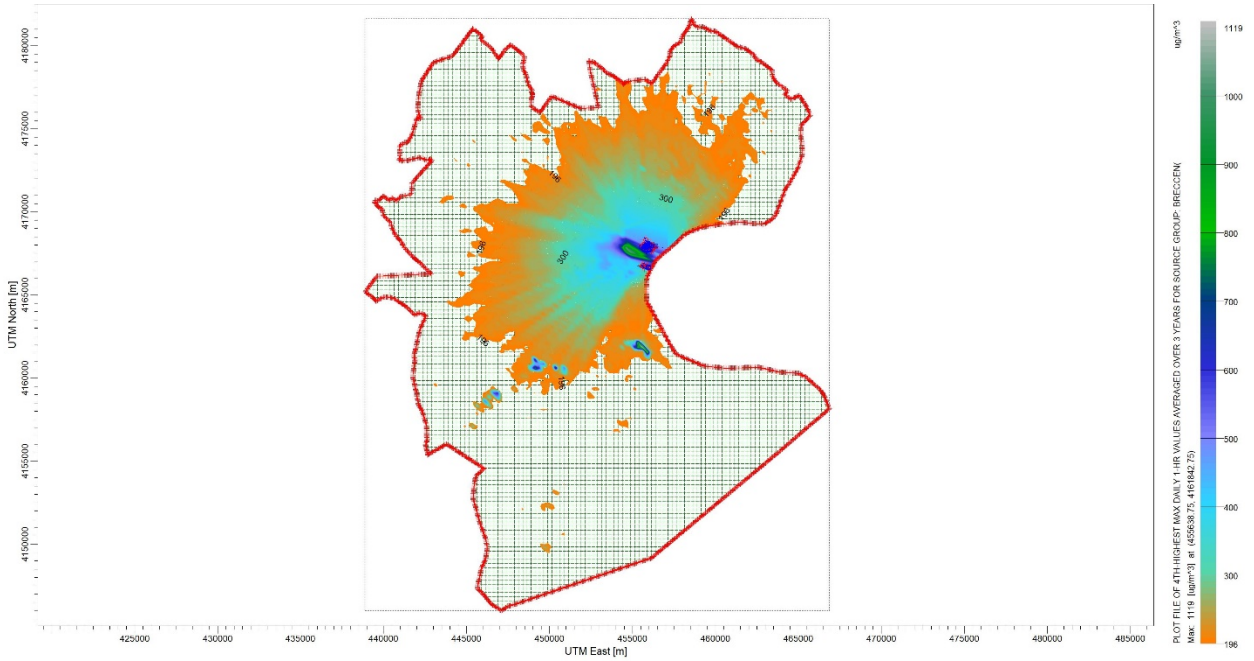


Figure 7: Predicted Modeled Area of Impact with Receptor Grid



Recommendation

Modeling performed by the Division demonstrates a smaller area of impact than EPA's proposed nonattainment boundary, as shown in Figure 8. Based on this information, the Cabinet recommends a revised boundary that will be a reduction in the EPA's proposed nonattainment boundary, while still incorporating the major impact area of the modeled SO_2 concentrations that are above the 1-hour SO_2 NAAQS of 75 ppb (196 µg/m^3). Figure 9 reflects Kentucky's recommended reduction in the EPA proposed nonattainment boundary.

Figure 8: EPA Proposed Nonattainment Boundary

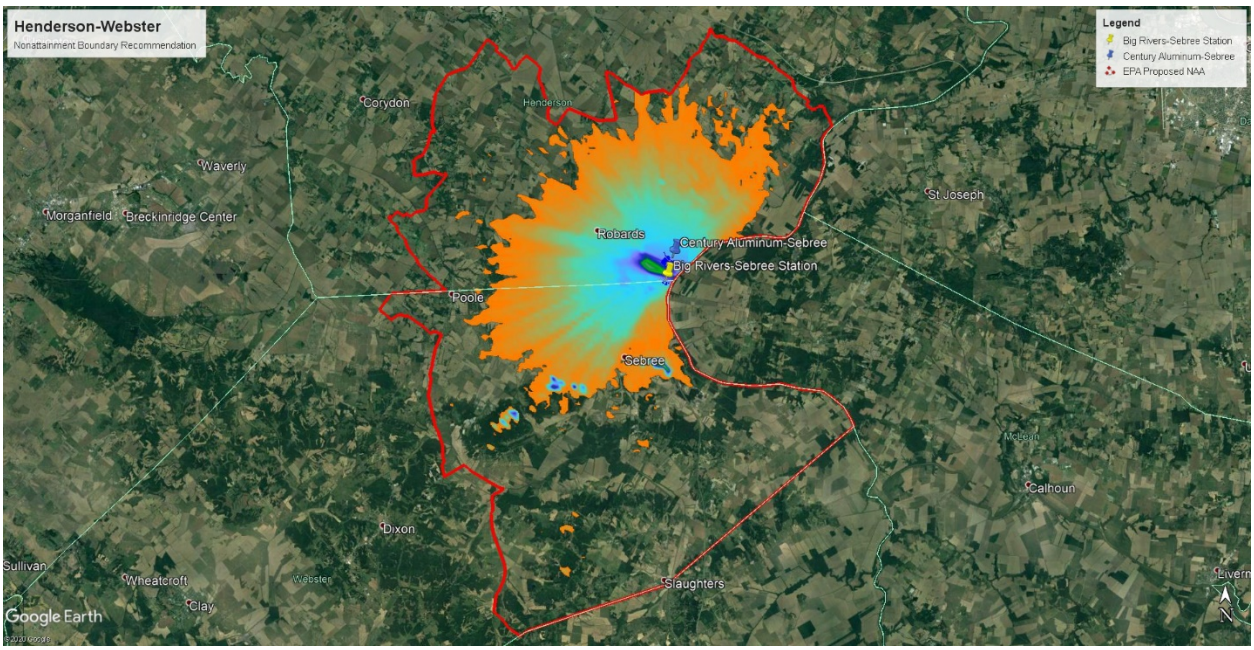


Figure 9: Kentucky's Revised Recommended Nonattainment Boundary

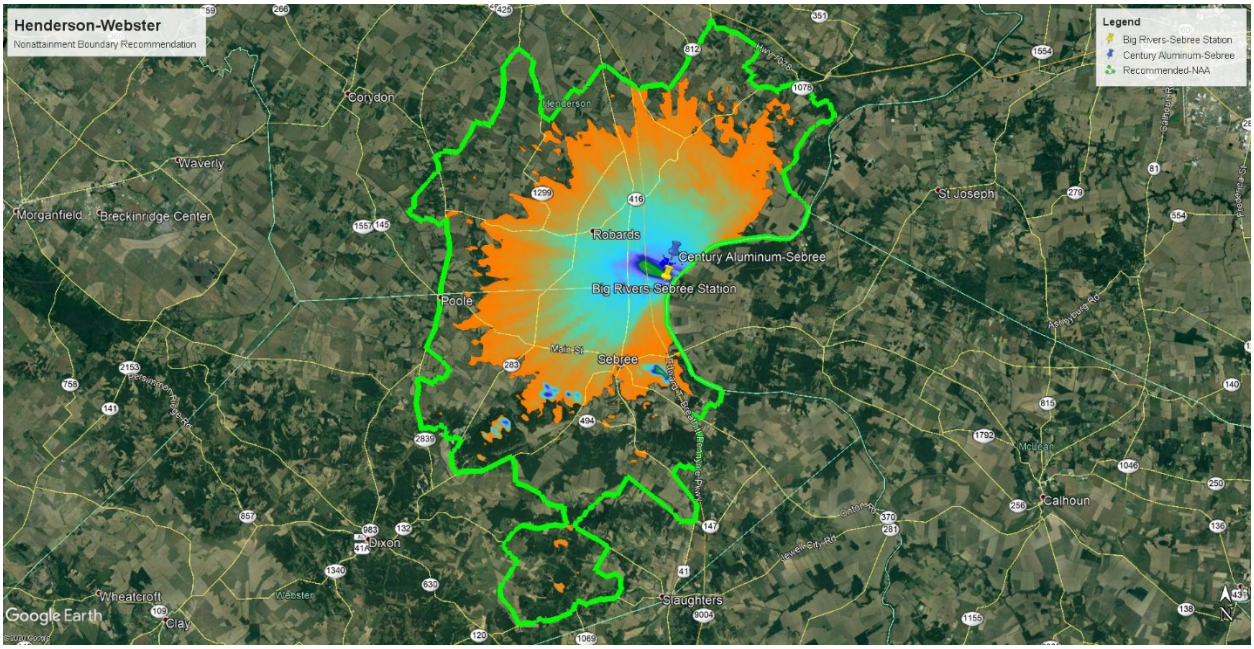
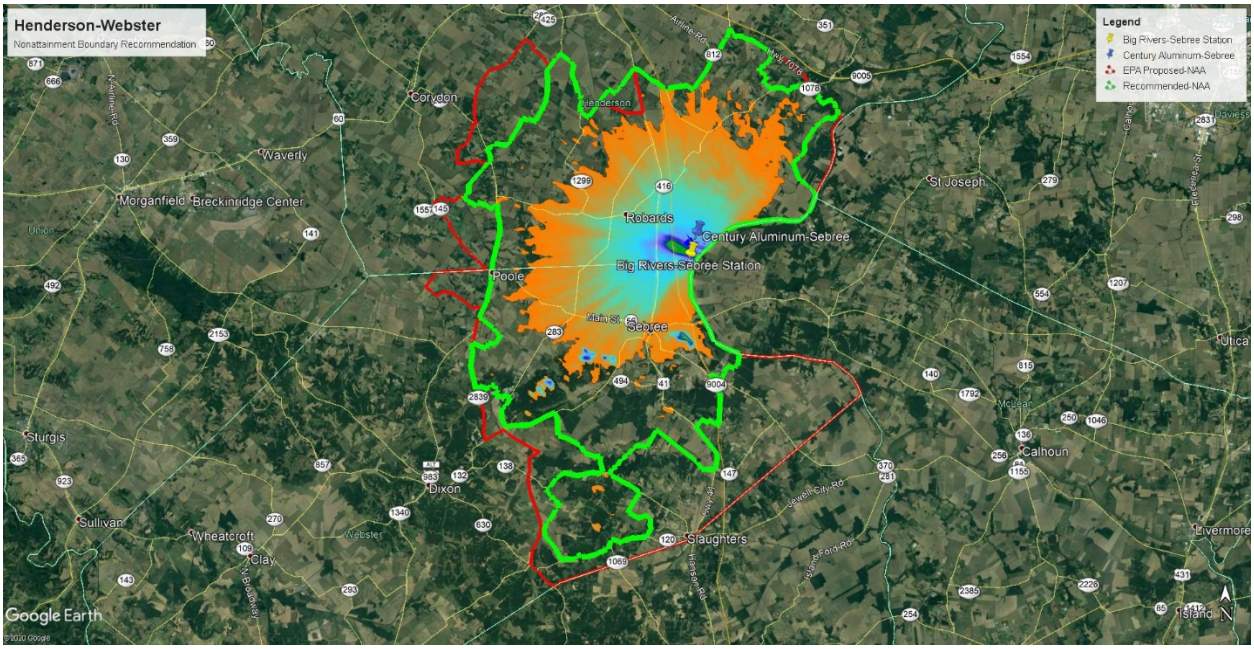


Figure 10: Kentucky Recommended and EPA Proposed Nonattainment Boundaries



Jurisdictional Boundary

The detailed, proposed jurisdictional boundary uses roadways and landmarks. The boundary and the corresponding pathway points are listed in Table 5. Figure 11 displays the boundary identification points utilized to create the pathway.

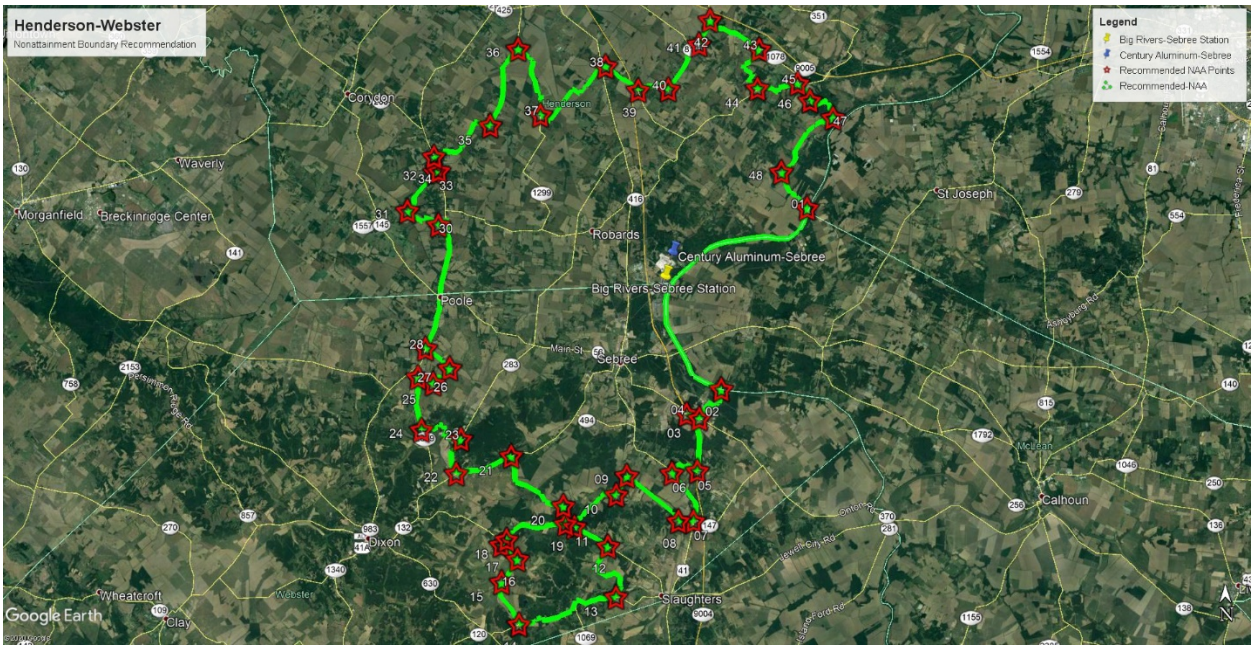
Table 5: Recommended Nonattainment Boundary Pathway Identification Locations (UTM Zone 16 S)

Point ID	Recommended NAA Boundary Point Pathway		X Coord. (UTM)	Y Coord. (UTM)
01	KY 520, Upper Delaware Rd	The Green River boundary	463979.00	4171000.03
02	The Green River boundary	JZ Shelton Rd	459058.03	4160832.96
03	JZ Shelton Rd	KY 370	457811.00	4159192.96
04	KY 370	Pennyrile Parkway I-69	457089.96	4159452.95
05	Pennyrile Parkway I-69	Sassafras Grove Rd	457675.35	4156244.55
06	Sassafras Grove Rd	US 41	456236.68	4156125.75
07	US 41	Slaughters Elmwood Rd	457442.82	4153425.68
08	Slaughters Elmwood Rd	Railroad Track (NW)	456589.41	4153424.43
09	Railroad Track (NW)	Breton Rd	453677.09	4155992.29
10	Breton Rd	KY 1835	453079.74	4154924.00
11	KY 1835	KY 138	450702.89	4153141.51
12	KY 138	Crowder Rd	452587.06	4152032.38
13	Crowder Rd	KY 120	453030.14	4149175.08
14	KY 120	Gooch Jones Rd	447528.25	4147663.88
15	Gooch Jones Rd	John Roach Rd	446551.75	4150042.51
16	John Roach Rd	Old Dixon Slaughters Rd	447462.17	4151329.04
17	Old Dixon Slaughters Rd	Old Dixon Rd	446532.28	4152143.23
18	Old Dixon Rd	KY 138	446849.49	4152437.09
19	KY 138	Carnel Brooks Rd	450196.38	4153305.18

20	Carnel Brooks Rd	Rakestraw Bottoms Rd	450079.34	4154326.39
21	Rakestraw Bottoms Rd	KY 132	447141.40	4157145.04
22	KY 132	KY 283	444025.55	4156172.90
23	KY 283	Beckley Osbourne Rd	444300.82	4158111.35
24	Beckley Osbourne Rd	Dixon Wanamaker Rd	442067.07	4158641.90
25	Dixon Wanamaker Rd	KY 191	441887.88	4161614.33
26	KY 191	D Melton Rd	442743.25	4161250.11
27	D Melton Rd	Knoblick Creek Rd	443688.82	4162093.08
28	Knoblick Creek Rd	US 41A	442319.35	4163220.45
29	US 41A	Dixon 1 Rd	443500.62	4170518.52
30	Dixon 1 Rd	GF Sights Rd	443094.58	4170166.59
31	GF Sights Rd	Cairo Dixie Rd	441341.46	4170978.60
32	Cairo Dixie Rd	Liles Cairo Rd	442919.00	4173140.24
33	Liles Cairo Rd	US 41A	443124.23	4173204.51
34	US 41A	Cairo Hickory Grove Rd	442860.28	4174017.18
35	Cairo Hickory Grove Rd	Pruitt Agnew Rd	446056.06	4175740.98
36	Pruitt Agnew Rd	KY 1299	447662.11	4180049.93
37	KY 1299	Anthoston Frog Island Rd	448905.37	4176327.31
38	Anthoston Frog Island Rd	KY 136	452613.63	4179047.02
39	KY 136	Upper Delaware Rd	454451.59	4177687.26
40	Upper Delaware Rd	Barren Church Rd S	456153.23	4177723.20
41	Barren Church Rd S	Barren Church Rd N	457912.85	4180247.83
42	Barren Church Rd N	KY 1078	458542.52	4181615.55
43	KY 1078	Jones Brothers Rd	461322.00	4179952.85

44	Jones Brothers Rd	KY 416	461209.84	4177755.55
45	KY 416	KY 1078	463492.08	4178026.50
46	KY 1078	Onionville Rd	464177.31	4177054.13
47	Onionville Rd	Work Road	465476.34	4176076.78
48	Work Road	Upper Delaware Rd	462529.15	4173036.52

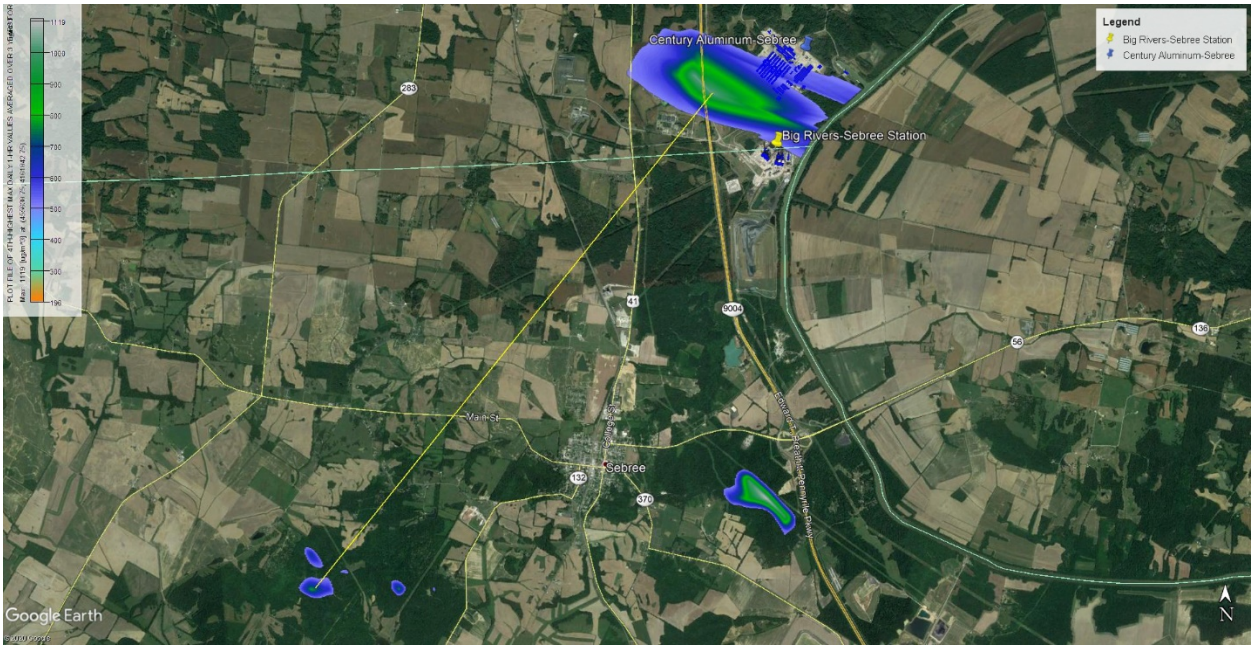
Figure 11: Recommended Nonattainment Boundary Pathway Identification Points



Conclusion

Based on the information provided, the Cabinet concludes that the boundary outlined in Figure 9, which includes portions of Henderson County and Webster County, is appropriate for the nonattainment area. The air dispersion modeling demonstrates that the greatest SO_2 impacts are within 9 km of the sources under consideration. The Cabinet recommends EPA use Kentucky's revised nonattainment boundary area to designate portions of Henderson and Webster counties as nonattainment for the 2010 1-hour SO_2 NAAQS.

Figure 12: Greatest Potential Impact Distance from Modeled Sources



Appendices

Appendix A. SO_2 Emissions Parameters

Table A-1: Big Rivers Electric Corporation Modeling Parameters

Facility	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]	Source ID	Description
GREEN	455889.83	4166717.63	125.58	106.68	CEMS	327.04	22.01	4.57	GREEN1	Green Station Boiler 1
	455835.89	4166726.92	125.58	16.68	CEMS	327.04	26	4.57	GREEN2	Green Station Boiler 2
HMPL	455632.58	4166794.58	130.15	106.68	CEMS	329.82	15	4.88	HMPL1	Henderson Station Unit 1
	455632.58	4166788.33	130.15	106.68	CEMS	332.04	15	4.88	HMPL2	Henderson Station unit 2
REID	455714.62	4166688.24	129.54	76.20	CEMS	433.15	8.99	3.61	REID1	Reid Station Unit 1
	455595.36	4166758.20	130.15	33.53	CEMS	844.26	9.57	4.88	REIDTURB	Reid Combustion Turbine

Table A-2: Century Aluminum Modeling Parameters (Potential Emissions)

Facility	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]	Source ID	Description
CENTURY ALUMINUM SEBREE	455802.40	4168312.80	135.94	13.11	.0048383	589.26	11.89	1.89	A6_02	Remelt Furnace
	456128.70	4167785.80	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_01	Holding Furnaces I1
	456139.30	4167798.00	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_02	Holding Furnaces I2
	456161.30	4167821.10	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_03	Holding Furnaces I3
	456173.50	4167834.60	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_04	Holding Furnaces I4
	456189.80	4167853.60	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_05	Holding Furnaces I5
	456200.80	4167865.90	135.94	27.43	0.0011491	431.48	7.83	0.97	F1_06	Holding Furnaces I6
	456217.40	4167883.30	135.94	27.43	0.0011491	431.48	7.83	0.97	F2_01	Holding Furnaces I7
	456227.60	4167894.90	135.94	27.43	0.0011491	431.48	7.83	0.97	F2_02	Holding Furnaces I8

Facility	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]	Source ID	Description
CENTURY ALUMINUM SEBREE	456219.80	4167811.40	135.94	18.9	0.0010206	755.37	12.53	1.22	H1_01	Homogenizing Furnace 1I
	456229.20	4167822.10	135.94	18.9	0.0010206	755.37	12.53	1.22	H2_01	Homogenizing Furnace 2I
	456238.30	4167832.80	135.94	18.9	0.0010206	755.37	12.53	1.22	H3_01	Homogenizing Furnace 3I
	456287.50	4167896.20	135.94	21.34	0.0010584	794.26	17.53	0.46	H4_01	Homogenizing Furnace I3I
	455952.20	4168046.40	135.94	29.87	0.00094498	433.15	2.13	0.91	S5_01	Electrode Boiler S5
	455953.70	4168044.30	135.94	29.87	0.00094498	433.15	2.13	0.91	S6_01	Indirect Heat Exchanger S6

Table A-3: Century Aluminum Modeling Stack Parameters (Calculated Actual Monthly Emissions)

Facility	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]	Source ID	Description
CENTURY ALUMINUM SEBREE	455864.80	4167888.60	134.21	24.57	Actual Monthly Emissions	370.93	10.46	1.21	E1_02N	Potline Scrubber E1
	455807.60	4167824.30	134.21	24.57	Actual Monthly Emissions	372.59	10.52	1.21	E1_02S	Potline Scrubber E1
	455796.70	4167949.70	134.21	24.57	Actual Monthly Emissions	375.93	10.98	1.21	E3_02N	Potline Scrubber E3
	455740.10	4167885.50	134.21	24.57	Actual Monthly Emissions	376.48	11.62	1.21	E3_02S	Potline Scrubber E3
	455694.30	4168040.90	134.21	31.98	Actual Monthly Emissions	382.59	12.7	3.44	E5_02N	Potline Scrubber E5
	455636.00	4167975.90	134.21	31.98	Actual Monthly Emissions	380.37	12.73	3.44	E5_02S	Potline Scrubber E5
	456070.90	4168064.00	135.94	21.34	Actual Monthly Emissions	354.18	9.48	1.28	N2_02	Anode Bake Furnace

Table A-4: Century Aluminum Modeling Buoyant Line Parameters (Calculated Actual Monthly Emissions)

Facility	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]	Source ID	Description
CENTURY ALUMINUM SEBREE	455735.60	4167704.80	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E1_01A	E1-1- Potroom 101 Roof Vent
	455698.40	4167737.80	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E1_01B	E1-1- Potroom 102 Roof Vent
	455668.00	4167765.00	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E3_01A	E3-1- Potroom 103 Roof Vent
	455631.30	4167797.50	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E3_01B	E3-1- Potroom 104 Roof Vent
	455566.60	4167854.30	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E5_01A	E5-1- Potroom 105 Roof Vent
	455529.50	4167887.30	135.9	14.8	Actual Monthly Emissions	320.26	.0521208	-	E5_01B	E5-1- Potroom 106 Roof Vent