

US EPA ARCHIVE DOCUMENT



THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

DEC 14 2012

Mr. Jessie Medlin  
President  
DeSoto County Board of Supervisors  
DeSoto County, Mississippi  
365 Loshier Street, Suite 310  
Hernando, Mississippi 38632

Dear Mr. Medlin:

I am pleased to respond to your July 17, 2012, letter in which you filed a petition for reconsideration on behalf of DeSoto County, Miss., concerning the U.S. Environmental Protection Agency's final rule, "Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards." *See 77 Federal Register* 30008 (May 21, 2012). The petition requests that the EPA reconsider the nonattainment designation for the northern portion of DeSoto County as part of the Memphis, Tennessee-Mississippi-Arkansas ozone nonattainment area.

The EPA has carefully evaluated the issues and information in your petition. For the reasons explained in the EPA's final designation action and information provided in the enclosure, the EPA is denying your petition. The EPA continues to believe that the northern portion of DeSoto County is properly designated nonattainment because of its contribution to ozone nonattainment in the Memphis, Tennessee-Mississippi-Arkansas area.

The enclosure provides additional information on the EPA's decision to deny your petition beyond what is already provided in the docket for the May 21, 2012, rulemaking. The EPA considers the designation of nonattainment areas with appropriate boundaries to be an important step in implementing the 2008 ozone standards.

We appreciate the actions you have taken to reduce ozone levels and provide cleaner, healthier air in DeSoto County. We look forward to working with you to ensure achievement of the 2008 ozone standards in the Memphis, Tennessee-Mississippi-Arkansas area.

In the meantime, I thank you for your interest in protecting the quality of our environment.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa P. Jackson".

Lisa P. Jackson

Enclosure

## Enclosure

### **The EPA Response to Petition for Reconsideration from Jessie Medlin, President, DeSoto County Board of Supervisors on behalf of DeSoto County, Mississippi**

By a letter dated July 17, 2012, DeSoto County, Mississippi petitioned the EPA to reconsider the final area designation for DeSoto County, Mississippi in the Memphis, Tennessee-Mississippi-Arkansas (TN-MS-AR) ozone nonattainment area. For the reasons discussed below, the EPA is denying the Petition. For the sake of clarity, we have organized this response according to the structure of the July 17, 2012, petition.

#### **I. “General Objections”**

##### **A. Reliance on Most recent Certified Data**

Issue: The Petitioner claims that the EPA should have considered the 2011 certified air quality data for Mississippi and Tennessee as it is the best current scientific evidence of air quality. The Petitioner notes that in the Responses to Significant Comments on the State and Tribal Designation Recommendations for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) dated April 30, 2012, the EPA stated that they were “relying on the most recent 3 years of certified data to designate areas for the 2008 NAAQS” but then did not consider 2009-2011 data for Mississippi and Tennessee but instead relied on data from 2008-2010. The Petitioner claims that 2009-2011 data “demonstrates conclusively that DeSoto County does not impact the air quality in Tennessee as all of the Tennessee monitors have been certified to be in attainment during the 2009-2011 time period.” Further, the Petitioner claims that “despite growth in population in DeSoto County, the Tennessee monitors are not affected by Mississippi” which is consistent with the monitored attainment in the 2009-2011 monitoring period in Shelby County. Petition at 1.

Response: In determining the boundaries for the Memphis nonattainment area, the EPA considered the most recent full set (i.e., consistent set of years) of certified air quality data for all three states that had counties located in the Memphis core-based statistical area (CBSA). The EPA relied on a consistent evaluation principle when presented with mixed years of data in an area, and consistently applied that principle to all multi-state areas. Specifically, the underlying principle is that the EPA cannot designate an area as attainment if the most recent certified data from any of the monitors in the area for a specific 3-year period indicates a violation of the NAAQS. Importantly, while evidence of one violating monitor is sufficient to demonstrate that the area is violating the NAAQS for a specific 3-year period, to demonstrate attainment of the NAAQS all monitors in the area must be meeting the NAAQS for the same 3-year period. Thus, an area cannot demonstrate attainment of the NAAQS based on air quality data from different 3-year periods for different monitors.<sup>1</sup>

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<sup>1</sup> We note that the EPA’s reliance on 2008-2010 data for monitors in the Memphis area is consistent with our action in two other multi-state areas where some, but not all, of the states submitted early certified 2011 data. For the Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD area, we relied on air quality data for 2008-2010 for monitors in all of the states where Pennsylvania submitted early certified 2011 data but New Jersey, Delaware and Maryland did not. Similarly, for the Washington DC-MD-VA area, Virginia early certified 2011 data but the District of Columbia and Maryland did not and we based the designation of the area on air quality data from 2008-2010.

On page 98 of the Response to Comments, the EPA “acknowledges that Tennessee has provided certified, quality assured air quality data for 2009-2011. Arkansas, however, has not requested early certification of their 2009-2011 data, and, therefore... [such Arkansas data] cannot be used for designations purposes.” The EPA similarly acknowledged that Mississippi submitted early certified data for 2011. Memphis TSD at 5. The EPA went on to describe that “[b]ecause EPA has not received certified data from all monitors in the area, we are using 2008-2010 air quality data for our analysis of the Memphis, TN-MS-AR area.” Based on certified data from monitors in all three states for 2008-2010, the Shelby County monitor in Tennessee was violating the 2008 ozone NAAQS. While the certified data from 2009-2011 showed that all monitors in the Tennessee and Mississippi portions of the Memphis area were meeting the NAAQS, the EPA did not have certified monitoring data from 2009-2011 showing that the Marion monitor in Crittenden County, Arkansas was also attaining the 2008 ozone NAAQS. (We further note that preliminary 2011 data indicated that the Marion monitor was likely violating the 2008 ozone NAAQS.) In the absence of certified data from the most recent 3 years showing that the area as a whole is attaining the standard, the EPA could not rely on certified data from only a portion of the area to demonstrate the Memphis area as attainment. Similarly, the EPA could not rely on data from 2009-2011 for Arkansas for purposes of the designation because the 2011 data for monitors in Arkansas were not certified in sufficient time for consideration in the designation process.

For the same reason, it was not appropriate for the EPA to have relied upon the 2009 –2011 data from Tennessee when evaluating whether all or a portion of DeSoto County was contributing to a violation of the NAAQS in the Memphis CBSA. While not expressly stated, it appears that the Petitioner is suggesting two arguments. First, if the EPA had relied on data from 2009-2011 from Tennessee and Mississippi and 2008-2010 data from Arkansas, then the area as a whole would have been designated attainment and no contribution analysis would be needed. Alternatively, they may be suggesting that if the EPA had relied on air quality data for 2009-2011 for the entire area, then the violating monitor would have been the Marion monitor in Crittenden County, Arkansas and not the Frayser monitor in Shelby County, Tennessee and the contribution analysis would have shown that no portion of DeSoto County is contributing to the violation at the Crittenden County monitor. For the reasons provided above, it was not appropriate for the EPA to have evaluated mismatched data for the three states to determine that the entire area was in attainment, or to have alternatively evaluated data from 2009-2011 for all three states in a contribution analysis. In addition it was not appropriate for the EPA to have evaluated 2009-2011 data for all three states because Arkansas did not certify their 2009-2011 data in sufficient time for the EPA to consider it prior to the final designations.

## **B. Credit for Voluntary Measures**

**Issue:** The Petitioner claims that in a 2007 meeting with the EPA Region 4, the EPA stressed the importance of local voluntary measures and that the “EPA said that... [such] information would be used for boundary determinations.” The Petitioner claims that despite these representations the “EPA failed to recognize the significance of the reduced emissions or to give DeSoto County any consideration thereof.” The Petitioner also claims that the EPA’s approach in making its boundary determinations is only specified in the Clean Air Act (CAA or Act) for serious areas. Based on this, the Petitioner claims that the EPA should designate DeSoto County as attainment or attainment/unclassifiable. Petition at 2.

**Response:** This issue could have been raised during the comment period and was not raised by the Petitioner, and thus is not an appropriate basis for reconsideration. However, the EPA notes that similar issues were raised by the State of Mississippi during the designation process. In response to the specific issue raised here by Petitioner, the ozone area boundaries for the 2008 ozone standard were determined by the EPA Administrator during the designation process based on state’s 2009 recommendations,

subsequent updated state recommendations, communication during the 120 day consultation period, public comment, and the EPA's five factor analysis, which included an evaluation of emissions from DeSoto County, Mississippi. During the designation process, the EPA did consider the voluntary measures put in place in Desoto County. The Petitioner is correct that for purposes of area designations required immediately following promulgation of the 1990 CAA Amendments, the Act in section 107(d)(4) specifies that the nonattainment boundary for an area classified serious, severe or extreme is to include the entire metropolitan statistical area or consolidated metropolitan statistical area, by default. However, the EPA explained in its designations guidance for both the 1997 ozone NAAQS and the 2008 ozone NAAQS why it believes that to comply with the CAA it is appropriate to evaluate information relevant to the entire CBSA to determine an appropriate boundary for a nonattainment area. *See* "Boundary Guidance on Air Quality Designations for the 8-hour National Ambient Air Quality Standards (NAAQS or Standard)," memorandum from John S. Seitz, to Air Division Directors, March 28, 2000, pp. 3-4; "Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards," memorandum from Robert J. Meyers, to Regional Administrators, Regions I-X, December 4, 2008, p. 3. As noted in the 2008 memorandum, the EPA believes that using the CBSA or combined statistical area (CSA) boundaries as the starting point for assessing appropriate boundaries is a reasonable means for evaluating what "nearby" areas contribute to a violation of the NAAQS.<sup>2</sup> In the 2000 Seitz memorandum, the EPA explained that it is reasonable to consider a broad area because of the "pervasive nature of ground level ozone and its precursors." Accordingly, even though there is no CAA-prescribed default boundary for areas designated nonattainment for the 2008 ozone NAAQS, the EPA evaluated information relevant to DeSoto County's contribution to monitored violations in the Memphis CBSA, and concluded that a portion of DeSoto County is appropriately designated nonattainment.

### C. Consistency of Designation with 2004 Designation

Issue: The Petitioner claims that there were two flaws in the EPA's response to Mississippi's recommendation that DeSoto County not be included in the Memphis CBSA because it had not been designated as part of the Memphis area for purposes of the 1997 ozone NAAQS. First, Petitioner notes that the EPA responded by saying that it must consider the most recent information available but then failed to do so by not considering the new air quality monitoring data from Mississippi and Tennessee. Petition at 2. Second, the Petitioner takes issue with the EPA's statement that there has been growth throughout the entire Memphis area, countering that despite the population growth and increase in VMT (vehicle miles travelled), "the numbers" for DeSoto County have gone down from those relied on for purposes of the 2004 designations for the 1997 ozone NAAQS. Petition at 2. The Petitioner claims that "DeSoto County should be able to rely upon past precedent to determine what actions the EPA will take". Petition at 3.

Response: This issue could have been raised during the designation process and was not; thus it is not appropriate for reconsideration. With respect to the Petitioner's first general statement regarding the appropriate data set, the EPA addressed the issue above in response to issue I.A. The EPA further notes that as part of our five factor analysis for the counties in the Memphis CBSA we considered a wide variety of data that was new since areas were designated for the 1997 ozone NAAQS in 2004. With respect to the Petitioner's second general statement, the EPA first notes that is unclear which "numbers"

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<sup>2</sup> In the "Boundary Guidance on Air Quality Designations for the 8-hour National Ambient Air Quality Standards (NAAQS or Standard)," memorandum from John S. Seitz, to Air Division Directors, March 28, 2000, EPA used the metropolitan statistical area (MSA) or consolidated MSA (C/MSA) as a starting point for evaluating boundary-related information and in the "Area Designations for the 2008 Revised Ozone National Ambient Air Quality Standards," memorandum from Robert J. Meyers, to Regional Administrators, Regions I-X, December 4, 2008, EPA used the CBSA or CSA as a analytical starting point.

the Petitioner is referring to, and thus is unable to respond specifically to this point. As a general matter, however, with respect to the EPA's evaluation of growth, the Agency "evaluated the commuting patterns of residents, as well as the total VMT for each county in the Memphis, TN-MS-AR CBSA. In combination with the population/population density data and the location of main transportation arteries (*see above*), this information [was used] to identify the probable location of non-point source emissions. A county with high VMT is generally an integral part of an urban area and indicates the presence of motor vehicle emissions that may contribute to ozone formation that contributes to nonattainment in the area. Rapid population or VMT growth in a county on the urban perimeter signifies increasing integration with the core urban area, and indicates that the associated area source and mobile source emissions may be appropriate to include in the nonattainment area." Memphis TN-MS-AR TSD at 10. These assessments are relevant to assessing the location of potentially contributing emissions sources for purposes of establishing appropriate boundaries.

DeSoto County has, in fact, experienced growth in population and VMT since the time of the designations for the 1997 NAAQS in 2004.<sup>3</sup> It is also true that reported ozone precursor emissions in DeSoto County have decreased overall from emissions considered in the 2004 designations for the 1997 ozone NAAQS, and we also note that reported ozone precursor emissions for Shelby and Crittenden Counties have also declined. Importantly, the ozone standard being evaluated for the 2008 NAAQS designation is also lower (0.075 parts per million (ppm) vs. 0.08 ppm). Based on all of the latest emissions-related information, and other relevant information available to us in the five factor analysis, the EPA evaluated DeSoto County's contribution to monitored violations in the Memphis CBSA, and concluded that a portion of DeSoto County is appropriately designated nonattainment for the more protective 0.075 ppm 2008 ozone NAAQS.

## II. Specific factor Analysis

### Factor 1 - Air Quality Data

Issue: The Petitioner claims that, while the EPA cited the Arkansas-Tennessee-Mississippi Ozone Study (ATMOS), "EPA failed to acknowledge that DeSoto County has never had the highest ozone design value in the Memphis area ... [and that] the ATMOS study also showed that DeSoto County had less than a 1 ppb [parts per billion] contribution to the ozone levels in the Memphis area." The Petitioner claims that such contribution does not constitute "sufficient contribution, even when combined with the other nine factors, to warrant a designation of nonattainment" for DeSoto County. In addition, the Petitioner claims that the EPA improperly relied on only the parts of the ATMOS that supported the nonattainment designation and failed to rely on the parts of the study that supported Mississippi's attainment recommendation. Petition at 3 - 4.

Response: This issue could have been raised during the designation process and was not; thus it is not appropriate for reconsideration. Whether DeSoto has ever had the highest design value in the area was not relevant to the EPA's evaluation or ultimate decision. We included a portion of DeSoto County as part of the designated area because it contributes to a violation of the NAAQS in a nearby area, not because of a monitored violation in DeSoto County. We also note that this issue could have been raised during the comment period on the designations and was not raised by the petitioner or any other party; thus it is not an appropriate basis for reconsideration.

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<sup>3</sup> The 2000 US Census data was used for the 2004 designation. The 2000 population was 107,199. The 2010 Census data was used for the 2012 designation. The 2010 population was 161,252.

In the Petitioner's claim that the EPA ignored portions of the ATMOS study that support excluding DeSoto from the nonattainment area, the Petitioner does not point to anything specific other than asserting that the study shows "that DeSoto County had less than a 1 ppb [parts per billion] contribution to the ozone levels in the Memphis area." The EPA does not believe that other aspects of the ATMOS study referred to by the Petitioner contradict the finding that DeSoto County contributes to ambient air quality in the Memphis TN-MS-AR area. The EPA relied on the ATMOS for the proposition that, due to meteorological conditions, the monitor site with the maximum design value for the area varies from year to year and it is important to consider the monitoring sites as a group, as well as individually, in making attainment designation determinations because the EPA determined that the meteorological regime described in ATMOS remains relevant for the Area. TSD at 6. Other aspects of ATMOS, particularly those related to the emissions data used in the study, are no longer relevant due to the age of the data. Instead the EPA relied on the more recent 2008 National Emissions Inventory (NEI) emissions data and 2010 Census Data as described in the TSD. Finally, we note that the relevant portion of the ATMOS study was only one piece of information that the EPA considered as part of its five-factor analysis and standing alone this study does not definitively address whether all or a portion of DeSoto County should be included as part of the designated nonattainment area.

## **Factor 2 – Emissions and Emissions Related Data**

### **A. Emissions Data (location of sources and contribution to ozone concentrations)**

Issue: The Petitioner claims that, in the EPA's final TSD, the EPA did not specifically address or comment on emission sources and their contribution outlined in MDEQ's TSD. Petition at 5 - 6.

Response: The EPA did consider the emission source information outlined in the MDEQ TSD in making its decision regarding the appropriate boundaries for the Memphis Area. As the EPA stated on page 97 of the Response to Comments, "EPA appreciates the updated technical information that Mississippi provided and has updated our technical support document accordingly. However, the technical evaluation of DeSoto County shows contribution to the air quality in the Memphis area."

### **B. Population Density and Degree of Urbanization**

Issue: The Petitioner claims that the EPA should have used raw numbers to represent growth in DeSoto County instead of growth rate percentages because such percentages are "not reasonable measures of sufficient contribution." To illustrate its point, the Petitioner claims that while DeSoto County only experienced a population increase of 53,000 people between 2000 and 2010, given the County's "relatively low" starting population, this growth equates to a 48 percent growth rate for the County. The Petitioner claims that presenting the information as a growth rate and not in the form of raw numbers is unreasonable. Petition at 6.

Response: This issue could have been raised during the designation process and was not; thus it is not appropriate for reconsideration. As indicated in Table 5 on p. 9 of the TSD, the EPA recognized both the absolute change in population as well as the percentage change in population for the counties in the CBSA.

Issue: The Petitioner claims that the EPA provided no documentation or reference in support of its statement that rapid growth signifies increasing integration with the core urban area. Further, the Petitioner claims that "if the population growth in DeSoto County were a contributing factor, then it

would be evidenced by increased ozone readings by the DeSoto County monitor, which obviously hasn't occurred." Petition at 6.

Response: This issue could have been raised during the comment period and was not raised by the Petitioner, and thus is not an appropriate basis for reconsideration. Also, the EPA does not believe that it is accurate to conclude that if population growth within the county "were a contributing factor, then it would be evidenced by increase ozone readings by the DeSoto County monitor." Ambient ozone levels are influenced by a wide array of factors, which is why the EPA performs an extensive five-factor analysis to determine contribution. For example, emissions of volatile organic compounds (VOC) and nitrogen oxides (NOx) do not necessarily form ozone close to the source of emissions but can be transported short or long distances before forming ozone. Moreover, whether ozone levels at a monitor are affected by emissions from a specific area or source is influenced by wind patterns.

### **C. Traffic and Commuting Patterns**

Issue: The Petitioner reiterates claims expressed in Factor 2 A and B above. Further, the Petitioner claims that the 2008 NEI, on which the EPA relied, "incorrectly lists DeSoto County as having higher heavy duty diesel truck emissions than Crittenden County." Petition at 8 – 9.

Response: See responses to Factor 2.A. and B. above. With respect to the NEI data referenced by the Petitioner, this issue could have been raised during the comment period and was not, and thus is not an appropriate basis for reconsideration. The EPA notes that this information is entered into the NEI by the states. This information was used because it was the best available data available during the designation process.. Regarding the Petitioner's heavy duty diesel truck emissions claim, as noted in the TSD, the EPA considered the Mississippi submittal that included heavy duty diesel traffic maps and accompanying traffic data provided by MDEQ during the 120 day consultation period and determined that DeSoto County was contributing to the violating monitor in Tennessee for the reasons described in the TSD. The EPA was not provided with any revised NEI data during the designation process and the Petitioner has not provided any information to demonstrate that it was not possible to provide such information during the 120-day consultation period.

### **D. Growth Rates and Patterns**

Issue: The Petitioner reiterates claims expressed in Factor 2.B. above. Petition at 9.

Response: See response to Factor 2.B. above.

### **E. Level of Control of Emission Sources**

Issue: The Petitioner claims that the EPA did not address the level of control of emission sources portion of the Emissions and Emissions Related Data Factor in the EPA TSD. The Petitioner claims that while there are only a few major sources to control, those sources are well controlled through their permits and cites specific examples where controls meet or exceed state or federal requirements. The Petitioner also claims that mobile and area sources are the largest category of emissions in the area and that MDEQ and local governments have already put measures in place to reduce those emissions. In addition, the Petitioner claims that a "marginal non attainment designation will not require further controls from mobile or area sources in DeSoto County, nor will local controls be necessary to reduce emission in the area." Further, the Petitioner adds that "mobile source emission will be drastically reduced over the next several years due to national emission control standards effecting mobile sources." Petition at 10.



Response: This issue could have been raised during the comment period and was not raised by the Petitioner, and thus is not an appropriate basis for reconsideration. Additionally, the EPA notes that the Petitioner does not identify any specific information that the EPA failed to consider. The emissions data included in the TSD which was the most recent data available to the EPA at the time of designations, reflect emission control measures and technologies in place through 2008. TSD at 6-8. The EPA also considered MDEQ's submittals which described the voluntary control measures not captured by the NEI data. TSD at 5.

With respect to the Petitioner's comments regarding additional emissions control requirements for marginal nonattainment areas, the EPA notes that future control requirements are not a consideration in the designations process. The focus of designating nonattainment areas, as prescribed in the CAA, is to determine areas that are violating the NAAQS, and nearby areas that contribute to the area that is violating the NAAQS.

### **Factor 3 – Meteorology**

Issue: The Petitioner claims that the "EPA unsoundly applied its analysis of meteorology in its use of the HYSPLIT model and its use of wind roses as indicators of atmospheric transport." The Petitioner lists four factors which it claims make a "back trajectory analysis using HYSPLIT... patently unreliable in determining if transport was occurring on most ozone exceedance days." In addition, the Petitioner claims that the EPA failed to factor in the wind direction variability indicated by the surface wind roses for the Memphis Area in its analysis. Finally, the Petitioner claims that the EPA failed to acknowledge that the DeSoto County monitor has never had the highest design value for the Area.

Response: This issue could have been raised during the comment process by the Petitioner. However, this issue was raised by the State during the designation process and was addressed by the EPA in the final TSD for the Memphis area. Thus is not appropriate for reconsideration. With regard to the EPA's use of NOAA's HYSPLIT trajectory model, the EPA believes the back-trajectory analysis is reliable. The EPA acknowledges that HYSPLIT trajectory model analyses (along with any atmospheric transport model) have some level of uncertainty. However, the HYSPLIT trajectory model uses sound atmospheric transport science and archived meteorology data from the National Weather Service to provide useful information to evaluate pollutant transport patterns. The locations identified by individual back trajectories may be somewhat uncertain, but when a relatively larger number of trajectories pass over a given area (i.e., portions of DeSoto County), there is increased confidence in the results of the analysis (*see* the discussion of the EPA's HYSPLIT analyses in the Meteorology Factor section of the EPA's TSD). The EPA believes HYSPLIT trajectories are a useful tool for evaluating pollutant transport and has used them in analyses for a number of ozone nonattainment areas during the designations process for the 2008 NAAQS. As stated in the EPA's TSD, "HYSPLIT trajectories alone do not conclusively indicate contribution to monitored violations of the ozone NAAQS and therefore cannot be used to determine inclusion or exclusion of an area with regard to ozone designations. Rather, HYSPLIT trajectories are useful supporting information that compliment other meteorological information, as well as information concerning the other factors, (emissions, etc.)."

With regard to the EPA's use of wind roses, figures 4a-4d in the EPA's TSD were generated using surface-level winds measured at the Memphis International Airport National Weather Service meteorology station which is approximately 12 miles south of the Frayser monitor, between DeSoto County and the monitor (*see* Figure 9 in the EPA's TSD). The EPA determined this data to be representative of the winds in the Memphis area. The EPA acknowledges that the wind roses show variability of wind directions on days where exceedances of the ozone standard were measured at the

Frayser monitor during the 2008-2010 timeframe. However, the wind roses clearly show that winds were blowing from a southerly direction during a large percentage of time when exceedances were measured, thus providing evidence that ozone precursor emissions from DeSoto County can contribute to the measured ozone concentrations.

With regard to the Petitioner's claim that the EPA failed to acknowledge that DeSoto County has never had the highest ozone value for the Memphis area, please *see* the EPA's response above for Section II, Factor 1.

Issue: The Petitioner also claims that the EPA's finding of the possibility, or the suggestion that sources in DeSoto County contributed to elevated ozone locations is not the same as finding that the County sufficiently contributed to such ozone levels, and as such, do not provide a strong basis for the EPA's designation.

Response: As described in the TSD, the EPA conducted a five factor analysis to evaluate whether DeSoto County contributed to violations of the NAAQS in the Memphis area. The use of the terms "possible" and "suggests contribution" referenced by the Petitioner appear in the TSD in relation to the EPA's evaluation of each individual factor. The EPA evaluated each factor independently and then reached a conclusion regarding contribution after considering a weight of the evidence of relevant information related to all five factors. Consequently, the terminology cited by the Petitioner from the analysis of individual factors does not reflect a summary assessment of whether DeSoto County contributed to the violations in the CBSA. For example *see* the Conclusion section of the December 8, 2011, TSD, at pages 11 and 12.

Issue: The Petitioner claims that the EPA failed to consider the fact that the "back trajectories shown in the TSD travel over areas of Memphis prior to arriving at the Frayser monitor with much higher NO<sub>x</sub> and VOC emissions density than [do those from] Desoto County."

Response: This issue could have been raised during the comment period and was not raised by the Petitioner, thus is not an appropriate basis for reconsideration. The EPA did consider the fact that the back trajectories which travel over DeSoto County also travel over areas of Memphis located in Tennessee (Shelby County). The EPA recognizes that emission sources in the Tennessee portion of Memphis also contribute to the measured ozone exceedances at the Frayser monitor. However, the EPA's assessment of the five factors (including emissions, meteorology, and others) presented in our TSD shows that DeSoto County has: the second highest emissions levels of NO<sub>x</sub> and VOCs in the Memphis TN-MS-AR CBSA; large VMT; a large population increase; and winds showing transport toward the Frayser monitor. Based on this information, the EPA concluded that ozone precursor emissions from DeSoto County also contribute to the measured ozone exceedances at the Frayser monitor.

Issue: The Petitioner claims that the "EPA rushed to judgment, thereby failing to base its decision on the best available scientific knowledge." As evidence, the Petitioner quotes the EPA's Response to Comments as stating that "[i]n those cases where timing constraints and the lack of additional information prevented a more detailed assessment, EPA believes that the default wind rose analyses, in conjunction with the remainder of the multi-factor analysis, can provide an adequate assessment of appropriate boundaries." Petition at 11 – 12.

Response: The EPA did not rush to judgment, and used the best available information to make final designations decisions. The same type and quality of information was not available for all areas that the EPA evaluated. The EPA notes that the Petitioner's understanding of the quote from the Response to Comments document is taken out of context. This statement is referring to states, unlike Mississippi, that did not conduct back trajectory analysis and concludes that "the default wind rose analysis in conjunction with the remainder of the multi-factor analysis can provide an adequate assessment of appropriate boundaries." The EPA's meteorology factor discussion in the Memphis TSD provides a summary of the detailed technical analyses that were undertaken to assess pollutant transport, including wind roses created with Memphis International Airport National Weather Surface data, HYSPLIT trajectory analyses and an assessment of previous ozone modeling studies in the Memphis area. This detailed information shows that the EPA considered the best information available for our analysis of the Memphis area.

#### **Factor 4 - Geography/Topography**

The Petitioner did not provide any comments associated with this factor. Petition at 12.

#### **Factor 5 - Jurisdictional Boundaries**

Issue: The Petitioner claims that state and county barriers "should be given greater consideration in the case of DeSoto County." The Petitioner claims that because DeSoto County is in a separate state from the counties with the violating monitor the state is unable to address the nonattainment using the provisions afforded by the CAA to get back into attainment. The Petitioner then reiterates its earlier claims from Factors 2.B., 2.C., 2.E., and 3 above to support its position that DeSoto County should not be included in the nonattainment designation for Memphis. Petition at 12-13.

Response: The EPA did consider the jurisdictional factor, and we believe that the state boundary is not a reason to exclude DeSoto County from the nonattainment area. TSD at 15. With respect to points the Petitioner raised in support of this issue, the CAA clearly contemplates that nonattainment areas may be comprised of counties from two or more states and that these multi-state areas can work together to address nonattainment. *See, e.g.*, CAA sections 107(d)(3)(A); 107(d)(4)(A)(iv); and 182(j). The EPA also notes that the points raised by the Petitioner to support its claim under factor five have been previously addressed by the EPA, including in responses to Factors 2.B., 2.C., 2.E. and 3 above.