D. SIBLEY GENERATING STATION

The Sibley Generating Station is a coal-fired electric generating facility with three electric generating units operating in Jackson County, Missouri. Based on the air program's technical review of this facility, current conditions support a recommendation of attainment for a portion of Jackson County around this emissions source. Sibley was also evaluated under the 2015 federal consent decree and designated unclassifiable by EPA in July 2016. EPA has indicated that sources evaluated under the consent decree, but not designated nonattainment, should also be evaluated in the rounds governed by the Data Requirements Rule. Therefore, Sibley is included in this recommendation.

When EPA designated the area unclassifiable, they voiced concern regarding three sources in the vicinity of the Sibley plant that could potentially interfere with attainment: the Veolia Energy steam plant (Veolia), the Blue Valley plant, and the Missouri City plant.

The Veolia plant is a source that is being addressed through Missouri's Jackson County nonattainment area (NAA) plan (submitted to EPA on October 9, 2015). The main control strategy of the Jackson County NAA plan is the new federally enforceable limit for the Veolia plant. As indicated in EPA's letter, Veolia's historical emissions do model violations, but the new limitations set through the NAA plan demonstrate compliance with the standard. The new limits have a compliance date of January 1, 2017, which aligns with EPA's April 2014 *Guidance for 1-hour SO_2 Nonattainment Area SIP Submissions*. However, since this compliance date occurs after the July 2016 round of designations, EPA included Veolia in Sibley's modeling analysis as an interactive source at their actual emission rates as reported in 2014. Veolia's actual emission rates are approximately 80% higher than the new emission limits. It should be noted that modeling the higher emission rates for Veolia does not cause modeled violations within the attainment area boundary recommended for the Sibley plant.

Furthermore, the air program evaluated monitoring value trends at the Troost monitor also located in Jackson County. Recent fuel mixture changes at the Veolia plant have had an apparent effect on the latest Troost monitor values, as shown in Figure 1. Since December 2015, the Veolia plant has reportedly changed fuel combustion mixtures. Previously, Veolia primarily burned a mixture of 95% coal/5% Natural Gas. On December 3, 2015, Veolia reportedly began burning a mixture of 80% Natural Gas/15% Coal due to the low cost of natural gas and to reduce their coal inventory. The Veolia plant has reportedly been burning 100% natural gas since January 7, 2016 due to the continued low price of natural gas. Veolia plans to continue burning 100% natural gas unless it becomes cost prohibitive in which case they will resume burning coal until their new emission limits become effective.

In Figure 1, the last monitored exceedance and the last monitored value above 50% of the NAAQS are depicted. The chart indicates a strong correlation between decreases in monitored values and the recent changes in Veolia's fuel mix as discussed above. This not only strongly indicates that the Jackson County nonattainment area will demonstrate compliance by the attainment date but also that the Veolia plant will not interfere with attainment around the Sibley plant. Recent monitoring values for all Missouri's SO_2 monitors, including Troost, are available on the department's webpage[1]. As of July 25, 2016, the 99th percentile 1-hour average for Troost in 2016 is 9 ppb, which is a drastic decrease from the 99th percentile 1-hour average for 2015 of 142 ppb.

[1] http://dnr.mo.gov/env/apcp/docs/so2monitoringdata.pdf

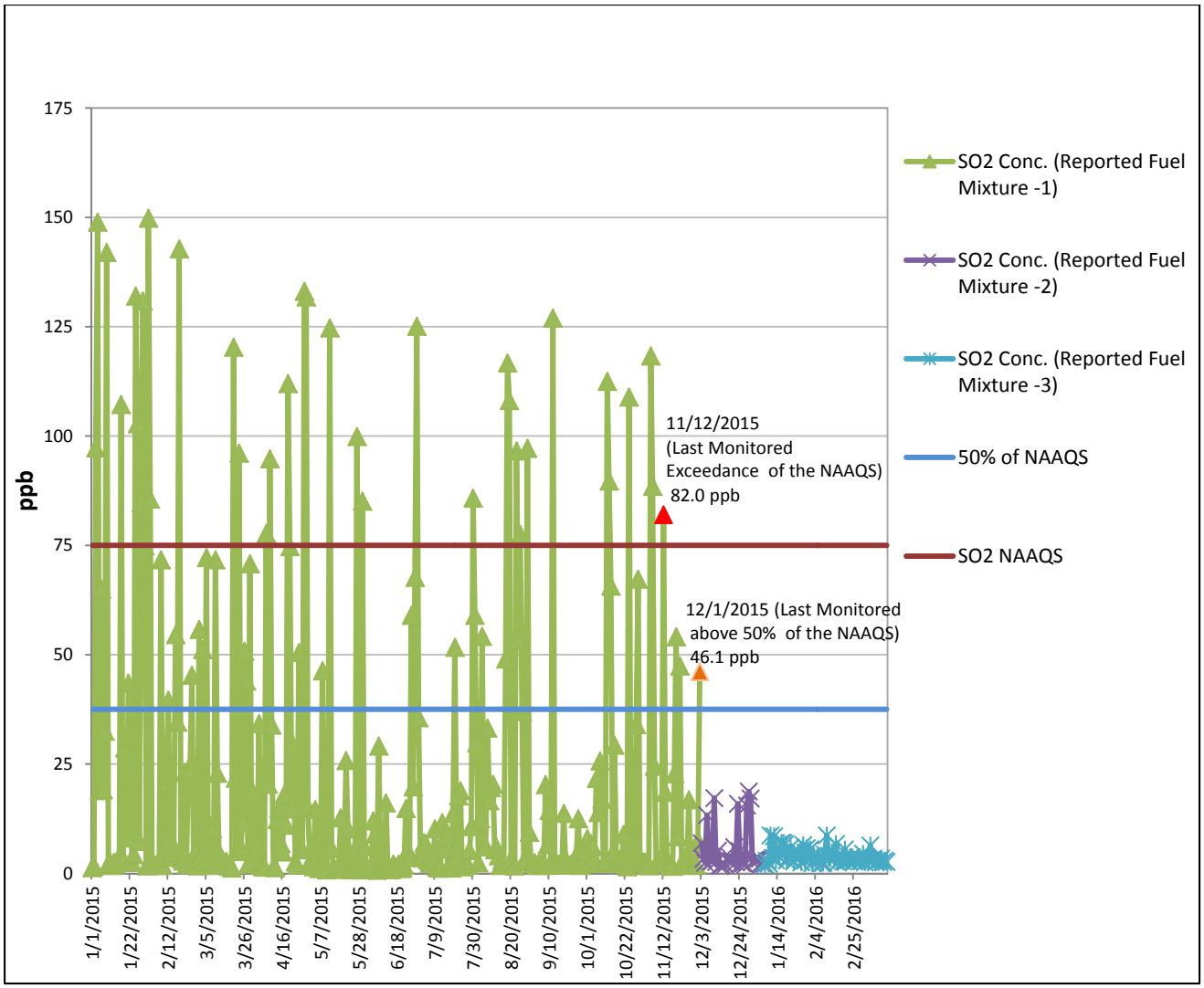

Figure 1 – Troost SO_2 Daily Maximum 1-hour Average Trend for 01/01/2015 - 03/14/2016

The Blue Valley plant was included in Sibley's modeling analysis as an interactive source at natural gas combustion emission rates. EPA's concern regarding the Blue Valley plant is that those emission rates are not yet federally enforceable, even though Blue Valley has already switched to exclusively burning natural gas. In an email dated September 30, 2015, the Blue Valley Environmental Program Supervisor confirmed the fuel combustion changes reflected in the facility's permit renewal as submitted June 17, 2015. Blue Valley's three primary units were built to be tri-fuel units (oil, natural gas, and coal), and are subject to federal regulations. Units 1 & 2 are subject to the Industrial Boiler Maximum Achievable Control Technology (MACT) while Unit 3 is subject to the Mercury and Air Toxics Standard (MATS) which have compliance dates of January 31, 2016, and April 15, 2015, respectively. The compliance strategy for these units as documented in their permit renewal is to cease burning coal and burn exclusively natural gas after January 31, 2016. Blue Valley emptied their coal reserves as of September 9, 2015, and indicated they do not intend to purchase more coal. This means that with no coal reserves, the three Blue Valley units are already effectively only natural gas units. The federal regulations provide the enforceability to Blue Valley's documented early switch to exclusively burning natural gas. Together these points demonstrate that the Blue Valley plant will not interfere with attainment around the Sibley plant.

Lastly, the Missouri City plant was not included in Sibley's modeling analysis as an interactive source as they have effectively shut down. The Missouri City plant ceased burning coal in 2013 in order to comply with the Industrial Boiler MACT which had a compliance date of January 31, 2016. This compliance strategy was detailed in a City of Independence letter to the department dated July 1, 2014. Since the plant is not capable of burning natural gas, the cessation of coal burning effectively is the shutdown of the plant. This is reflected in our modeling analysis by excluding them as an interactive source. Since this plant is no longer emitting SO_2, it will not interfere with attainment around the Sibley plant.

D.1 Monitoring and Modeling Data

There are no ambient SO_2 monitors near Sibley that can be relied upon to characterize the air quality around the source. Instead, the air program performed extensive air dispersion modeling to characterize air quality for the area. The air program modeled Sibley using the most recent three years of actual emissions data and concurrent representative meteorological data to approximate a monitored design value for the area. The following paragraphs summarize the modeling analysis performed specific to Sibley, and the modeling protocol in Appendix H contains more detail on general modeling procedures.

Emissions Data for Model Input

The most recent three years (2013-2015) of hourly emissions (CEMS) data was obtained through EPA's Clean Air Markets Division program database (CAMD) and the downloaded SO_2 hourly mass emissions data was formatted for direct input into AERMOD. Sibley provided hourly recorded varying stack release parameters including exit temperature and exit velocity that were evaluated and paired with the CAMD retrieved CEMS emissions. Further emissions information including interactive source evaluation is included in Section B.2.

Meteorological Data for Model Input

An air program staff meteorologist performed a technical evaluation to determine which surface and upper air stations are most representative of Sibley. The Sibley Generating Station has no on-site or nearby collected surface or upper air meteorological data. Offsite NWS data is evaluated for representativeness in the following discussion. In general, meteorological stations within 200 km of the facility of interest are preferred as their prevailing weather conditions would be most similar to the facility. However, locations more than 200 km from the facility of interest can be considered when surface conditions of nearby meteorological stations are not deemed representative.

For upper air data, the Topeka upper air station is closest to Sibley at 125 km and best represents the vertical atmospheric characteristics of the region surrounding Sibley.

For surface data, the Lee's Summit (29km), KC Downtown (36 km), and Kansas City International (49 km) airports are the closest to the Sibley facility. Explicit criteria for each of the respective stations are compared below.

> Lee's Summit: The surface roughness values by season do not compare favorably between Sibley and this airport. The summer and fall values differ almost 50%, and winter and spring values differ by 20-25%. This difference is primarily due to the surface cover at Sibley being dominated by water (28%) and planted cropland (43%), whereas Lee's Summit is designated over 85% planted cropland. The albedos agree within 15%. The Bowen ratios differ by 35-50% in spring due to the heat flux differences between cropland and water, but the ratios only differ by 5-30% for other seasons.

Kansas City Downtown: The surface roughness values differ by around 45% for both summer and fall and differ by 15-25% for winter and spring. The land cover for the Downtown airport is 44% developed, whereas Sibley is only 5% developed. Though the KC Downtown airport is the location with the highest percentage of water within the 1 km radius at 13% compared to Sibley's 28%, the remaining land cover is a poor comparison. The albedos agree within 10%. The Bowen ratios differ by 35-50% in spring and 5-25% for other seasons.

Kansas City International: The surface roughness values differ by 25-35% across all seasons between Sibley and this airport. The land cover driving these differences includes planted cropland at 78% for the airport and 43% for Sibley, under 20% developed land for both locations, and under 15% forested land for both locations. Though the International airport location does not have open water within the 1 km radius similar to Sibley, the remaining land cover produces similar surface roughness values. Albedo values agree within 10%. Bowen ratios are all within 40% for all seasons and precipitation schemes.

The next four closest airports within 200 km (Whiteman 75 km, Chillicothe 88 km, Rosecrans 90 km, Sedalia 102 km) offered no improvement to the comparison of combined surface roughness, albedo, or Bowen ratios than the three closest surface weather stations. Though the Kansas City International Airport is farther away from Sibley than either Lees' Summit or Kansas City Downtown, it offers a better match to the surface roughness values due to similar surface cover. Because of the relative similarity across the three meteorological input parameters between the Sibley location and the Kansas City International airport meteorological station, the weather data for Kansas City International will be used to represent conditions at Sibley.

The recommended representative meteorological stations used in this modeling analysis are shown in Table 1.

Table 1 – Sibley Generating Station Meteorological Datasets

Facility of Interest	Surface Data Location	Upper Air Location
Sibley Generating Station	Kansas City International Airport, MO	Topeka, KS

The established regional background concentration for urban areas of 13 ppb was used in this analysis since Sibley is located downwind of a large metropolitan area. This was based on an analysis of the JFK monitor in Kansas. The modeling protocol in Appendix H further details this analysis. The background was added to model predicted concentrations to account for natural sources and sources not included in the modeling inventory. The maximum modeled concentration for the area was 190 $\mu g/m^3$ or 72.5 ppb. This demonstrates the area is currently in compliance with the 1-hour SO_2 standard of 75 ppb. A map including plotted output concentrations with the recommended attainment area is shown below in Figure 2.

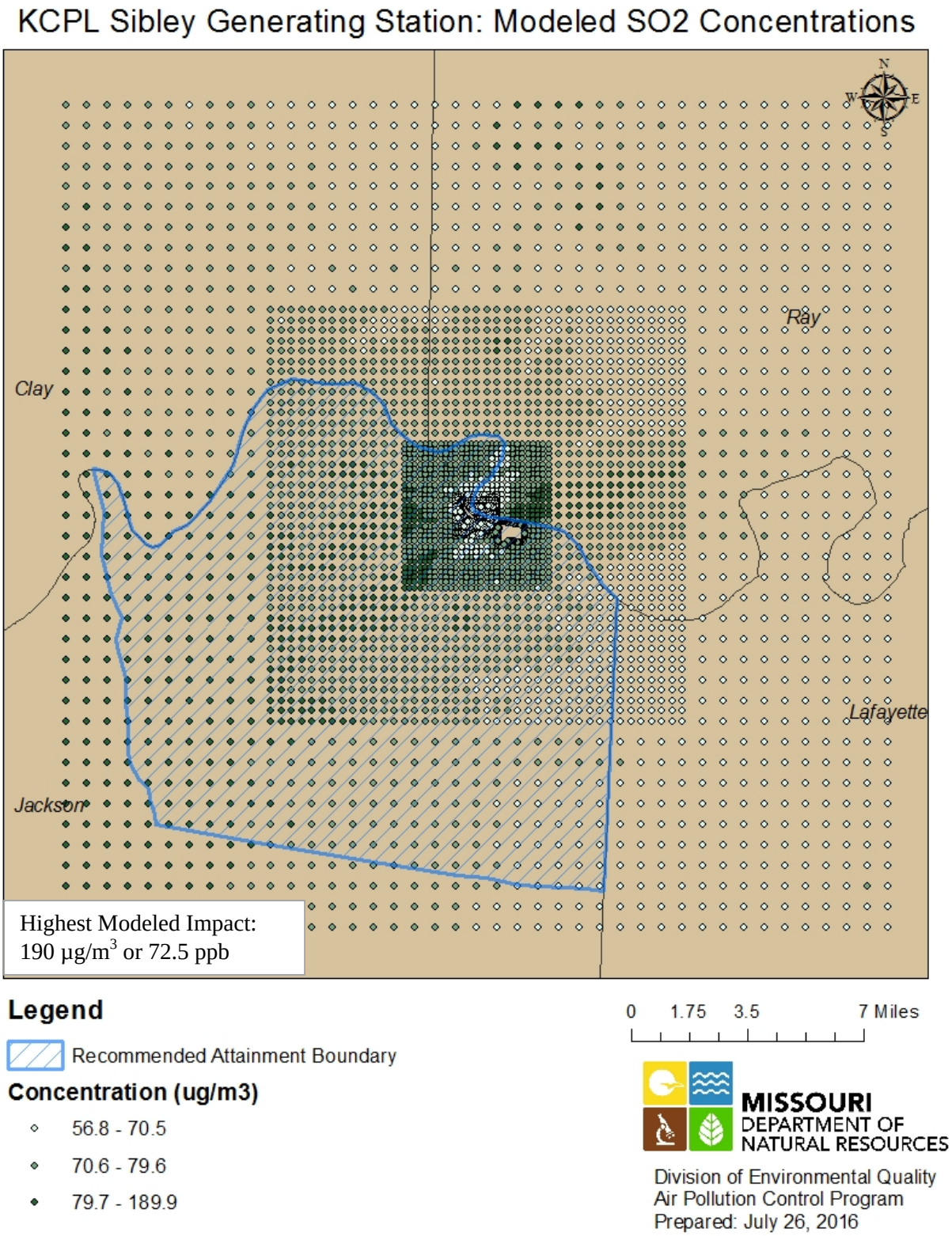

Figure 2 – Sibley Generating Station Modeled SO_2 Concentrations

D.2 Emissions Data

The emissions sources surrounding Sibley were evaluated to determine the interactive source inventory for the dispersion modeling exercise. Figure 3 displays a map of Jackson, Clay, Ray, and Lafayette Counties along with all permitted SO_2 sources within 20 km of Sibley that were evaluated for inclusion in the modeling inventory.

Sources outside 20 km but within 50 km of Sibley were also evaluated to ensure all potential impacts are being addressed. Four large sources were identified between 20 km and 50 km from Sibley; Veolia Energy, KCP&L Hawthorn, and two power stations located in Kansas. These sources were also evaluated as part of the recently developed Jackson County SO_2 nonattainment area plan. These sources were included in the interactive inventory at 2014 actual emissions, or using CEMS data, if available. Apart from these sources, there were no other sources outside 20 km but within 50 km of Sibley with SO_2 emissions greater than 10 tons per year. Table 2 lists all sources included on the map along with their 2013-2015 actual emissions.

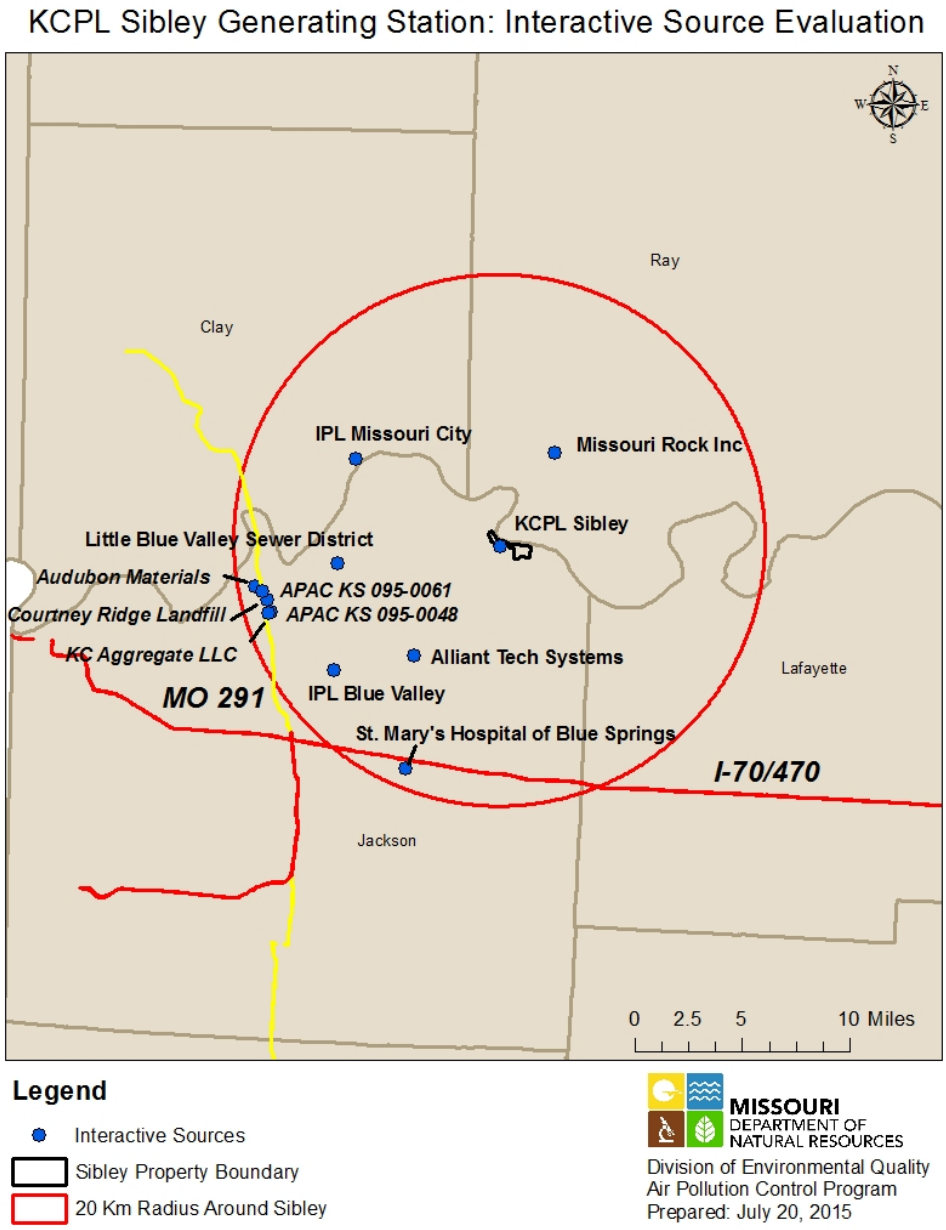

Figure 3 – Sibley Generating Station with Nearby Interactive Sources

Table 2 – Sibley Generating Station and Interactive Source 2013-2015 SO_2 Emissions

Source Name	2013 SO_2 Emissions (tons/year)	2014 SO_2 Emissions (tons/year)	2015 SO_2 Emissions (tons/year)
Sibley Generating Station	6,217.97	4,847.20	7,629.9
Blue Valley Station	3,786.76	2,105.30	3,119.9
Missouri City Station	740.97	0.16	723.9

Missouri Rock Inc.	0.56	0.56	0.018
Little Blue Valley Sewer District	2.28	0.34	0.30
Alliant Tech Systems Inc.	1.35	1.12	1.12
St. Mary's Hospital of Blue Springs	0.08	0.08	0.07
Audubon Materials Sugar Creek Plant	82.81	116.78	201.3
Kansas City Aggregate LLC	2.33	2.33	2.33
APAC-Kansas Inc. Sugar Creek (095-0048)	1.10	1.10	1.10
Courtney Ridge Landfill	0.42	0.59	0.61
APAC-Kansas Inc. Sugar Creek (095-0061)	3.38	3.38	3.38
KCPL Hawthorn	1,727	1,441	1,368
Veolia Energy	7,934	7,782	7,342
BPU Quindaro	2,905	3,684	852.5
BPU Nearman	4,928	5,332	4,762

D.2.1 Evaluation of Sources to Model

All sources included on the map in Figure 3 were evaluated for inclusion in the modeling exercise. The Sibley Generating Station and the Blue Valley Station will both be subject to the new state rule, *10 CSR 10-6.261 Control of Sulfur Dioxide Emissions*, which was developed as part of the Jackson County SO_2 Nonattainment Area Plan. In addition, the Missouri City Station has ceased burning coal at their facility and is effectively shut down. The following bullets describe each of the sources listed in Table 2 along with a discussion about the emission rates used for each source in this modeling exercise:

- Sibley Generating Station (095-0031) – This source was included in the March 2015 federal consent decree and designated unclassifiable by EPA in July 2016. This source is also affected by the Data Requirements Rule (DRR). The Sibley Generating Station includes three (3) coal-fired boilers that generate electricity which is supplied to the grid. The plant is owned by Kansas City Power and Light, who announced plans to cease burning coal at two of the three boilers at this facility by the end of 2019[2]. The source is subject to emission limits in 10 CSR 10-6.261; however, the air program used actual SO_2 emissions data from the CEMS located at this facility. The modeled years include the most recent three years (2013 – 2015). The use of CEMS data in the model for this facility allows the model to act as a surrogate for monitoring data, which EPA guidance deems appropriate when developing boundary designation recommendations. The facility also provided hourly variable release parameters (exit velocity and temperature) that were utilized in this analysis. The three boilers at Sibley vent to one single stack. While emissions for the boilers are reported separately, the release parameters are measured and reported for the single release point or stack. EPA has indicated the use of hourly variable stack release parameters are preferable for use in actual conditions modeling when available.

[2] http://www.kcpl.com/about-kcpl/media-center/2015/january/kcpl-announces-plans-to-cease-burning-coal-at-three-plants

- Blue Valley Station (095-0050) – This source is located within 20 km of Sibley. This is an electric generating facility with three (3) coal-fired boilers. Blue Valley is owned by Independence Power and Light Company. The source is subject to state rule 10 CSR 10-6.261, which requires that all three (3) boilers convert exclusively to natural gas. In addition, this source is subject to the federal Industrial and Commercial Boiler Maximum Achievable Control Technology (Boiler MACT) which requires compliance by January 31, 2016. Blue Valley has indicated their compliance method with the Boiler MACT is the conversion of all three boilers to exclusively burn natural gas. Therefore, potential SO_2 emissions from this source were modeled assuming natural gas is the only fuel combusted in these three (3) boilers.

- Missouri City Station (047-0096) – This source is located within 20 km of Sibley. This is an electric generating facility with one (1) coal-fired boiler. Missouri City is owned by Independence Power and Light Company. The Missouri City plant ceased burning coal in 2013 in order to comply with the Industrial Boiler MACT which had a compliance date of January 31, 2016. This compliance strategy was detailed in a City of Independence letter to the department dated July 1, 2014. Since the plant is not capable of burning natural gas, the cessation of coal burning effectively is the shutdown of the plant. This is reflected in our modeling analysis by excluding them as an interactive source. The total actual SO_2 emissions in 2014 were less than 0.5 tons per year. Therefore, this source was not included in the interactive source inventory.

- Missouri Rock Inc. (177-0030) – This source is located within 20 km of Sibley. This source is a limestone mining and quarrying plant with total SO_2 emissions less than 1 ton per year. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions from all units. The only SO_2 emitting unit at this facility is a diesel fired engine generator without a stack release. This unit was modeled using common volume source parameters for generators.

- Little Blue Valley Sewer District (095-0186) – This source is located within 20 km of Sibley. This source is a sewage treatment plant with total SO_2 emissions less than 5 tons per year. Due to the proximity of the source to Sibley, this source was included in the model inventory at actual reported SO_2 emissions from all units other than emergency generators, space heaters, and zero emitting units, which were excluded. All units have stack releases and were modeled with parameters as reported to MoEIS.

- Alliant Tech systems Inc. (095-0046) – This source is located within 20 km of Sibley. This source is a small ammunition manufacturer with total SO_2 emissions less than 2 tons per year. Due to the proximity of the source to Sibley, this source was included in the model inventory at actual reported SO_2 emissions from all units other than emergency generators, space heaters, and zero emitting units, which were excluded. All units except one have stack releases and were modeled with parameters as reported to MoEIS. The single unit without a stack release was modeled using common volume source parameters for generators.

- St. Mary's Hospital of Blue Springs (095-0182) – This source is located within 20 km of Sibley. This source is a hospital with total SO_2 emissions less than 0.1 ton per year. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions from all units other than the emergency generator, which was excluded due to its intermittent nature. Both units have stack releases and were modeled with parameters as reported to MoEIS.

- Audubon Materials Sugar Creek Plant (095-0030) – This source is located within 20 km of Sibley. This source is a cement kiln operation with average annual SO_2 emissions over 100 tons per year. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions. The only SO_2 emitting unit at this facility is a preheater/precalciner rotary kiln with a stack release that was modeled with parameters as reported to MoEIS.

- Kansas City Aggregate LLC., Independence Quarry (095-0285) – This source is located within 20 km of Sibley. This source is a limestone quarry operation with total SO_2 emissions less than 5 tons per year. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions. The only SO_2 emitting unit at this facility is a diesel engine with a stack release that was modeled with parameters as reported to MoEIS.

- Courtney Ridge Landfill, LLC. (095-0267) – This source is located within 20 km of Sibley. This source is a landfill operation with total SO_2 emissions less than 1 ton per year. There are two SO_2 emitting units at this facility, both are 2,000 SCFM flares. The two flares are reported as fugitive releases so common volume source parameters for miscellaneous equipment were used. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions.

- APAC-Kansas LLC. Sugar Creek Plant (095-0048) – This source is located within 20 km of Sibley. This source is an asphalt operation with total SO_2 emissions less than 5 tons per year. The only SO_2 emitting unit at this facility is a generator with no release parameters. Common volume source parameters for a generator were used. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions.

- APAC-Kansas LLC. Sugar Creek Plant (095-0061) – This source is located within 20 km of Sibley. This source is an asphalt operation with total SO_2 emissions less than 5 tons per year. There are two SO_2 emitting units at this facility, a drum dryer and an asphalt heater. The drum dryer releases to a stack but the heater is a fugitive release so common volume source parameters for heaters was used. Due to the proximity of the source to Sibley, this source was included in the modeling inventory at actual reported SO_2 emissions.

- KCPL Hawthorn Station (095-0022) – This source is located within 50 km of Sibley, with emissions greater than 10 tpy; therefore it was included in the evaluation. This source includes one coal-fired boiler and three combustion turbines. This source was included in the interactive inventory and modeled at actual SO_2 emissions data from the CEMS located at this facility. The modeled years include the most recent three years (2013 – 2015). All modeled units at this facility have stack releases and were modeled with parameters as reported to MoEIS.

- Veolia Energy (095-0021) – This source is located within 50 km of Sibley, with emissions greater than 10 tpy; therefore it was included in the evaluation. This source includes two coal-fired boilers and two natural gas fired boilers. This source was included in the interactive inventory and modeled at 2014 actual SO_2 emissions data as reported to MoEIS. All modeled units at this facility have stack releases and were modeled with parameters as reported to MoEIS.

- BPU (Board of Public Utilities) Quindaro – This source is located in Kansas, within 50 km of Sibley, with emissions greater than 10 tpy; therefore was included in the evaluation. BPU Quindaro has two coal-fired boilers. This source was included in the interactive inventory and modeled at actual SO_2 emissions data from the CEMS located at this facility. The modeled years

include the most recent three years (2013 – 2015). Other lower emitting units were included at recent actual emissions. Stack release parameters were obtained from the Kansas Department of Health and Environment.

- BPU Nearman - This source is located in Kansas, within 50 km of Sibley, with emissions greater than 10 tpy; therefore was included in the evaluation. BPU Nearman has one coal-fired boiler. This source was included in the interactive inventory and modeled at actual SO_2 emissions data from the CEMS located at this facility. The modeled years include the most recent three years (2013 – 2015). Other lower emitting sources were included at recent actual emissions. Stack release parameters were obtained from the Kansas Department of Health and Environment.

Table 3 details the emission release parameters used for the three boilers at Sibley, and Table 4 shows an excerpt from the hourly combined emissions file for Sibley, Hawthorn, Nearman, and Quindaro.

Table 3 – Sibley Generating Station Emission Release Parameters

Facility I.D.	Facility Name	Site Name	Emission Point I.D.	Model ID	Description	Release Type
095-0031	KCP&L GMO	Sibley Generating Station	5A	SIB5A	Boiler #1	POINT
095-0031	KCP&L GMO	Sibley Generating Station	5B	SIB5B	Boiler #2	POINT
095-0031	KCP&L GMO	Sibley Generating Station	5C	SIB5C	Boiler #3	POINT

Easting	Northing	Base Elevation	Actual Stack Height	Stack Temperature	Stack Exit Velocity	Stack Diameter
Meters	*Meters*	*Meters*	*Meters*	*Kelvin*	*Meters/Second*	*Meters*
397714.92	4337276.49	221.89	212.14	Used hourly temperature values in lieu of static values (see Table 4)	Used hourly velocity values in lieu of static values (see Table 4)	4.1148
397714.92	4337276.49	221.89	212.14	Used hourly temperature values in lieu of static values (see Table 4)	Used hourly velocity values in lieu of static values (see Table 4)	4.1148
397714.92	4337276.49	221.89	212.14	Used hourly temperature values in lieu of static values (see Table 4)	Used hourly velocity values in lieu of static values (see Table 4)	4.1148

Table 4 – Excerpt from 2013-2015 Hourly Combined Emissions File

	Year	Month	Day	Hour	Unit ID	Emission Rate (g/s)	Exit Temperature (K)	Exit Velocity (m/s)
SO HOUREMIS	13	1	1	1	BPUN1	105.9889	424.82	13.41
SO HOUREMIS	13	1	1	1	BPUQ1	0	438.71	11.89
SO HOUREMIS	13	1	1	1	BPUQ2	43.22965	436.48	25.3
SO HOUREMIS	13	1	1	1	HAWTH6	40.53331	368.15	24.3545
SO HOUREMIS	13	1	1	1	SIB5A	0	396.2056	29.65399
SO HOUREMIS	13	1	1	1	SIB5B	0	396.2056	29.65399
SO HOUREMIS	13	1	1	1	SIB5C	140.3987	396.2056	29.65399
SO HOUREMIS	13	1	1	2	BPUN1	109.1388	424.82	13.41
SO HOUREMIS	13	1	1	2	BPUQ1	0	438.71	11.89
SO HOUREMIS	13	1	1	2	BPUQ2	43.28005	436.48	25.3
SO HOUREMIS	13	1	1	2	HAWTH6	68.45429	368.15	24.3545
SO HOUREMIS	13	1	1	2	SIB5A	0	393.0389	28.90418
SO HOUREMIS	13	1	1	2	SIB5B	0	393.0389	28.90418
SO HOUREMIS	13	1	1	2	SIB5C	140.8145	393.0389	28.90418

D.3 Meteorology and Topography

Meteorology and topography are interrelated as significant topographical features often cause localized meteorological effects. Due to this related nature, these two factors were evaluated together. Topography and surrounding land features can have a significant impact on the wind patterns and thus the dispersion of air pollutants from emission sources. There are no significant terrain features in the area around Sibley that would greatly impact dispersion, such as mountain ranges. However, the Missouri river valley does form the Northern/Northeastern boundary which could cause some localized meteorological effects. The surrounding terrain and meteorological effects were represented in Sibley's modeling analysis to best simulate monitoring of the area's ambient air quality. Since no significant terrain or meteorological features exist around Sibley, except the river valley which is used to set the northern/northeastern boundary, topography and meteorology were not used to set the remainder of the recommended area boundary.

D.4 Jurisdictional Boundaries

Attainment area boundaries are typically defined by easily identifiable features such as county, municipal, or township boundaries. Large, immovable features such as rivers or highways can also be used. As discussed previously, the modeling evaluation performed for Sibley resulted in no modeled violations of the 2010 1-hour SO_2 NAAQS. Therefore, the main considerations for an attainment area boundary are that it includes the Sibley Generating Station and be easily identifiable. The recommended boundaries for this area consist of highway and county boundary lines that qualify as both easily definable and

identifiable jurisdictional boundaries. The recommended attainment boundary is defined below and displayed in the map in Figure 4.

- The northern boundary is the county line separating Jackson County from Clay and Ray Counties.
- The eastern boundary is the county line separating Jackson County from Lafayette County.
- The southern boundary is Interstate 70 and 470.
- The western boundary is Missouri Highway 291.

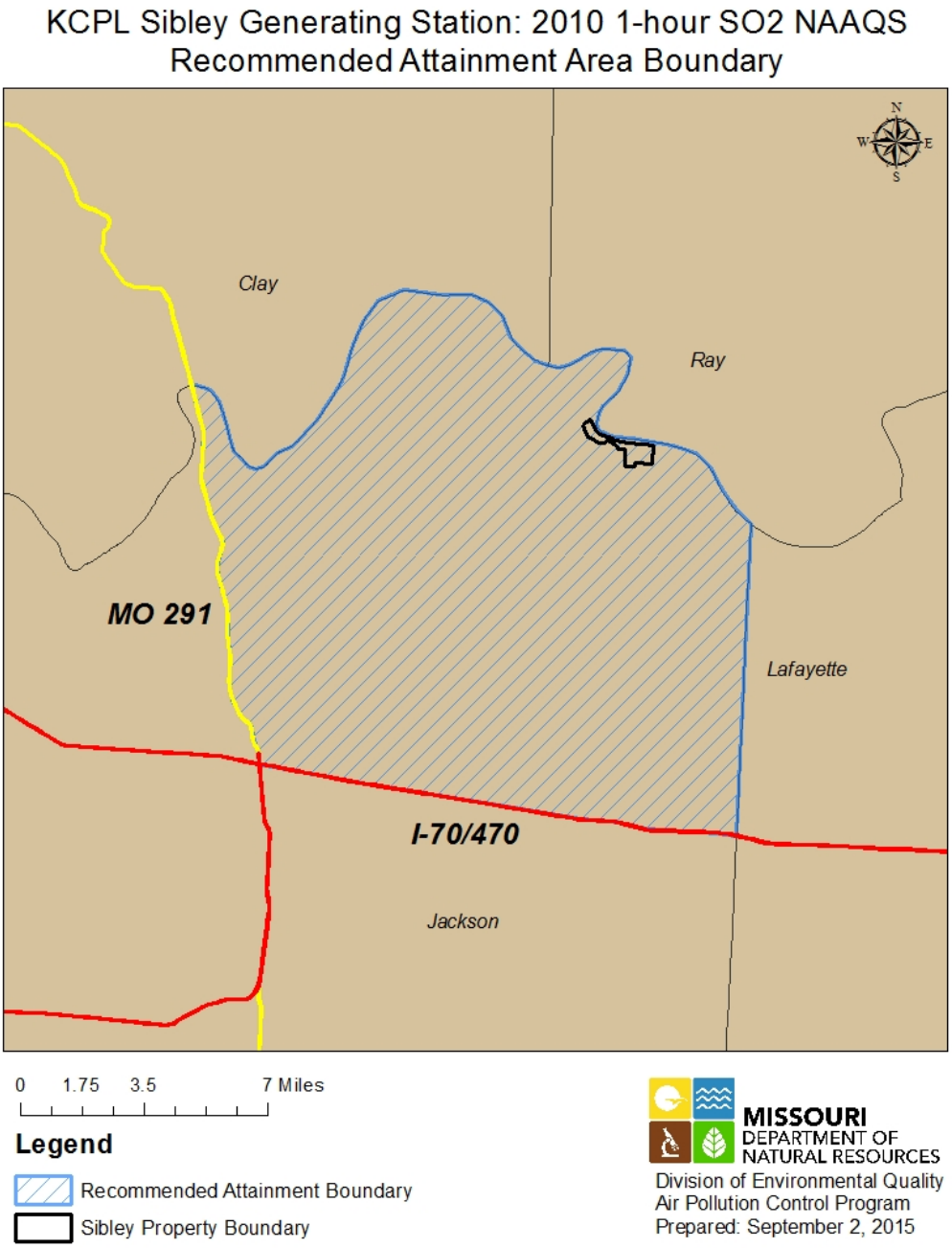

Figure 4 – Sibley Generating Station Recommended 2010 1-hour SO_2 NAAQS Attainment Area