State of North Carolina's

Recommendation on Boundaries

For the 1-Hour Sulfur Dioxide

National Ambient Air Quality Standard

June 2, 2011
Governor Beverly Perdue

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Introduction

The purpose of this document is to provide the State of North Carolina's recommendation on boundaries for the 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS). This package is in response to the promulgation of a revised primary 1-hour SO_2 standard by the United States Environmental Protection Agency (USEPA) on June 2, 2010. The USEPA has instructed the States to submit their recommendations for area designation boundaries by June 3, 2011. The USEPA will notify the states if they intend to modify the states' boundary recommendation no later than February, 2012. These notification letters from the USEPA will begin a 60-day period during which the States can provide additional information to support their boundary recommendation. The final designations for the primary 1-hour SO_2 standard will be made by the USEPA by June 3, 2012 and will subsequently be published in the Federal Register and codified in Code of Federal Regulations (CFR) 40 CFR 81.

Background

The Clean Air Act requires the USEPA to designate areas as nonattainment, attainment or unclassifiable following the promulgation of a new NAAQS. Historically, the designations have been based on the data collected at the ambient air monitoring stations that are operated by the State and local air programs. The data is quality assured, and then submitted to the USEPA where it becomes part of a national database. The Clean Air Act requires that the monitoring data be evaluated to determine which monitors meet the standard and which monitors violate the standard. The USEPA established the revised primary SO_2 standard at 75 parts per billion (ppb) which is attained when the three-year average of the 99^{th} percentile of 1-hour daily maximum concentrations does not exceed 75 ppb. The Administrator has determined this is the level necessary to provide protection of public health with adequate margin of safety, especially for children, the elderly and those people with asthma. These groups are particularly susceptible to the health effects associated with breathing air containing high levels of SO_2.

The USEPA released its guidance for area designations for the 2010 revised primary SO_2 NAAQS on March 24, 2011. The guidance stated that for identifying attainment areas that the USEPA does not believe it would be appropriate to designate areas attainment without appropriate refined dispersion modeling and, where available, air quality monitoring data indicating no violations of the NAAQS. For these areas, the guidance states that the USEPA intends to designate the areas as "unclassifiable". For determining nonattainment area boundaries, the guidance stated that the USEPA expects to consider an entire county as the starting point for determining SO_2 nonattainment areas. The guidance further states that boundary recommendations should evaluate five factors: 1) air quality data; 2) emissions-related data; 3) meteorology; 4) geography/topography; and 5) jurisdictional boundaries and that dispersion modeling can be used to help evaluate a nonattainment area boundary.

The USEPA's boundary guidance came out very late in the process and did not allow sufficient time for the states to implement the suggested methodology for determining designation recommendations by the submittal date of June 3, 2011. Additionally, the North Carolina Department of Environment and Natural Resources (NCDENR) does not agree with the USEPA's guidance methodology for determining attainment areas. The guidance states that only dispersion modeling can determine if an area is attaining the standard and that the dispersion modeling must use allowable emissions instead of actual emissions. The use of allowable emissions with the dispersion models would demonstrate areas that may potentially violate the standard but does not indicate if a standard has been actually violated and is not representative of actual pollutant concentrations in the ambient air. The NCDENR does not believe it is appropriate to determine if an area should be designated as attainment or nonattainment solely based on dispersion models using allowable emissions. Since the designation process historically has been based on actual ambient air quality data and not potential air quality data, the USEPA should consider if an area would have had a violation based on the emissions actually released into the air. The NCDENR believes this historical approach more accurately reflects impacts on the environment and will direct limited state resources to actual violations of the 1-hour SO_2 standard rather than theoretical ones. The NCDENR recommends that the USEPA reconsider the use of allowable emissions for purposes of designation and also allow areas with monitors demonstrating compliance with the standard be designated attainment. Additionally, there are cases where it could be assumed an area was in attainment of the standard based upon the actual emissions data for a county, i. e., a county with no sources of SO_2 or very small sources of SO_2.

In North Carolina, there are five SO_2 monitors located in Beaufort, Forsyth, Mecklenburg, New Hanover and Wake Counties (see Figure 1). In reviewing the most recent three-year period (2008-2010), it was determined that only one monitor, located in New Hanover County, was violating the new primary SO_2 standard. The NCDENR has used the five factors outlined in the USEPA guidance to determine the appropriate nonattainment boundary recommendation. For the attainment boundary recommendation, the NCDENR used either actual air quality data or SO_2 emissions inventory data.

The next section provides a summary of the North Carolina's nonattainment and attainment boundary recommendation, which is followed by sections that detail data used to determine this recommendation.

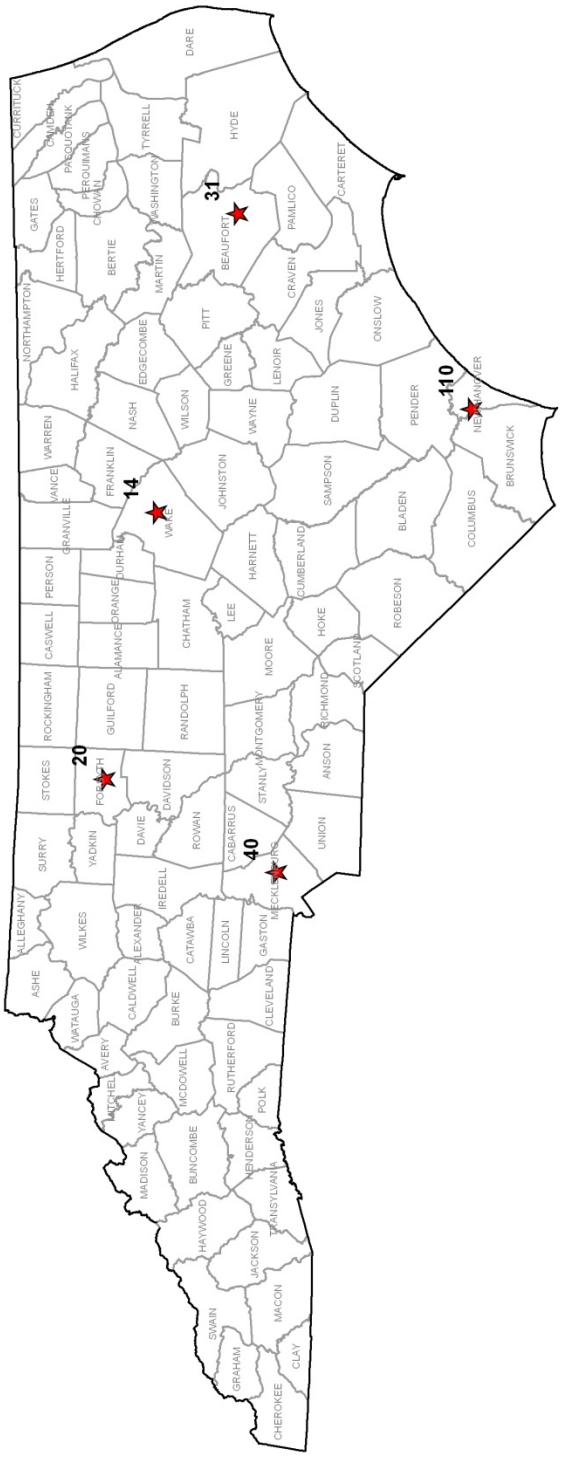

Figure 1. North Carolina's 2008-2010 1-Hour SO_2 Design Value Map (Note that design values are presented in parts per billion)

Summary of Recommendation

Based on the ambient air quality data, only the Wilmington, North Carolina area (New Hanover County) is measuring a violation of the revised primary SO_2 standard in North Carolina. In April 2011, the NCDENR conducted meetings in Wilmington, North Carolina, with the local elected officials and the general public. At these meetings, background information concerning the promulgation of the revised primary SO_2 standard and the implications to North Carolina were presented. Additionally, the staff presented several options for the potential nonattainment boundary (Appendix A) and requested comments from the general public and elected officials (Appendix B). The NCDENR took into consideration the comments received and made a final decision for the boundary recommendation.

The State of North Carolina requests the USEPA consider deferring a nonattainment designation for New Hanover County until after 2012. North Carolina believes this area will attain the standard by the end of 2012 for a number of reasons outlined in the following section. If the USEPA does not agree with deferring a nonattainment designation for this area until after 2012, then North Carolina recommends the portion of New Hanover County that is bordered by the Cape Fear River to the west, the Northeast Cape Fear River to the east and New Hanover/Pender County border to the north be designated nonattainment.

The State of North Carolina is recommending Beaufort, Forsyth, Mecklenburg and Wake Counties be designated as attainment for the 1-hour SO_2 standard based upon ambient air quality data. Furthermore, the North Carolina is recommending the following counties be designated attainment based upon emissions inventory data: Alleghany, Avery, Camden, Caswell, Cherokee, Chowan, Clay, Currituck, Dare, Davie, Gates, Greene, Henderson, Hyde, Jackson, Jones, Lee, Macon, Madison, Mitchell, Pamlico, Pasquotank, Pender, Perquimans, Polk, Swain, Transylvania, Tyrell, Warren, Washington, Watauga, and Yadkin.

Finally, the State of North Carolina is recommending the remaining counties, including the portion of New Hanover County outside of the recommended nonattainment area, be designated as unclassifiable/attainment for the 1-hour SO_2 standard. North Carolina believes a designation of unclassifiable/attainment is appropriate and is consistent with how designations have been made historically for the other NAAQS. The NCDENR opposes designating an area just unclassifiable since it portrays uncertainty to industry that might be looking to locate in North Carolina and could hurt the economic recovery of the State. Additionally, the NCDENR will be determining which sources may potentially violate the 1-hour SO_2 standard (primarily using dispersion modeling) and under the State rule 15A NCAC 2D .0501 “Compliance with Emission Control Standards,” require the sources to either control their SO_2 emissions or take permit limitations to ensure an exceedance of the standard will not occur.

As stated earlier, the USEPA's boundary guidance came out very late in the process and did not allow sufficient time for the states to implement the suggested methodology for determining designation recommendations by the submittal date of June 3, 2011. The State of North Carolina intends to supplement this recommendation after the NCDENR has completed additional analyses, including dispersion modeling.

The following table is North Carolina's recommendation of areas as nonattainment, attainment or unclassifiable/attainment for the new primary 1-hour SO_2 standard. The following sections discuss in more detail the data used to determine the recommendation.

Table 1. North Carolina Recommendation for 1-Hour SO_2 Standard

Designated Area	Designated Type
Wilmington, North Carolina New Hanover County (part) The portion of the county described by the Northeast Cape Fear River at the New Hanover/Pender county line, south to the Cape Fear River, the Cape Fear River north to the New Hanover/Pender county line.	Deferral/Nonattainment
Part of State	
Alleghany County	Attainment
Avery County	Attainment
Beaufort County	Attainment
Camden County	Attainment
Caswell County	Attainment
Cherokee County	Attainment
Chowan County	Attainment
Clay County	Attainment
Currituck County	Attainment
Dare County	Attainment
Davie County	Attainment
Forsyth County	Attainment
Gates County	Attainment
Greene County	Attainment
Henderson County	Attainment
Hyde County	Attainment
Jackson County	Attainment
Jones County	Attainment
Lee County	Attainment
Macon County	Attainment
Madison County	Attainment

Table 1. North Carolina Recommendation for 1-Hour SO_2 Standard

Designated Area	Designated Type
Mecklenburg County	Attainment
Mitchell County	Attainment
Pamilco County	Attainment
Pasquotank County	Attainment
Pender County	Attainment
Perquimans County	Attainment
Polk County	Attainment
Swain County	Attainment
Transylvania County	Attainment
Tyrell County	Attainment
Wake County	Attainment
Warren County	Attainment
Washington County	Attainment
Watauga County	Attainment
Yadkin County	Attainment
Rest of State	
Alamance County	Unclassifiable/Attainment
Alexander County	Unclassifiable/Attainment
Anson County	Unclassifiable/Attainment
Ashe County	Unclassifiable/Attainment
Bertie County	Unclassifiable/Attainment
Bladen County	Unclassifiable/Attainment
Brunswick County	Unclassifiable/Attainment
Buncombe County	Unclassifiable/Attainment
Burke County	Unclassifiable/Attainment
Cabarrus County	Unclassifiable/Attainment
Caldwell County	Unclassifiable/Attainment
Carteret County	Unclassifiable/Attainment
Catawba County	Unclassifiable/Attainment
Chatham County	Unclassifiable/Attainment
Cleveland County	Unclassifiable/Attainment
Columbus County	Unclassifiable/Attainment
Craven County	Unclassifiable/Attainment
Cumberland County	Unclassifiable/Attainment
Davidson County	Unclassifiable/Attainment
Duplin County	Unclassifiable/Attainment
Durham County	Unclassifiable/Attainment
Edgecombe County	Unclassifiable/Attainment
Franklin County	Unclassifiable/Attainment
Gaston County	Unclassifiable/Attainment
Graham County	Unclassifiable/Attainment
Granville County	Unclassifiable/Attainment

Table 1. North Carolina Recommendation for 1-Hour SO_2 Standard

Designated Area	Designated Type
Guilford County	Unclassifiable/Attainment
Halifax County	Unclassifiable/Attainment
Harnett County	Unclassifiable/Attainment
Haywood County	Unclassifiable/Attainment
Hertford County	Unclassifiable/Attainment
Hoke County	Unclassifiable/Attainment
Iredell County	Unclassifiable/Attainment
Johnston County	Unclassifiable/Attainment
Lenoir County	Unclassifiable/Attainment
Lincoln County	Unclassifiable/Attainment
McDowell County	Unclassifiable/Attainment
Martin County	Unclassifiable/Attainment
Montgomery County	Unclassifiable/Attainment
Moore County	Unclassifiable/Attainment
Nash County	Unclassifiable/Attainment
New Hanover County (Remainder)	Unclassifiable/Attainment
Northampton County	Unclassifiable/Attainment
Onslow County	Unclassifiable/Attainment
Orange County	Unclassifiable/Attainment
Person County	Unclassifiable/Attainment
Pitt County	Unclassifiable/Attainment
Randolph County	Unclassifiable/Attainment
Richmond County	Unclassifiable/Attainment
Robeson County	Unclassifiable/Attainment
Rockingham County	Unclassifiable/Attainment
Rowan County	Unclassifiable/Attainment
Rutherford County	Unclassifiable/Attainment
Sampson County	Unclassifiable/Attainment
Scotland County	Unclassifiable/Attainment
Stanly County	Unclassifiable/Attainment
Stokes County	Unclassifiable/Attainment
Surry County	Unclassifiable/Attainment
Union County	Unclassifiable/Attainment
Vance County	Unclassifiable/Attainment
Wayne County	Unclassifiable/Attainment
Wilkes County	Unclassifiable/Attainment
Wilson County	Unclassifiable/Attainment
Yancey County	Unclassifiable/Attainment

Area Specific Recommendation on Boundaries for 1-Hour SO_2 Nonattainment

The purpose of this section is to address the criteria that the USEPA established for considering boundaries less than the full county for nonattainment designation. The criteria are outlined in the USEPA guidance "Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards" which was released March 24, 2011. A copy of the guidance is attached in Appendix C.

The guidance instructed States to base the boundary recommendation on an evaluation of five factors: 1) air quality data; 2) emissions-related data; 3) meteorology; 4) geography/topography; and 5) jurisdictional boundaries.

Only one monitor in North Carolina is violating the 2010 revised primary SO_2 standard located in Wilmington in New Hanover County. North Carolina's recommendation is less than the full county and the discussion that follows addresses the five factors.

Wilmington Nonattainment Area Discussion

USEPA Presumptive 1-Hour SO_2 Nonattainment Boundary

New Hanover County

North Carolina's Deferral Recommendation

The State of North Carolina requests the USEPA consider deferring a nonattainment designation for this area until after 2012. The reason for this request is threefold. First, Southern States Chemical and WASTEC have shutdown. Southern States may resume operations, but their permit is being reopened to address the impact of the SO_2 emissions at the monitor. These two sources are located in very close proximity to the monitor. Second, the Progress Energy Sutton facility is working to convert from coal to natural gas within the next couple of years. Finally, since the beginning of 2011 the monitor has not observed an exceedance of the 2010 SO_2 standard and the 99^{th} percentile concentration for 2011 is currently 48.7 ppb. The NCDENR believes this clean data to date is due to the two sources that have shut down near the monitor location. It is possible the Wilmington monitor will attain the 1-hour SO_2 standard by the end of 2012. Additionally, the NCDENR is proactively working with the largest SO_2 sources located near the monitor to determine if additional controls or permit limitations are needed to ensure continued maintenance of the 1-hour SO_2 standard. If the USEPA does not agree with deferring a nonattainment designation for this area until after 2012, then North Carolina makes the following alternative nonattainment boundary recommendation.

North Carolina's Recommended 1-Hour SO_2 Nonattainment Boundary

The portion of the county described by the Northeast Cape Fear River at the New Hanover/Pender county line, south to the Cape Fear River, the Cape Fear River north to the New Hanover/Pender county line (Figure 2).

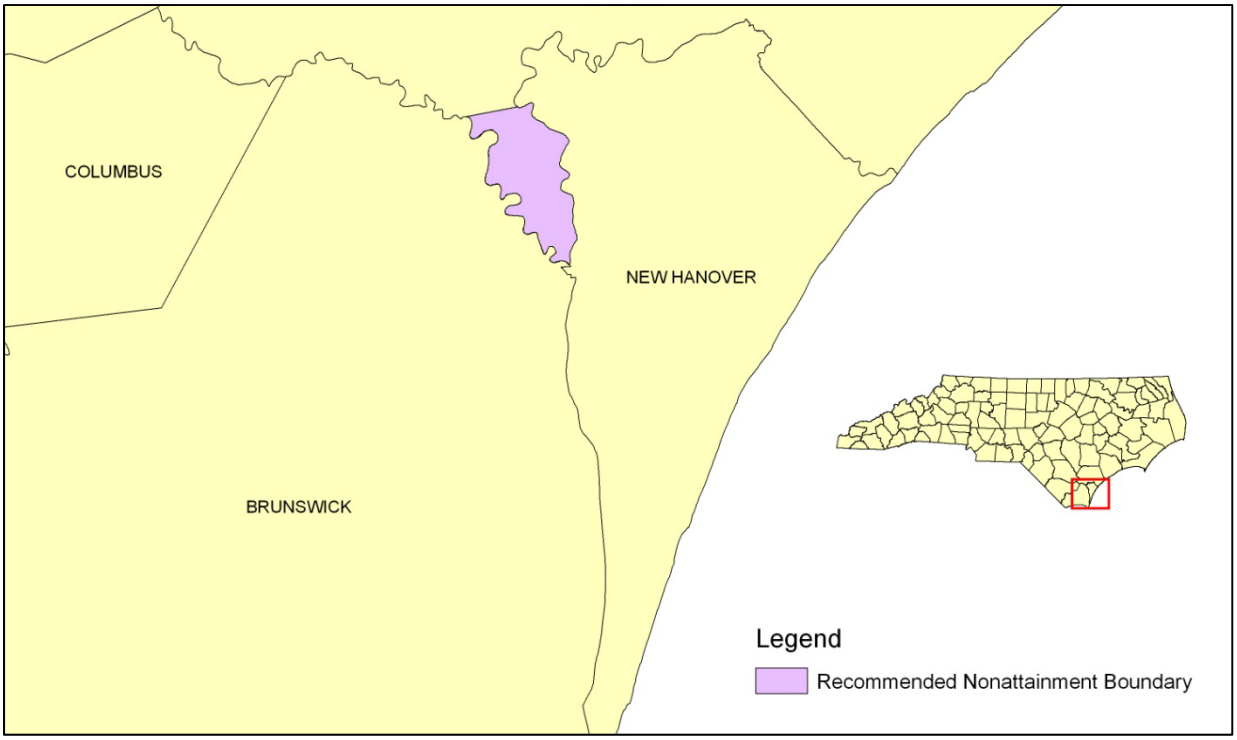

Figure 2. Recommended Nonattainment Area for Wilmington, North Carolina.

Discussion:

The SO_2 monitor located in Wilmington has a three-year design value, based on the 2008-2010 data, of 110 ppb. The monitor is located on US Highway 421 in a heavily industrialized/manufacturing area. In determining the nonattainment area boundary, the guidance stated that the pollutant arises from direct emissions and the SO_2 concentrations are highest relatively close to the source(s) and much lower at greater distances due to dispersion. Based on the five factor analysis and the fact that the SO_2 concentrations are much lower at greater distances from the emitting source due to dispersion, North Carolina has determined that less than the full county should be designated nonattainment. The five factor analysis discussion follows.

Air Quality Data

In addition to the Wilmington monitor in New Hanover County, the NCDENR operated an SO_2 monitor in 2005 at the Castle Hayne monitoring site located in the northeast corner of New Hanover County (Figure 3). This monitor ran for the full year and the 99th percentile observation was 39 ppb, well below the 1-hour SO_2 standard. The data for the Castle Hayne monitor can be found in Appendix D.

The Castle Hayne SO_2 monitor was located just southeast of Elementis Chromium, whose 2005 annual SO_2 emissions were 546 tons. In 2009, Elementis Chromium emitted 318 tons of SO_2. This is the only source in close proximity to the Castle Hayne monitoring site. The next closest facility is Barnhill Contracting, whose 2005 and 2009 annual SO_2 emissions were 11.7 tons and

7 tons, respectively. Since the Castle Hayne monitor observed SO_2 concentrations well below the 1-hour SO_2 standard, the NCDENR believes that it is reasonable to exclude this portion of New Hanover County.

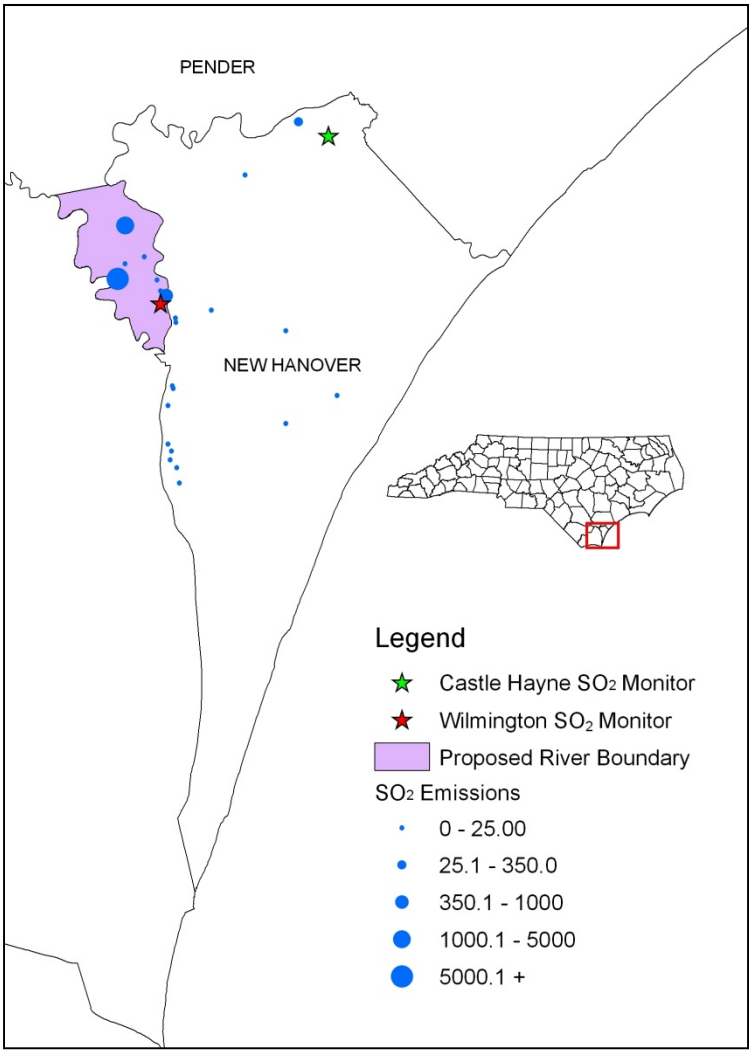

Figure 3. Monitor and Source Locations in New Hanover County

Emissions-Related Data

The top ten SO_2 emitting facilities in New Hanover County are listed in Table 2 below. The emissions reported in Table 2 are for 2009 except for National Gypsum and Vopak Terminal. For these two sources, the last reported emissions are included in the table. Five of the top ten emitters are located in the North Carolina recommended nonattainment area and these account for 98 percent of New Hanover County's total SO_2 emissions (Figure 4). Additionally, the NCDENR looked at sources located in Brunswick and Pender Counties. There are two large SO_2 sources located in Brunswick County: DAK America with 2,167 tons of SO_2 per year and CPI

USA with 1,734 tons SO_2 per year (Figure 4). Pender County does not contain any permitted SO_2 sources, therefore none of Pender County was considered for inclusion in the nonattainment boundary area.

Table 2. Top Ten SO_2 Point Sources in New Hanover County

Source	Emissions (tons/year)	Year Emissions Reported
Progress Energy - Sutton	17,947	2009
Invista S.A.R.L	2,222	2009
Southern States Chemical	872	2009
Elementis Chromium	318	2009
New Hanover County WASTEC	23	2009
National Gypsum	21	2005
Hess Corporation	12	2009
Vopak Terminal	11	2006
Fortron Industries	8	2009
Barnhill Contracting	7	2009

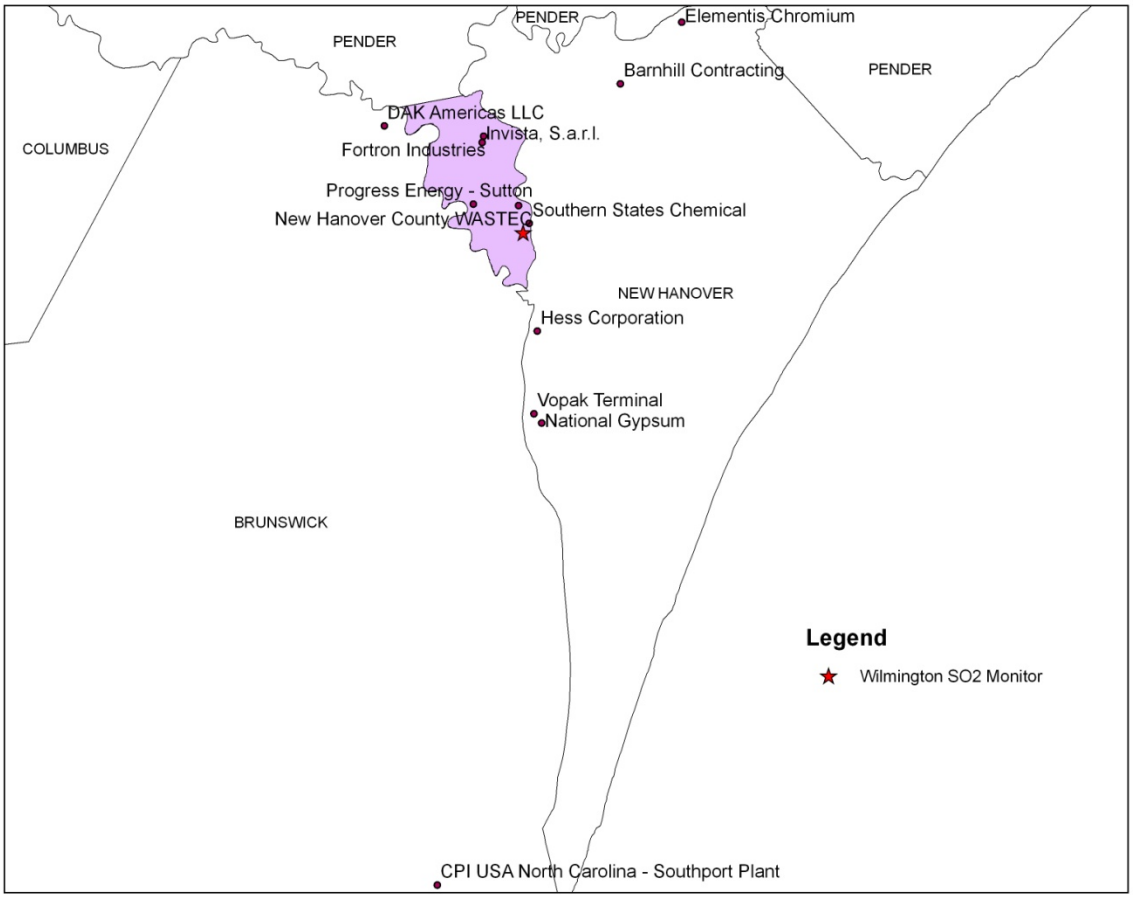

Figure 4. Location of the Top 10 SO_2 Emitters in New Hanover County and Large Sources in Brunswick County

Of the top ten sources in New Hanover County, the following are not included in the recommended nonattainment area: Elementis Chromium, National Gypsum, Hess Corporation, Vopak Terminal and Barnhill Contracting. As discussed in the Air Quality Data section, Elementis Chromium and Barnhill Contracting are located in the northeast corner of New Hanover County and this area was excluded from the boundary recommendation due to clean ambient air quality data. National Gypsum, Hess Corporation, and Vopak Terminal are all located south of the monitoring site. These are small sources of SO_2 and the NCDENR does not believe these sources contributed to the violation at the Wilmington monitor due to the meteorological data provided in the next section. Similarly, the Brunswick County source CPI USA is located south of the monitoring site and the NCDENR does not believe this source contributed to the violation at the Wilmington monitor due to the meteorological data provided in the next section. The NCDENR determined that the northeastern part of Brunswick County, where DAK America is located, should not be included as part of the nonattainment area boundary recommendation. This is due to the meteorology pollution rose discussed in the next section showing very little contribution coming from northwest of the monitoring site and the statement from the USEPA that SO_2 concentrations are much lower at greater distances due to dispersion.

The NCDENR believes the recommended nonattainment area accounts for all those sources which may have contributed to the violation.

Meteorology

The NCDENR reviewed the five-minute-average SO_2 observations for 2008 through 2010 for the Wilmington monitor. For any 5-minute-average observation greater than 75 ppb, corresponding 5-minute-average wind data was obtained from the Wilmington Airport ASOS (Automated Surface Observing System) site. Figure 5 below is a pollution rose plot of the wind data when the 5-minute-average SO_2 observations were greater than 75 ppb. This plot clearly indicates that when 5-minute-average exceedances of the standard occurred, the pollution was not coming from south of the monitor. Therefore, the North Carolina recommended nonattainment area boundary excluded areas south of the monitoring site in New Hanover County.

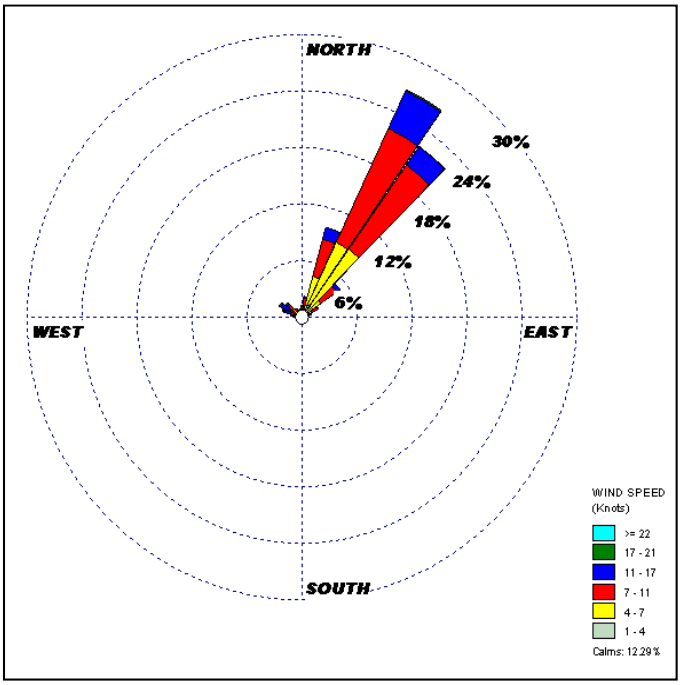

Figure 5. Pollution Rose When SO_2 5-Minute-Average Observations > 75 ppb

Geography/Topography

Topography does not play a role in the violation at the Wilmington monitoring site. The geography of the recommended nonattainment area is a heavily industrialized area and captured the majority of the western I-2 zoned area in New Hanover County (Figure 6).

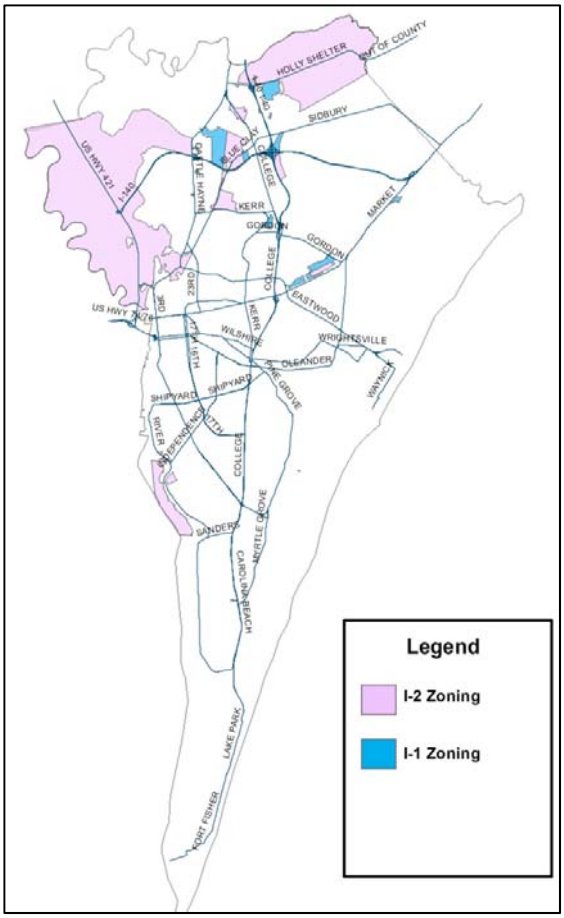

Figure 6. New Hanover County Industrial I-2 Zoning

Jurisdictional Boundary

The USEPA guidance requested clearly defined legal boundaries for carrying out the air quality planning and enforcement functions for the nonattainment area. Where existing jurisdictional boundaries are not adequate to describe the nonattainment area, other clearly defined and permanent landmarks or geographic coordinates may be used.

The NCDENR considered the northwestern I-2 zoned area as a potential nonattainment boundary based upon feedback from local elected officials. However, since the zoning boundaries could be changed over time, the NCDENR decided against this option. In reviewing the jurisdictional boundaries and permanent landmarks that could be clearly defined and taking into consideration the analysis of the first four factors, the NCDENR determined that the Northeast Cape Fear River and the Cape Fear River best defined the area contributing to the violation of the 1-hour SO_2 standard.

Conclusion

The NCDENR analyzed the five factors outlined in the USEPA guidance. This analysis determined that the southern part of New Hanover County is not contributing to the Wilmington monitor violation and the northeastern part of the County had monitoring data that demonstrated compliance with the 1-hour SO_2 standard. The NCDENR determined a nonattainment area boundary that could be clearly defined and captured 98 percent of the SO_2 emissions.

Area Specific Recommendation for Boundaries for 1-Hour SO_2 Attainment

The NCDENR does not believe it is appropriate to determine if an area should be designated as attainment or nonattainment solely based on dispersion models using allowable emissions. Since the designation process historically has been based on actual ambient air quality data and not potential air quality data, the USEPA should consider if an area would have had a violation based on emissions actually released into the air. The NCDENR believes this historical approach more accurately reflects impacts on the environment and will direct limited state resources to actual violations of the 1-hour SO_2 standard rather than theoretical ones. Additionally, there are cases where it could be assumed an area was in attainment of the standard based upon the actual emissions data for a county, i. e., a county with no sources of SO_2 or very small sources of SO_2.

The NCDENR developed a process to identify counties that it is reasonable to assume are attaining the 1-hour SO_2 standard based on actual emissions. First, counties where there were no permitted SO_2 sources were identified. Since the guidance stated that the pollutant arises from direct emissions, it would follow that those counties with no permitted SO_2 sources would not be contributing to a violation and should be designated attainment for the SO_2 standard. Next, the counties total emissions from permitted sources were reviewed and only counties whose total SO_2 emissions were less than or equal to 25 tons per year were considered. For these counties, the facility emissions were then reviewed and any county that had a facility emitting more than 10 tons per year were removed from consideration. The remaining counties were determined to have significantly small enough sources that the NCDENR felt confident that the SO_2 standard has not been violated in those counties.

Finally, the NCDENR is recommending that counties where there is actual ambient air quality monitoring data demonstrating compliance with the 1-hour SO_2 standard be designated attainment. This is consistent with how the USEPA has made designations in the past. Additionally the design values at the four monitoring sites range from 14 to 40 ppb. Given these concentrations the NCDENR believes that the counties should be designated attainment. The NCDENR commits to performing modeling before April 2012 to further demonstrate that these four counties should be designated attainment.

The NCDENR is recommending the following counties be designated as attainment for the 1-hour SO_2 standard: Alleghany, Avery, Beaufort, Camden, Caswell, Cherokee, Chowan, Clay, Currituck, Dare, Davie, Forsyth, Gates, Greene, Henderson, Hyde, Jackson, Jones, Lee, Macon, Madison, Mecklenburg, Mitchell, Pamilco, Pasquotank, Pender, Perquimans, Polk, Swain, Transylvania, Tyrell, Wake, Warren, Washington, Watauga, and Yadkin (Figure 7).

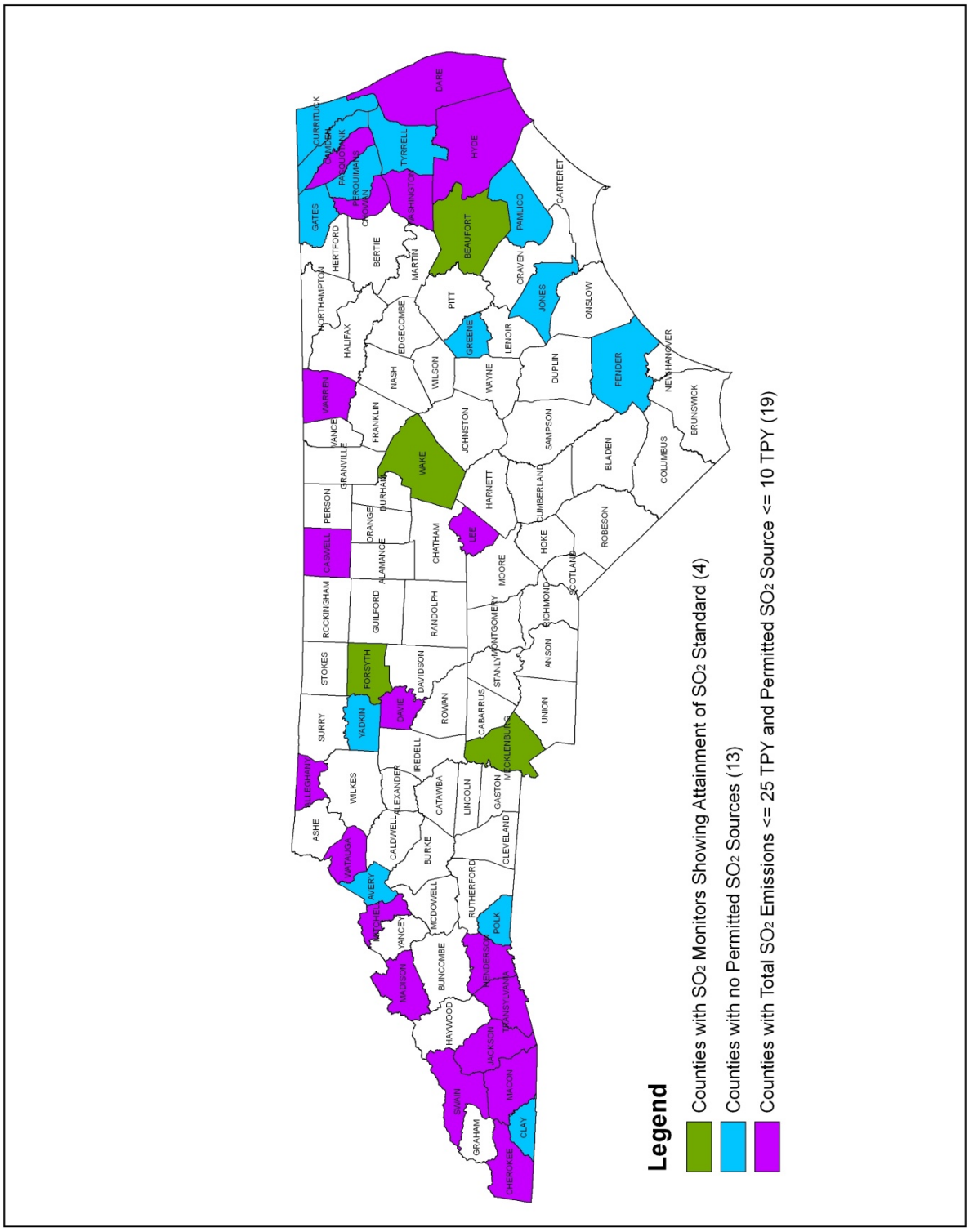

Figure 7. North Carolina's Recommended Designation for Attainment

Alleghany County

Alleghany County is located in the northwest portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 0.4 tons per year (Table 3). The only SO_2 emitter in the county was International Pipes and Accessories, a small facility whose last reported emissions in 2007 were 0.4 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 3. Alleghany County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
International Pipes and Accessories LLC	0.4	2007

Avery County

Avery County is located in the western part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Beaufort County

Beaufort County is located in the eastern part of the State. There is an SO_2 monitor in the county that demonstrates attainment of the 1-hour SO_2 standard. Beaufort County has only one large source of SO_2, PCS Phosphate (Table 4). The SO_2 monitor is located downwind of this facility and was sited so that it would capture the highest SO_2 concentrations from PCS Phosphate. Since this monitor is not only attaining the 1-hour SO_2 standard, but the 2008-210 design value (31 ppb) is well below the 1-hour SO_2 standard, North Carolina is recommending that this county be designated attainment.

Table 4. Beaufort County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
National Spinning Company - Washington	0.3	2006
Riverside Grain Company, Inc.	0.8	2009
Flanders Filters, Inc.	1.1	2009
PCS Phosphate Company Inc. - Aurora	5,236.1	2009
Total County Emissions	5238.3	

Camden County

Camden County is located in the northeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Caswell County

Caswell County is located in the north central portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 6.3 tons per year (Table 5). The only SO_2 emitter in the county was W - L Construction & Paving, Inc.-Asphalt Plant #4318, a facility whose last reported emissions in 2009 were 6.3 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 5. Caswell County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
W - L Construction & Paving, Inc.-Asphalt Plant #4318	6.3	2009

Cherokee County

Cherokee County is located in the southwestern portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 3.7 tons per year (Table 6). The largest SO_2 emitter in the county was Harrison Construction Division of APAC-Atlantic Inc., a small facility whose last reported emissions in 2009 were 3.6 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 6. Cherokee County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Cherokee County Landfill	0.1	2008
Harrison Construction Division of APAC-Atlantic Inc.	3.6	2009
Total County Emissions	3.7	

Chowan County

Chowan County is located in the northeast portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 0.5 tons per year (Table 7). The only SO_2 emitter in the county was Albemarle Sportfishing Boats, a small facility whose last reported emissions in 2009 were 0.5 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 7. Chowan County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Albemarle Sportfishing Boats	0.5	2009

Clay County

Clay County is located in the western part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Currituck County

Currituck County is located in the northeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Dare County

Dare County is located in the northeast portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 3.2 tons per year (Table 8). The largest SO_2 emitter in the county was RPC Contracting Inc - Kitty Hawk, a small facility whose last reported emissions in 2007 were 3.1 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 8. Dare County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Kitty Hawk Combustion Turbine Station	0.1	2009
RPC Contracting Inc - Kitty Hawk	3.1	2007
Total County Emissions	3.2	

Davie County

Davie County is located in the central portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 10.5 tons per year (Table 9). The largest SO_2 emitter in the county was APAC-Atlantic, Inc. - Plant #13 Mocksville, a small facility whose last reported emissions in 2007 were 8.2 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 9. Davie County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Panels, Services & Components, Inc.	0.1	2009
Funder America, Inc.	2.2	2007
APAC-Atlantic, Inc. - Plant #13 Mocksville	8.2	2007
Total County Emissions	10.5	

Forsyth County

Forsyth County is located in the central part of the State. There is an SO_2 monitor in the county that demonstrates attainment of the 1-hour SO_2 standard. The emissions inventory for the Forsyth County sources is listed in Table 10 below and was provided by the local program Forsyth County Environmental Affairs Department. Even with a county total of approximately 341 tons per year of SO_2, the Forsyth County monitor is not only attaining the revised SO_2 standard, the 2008-210 design value of 20 ppb is well below the 1-hour SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 10. Forsyth County Permitted Facility Emissions (tons/year)

Facility Name	2009 Reported SO_2 Emissions
Oracle Flexible Packaging-Liberty (604)	0.1
Rexam Beverage Can Company	0.1
Hayworth-Miller Funeral Home	0.1
Hanesbrands, Inc.	0.1
Oracle Flexible Packaging-Phoenix (200)	0.1
FORSYTH MEMORIAL HOSPITAL	0.1
CAROLINA ART AND FRAME	0.2
North Carolina Baptist Hospitals, Inc.	0.3
Vulcan Materials - East Forsyth Quarry	0.8
Wilson-Cook Medical, Inc.	0.9
Taylor Brothers, Division of Conwood Company, L.P.	1.1
CRES TOBACCO COMPANY	1.1
Winston-Salem State University	1.9
Piedmont Landfill and Recycling Center	1.9
APAC-Atlantic, Inc., Thompson-Arthur Division	2.0
Salem Energy Systems, L.L.C.	2.3
R.J. Reynolds Tobacco Co. (Tobaccoville)	4.0
Muddy Creek Wastewater Treatment Plant	7.5
Cloverleaf Mixing, Inc.	8.4
APAC-Carolina, Inc., Thompson-Arthur Division	8.8
ARCHIE ELLEDGE WWTP	14.3
R.J. Reynolds Tobacco Company	22.2
HANES DYE AND FINISHING CO.	56.4
Corn Products International, Inc.	206.5
Total County Emissions	341.2

Gates County

Gates County is located in the northeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Greene County

Greene County is located in the central part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in

another county. Therefore, North Carolina is recommending that this county be designated attainment.

Henderson County

Henderson County is located in the southwest portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 9.8 tons per year (Table 11). The largest SO_2 emitter in the county was APAC-Atlantic, Inc. - Hendersonville, a small facility whose last reported emissions in 2008 were 7.3 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 11. Henderson County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
UPM Raflatac, Inc	0.1	2009
Mills River Regional Water Treatment Fac	0.1	2009
Selee Corporation	0.1	2005
GE Lighting Solutions, LLC	0.2	2005
Cumberland Gravel & Sand Co.- Henderson County	0.6	2009
Enerdyne III LLC	0.6	2005
Wilsonart International, Inc.	0.8	2009
APAC-Atlantic, Inc. - Hendersonville	7.3	2008
Total County Emissions	9.8	

Hyde County

Hyde County is located in the northeast portion of the State. There were no SO_2 emissions reported from permitted sources. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Jackson County

Jackson County is located in the southwest portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 17.6 tons per year (Table 12). The largest SO_2 emitter in the county was Harrison Construction Division of APAC-Atlantic, Inc., a small facility whose last reported emissions in 2005 were 9.7 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not

experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 12. Jackson County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Western Carolina University	0.2	2009
T & S Hardwoods, Inc.	0.6	2006
Jackson Paper Manufacturing Company	7.1	2009
Harrison Construction Division of APAC-Atlantic, Inc.	9.7	2005
Total County Emissions	17.6	

Jones County

Jones County is located in the eastern part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Lee County

Lee County is located in the central portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 17.6 tons per year (Table 13). The largest SO_2 emitter in the county was S. T. Wooten Corporation - Sanford Asphalt Plant, a small facility whose last reported emissions in 2008 were 9.6 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 13. Lee County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Tyson Foods Inc	0.1	2008
Caterpillar Inc., BCP Sanford	0.1	2006
City of Sanford Water Treatment Plant	0.2	2008
Moen, Inc.	0.4	2005
Noble Oil Services Inc	3.1	2007
Pfizer	4.1	2008
S. T. Wooten Corporation - Sanford Asphalt Plant	9.6	2008
Total County Emissions	17.6	

Macon County

Macon County is located in the southwest portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 12.8 tons per year (Table 14). The largest SO_2 emitter in the county was Harrison Construction Division of APAC-Atlantic Inc., a small facility whose last reported emissions in 2008 were 8.8 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 14. Macon County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Zickgraf Hardwood Flooring Company, LLC - Plant Z1	1.6	2008
Rhodes Brothers Paving, Inc.	2.4	2009
Harrison Construction Division of APAC-Atlantic Inc.	8.8	2008
Total County Emissions	12.8	

Madison County

Madison County is located in the western portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 0.2 tons per year (Table 15). The only SO_2 emitter in the county was McCrary Stone Service, Inc. - Crushing & Screening Plant, a small facility whose last reported emissions in 2009 were 0.2 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 15. Madison County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
McCrary Stone Service, Inc. - Crushing & Screening Plant	0.2	2009

Mecklenburg County

Mecklenburg County is located in the south central part of the State. There is an SO_2 monitor in the county that demonstrates attainment of the 1-hour SO_2 standard. The emissions inventory for the Mecklenburg County sources is listed in Table 16 below and was provided by the local program Mecklenburg County Air Quality. Even with a county total of approximately 217 tons per year of SO_2, the Mecklenburg County monitor is attaining the revised SO_2 standard, with the

2008-2010 design value of 40 ppb, well below the 1-hour SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 16. Mecklenburg County Permitted Facility Emissions (tons/year)

Facility Name	Estimated SO2 Emissions (tons)
Presbyterian Hospital - Matthews	0.0
Rohm and Haas Chemicals, LLC	0.0
D.H. Griffin Grading & Crushing, LLC	0.1
MNC Holdings, LLC	0.1
C-MUD: Mallard Creek Water Reclamation Facility	0.1
Ferebee Asphalt Corp - Charlotte South Plant	0.1
Forbo Siegling, LLC	0.1
Davidson College	0.1
Duke Energy - McGuire Nuclear Station	0.1
C-MUD: McDowell Creek Wastewater Treatment Plant	0.1
Lance, Incorporated	0.1
Blythe Construction, Inc.	0.1
Blythe Construction, Inc. - North Plant	0.1
Metrolina Greenhouses, Inc.	0.1
University of North Carolina at Charlotte	0.2
Ferebee Asphalt Corporation- Statesville Rd. Plant	0.2
J.T. Russell & Sons, Inc.	0.2
C & M Recycling, Inc.	0.3
Rea Contracting - Mallard Creek	0.3
Red Clay Industries	0.4
Interstate Custom Crushing, LLC	0.4
Siemens Power Generation, Inc.	0.4
Lincoln Harris, LLC	0.6
C-MUD: Franklin Water Treatment Plant	0.9
Mallard Creek Polymers, Inc.	0.9
Novant Healthcare's Presbyterian Hospital	1.0
Huntersville Hardwoods	1.3
Charlotte Douglas International Airport	1.7
C-MUD: McAlpine Creek Wastewater Treatment Plant	1.8
IGM Resins Charlotte, Inc	1.9
Rea Contracting (069 Arrowood)	4.6
Charlotte Pipe & Foundry Company, Inc.	6.5
Gerdau Ameristeel US Inc. Charlotte Steel Mill Div	13.9
Cargill, Inc.	54.8

Table 16. Mecklenburg County Permitted Facility Emissions (tons/year)

Facility Name	Estimated SO2 Emissions (tons)
Frito-Lay, Incorporated	123.5
Total County Emissions	217.0

Mitchell County

Mitchell County is located in the western portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 6 tons per year (Table 17). The largest SO_2 emitter in the county was United States Gypsum Company, a small facility whose last reported emissions in 2009 were 4.1 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 17. Mitchell County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
The Quartz Corp USA, K-T Feldspar Corporation	1.9	2007
United States Gypsum Company	4.1	2009
Total County Emissions	6.0	

Pamlico County

Pamlico County is located in the eastern part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Pasquotank County

Pasquotank County is located in the northeast portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 17.6 tons per year (Table 18). The largest SO_2 emitter in the county was Barnhill Contracting Company - Elizabeth City, a small facility whose last reported emissions in 2006 were 6.2 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 18. Pasquotank County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Elizabeth City Wastewater Treatment Plant	0.4	2009
Albemarle Hospital	0.6	2009
Sanders Co Inc	0.6	2009
Parkway Ag Supply, L. L. C. - Morgans Corner	1.3	2009
J W Jones Lumber Co Inc	1.3	2009
USCG Base Support Unit Elizabeth City	2.0	2005
Interstate Custom Crushing, LLC - Pasquotank	5.2	2008
Barnhill Contracting Company - Elizabeth City	6.2	2006
Total County Emissions	17.6	

Pender County

Pender County is located in the southeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Perquimans County

Perquimans County is located in the northeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Polk County

Polk County is located in the western part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Swain County

Swain County is located in the western part of the State. This county's total SO_2 emissions from permitted sources are estimated to be 1.3 tons per year (Table 19). The largest SO_2 emitter in the county was HMC Paving & Construction Company, Inc., a small facility whose last reported emissions in 2007 were 1 tons of SO_2 per year. The NCDENR believes that the emissions in this

county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 19. Swain County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Powell Industries, Inc.	0.3	2005
HMC Paving & Construction Company, Inc.	1.0	2007
Total County Emissions	1.3	

Transylvania County

Transylvania County is located in the western portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 9.7 tons per year (Table 20). The largest SO_2 emitter in the county was APAC-Atlantic, Inc. - Transylvania County, a small facility whose last reported emissions in 2007 were 7.1 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 20. Transylvania County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Vulcan Construction Materials, LP - Penrose Quarry	0.3	2009
Rhodes Brothers Paving, Inc. - Transylvania	2.3	2007
APAC-Atlantic, Inc. - Transylvania County	7.1	2007
Total County Emissions	9.7	

Tyrell County

Tyrell County is located in the northeast portion of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Warren County

Warren County is located in the north central portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 0.5 tons per year (Table 21). The only SO_2

emitter in the County was Elberta Crate and Box Company, a small facility whose last reported emissions in 2009 were 0.5 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 21. Warren County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Elberta Crate and Box Company	0.5	2009

Washington County

Washington County is located in the eastern portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 1.2 tons per year (Table 22). The largest SO_2 emitter in the county was Mackeys Ferry Sawmill Inc., a small facility whose last reported emissions in 2007 were 0.8 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 22. Washington County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
New Colony Farms, L.L.C.	0.4	2009
Mackeys Ferry Sawmill Inc.	0.8	2007
Total County Emissions	1.2	

Wake County

Wake County is located in the central part of the State. There is an SO_2 monitor in the county that demonstrates attainment of the 1-hour SO_2 standard. This county's total emissions from permitted sources were estimated to be 221 tons per year (Table 23). The largest SO_2 emitter in the county was Dorothea Dix Campus with estimated SO_2 emissions of 71 tons per year. Even with a county total of approximately 221 tons per year of SO_2, this monitor is not only attaining the revised SO_2 standard, but the 2008-210 design value is 14 ppb, which is significantly below the 1-hour SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 23. Wake County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Austin Quality Foods, Inc.	0.1	2009
WakeMed	0.1	2009
Nomaco Inc - Zebulon	0.1	2009
Hanson Aggregates Southeast, LLC - Holly Springs	0.2	2009
City of Raleigh Wilders Grove Landfill	0.9	2009
NC DOA Central Heating Plant	1.1	2009
Ajinomoto AminoScience, LLC	1.7	2009
North Wake County Landfill Facility	2.1	2009
Barnhill Contracting Company	2.8	2009
Carolina Sunrock, LLC - RDU Distribution Center	4.4	2009
Rea Contracting (West Raleigh)	4.4	2009
Cargill Inc - Raleigh	15.1	2009
NCSU Central Heat Plant	47.3	2009
Metokote	0.1	2005
Biogen Idec US Limited Partnership	0.1	2008
Public Service Company of NC Inc	0.1	2006
EnWood Structures Inc	0.1	2003
Town of Cary - South Cary Water Reclamation Facility	0.1	2008
Raleigh Steam Producers, LLC	0.1	2005
Fujifilm Diosynth Biotechnologies U.S.A., LLC	0.1	2008
Wake Stone Corporation - Triangle Quarry	0.2	2007
NC DOC - Central Prison	0.2	2005
WakeMed Cary Hospital	0.2	2005
Meredith College	0.2	2006
Potters Industries L.L.C.	0.3	2008
GSK, Inc.	0.5	2007
Raleigh-Durham Airport Authority	0.7	2006
Rex Healthcare	1	2008
CP&L - Harris Nuclear Plant	2.4	2005
Fred Smith Company-Holly Springs Asphalt Plant	6.9	2008
Fred Smith Company - Westgate plant	8.5	2005
Fred Smith Company - Knightdale Asphalt Plant	8.5	2006
T R Vernal Paving, Inc.	10.2	2007
Mallinckrodt Inc	14	2005
Rea Contracting (Garner)	15.4	2006
Dorothea Dix Campus	71	2005
Total County Emissions	221.2	

Watauga County

Watauga County is located in the northwest portion of the State. This county's total SO_2 emissions from permitted sources are estimated to be 15.4 tons per year (Table 24). The largest SO_2 emitter in the county was Maymead Materials, Inc. - Brown Brothers Site, a small facility whose last reported emissions in 2007 were 10.2 tons of SO_2 per year. The NCDENR believes that the emissions in this county are significantly small enough that the county has not experienced a violation of the 1-hour SO_2 standard nor have SO_2 sources in the county contributed to a violation of the SO_2 standard. Therefore, North Carolina is recommending that this county be designated attainment.

Table 24. Watauga County Permitted Facility Emissions (tons/year)

Facility Name	Reported SO_2	Year
Appalachian State University	3.5	2009
International Resistive Company, Inc.	0.1	2006
Watauga Wood Products, Inc.	0.7	2007
Watauga Medical Center	0.9	2005
Maymead Materials, Inc. - Brown Brothers Site	10.2	2007
Total County Emissions	15.4	

Yadkin County

Yadkin County is located in the north central part of the State. There are no permitted sources of SO_2 in this county. The NCDENR believes that this county has not experienced a violation of the 1-hour SO_2 standard and there are no SO_2 sources that would have contributed to a violation in another county. Therefore, North Carolina is recommending that this county be designated attainment.

Area Specific Recommendation for Boundaries for 1-Hour SO_2 Unclassifiable/Attainment

The State of North Carolina is recommending the remaining counties, including the portion of New Hanover County outside of the recommended nonattainment area, be designated as unclassifiable/attainment for the 1-hour SO_2 standard. North Carolina believes a designation of unclassifiable/attainment is appropriate and is consistent with how designations have been made historically for the other NAAQS. The NCDENR opposes designating an area just unclassifiable since it portrays uncertainty to industry that might be looking to locate in North Carolina and could hurt the economic recovery of the State. Additionally, the NCDENR will be determining which sources may potentially violate the 1-hour SO_2 standard and under the State rule 15A NCAC 2D .0501 "Compliance with Emission Control Standards," require the sources to either control their SO_2 emissions or take permit limitations to ensure an exceedance of the standard will not occur.

As stated earlier, the USEPA's boundary guidance came out very late in the process and did not allow sufficient time for the states to implement the suggested methodology for determining designation recommendations by the submittal date of June 3, 2011. The State of North Carolina intends to supplement this recommendation after the NCDENR has completed additional analyses, which will include dispersion modeling. This analysis may indicate some of the counties recommended as unclassifiable/attainment be changed to a recommendation of attainment.