

## Final Technical Support Document

### Final Action on Indiana Area Designations for the 2010 SO<sub>2</sub> Primary National Ambient Air Quality Standard

#### Summary

Pursuant to section 107(d) of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (the EPA, or the Agency) must designate areas as either “unclassifiable,” “attainment,” or “nonattainment” for the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (NAAQS). Section 107(d) of the CAA defines a nonattainment area as one that does not meet the NAAQS or that contributes to a NAAQS violation in a nearby area, an attainment area as any area other than a nonattainment area that meets the NAAQS, and an unclassifiable area as any area that cannot be classified on the basis of available information as meeting or not meeting the NAAQS.

July 2, 2016, is the deadline established by the U.S. District Court for the Northern District of California for the EPA to designate certain areas. This deadline is the first of three deadlines established by the court for the EPA to complete area designations for the 2010 SO<sub>2</sub> NAAQS. This deadline applies to five areas in Indiana because five emission sources meet the conditions for applicability of this deadline under the court’s order.

Indiana submitted updated recommendations on September 16, 2015. Table 1 below lists Indiana’s recommendations and identifies the county/counties in Indiana that the EPA is designating in order to meet the July 2, 2016 court-ordered deadline. These final designations are based on an assessment and characterization of air quality through ambient air quality data, air dispersion modeling, other evidence and supporting information, or a combination of the above.

**Table 1 – Indiana’s Recommended and the EPA’s Final Designations<sup>1</sup>**

Area	Indiana’s Recommendation	EPA’s Final Area Definition	EPA’s Final Designation
Gibson Co.	Full county attainment	Full county (Gibson County, IN)	Unclassifiable/attainment
Jefferson Co.	Full county attainment	Graham, Lancaster, Madison, Monroe, Republican, Shelby, and Smyrna Townships (Jefferson County, IN)	Unclassifiable/attainment

<sup>1</sup> In its February 16, 2016, letter to Indiana notifying the State of its intended designations, the EPA proposed different designations for two areas than are being promulgated. Specifically, the EPA proposed to designate the Jefferson County and the Posey County areas as nonattainment.

LaPorte Co.	Full county attainment	Full county (LaPorte County, IN)	Unclassifiable/attainment
Posey Co.	Full county attainment	Bethel, Center, Harmony, Lynn, Marrs, Robb, Robinson, and Smith Townships (Posey County, IN)	Unclassifiable/attainment
Spencer Co.	Full county attainment	Ohio Township north of UTM 4187.580 km northing, and Carter, Clay, Grass, Hammond, Harrison, and Jackson Townships (Spencer County, IN)	Unclassifiable/attainment

### Background

On June 3, 2010, the EPA revised the primary (health based) SO<sub>2</sub> NAAQS by establishing a new 1-hour standard, which is met at an ambient air quality monitoring site when the 3-year average of the 99th percentile of 1-hour daily maximum concentrations does not exceed 75 ppb. This NAAQS was published in the *Federal Register* on June 22, 2010 (75 FR 35520), and is codified at 40 CFR 50.17. The EPA determined this is the level necessary to protect public health with an adequate margin of safety, especially for children, the elderly, and those with asthma. These groups are particularly susceptible to the health effects associated with breathing SO<sub>2</sub>. The two prior primary standards of 140 ppb evaluated over 24 hours, and 30 ppb evaluated over an entire year, codified at 40 CFR 50.4, remain applicable.<sup>2</sup> However, the EPA is not currently designating areas on the basis of either of these two primary standards. Similarly, the secondary standard for SO<sub>2</sub>, set at 500 ppb evaluated over 3 hours, codified at 40 CFR 50.5, has not been revised, and the EPA is also not currently designating areas on the basis of the secondary standard.

### General Approach and Schedule

Section 107(d) of the CAA requires that not later than 1 year after promulgation of a new or revised NAAQS, state governors must submit their recommendations for designations and boundaries to the EPA. Section 107(d) also requires the EPA to provide notification to states no less than 120 days prior to promulgating an initial area designation that is a modification of a state's recommendation. If a state does not submit designation recommendations, the EPA may

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<sup>2</sup> 40 CFR 50.4(e) provides that the two prior primary NAAQS will no longer apply to an area 1 year after its designation under the 2010 NAAQS, except that for areas designated nonattainment under the prior NAAQS as of August 22, 2010, and areas not meeting the requirements of a SIP Call under the prior NAAQS, the prior NAAQS will apply until that area submits and EPA approves a SIP providing for attainment of the 2010 NAAQS. No areas in Indiana meet either of these criteria.

promulgate the designations that it deems appropriate without prior notification to the state, although it is our intention to provide such notification when possible. If a state or tribe disagrees with the EPA's intended designations, it is given an opportunity within the 120-day period to demonstrate why any proposed modification is inappropriate. The EPA is required to complete designations within 2 years after promulgation of a new or revised NAAQS, unless the EPA determines that sufficient information is not available, in which case the deadline is extended to 3 years. The 3-year deadline for the revised SO<sub>2</sub> NAAQS was June 2, 2013.

On August 5, 2013, the EPA published a final rule establishing air quality designations for 29 areas in the United States for the 2010 SO<sub>2</sub> NAAQS, based on recorded air quality monitoring data from 2009 - 2011 showing violations of the NAAQS (78 FR 47191). In that rulemaking, the EPA committed to address, in separate future actions, the designations for all other areas for which the Agency was not yet prepared to issue designations. The EPA designated portions of Daviess, Marion, Morgan, Pike, and Vigo Counties in Indiana as nonattainment in this initial set of designations.

Following the initial August 5, 2013, designations, three lawsuits were filed against the EPA in different U.S. District Courts, alleging the Agency had failed to perform a nondiscretionary duty under the CAA by not designating all portions of the country by the June 2, 2013, deadline. In an effort intended to resolve the litigation in one of those cases, plaintiffs Sierra Club and the Natural Resources Defense Council and the EPA filed a proposed consent decree with the U.S. District Court for the Northern District of California. On March 2, 2015, the court entered the consent decree and issued an enforceable order for the EPA to complete the area designations according to the court-ordered schedule.

According to the court-ordered schedule, the EPA must complete the remaining designations by three specific deadlines. By no later than July 2, 2016 (16 months from the court's order), the EPA must designate two groups of areas: (1) areas that have newly monitored violations of the 2010 SO<sub>2</sub> NAAQS and (2) areas that contain any stationary sources that had not been announced as of March 2, 2015, for retirement and that according to the EPA's Air Markets Database emitted in 2012 either (i) more than 16,000 tons of SO<sub>2</sub> or (ii) more than 2,600 tons of SO<sub>2</sub> with an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). Specifically, a stationary source with a coal-fired unit that as of January 1, 2010, had a capacity of over 5 megawatts and otherwise meets the emissions criteria, is excluded from the July 2, 2016, deadline if it had announced through a company public announcement, public utilities commission filing, consent decree, public legal settlement, final state or federal permit filing, or other similar means of communication, by March 2, 2015, that it will cease burning coal at that unit.

The last two deadlines for completing remaining designations are December 31, 2017, and December 31, 2020. The EPA has separately promulgated requirements for state and other air agencies to provide additional monitoring or modeling information on a timetable consistent with these designation deadlines. We expect this information to become available in time to help inform these subsequent designations. These requirements were promulgated on August 21, 2015 (80 FR 51052), in a rule known as the SO<sub>2</sub> Data Requirements Rule (DRR), codified at 40 CFR part 51 subpart BB.

Updated designations guidance was issued by the EPA through a March 20, 2015, memorandum from Stephen D. Page, Director, U.S. EPA, Office of Air Quality Planning and Standards, to Air Division Directors, U.S. EPA Regions 1-10. This memorandum supersedes earlier designation guidance for the 2010 SO<sub>2</sub> NAAQS, issued on March 24, 2011, and it identifies factors that the EPA intends to evaluate in determining whether areas are in violation of the 2010 SO<sub>2</sub> NAAQS. The guidance also contains the factors the EPA intends to evaluate in determining the boundaries for all remaining areas in the country, consistent with the court's order and schedule. These factors include: 1) Air quality characterization via ambient monitoring or dispersion modeling results; 2) Emissions-related data; 3) Meteorology; 4) Geography and topography; and 5) Jurisdictional boundaries. This guidance was supplemented by two non-binding technical assistance documents intended to assist states and other interested parties in their efforts to characterize air quality through air dispersion modeling or ambient air quality monitoring for sources that emit SO<sub>2</sub>. Notably, the EPA's documents titled, "SO<sub>2</sub> NAAQS Designations Modeling Technical Assistance Document" (Modeling TAD) and "SO<sub>2</sub> NAAQS Designations Source-Oriented Monitoring Technical Assistance Document" (Monitoring TAD), were available to states and other interested parties. Both of these TADs were most recently updated in February 2016.

Based on complete, quality assured and certified ambient air quality data collected between 2013 and 2015, no violations of the 2010 SO<sub>2</sub> NAAQS have been recorded at ambient air quality monitors in any undesignated part of Indiana. However, there are five sources in the state meeting the emissions criteria of the consent decree for which the EPA must complete designations by July 2, 2016. In this final technical support document, the EPA discusses its review and technical analysis of Indiana's updated recommendations for the areas that we must designate. The EPA also discusses final modifications from the State's recommendation based on all available data before us.

The following are definitions of important terms used in this document:

- 1) 2010 SO<sub>2</sub> NAAQS – the primary NAAQS for SO<sub>2</sub> promulgated in 2010. This NAAQS is 75 ppb, based on the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations. See 40 CFR 50.17.
- 2) Attaining monitor – an ambient air monitor meeting all methods, quality assurance, and siting criteria and requirements whose valid design value is less than or equal to 75 ppb, based on data analysis conducted in accordance with Appendix T of 40 CFR part 50.
- 3) Design Value – a statistic computed according to the data handling procedures of the NAAQS (in 40 CFR part 50 Appendix T) that, by comparison to the level of the NAAQS, indicates whether the area is violating the NAAQS.
- 4) Designated nonattainment area – an area which the EPA has determined has violated the 2010 SO<sub>2</sub> NAAQS or contributed to a violation in a nearby area. A nonattainment designation reflects considerations of the state's recommendations and all of the information discussed in this document. The EPA's decision is based on all available information including the most recent 3 years of air quality monitoring data, available modeling analyses, and any other relevant information.

- 5) Designated unclassifiable area – an area for which the EPA cannot determine based on all available information whether or not it meets the 2010 SO<sub>2</sub> NAAQS.
- 6) Designated unclassifiable/attainment area – an area which the EPA has determined to have sufficient evidence to find either is attaining or is likely to be attaining the NAAQS. The EPA’s decision is based on all available information including the most recent 3 years of air quality monitoring data, available modeling analyses, and any other relevant information.
- 7) Modeled violation – a violation based on air dispersion modeling.
- 8) Recommended attainment area – an area a state or tribe has recommended that the EPA designate as attainment.
- 9) Recommended nonattainment area – an area a state or tribe has recommended that the EPA designate as nonattainment.
- 10) Recommended unclassifiable area – an area a state or tribe has recommended that the EPA designate as unclassifiable.
- 11) Recommended unclassifiable/attainment area – an area a state or tribe has recommended that the EPA designate as unclassifiable/attainment.
- 12) Violating monitor – an ambient air monitor meeting all methods, quality assurance, and siting criteria and requirements whose valid design value exceeds 75 ppb, based on data analysis conducted in accordance with Appendix T of 40 CFR part 50.

## Technical Analysis for Gibson County

### Introduction

Gibson County, Indiana contains a stationary source that, according to the EPA's Air Markets Database, emitted in 2012 either more than 16,000 tons of SO<sub>2</sub> in 2012 or more than 2,600 tons of SO<sub>2</sub> and had an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Specifically, in 2012, the Gibson Generating Station ("Gibson") emitted 22,447 tons of SO<sub>2</sub> and had an emissions rate of 0.249 lbs SO<sub>2</sub>/MMBTU. Pursuant to the March 2, 2015, court-ordered schedule, the EPA must designate the area surrounding the facility by July 2, 2016.

In its September 16, 2015, submission, Indiana recommended that the area surrounding Gibson, specifically the entirety of Gibson County, be designated as attainment based on an assessment and characterization of air quality affected by the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO<sub>2</sub> are expected. This assessment and characterization relied on air quality monitoring data from current monitoring sites, supplemented by modeling information and data from historic monitoring sites which Indiana considered in concluding that the current monitoring sites address the sub-areas where maximum concentrations are expected, i.e. those portions of Gibson County that are most likely to be violating the SO<sub>2</sub> standard.

On February 16, 2016, the EPA notified Indiana that we intended to designate Gibson County as unclassifiable/attainment, based on our view that the area was meeting the NAAQS.

Additionally, we informed Indiana that our intended boundaries for this area consisted of the Gibson County boundaries, incorporating the entire county as the unclassifiable/attainment area. Our intended designation and associated boundaries were based on, among other things, monitoring data from sites measuring values meeting the standard, as well as modeling and other types of information such as historic monitoring at sites that were no longer operational. Detailed rationale, analyses, and other information supporting our intended designation for this area can be found in the technical support document for our intended Indiana designations; that document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.

The Gibson area is unique among the areas being addressed in this round of designations because of the unusually large extent of current and historical monitoring as well as modeling evidence available to inform the judgment regarding the appropriate designation. As just noted, the technical support document for the intended Indiana designations reviewed the information that was available at that time. The discussion that follows first reviews the new information that has become available since the EPA announced its intended designations. Then, based on this new information as well as the previously available information, the EPA reviews whether the existing air quality monitors represent air quality in the sub-areas that are expected to have maximum SO<sub>2</sub> concentrations in the area, which is critical for judging the reliability of these monitors for indicating whether the overall area is attaining the standard. Finally, the EPA uses all available information to evaluate the appropriate SO<sub>2</sub> designation for the Gibson area.

## Assessment of New Information

In our February 16, 2016, notification to Indiana regarding our intended unclassifiable/attainment designation for Gibson County, the EPA requested that any additional information that Indiana wished the Agency to consider prior to finalizing the designation should be submitted by April 19, 2016. Indiana submitted no correspondence in response to this solicitation and provided no additional information with respect to Gibson County other than its routine entry of more recent air quality monitoring data into the EPA's Air Information Retrieval System, which allows determination of 2013 to 2015 monitoring-derived design values and which the EPA considered in developing the final designation. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register*, inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563). Sierra Club provided comments and additional modeling in response to this proposal.

The EPA is explicitly incorporating and relying upon the analyses and information presented in that technical support document for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our response to comments document (RTC), available in the docket, supersede those found in the prior technical support document.

Detailed responses to Sierra Club's comments on the designation for Gibson County are provided in the RTC. Sierra Club submitted analyses which it asserts demonstrate that the currently operating monitors are not located to measure maximum ambient concentrations of SO<sub>2</sub> and are therefore insufficient to indicate whether the entire area is attaining the NAAQS. Sierra Club disagrees with the EPA's assertion that monitoring evidence and modeling evidence are in conflict as to whether the area is attaining, because in Sierra Club's view the monitoring evidence does not rebut the modeling evidence that violations are occurring at unmonitored receptors elsewhere. Sierra Club concludes that a proper weighing of evidence from modeling and from monitoring would lead to the conclusion that the area is violating the SO<sub>2</sub> standard, at least at the unmonitored receptors addressed in the modeling. As noted above, Sierra Club also provided additional modeling to support its position. This new modeling and additional 2015 monitoring information are reviewed below.

### *New Air Quality Data*

The technical support document for the intended Indiana designations shows design values for 2010 to 2012, 2011 to 2013, and 2012 to 2014 at the two area monitors that are continuing to operate, as well as design values from the more substantial historical monitoring network. Table 2 below additionally provides the 2013 to 2015 design values at the two current sites and repeats the 2012 to 2014 design values for comparison purposes.

Table 2. Recent monitoring-derived design values near Gibson

Site Name	Site ID	Design Value (ppb)	
		2012-2014	2013-2015

Mt. Carmel	17-185-0001	66	50
Coal Road	18-051-0002	72	67

The more recent design values are lower than the prior design values. Thus, the more recent monitoring data provide somewhat stronger evidence of the area attaining the standard than the prior monitoring data presented in the technical support document for our intended Indiana designations, not only at these two monitored sites but, as we explain later, in the area as a whole when considering the State’s modeling and the unusually broad scope of the historic monitoring network that once operated in this area.

*New Modeling Information*

The technical support document for the intended Indiana designations reviews modeling Indiana provided with its recommendations, which Indiana provided for the purpose of assessing the adequacy of the monitoring network for assessing maximum area SO<sub>2</sub> concentrations, and modeling that Sierra Club provided in September 2015, which Sierra Club provided for purposes of offering a direct assessment of area air quality. In its public comments on our intended designations for Indiana, Sierra Club provided additional modeling of the Gibson area, primarily to address concerns identified by Indiana regarding Sierra Club’s prior modeling. Sierra Club provided modeling both for the 2012 to 2014 period and for the 2013 to 2015 period. The following several sections review this new Sierra Club modeling.

*Modeling Parameter: Source Characterization*

Indiana had expressed concern that Sierra Club’s September 2015 modeling had used fixed temperatures and exit velocities. Sierra Club’s March 2016 modeling addresses these concerns by using hourly varying temperatures and exit velocities. Sierra Club obtained these data for 2012 to 2014 from the EPA’s Emissions Modeling Clearinghouse, and Sierra Club inferred values for these variables from heat input data reported to the CAMD database. The 2012 to 2014 data are similar to the data used by Indiana, and those data as well as the 2015 data from Sierra Club (for which there are no Indiana-provided data for comparison) appear reasonable.

Nevertheless, a remaining distinction between Sierra Club’s modeling and Indiana’s modeling is that Indiana considered building downwash and Sierra Club did not. The potential implications of this distinction are discussed below. Indiana’s modeling more accurately represents air quality in this respect.

*Modeling Parameter: Emissions*

In its September 2015 analysis, Sierra Club modeled 2012 to 2014 emissions for Gibson and for the IPL-Petersburg plant approximately 48 kilometers to the east. Indiana expressed concern that the impacts of the IPL-Petersburg plant in the Gibson area would be minimal and would already be included in the background concentration used in Sierra Club’s modeling. Sierra Club’s March 2016 analysis only models the Gibson facility. In addition, Sierra Club modeled both 2013 to 2015 emissions and 2012 to 2014 emissions. The emissions that Sierra Club modeled are

shown in Table 3. These emissions match the emissions that Gibson reported to the CAMD database.

Table 3: Actual SO<sub>2</sub> Emissions for 2012 – 2015 from Gibson

Facility Name	Actual SO <sub>2</sub> Emissions (tons per year)			
	2012	2013	2014	2015
Gibson	22,452	20,676	22,062	16,098

*Modeling Parameter: Background Concentrations*

Indiana expressed concern that Sierra Club’s September 2015 analyses used an inappropriate and overly conservative background concentration. Sierra Club’s March 2016 modeling used the same background concentrations--varying by hour and season of year--which Indiana determined to be appropriate for the area near A.B. Brown, which like Gibson is also in southwest Indiana. The EPA has determined that these values represent a reasonable assessment of background concentrations in the Gibson area as well.

*Summary of Modeling Inputs and Results*

Table 4 summarizes the modeling inputs used in this analysis.

Table 4: Sierra Club’s AERMOD Modeling Parameters for its March 2016 Analysis for the Gibson Area

Sierra Club’s Gibson Area Modeling Parameters	
AERMOD Version	15181
Dispersion Characteristics	Rural
Modeled Sources	1
Modeled Stacks	5
Modeled Structures	0
Modeled Fence lines	1
Total receptors	21,201
Emissions Type	Actual emissions
Emission Years	Run 1: 2012-2014 Run 2: 2013-2015
Meteorology Years	Same as Emission Years
Surface Meteorology Station	Evansville, Kentucky
Upper Air Meteorology Station	Lincoln, IL
Methodology for Calculating Background SO <sub>2</sub> Concentration	Variable Values, as determined by Indiana for Posey Co.
Calculated Background SO <sub>2</sub> Concentration	1 to 19.76 ppb (see Table 3 of TSD for intended designations)

Figure 1. Sierra Club's Model Estimates for the Gibson Area Based on 2012 to 2014 Actual Emissions

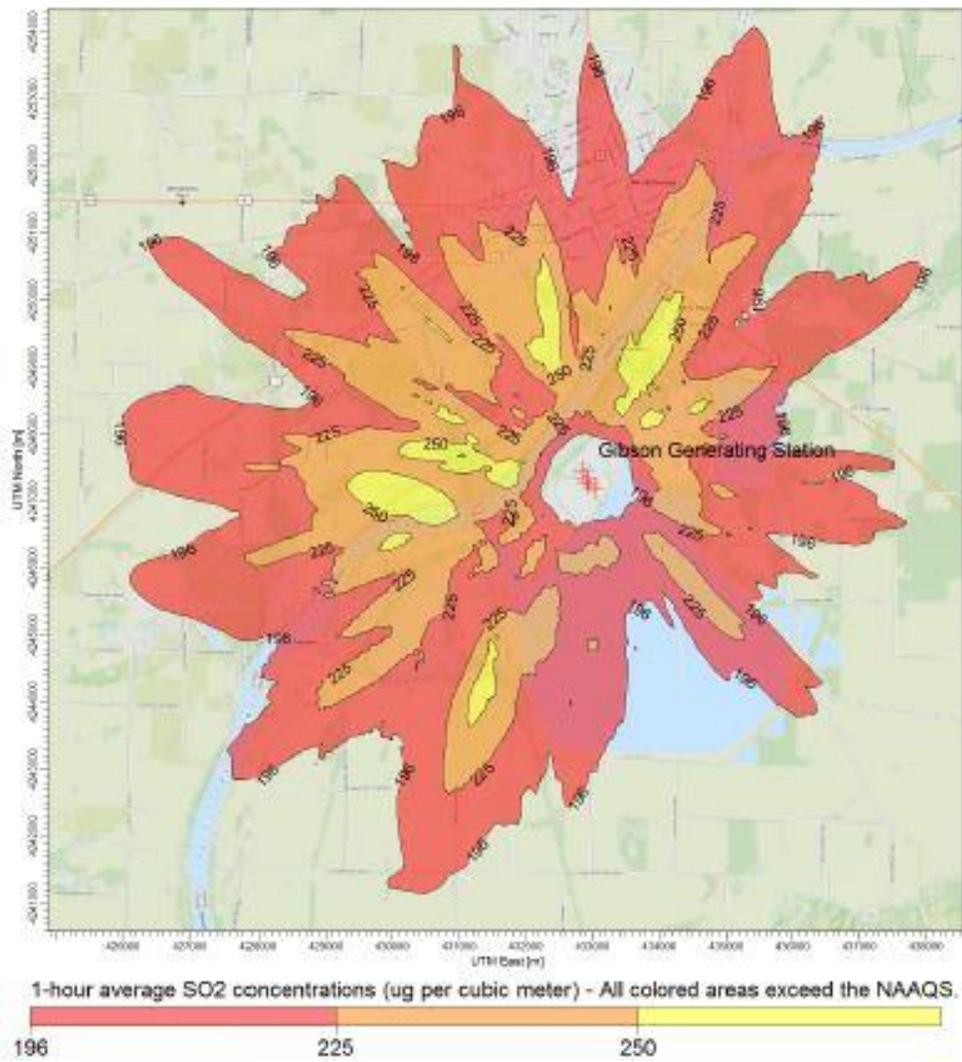
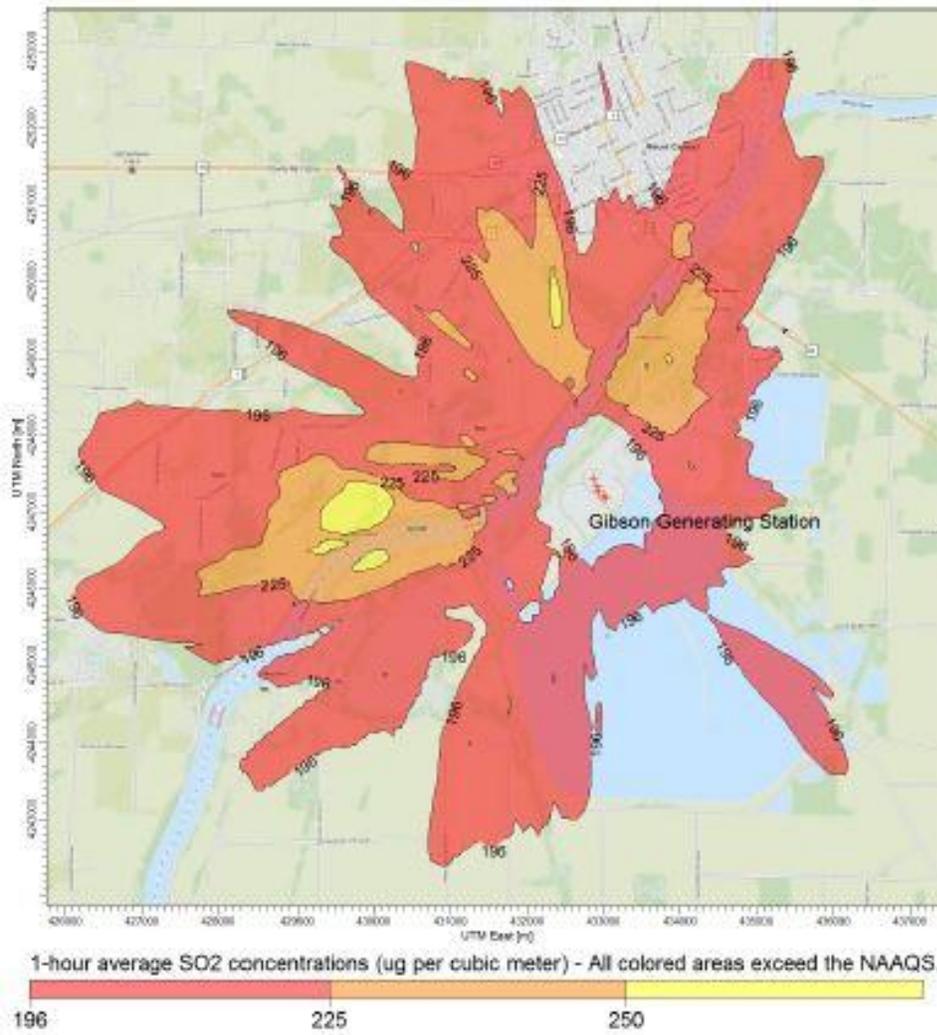
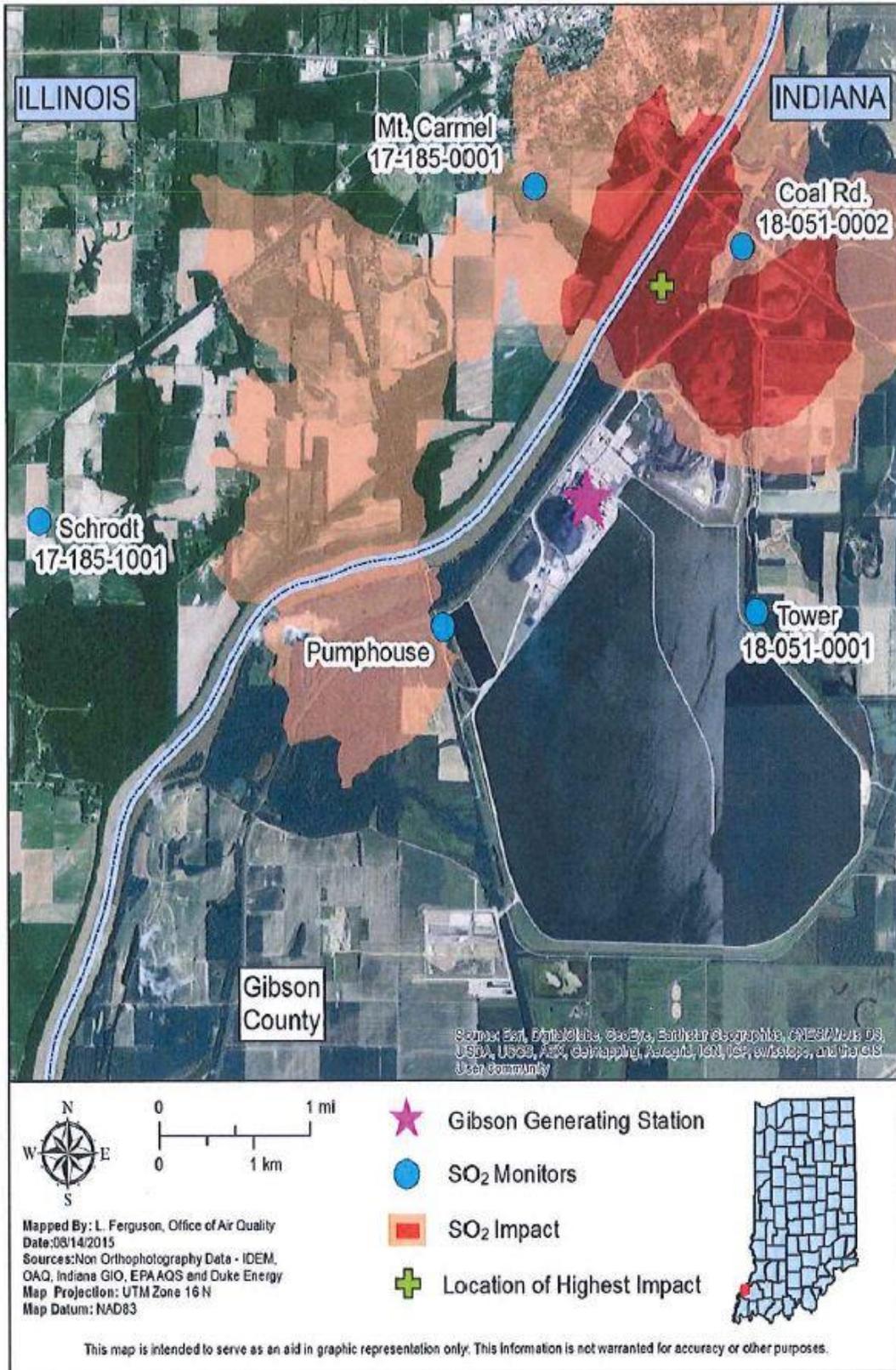


Figure 2. Sierra Club's Model Estimates for the Gibson Area Based on 2013 to 2015 Actual Emissions



For convenience, Indiana's modeling results, shown in the technical support document for the intended Indiana designations, are also shown here in Figure 3.

Figure 3. Results of Indiana Modeling to Estimate Distribution of Impacts from Gibson



As seen by comparing these three sets of modeling results, the results that Sierra Club obtained for 2012 to 2014 are quite similar to the results Sierra Club obtained for 2013 to 2015, showing a primary peak concentration about 3 kilometers to the west of Gibson and secondary peaks to the north and northeast of Gibson, although the run for 2012 to 2014 also shows a secondary peak south southwest of Gibson that does not appear in the 2013 to 2015 run. These two runs also show concentrations of similar magnitude. The results of these two runs show some similarities and some differences from the results obtained by Indiana. Like Sierra Club's runs, Indiana's results also show elevated concentrations to the north and northeast of Gibson, but Indiana's results do not show elevated concentrations west or south southwest of Gibson.

Neither Sierra Club nor Indiana attempt to explain the differences between the two sets of results obtained by Sierra Club and the results obtained by Indiana. However, the most significant difference in the model runs appears likely to be the consideration of building wake effects, i.e., downwash. Building wake effects can be highly dependent on wind direction, insofar as the wake effects can be a function of the relationship between the wind direction and the orientation of the building. Furthermore, the influence of these wake effects can be sufficient for areas with the greatest impacts of wake effects to have the maximum concentrations, so that consideration of building wake effects can significantly influence what area or areas are estimated to have the maximum concentrations. Put simply: building downwash can have a significant impact on where maximum concentration values might occur, and modeling such as Indiana's that considers building downwash provides a more credible assessment of the spatial distribution of Gibson's impacts than Sierra Club's modeling, which does not consider downwash. As further discussed below, this factor strongly influences the identification of the expected maximum concentration sub-areas, which consequently affects the determination of whether the design values for those sub-areas can be considered to represent attaining or not attaining levels for the entire area, compared to design values from properly sited monitors in this case.

Sierra Club also reported conducting a third run which did consider downwash. However, Sierra Club reported only the maximum concentration estimated in this run and did not report the spatial distribution of concentration estimates in this run. Thus, Sierra Club did not provide the information necessary for EPA to consider this run.

#### *Final Review of Monitoring Network*

This area uniquely has both an extensive set of current and historical monitoring and modeling data available to inform the EPA's designation of the area. In determining how to use this information, an important step is to evaluate whether the currently operating monitors are properly located to obtain measurements in the sub-area or sub-areas where maximum SO<sub>2</sub> concentrations in the entire area would be expected.

The technical support document for the proposed Indiana designations provides a review of several types of evidence for making this evaluation. As noted in that document, the Monitoring TAD recommends three methods for assessing expected locations for monitoring maximum SO<sub>2</sub> concentrations: 1) conducting modeling, 2) conducting exploratory monitoring, and 3) using existing emissions, monitoring, and modeling data. The prior technical support document

provides a review of information that was then available based on each of these three methods; this technical support document will only repeat the highlights of that review. The additional information regarding spatial variations in concentrations to be considered now is based on the additional modeling provided by Sierra Club.

The first method for assessing the degree to which monitors are sited in locations expected to measure maximum area SO<sub>2</sub> concentrations is modeling. The prior technical support document summarized the review of modeling results by stating, “These results indicate that the maximum concentrations can be expected generally northeast of Gibson, approximately 1.5 to 4 kilometers from Gibson, with a maximum concentration estimated to occur approximately 2 kilometers from the plant. The two currently operating monitors are approximately 3 km from the plant in the directions that are most likely to observe maximum impacts from the plant. Thus, this modeling suggests that the monitors are reasonably well-sited to monitor maximum concentrations in the area.”

The additional modeling from Sierra Club provides additional evidence that some of the maximum concentrations in the area would be expected 1 to 4 kilometers north as well as north northeast of Gibson, perhaps especially 2 to 3 kilometers in those directions from the plant. These results reinforce the view that the two currently operating monitors in this area are located, with respect to both distance and direction, to provide measurements in sub-areas where the EPA expects maximum concentrations for the entire area to occur. Sierra Club’s additional modeling also indicates that an unmonitored area to the west of Gibson, and perhaps also an unmonitored area south southwest of Gibson, might also be sub-areas where maximum concentrations might be expected to occur. However, these results are contrary to the results of modeling provided by Indiana, which does not indicate elevated concentrations in these unmonitored areas. As discussed above, Indiana’s modeling provides a more reliable assessment of the likely spatial distribution of impacts from Gibson, because Indiana’s modeling considers a factor not considered in Sierra Club’s modeling—building downwash—which, as explained above, can significantly influence the expected location of the area of maximum concentration. Therefore, it is the EPA’s view that the available modeling evidence indicates that the maximum concentrations in the area would be expected in sub-areas 2 to 3 kilometers to the north and north northeast of Gibson, with lower concentrations expected in other directions and distances from the plant.

This view of maximum concentration location is supported by information we previously considered in developing our proposed designation. The technical support document for the proposed Indiana designations also evaluates exploratory monitoring as well as other historic monitoring evidence as to the likely location of maximum concentrations in the area. That document provides data from multiple monitors, including three monitors which are not currently operating. Most relevant is the monitor identified as Schrod, located approximately 5.5 kilometers west of Gibson. This monitor generally measured design values significantly lower (by about 30 percent) than the Coal Road monitor north northeast of the plant located in the expected sub-area of maximum concentration. This monitor was located somewhat farther west but nevertheless in the same direction as the western receptors in Sierra Club’s modeling

showing maximum concentrations, providing evidence that maximum concentrations are not expected to be found west of Gibson.

Similarly, the technical support document for the proposed Indiana designations describes historical monitoring data at a site known as Pumphouse, located south southwest of Gibson. Sierra Club's modeling for 2012 to 2014 included a site of secondary peak concentrations south southwest of Gibson. Monitoring data from the Pumphouse site, albeit from only about a 1-year period, also indicate concentrations lower (about 15 percent lower for a comparable period) than those monitored north and north northeast of the plant, and corroborate the conclusion that the most likely locations of maximum impacts of Gibson, in the entire area, are in the areas about 2 to 3 kilometers north and north northeast of the plant.

The technical support document for the intended Indiana designations also provides a review of windrose information. The windrose for the area shows a predominant wind direction from the south to southwest toward the north and northeast, further indicating a likelihood that maximum impacts would be north to northeast of the plant.

Thus, the Gibson area has an extensive set of evidence, notably including a long history with a substantial monitoring network as well as modeling and other evidence, for determining where maximum concentrations in the area can be expected. The EPA finds that an evaluation of this evidence, including both current and historical information, confirms that the current monitors are representative of the areas of maximum concentrations. This evidence further supports the view that the monitors' measurements represent concentrations not just at the precise locations of the monitors but rather represent concentrations throughout broader sub-areas where maximum concentrations in the Gibson area are expected. Insofar as lower concentrations are expected elsewhere in the Gibson area, the data from these monitors are indicative of whether violations are occurring anywhere in the Gibson area. Therefore the monitoring data can be relied upon to provide the primary evidence on which to determine the area's attainment status.

In summary, the available evidence suggests that the maximum SO<sub>2</sub> concentrations in the Gibson area can be expected to be found in the sub-areas about 2 to 3 kilometers north and north northeast of the plant. While Sierra Club's modeling suggests that elevated concentrations may also occur to the west and perhaps also to the south southwest of the plant, modeling results that are more credible because they appropriately incorporate downwash effects and historic monitoring at sites directionally aligned with those modeled locations indicate that concentrations in those sub-areas can be expected to be lower than the concentrations in the currently monitored sub-areas to the north and north northeast of the plant.

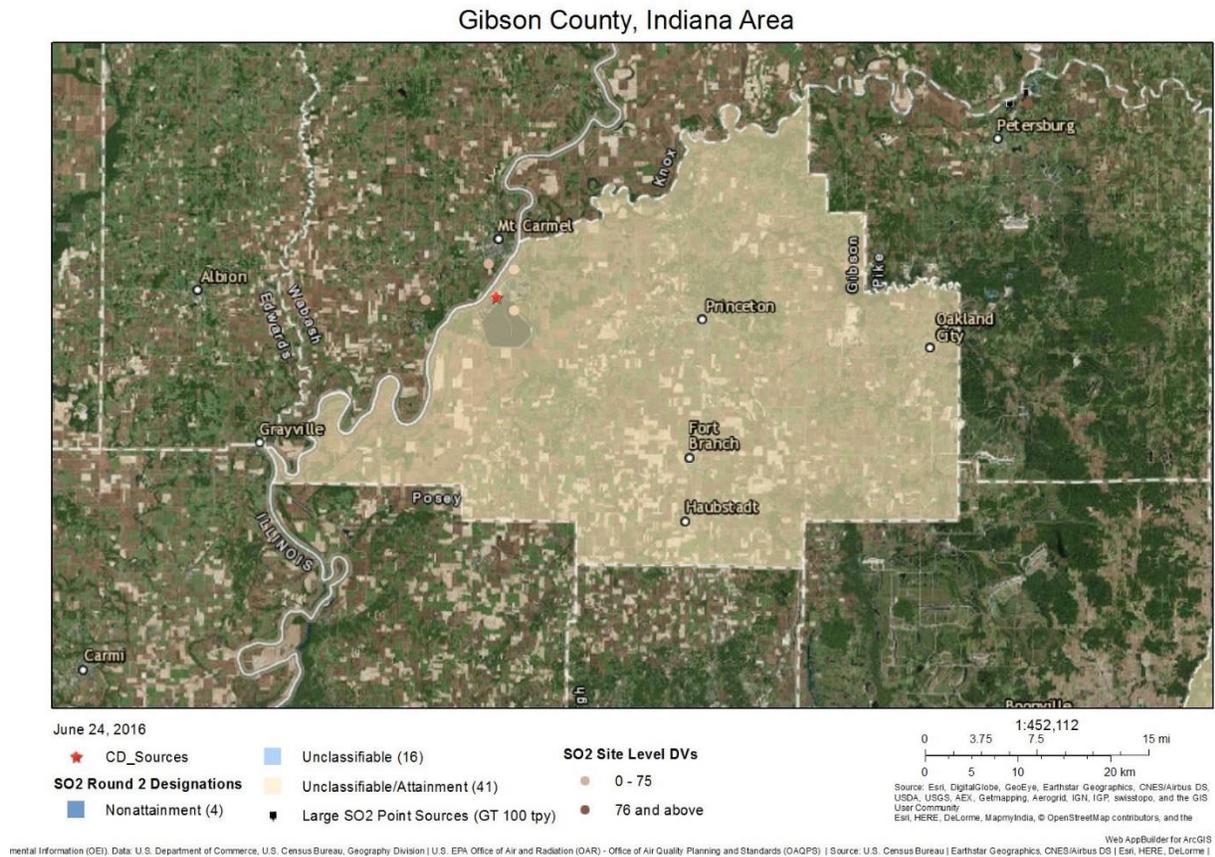
#### Review of the Designation for the Gibson Area

As noted above, the Gibson area has a unique wealth of unusually voluminous information available for judging whether the area is attaining the SO<sub>2</sub> standard. Modeling evidence suggests that this area is violating the standard. However, monitoring evidence at the sub-areas of expected maximum concentrations suggests that this area is attaining the standard, and that concentrations are decreasing.

In the Gibson area, a considerable historical monitoring record, the best available modeling information, and other information indicate that the two current monitors in the area are operating where the EPA expects that the sub-areas of maximum concentrations are located. That is, based on the EPA’s review of available modeling and monitoring evidence as to the spatial distribution of SO<sub>2</sub> concentrations in the area, SO<sub>2</sub> design values at other locations in the Gibson area are expected to be lower than those found in the sub-areas where the two monitors are located. These two currently operating monitors both indicate attainment of the SO<sub>2</sub> standard. The EPA finds that the two monitors are the best indicators of air quality in those sub-areas and that attainment in these sub-areas suggests that the entire area around Gibson is attaining the SO<sub>2</sub> standard. Therefore, the EPA is designating the Gibson area as unclassifiable/attainment for the SO<sub>2</sub> standard.

As discussed in the technical support document for the intended Indiana designations, no significant emitters of SO<sub>2</sub> other than Gibson are located in or in the immediate vicinity of Gibson County. Thus, attainment in the maximum concentration sub-areas near the plant supports the conclusion that the entire county is attaining the standard. The county boundaries provide a suitable, well defined set of boundaries with which to define this designation area. Thus, the EPA is designating the entirety of Gibson County as unclassifiable/attainment. Figure 4 shows the area that the EPA is designating.

Figure 4: EPA’s Final Unclassifiable/Attainment Area: Gibson County



At this time, our final designations for the state only apply to this area and the others addressed in this final technical support document. Consistent with the court-ordered schedule, the EPA will evaluate and designate all remaining undesignated areas in Indiana by either December 31, 2017, or December 31, 2020.

## Technical Analysis for Jefferson County

### Introduction

The Jefferson County, Indiana area contains a stationary source that according to the EPA's Air Markets Database emitted in 2012 either more than 16,000 tons of SO<sub>2</sub> or more than 2,600 tons of SO<sub>2</sub> and had an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). Specifically, in 2012, the Clifty Creek electric generating facility ("Clifty Creek") emitted 52,839 tons of SO<sub>2</sub> and had an emissions rate of 1.767 lbs SO<sub>2</sub>/MMBTU. As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Pursuant to the March 2, 2015 court-ordered schedule, the EPA must designate the area surrounding this facility by July 2, 2016.

In its submission, Indiana recommended that the area surrounding Clifty Creek, specifically the entirety of Jefferson County, be designated as attainment based on an assessment and characterization of air quality from the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO<sub>2</sub> are expected. This assessment and characterization was performed using air dispersion modeling software, specifically using AERMOD, analyzing actual emissions.

On February 16, 2016, the EPA notified Indiana that we intended to designate a portion of Jefferson County, Indiana, as nonattainment, based on our view that the area was not meeting the NAAQS. Although Indiana had adopted limits on the emissions from Clifty Creek that the state had demonstrated would suffice to provide for attainment of the SO<sub>2</sub> NAAQS, these limits were not federally enforceable at the time, and available evidence indicated that the area was violating the NAAQS in absence of those limits. However, the EPA further indicated its expectation that if it approved these limits into the SIP before taking final action on the designation for the Jefferson County, Indiana area, the EPA would designate the area unclassifiable/attainment. Additionally, while we expressed an intent in the absence of the emission limits becoming federally enforceable to designate an area consisting of Madison Township in Jefferson County as nonattainment, we also informed Indiana that we expected in the case that the emission limits became federally enforceable that we would designate an unclassifiable/attainment area consisting of Graham, Lancaster, Madison, Monroe, Republican, Shelby, and Smyrna Townships in Jefferson County. Our views on the appropriate designation and associated boundaries with and without the emission limits becoming federally enforceable were based on, among other things, air dispersion modeling provided by Indiana, which first modeled actual emissions from Clifty Creek and then modeled allowable emissions from Clifty Creek according to the limits established by a Commissioner's Order that Indiana issued on February 1, 2016, with a compliance date of April 19, 2016.

Subsequent to the EPA's February 16, 2016 "120-day letter" to Indiana, the EPA has completed rulemaking on the emission limits that Indiana adopted for Clifty Creek. The EPA approved Indiana's Commissioner's Order for Clifty Creek (simultaneous with rulemaking on an analogous Commissioner's Order for A.B. Brown) in a final rule published on May 6, 2016, at 81 FR 27330, following publication of a proposed rule on February 25, 2016, at 81 FR 9395. By this action, the emission limits for Clifty Creek established in Indiana's Commissioner's Order

(as well as the limits in the analogous Commissioner's Order for A.B. Brown) became federally enforceable with adequate time for the EPA to consider the effect of these limits.

Since these limits, now federally enforceable, provide for attainment of the Jefferson County, Indiana area, Indiana has justified designating this area as unclassifiable/attainment. Detailed rationale, analyses, and other information supporting our designation for this area can be found in the technical support document for the intended Indiana designations, and this document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.

### Assessment and Conclusion

In our February 16, 2016 notification to Indiana regarding our intended and expected designation for the Jefferson County, Indiana area, the EPA requested that any additional information that the Agency should consider prior to finalizing the designation should be submitted by April 19, 2016. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register*, inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563).

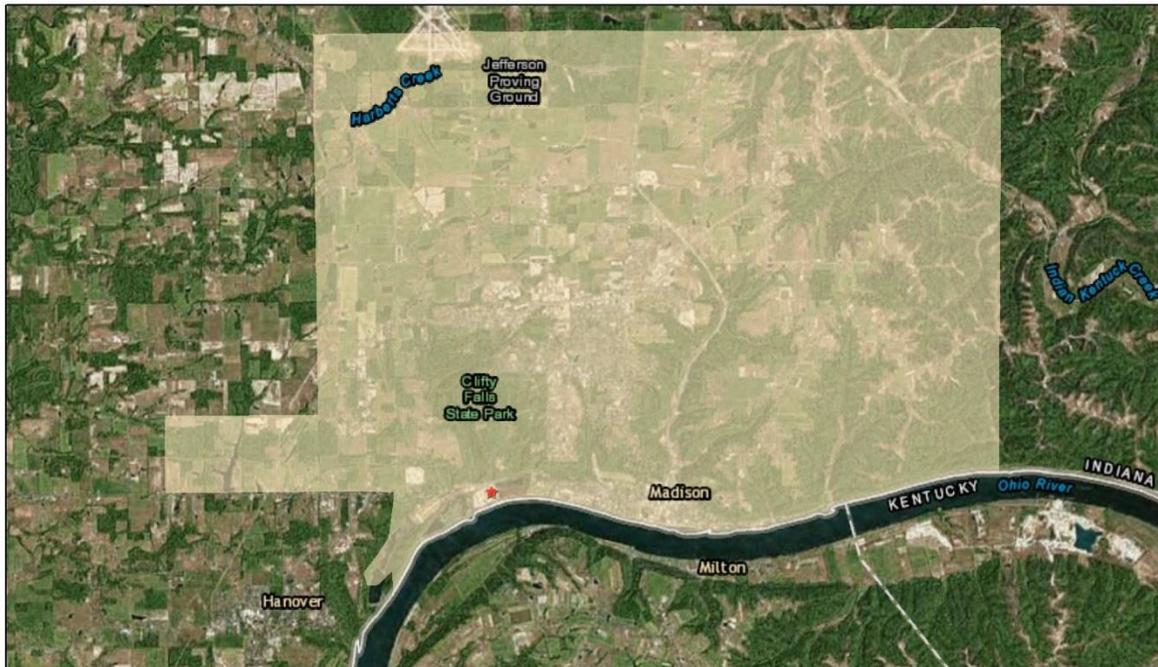
The EPA is explicitly incorporating and relying upon the analyses and information presented in the technical support document for our intended Indiana designations for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our RTC, available in the docket, supersede those found in the prior technical support document.

Subsequent to our February 16, 2016 notification, the EPA did not receive any additional information from Indiana, nor did we receive any public comments specifically addressing our proposed designation for the Jefferson County, Indiana area. Some commenters urged the EPA to review carefully Indiana's air quality modeling; the EPA has conducted this review and continues to believe that Indiana's modeling, as described in the technical support document for the intended Indiana designations, suitably justifies designating portions of Jefferson County as unclassifiable/attainment.

Therefore, based on the information available to the EPA at this time including the analyses performed for the purposes of the technical support document for the intended Indiana designations and including the EPA's May 6, 2016 published action approving the Indiana Commissioner's Order containing the Clifty Creek SO<sub>2</sub> limits necessary to provide for attainment (81 FR 27330, effective June 6, 2016), and in the absence of any new information that would otherwise lead to a different conclusion regarding air quality in the area or any new information that would otherwise lead to a different conclusion regarding the area boundaries, the EPA determines that the Jefferson County, Indiana, area is meeting the NAAQS, and therefore is designating the area as unclassifiable/attainment for the 2010 SO<sub>2</sub> NAAQS. The boundaries for this unclassifiable/attainment area consist of Graham, Lancaster, Madison, Monroe, Republican, Shelby, and Smyrna Townships in Jefferson County, and are shown in the figure below.

Figure 5: EPA's Final Unclassifiable/Attainment Area: Jefferson County

### Jefferson County, Indiana Area



June 24, 2016

★ CD\_Sources

**SO2 Round 2 Designations**

■ Nonattainment (4)

■ Unclassifiable (16)

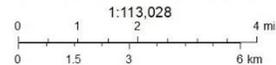
■ Unclassifiable/Attainment (41)

■ Large SO2 Point Sources (GT 100 tpy)

**SO2 Site Level DVs**

● 0 - 75

● 76 and above



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the

Web AppBuilder for ArcGIS

mental Information (OE). Data: U.S. Department of Commerce, U.S. Census Bureau, Geography Division | U.S. EPA Office of Air and Radiation (OAR) - Office of Air Quality Planning and Standards (OAQPS) | Source: U.S. Census Bureau | Earthstar Geographics, CNES/Airbus DS | Esri, HERE, DeLorme |

At this time, our final designations for the State only apply to this area and the others addressed in this final technical support document. Consistent with the court-ordered schedule, the EPA will evaluate and designate all remaining undesignated areas in Indiana by either December 31, 2017, or December 31, 2020.

## Technical Analysis for LaPorte County

### Introduction

The LaPorte County, Indiana area contains a stationary source that according to the EPA's Air Markets Database emitted in 2012 either more than 16,000 tons of SO<sub>2</sub> or more than 2,600 tons of SO<sub>2</sub> and had an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). Specifically, in 2012, the Michigan City electric generating facility ("Michigan City Station") emitted 11,584 tons of SO<sub>2</sub> and had an emissions rate of 1.006 lbs SO<sub>2</sub>/MMBTU. As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Pursuant to the March 2, 2015 court-ordered schedule, the EPA must designate the area surrounding this facility by July 2, 2016.

In its submission, Indiana recommended that the area surrounding Michigan City Station, specifically the entirety of LaPorte County, be designated as attainment based on an assessment and characterization of air quality from the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO<sub>2</sub> are expected. This assessment and characterization was performed using air dispersion modeling software, specifically using AERMOD, analyzing actual emissions.

On February 16, 2016, the EPA notified Indiana that we intended to designate the LaPorte County, Indiana area as unclassifiable/attainment, based on our view that the area was meeting the NAAQS. Additionally, we informed Indiana that our intended boundaries for the unclassifiable/attainment area consisted of the entirety of LaPorte County. Our intended designation and associated boundaries were based on, among other things, air dispersion modeling provided by Indiana, which demonstrates, even with consideration of the impacts of relatively nearby sources, that the area near Michigan City Station is attaining the SO<sub>2</sub> standard. Detailed rationale, analyses, and other information supporting our intended designation for this area can be found in the technical support document for the intended Indiana designations, and this document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.

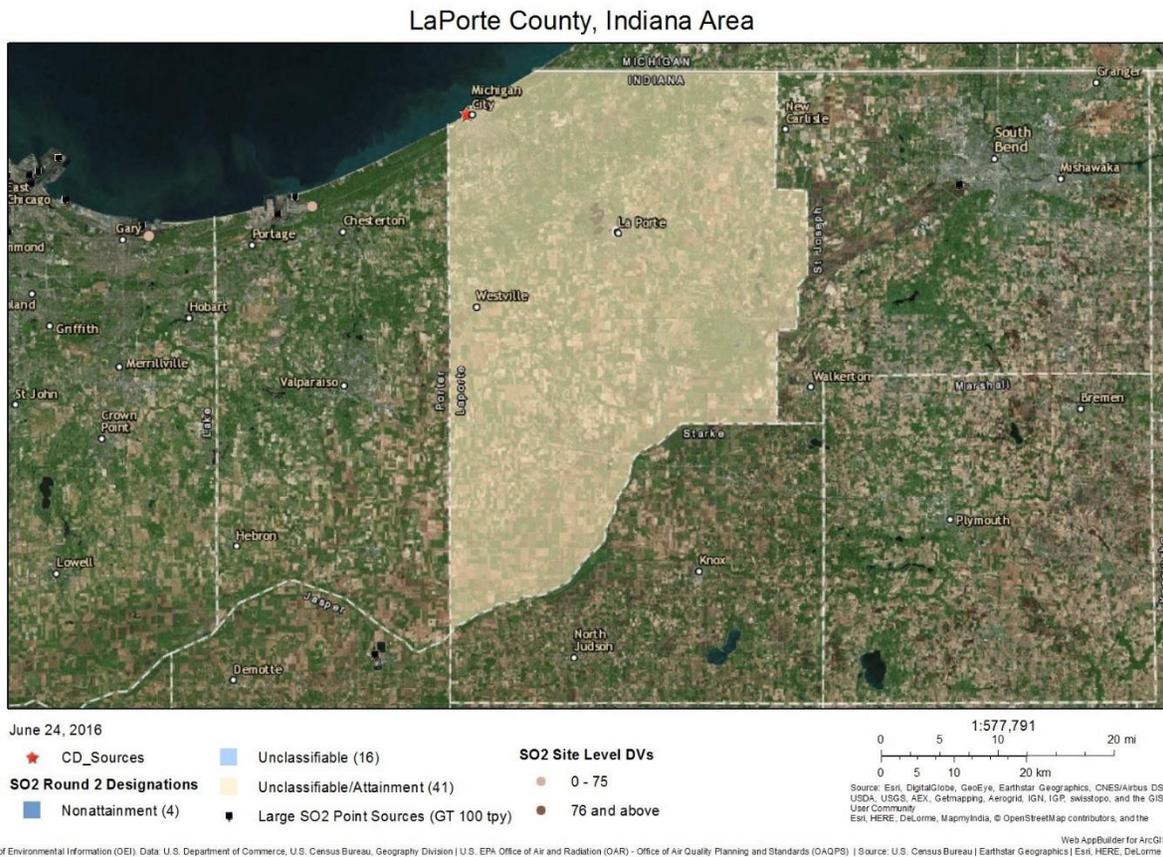
### Assessment and Conclusion

In our February 16, 2016, notification to Indiana regarding our intended unclassifiable/attainment designation for the LaPorte County, Indiana, area, the EPA requested that any additional information that the Agency should consider prior to finalizing the designation should be submitted by April 19, 2016. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register*, inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563). The EPA is explicitly incorporating and relying upon the analyses and information presented in the technical support document for our intended Indiana designations for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our RTC, available in the docket, supersede those found in the prior technical support document.

Subsequent to our February 16, 2016 notification, the EPA did not receive any additional information from Indiana, nor did we receive any public comments specifically addressing our intended unclassifiable/attainment designation for the LaPorte County, Indiana, area. Some commenters urged the EPA to review carefully Indiana’s air quality modeling; the EPA has conducted this review and continues to believe that Indiana’s modeling, as described in the technical support document for the intended designations, suitably justifies designating LaPorte County as unclassifiable/attainment.

Therefore, based on the information available to the EPA at this time, including the analyses performed for the purposes of the technical support document for the intended Indiana designations and in the absence of any new information that would otherwise lead to a different conclusion regarding air quality in the area or any new information that would otherwise lead to a different conclusion regarding the area boundaries, the EPA determines that the LaPorte County, Indiana, area is meeting the NAAQS, and therefore is designating the area as unclassifiable/attainment for the 2010 SO<sub>2</sub> NAAQS. The boundaries for this unclassifiable/attainment area consist of the entirety of LaPorte County, and are shown in the figure below.

Figure 6: EPA’s Final Unclassifiable/Attainment Area: LaPorte County, Indiana



At this time, our final designations for the State only apply to this area and the others addressed in this final technical support document. Consistent with the court-ordered schedule, the EPA

will evaluate and designate all remaining undesignated areas in Indiana by either December 31, 2017, or December 31, 2020.

## Technical Analysis for Posey County

### Introduction

The Posey County, Indiana, area contains a stationary source that, according to the EPA's Air Markets Database, emitted in 2012 either more than 16,000 tons of SO<sub>2</sub> or more than 2,600 tons of SO<sub>2</sub> and had an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). Specifically, in 2012, the A. B. Brown electric generating facility ("A.B. Brown") emitted 7,091 tons of SO<sub>2</sub> and had an emissions rate of 0.521 lbs SO<sub>2</sub>/MMBTU. As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Pursuant to the March 2, 2015 court-ordered schedule, the EPA must designate the area surrounding this facility by July 2, 2016.

In its submission, Indiana recommended that the area surrounding A. B. Brown, specifically the entirety of Posey County, be designated as attainment based on an assessment and characterization of air quality from the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO<sub>2</sub> are expected. This assessment and characterization was performed using air dispersion modeling software, specifically using AERMOD.

On February 16, 2016, the EPA notified Indiana that we intended to designate a portion of Posey County, Indiana as nonattainment, based on our view that the area was not meeting the NAAQS. Although Indiana had adopted limits on the emissions from A. B. Brown that the state had demonstrated would suffice to provide for attainment of the SO<sub>2</sub> NAAQS, these limits were not federally enforceable at the time, and available evidence indicated that the area was violating the NAAQS in absence of those limits. However, the EPA further indicated its expectation that if it approved these limits into the SIP before taking final action on the designation for the Posey County, Indiana, area, the EPA would designate the area unclassifiable/attainment. Additionally, while we expressed an intent in the absence of the emissions limits becoming federally enforceable to designate an area consisting of Marris Township in Posey County as nonattainment, we also informed Indiana that we expected in the case that the emission limits became federally enforceable that we would designate an unclassifiable/attainment area consisting of Bethel, Center, Harmony, Lynn, Marris, Robb, Robinson, and Smith Townships in Posey County. Our views on the appropriate designation and associated boundaries with and without the emission limits becoming federally enforceable were based on, among other things, air dispersion modeling submittals provided by Indiana, in which Indiana stated that modeling using A. B. Browns actual emissions indicated a violation of the SO<sub>2</sub> standard, but modeling using the allowable emissions from A. B. Brown according to the limits established by a Commissioner's Order that Indiana issued on January 11, 2016, with a compliance date of April 19, 2016, indicated that the area would attain the standard.

Subsequent to the EPA's February 16, 2016 "120-day letter" to Indiana, the EPA has completed rulemaking on the emission limits that Indiana adopted for A. B. Brown. The EPA approved Indiana's Commissioner's Order for A. B. Brown (simultaneous with rulemaking on an analogous Commissioner's Order for Clifty Creek) in a final rule published on May 6, 2016, at 81 FR 27330, following publication of a proposed rule on February 25, 2016, at 81 FR 9395. By

this action, the emission limits for A. B. Brown established in Indiana's Commissioner's Order (as well as the limits in the analogous Commissioner's Order for Clifty Creek) became federally enforceable with adequate time for the EPA to consider the effect of these limits.

Since these limits, now federally enforceable, provide for attainment of the Posey County, Indiana area, Indiana has justified determining that the area is meeting the NAAQS and designating this area as unclassifiable/attainment. Detailed rationale, analyses, and other information supporting our designation for this area can be found in the technical support document for the intended designations for Indiana, and this document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.

### Assessment of New Information

In our February 16, 2016, notification to Indiana regarding our intended and expected designation for the Posey County, Indiana area, the EPA requested that any additional information that the Agency should consider prior to finalizing the designation should be submitted by April 19, 2016. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register*, inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563).

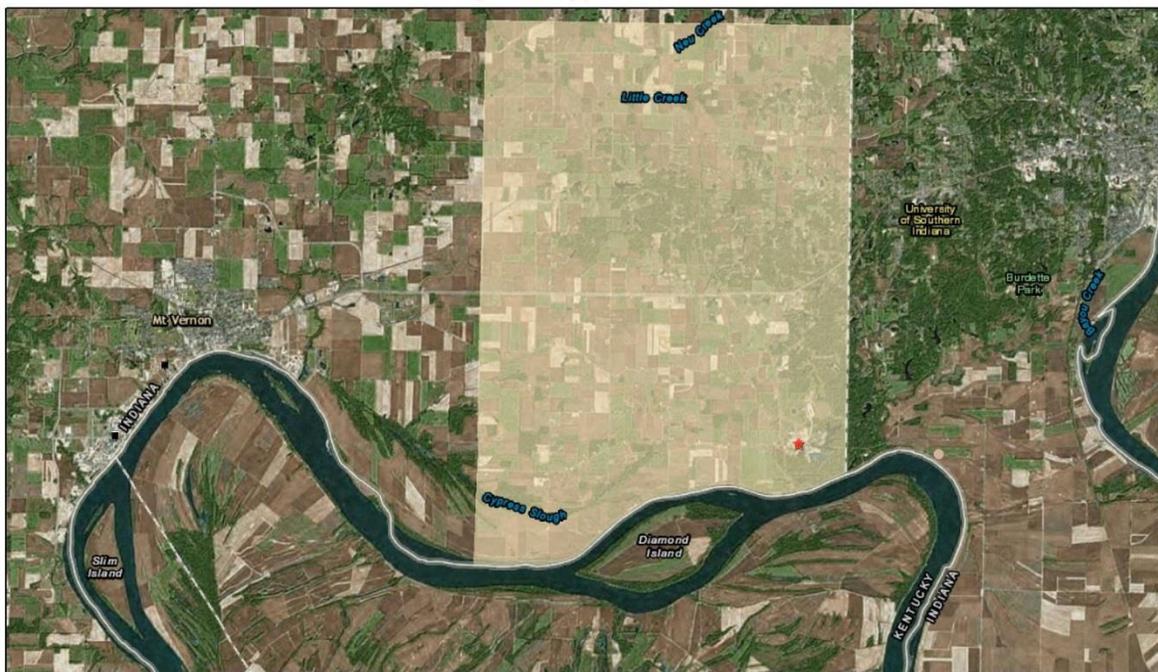
The EPA is explicitly incorporating and relying upon the analyses and information presented in the technical support document for our intended Indiana designations for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our RTC, available in the docket, supersede those found in the prior technical support document.

Subsequent to our February 16, 2016, notification, the EPA received substantive comments from Sierra Club regarding our expected unclassifiable/attainment designation for the Posey County, Indiana area. Other commenters, while not commenting specifically on the intended or expected designation for the Posey County, Indiana, area, provided general comments urging the EPA to review carefully Indiana's air quality modeling; the EPA has conducted this review and continues to find that Indiana's modeling, as described in the technical support document for the intended Indiana designations, suitably justifies designating portions of Posey County as unclassifiable/attainment.

After carefully considering all available data and information, including the EPA's May 6, 2016, published action approving an Indiana Commissioner's Order containing the A. B. Brown SO<sub>2</sub> limits necessary to provide for attainment (81 FR 27330, effective June 6, 2016), the EPA determines that the Posey County, Indiana area is meeting the NAAQS and is designating the area as unclassifiable/attainment for the 2010 SO<sub>2</sub> NAAQS. The boundaries for this unclassifiable/attainment area consist of Bethel, Center, Harmony, Lynn, Marrs, Robb, Robinson, and Smith Townships in Posey County, and are shown in the figure below.

Figure 7: EPA's Final Unclassifiable/Attainment Area: Posey County, Indiana

### Posey County, Indiana Area



June 24, 2016

★ CD\_Sources

SO2 Round 2 Designations

■ Nonattainment (4)

■ Unclassifiable (16)

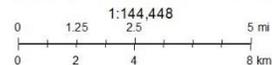
■ Unclassifiable/Attainment (41)

■ Large SO2 Point Sources (GT 100 tpy)

SO2 Site Level DVs

● 0 - 75

● 76 and above



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGC, swisstopo, and the GIS User Community

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the  
 Web AppBuilder for ArcGIS

mental Information (OE). Data: U.S. Department of Commerce, U.S. Census Bureau, Geography Division | U.S. EPA Office of Air and Radiation (OAR) - Office of Air Quality Planning and Standards (OAQPS) | Source: U.S. Census Bureau | Earthstar Geographics, CNES/Airbus DS | Esri, HERE, DeLorme |

At this time, our final designations for the state only apply to this area and the others addressed in this final technical support document. Consistent with the court-ordered schedule, the EPA will evaluate and designate all remaining undesignated areas in Indiana by either December 31, 2017, or December 31, 2020.

## Technical Analysis for Spencer County

### Introduction

The Spencer County, Indiana, area contains a stationary source that according to EPA's Air Markets Database emitted in 2012 either more than 16,000 tons of SO<sub>2</sub> or more than 2,600 tons of SO<sub>2</sub> and had an annual average emission rate of at least 0.45 pounds of SO<sub>2</sub> per one million British thermal units (lbs SO<sub>2</sub>/MMBTU). Specifically, in 2012, the Rockport electric generating facility ("Rockport") emitted 54,390 tons of SO<sub>2</sub> and had an emissions rate of 0.583 lbs SO<sub>2</sub>/MMBTU. As of March 2, 2015, this stationary source had not met the criteria for being "announced for retirement." Pursuant to the March 2, 2015, court-ordered schedule, the EPA must designate the area surrounding this facility by July 2, 2016.

In its submission, Indiana recommended that the area surrounding Rockport, specifically the entirety of Spencer County, be designated as attainment based on an assessment and characterization of air quality from the facility and other nearby sources which may have a potential impact in the area of analysis where maximum concentrations of SO<sub>2</sub> are expected. This assessment and characterization was performed using air dispersion modeling software, specifically using AERMOD, analyzing actual emissions.

On February 16, 2016, the EPA notified Indiana that we intended to designate the Spencer County, Indiana area as unclassifiable/attainment, based on our view that the area was meeting the NAAQS. Additionally, we informed Indiana that our intended boundaries for the unclassifiable/attainment area consisted of an area within Spencer County that includes the portion of Ohio Township north of UTM 4187.580 km northing, and Carter, Clay, Grass, Hammond, Harrison, and Jackson Townships. Our intended designation and associated boundaries were based on, among other things, air dispersion modeling provided by Indiana which analyzed concentrations within about 12 kilometers of Rockport. Detailed rationale, analyses, and other information supporting our intended designation for this area can be found in the technical support document for the intended Indiana designations, and this document along with all others related to this rulemaking can be found in Docket ID EPA-HQ-OAR-2014-0464.

### Assessment and Conclusion

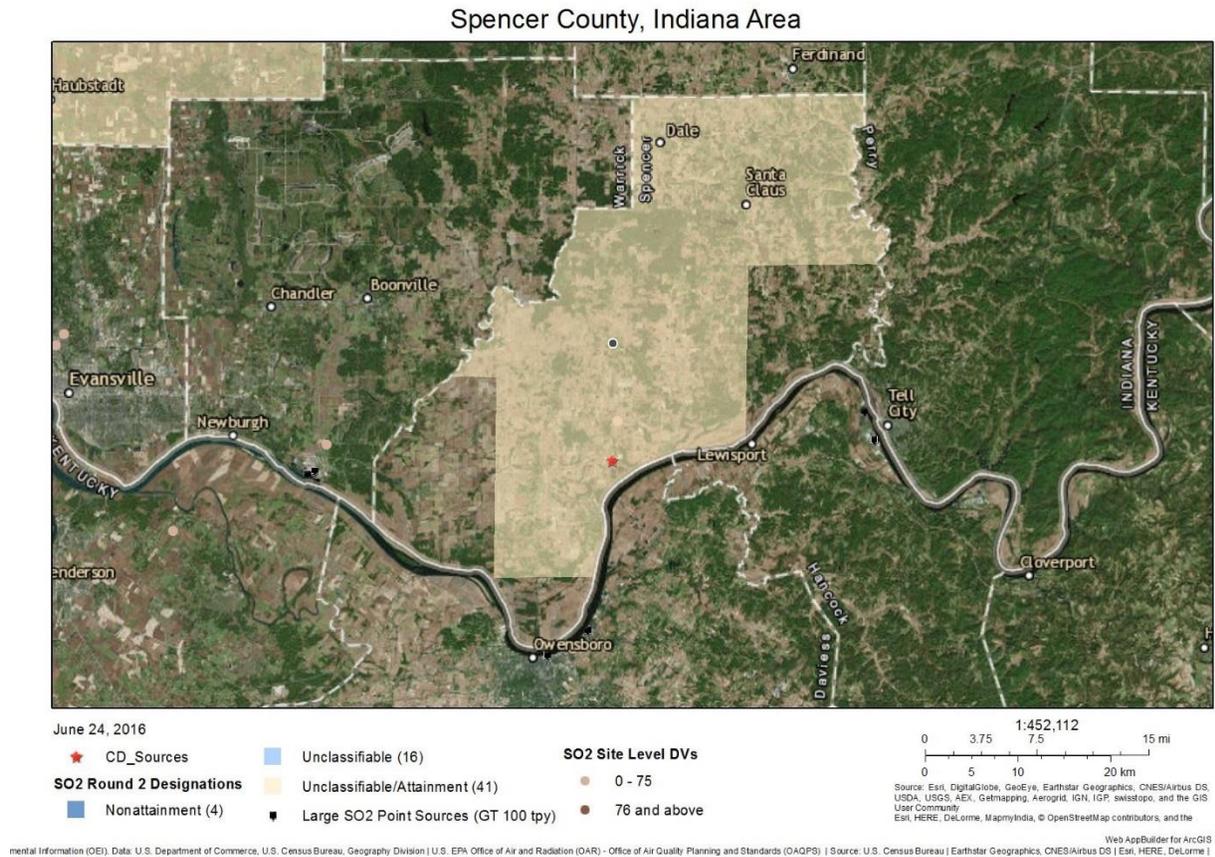
In our February 16, 2016, notification to Indiana regarding our intended unclassifiable/attainment designation for the Spencer County, Indiana area, the EPA requested that any additional information that the Agency should consider prior to finalizing the designation should be submitted by April 19, 2016. On March 1, 2016, the EPA also published a notice of availability and public comment period in the *Federal Register*, inviting the public to review and provide input on our intended designations by March 31, 2016 (81 FR 10563).

The EPA is explicitly incorporating and relying upon the analyses and information presented in the technical support document for the intended Indiana designations for the purposes of our final designation for this area, except to the extent that any new information submitted to the EPA or conclusions presented in this final technical support document and our RTC, available in the docket, supersede those found in the prior technical support document.

Subsequent to our February 16, 2016, notification, the EPA did not receive any additional information from Indiana, nor did we receive any public comments specifically addressing our intended unclassifiable/attainment designation for the Spencer County, Indiana area. Some commenters urged the EPA to review carefully Indiana’s air quality modeling; the EPA has conducted this review and continues to believe that Indiana’s modeling, as described in the technical support document for the intended Indiana designations, suitably justifies designating Spencer County as unclassifiable/attainment.

Therefore, based on the information available to the EPA at this time including the analyses performed for the purposes of the technical support document for the intended designations and in the absence of any new information that would otherwise lead to a different conclusion regarding air quality in the area or any new information that would otherwise lead to a different conclusion regarding the area boundaries, the EPA determines that the Spencer County, Indiana area is meeting the NAAQS, and therefore is designating the area as unclassifiable/attainment for the 2010 SO<sub>2</sub> NAAQS. The boundaries for this unclassifiable/attainment area consist of the portion of Ohio Township north of UTM 4187.580 km northing, and Carter, Clay, Grass, Hammond, Harrison, and Jackson Townships, and are shown in the figure below

Figure 8: EPA’s Final Unclassifiable/Attainment Area: Spencer County, Indiana



At this time, our final designations for the state only apply to this area and the others addressed in this final technical support document. Consistent with the court-ordered schedule, the EPA will evaluate and designate all remaining undesignated areas in Indiana by either December 31, 2017, or December 31, 2020.