



Catherine B. Templeton, Director

*Promoting and protecting the health of the public and the environment*

May 30, 2014

R. Scott Davis  
Chief, Air Planning Branch  
US EPA Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, GA 30303-8909

**Re: Pre-Hearing Submittal  
Proposed Revision to South Carolina Air Quality Implementation Plan  
SIP Package: Marginal Nonattainment Area SIP Requirements for the York County  
portion of the Charlotte-Rock Hill NC-SC Nonattainment Area, 2008 Ozone Standards**

Dear Mr. Davis:

The South Carolina Department of Health and Environmental Control (Department) is pleased to submit the **proposed** Marginal Nonattainment Area State Implementation Plan (SIP) requirements for the York County portion of the Charlotte-Rock Hill NC-SC 8-hour Ozone Nonattainment Area, for the 2008 NAAQS ozone standards. Within the document is certification that each Clean Air Act 182(a) marginal area requirement has been met. In addition, the required emissions inventory is submitted today in pre-hearing form as Appendix A. The Department submitted a pre-draft copy of this SIP by electronic mail on April 11, 2014, soliciting EPA Region 4's comments. These comments were received on May 19, 2014. The Department has considered EPA suggestions, adopted some of them in this pre-hearing SIP package, and replied in a document attached to this package as Appendix D.

South Carolina has the necessary legal authority for amending the SIP and carrying out the responsibilities of the CAA as shown in Appendix B. A public notice to revise the State Implementation Plan (SIP) was published in the *State Register* on May 23, 2014, and is included as Appendix C in this package. The *State Register* notice references a 30-day comment period that will conclude on June 23, 2014. A public hearing on this issue is being offered on June 30, 2014. The Department requests that EPA provide additional comments by June 30, 2014.

The Department has done its best to develop this revision to meet the statutory requirements of the Clean Air Act absent final implementation guidance and in order to meet the deadline for submission. The Department believes a proposed implementation rule should have been promulgated concurrently with the proposed ozone NAAQS. The shortened timeframe between finalizing the 2008 ozone NAAQS implementation rule and the expected proposal of the 2014 ozone NAAQS further complicates this issue. As South Carolina, like all states, must be proactive in planning in order to meet statutory deadlines, EPA's failure to issue timely guidance makes future guidance burdensome and seemingly capricious. Therefore, the Department would like to reiterate the need for CAA reform as this is an instance in which

both state and regional EPA hands are tied due to the untimely rulemaking and outdated statutory deadlines.<sup>1</sup>

The Department solicits EPA's comments on this plan, and appreciates your assistance. Should you or your staff have any questions or comments concerning this SIP revision, please contact Mr. Roger Jerry of the Bureau of Air Quality at 803-898-1799, or [jerryre@dhec.sc.gov](mailto:jerryre@dhec.sc.gov).

Sincerely,



Robert J. Brown, Jr., Director  
Division of Air Assessment and Regulation  
Bureau of Air Quality  
Environmental Quality Control  
South Carolina Department of Health and Environmental Control

cc: Lynorae Benjamin, Chief, Regulatory Development Section, EPA Region 4  
Jane Spann, Ozone Coordinator, EPA Region 4  
Richard Wong, South Carolina Liaison, EPA Region 4  
Myra Reece, Chief, BAQ, SCDHEC  
Rhonda B. Thompson, Assistant Bureau Chief, BAQ, SCDHEC  
Robert J. Brown, Jr., Director, Div. of Air Assessment & Regulation, BAQ, SCDHEC  
L. Nelson Roberts, Jr., Manager, Air Quality Standards & Assessment Section,  
BAQ SCDHEC  
Maeve S. R. Mason, Manager, Regulation Development and SIP Management Section, BAQ,  
SCDHEC  
Bill Harris, Chief, Catawba Indian Nation  
David Hooper, RFATS representative, City of Rock Hill, SC  
Sheila Holman, Director, North Carolina DENR, Division of Air Quality

CD enclosure:

2008 8-Hour Ozone Marginal Nonattainment Area SIP Requirements  
Appendix A: Emissions Inventory and Documentation for York County, SC Portion of  
Charlotte-Rock Hill, NC-SC Marginal Nonattainment Area (2008 NAAQS  
Ozone Standards)  
Appendix B: Copy of Legal Authority.  
Appendix C: Notice of Intent to Revise the SIP, *SC State Register*, May 23, 2014  
Appendix D: EPA comments on the pre-draft submittal of 4/11/14 and Department's response

<sup>1</sup> See SC DHEC Deputy Commissioner Robert W. King's comments at the July 31, 2012, Whitfield Clean Air Act Forum:  
<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CAAforum/20120731/King.pdf>

Marginal Nonattainment Area SIP Requirements for  
York County, SC Portion of Charlotte-Rock Hill,  
North Carolina-South Carolina Nonattainment Area  
Pre-Hearing Copy  
May 30, 2014

**South Carolina  
Marginal Air Quality Implementation Plan**

**For the York County, South Carolina Portion of the Charlotte-Rock Hill, NC-SC  
8-Hour Ozone Nonattainment Area**

Ground level ozone, one of the principal components of “smog,” is a serious air pollutant that harms human health and the environment. Ozone is generally not directly emitted to the atmosphere; rather it is formed in the atmosphere by photochemical reactions between volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), and carbon monoxide (CO) in the presence of sunlight. High levels of ozone can damage the respiratory system and cause breathing problems, throat irritation, coughing, chest pains, and greater susceptibility to respiratory infection. High levels of ozone also cause serious damage to forests and agricultural crops, resulting in economic losses to logging and farming operations.

On April 30, 2012, the Environmental Protection Agency (EPA) issued final area designations for the 2008 ozone National Ambient Air Quality Standard (NAAQS). (77 FR 30144) At that time, all of South Carolina was classified as unclassifiable/attainment with the exception of a portion of York County. Although the monitor in York County was meeting and continues to meet the standard, EPA included the eastern, urbanized area of York County in the Charlotte-Rock Hill, NC-SC nonattainment area (York NAA) because of its belief that emissions in that area contributed to violations at monitors in the Charlotte area.. This is the same portion of York County that was designated in 2004 as nonattainment for the 1997 ozone standard, with the exception of the Catawba Indian Nation Reservation. (69 FR 23857) The York NAA was designated marginal for the 2008 ozone NAAQS and as such South Carolina has already implemented NAA requirements in the area due to its 1997 moderate designation.

Per Clean Air Act (CAA) Section 182(a), Marginal Nonattainment Area Requirements which apply to the York NAA include nonattainment new source review (NSR), emissions inventory, emissions statements, etc. The Department has had lengthy dialogue with EPA Region 4 staff and it has been brought to our attention that many if not all of these SIP requirements can be met as a certification of completion/implementation. For the reasons below, the Department believes each marginal area requirement in the Clean Air Act has been or will be met.

The Department also recognizes that the 2008 Ozone SIP Requirements Rule (Proposed June 06, 2013) is not expected to be finalized until after the date of submittal of this document. Designations were effective July 20, 2012, and emission inventories for nonattainment areas are due July 20, 2014. States will not have time to complete the work required for SIPs if they wait for EPA to finalize the SIP Requirements Rule.

The Department is moving forward with certification of the associated marginal area SIP requirements for the York County portion of the Charlotte-Rock Hill, NC-SC Nonattainment area for the 2008 ozone NAAQS based on the CAA in the absence of EPA guidance in an attempt to meet statutory deadlines. This is an example of a critical need for Clean Air Act reform (See SC DHEC Deputy Commissioner Robert W. King comments at July 31, 2012, Whitfield Clean Air Act Forum: <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CAAforum/20120731/King.pdf>).

## **Clean Air Act Section 182(a)(1): Inventory**

Emissions Inventory reporting is required by SC Regulation 61-62.1, Section III, and condition 4.B.6 contained in Part 4.B of a facility's Title V permit if the permit was issued before 10/09/2007; condition 4.6 contained in Part 4 of a facility's Title V permit if the permit was issued between 10/09/2007, and 10/14/2008; or condition 4.3 contained in Part 4 of a facility's Title V permit if the permit was issued after 10/14/2008. Section III, Emissions Inventory, has been in SC regulatory text since 1983 and has been updated/amended with relative frequency. Section III was amended in its entirety in 2005 to streamline emissions inventory reporting requirements and for consistency with the Consolidated Emissions Reporting Rule (CERR) which was published in the *Federal Register* on June 10, 2002 (67 FR 39602).

The Department, per the Air Emissions Reporting Requirements (AERR) Rule (73 FR 76539), met 2012 reporting requirements for the York NAA utilizing 2011 data. On March 4, 2013, in a letter addressed to Ms. Myra Reece, Richard A. Wayland stated that our "agency's emissions data submission is 'complete.'" The Department believes Mr. Wayland's letter certifies that York County's marginal nonattainment area SIP requirements found in CAA Section 182(a)(1) have been met in full. See Item 1 below. The Department does not see the need for marginal area emissions inventory reporting as no modeling is required to be redesignated to attainment. Any emissions inventory reporting for marginal areas outside of what has already been collected into the National Emissions Inventory (NEI) seems to be redundant, burdensome, and unnecessary. The Department, however, understands that EPA Region 4 is requiring a subsequent submission of the same data to meet the 2008 ozone NAA SIP requirements

The Department also believes, and has had detailed dialogue with EPA Region 4, that states should be allowed the option to utilize full county data (AERR reporting) as opposed to partial county data to meet the requirements of CAA Section 182(a)(1). There are instances in which partial county data will be burdensome for states to extract from a previous AERR submittal. AERR requirements are met by full county emissions inventory submittals. Pulling out partial county data in some instances will provide little benefit as the theory behind a nonattainment area is that most of the area emissions are contained within the nonattainment area and adding emission reporting from the rest of the county will have a negligible impact on the data. The Department stands behind its belief that this is the case for York County.

Certain metropolitan statistical areas (MSAs) and combined statistical areas (CSAs), however, encompass very small portions of multiple counties and nonattainment area boundaries may be drawn based on MSAs and CSAs rather than county lines. In these instances, there may be significant benefit to partial county data submittals despite the resource intensive process required to extract those data from AERR reporting. While the Department appreciates EPA Region 4's position that the SIP Requirements Rule is not yet final—the Department is confronted with an impossible statutory deadline and so has chosen to submit a full county emissions inventory for York County, which includes the part of the county designated by EPA as marginal nonattainment.

The Department has resubmitted the data from the 2012 AERR inventory (2011 base year data) and the methodologies used to obtain these data. These documents are included herein as Appendix A. The Department certifies that the requirements of CAA 182(a)(1) which requires a comprehensive, accurate, current inventory of actual emissions from all sources within 2 years after the date of the enactment of the CAA Amendments of 1990 is met by the full county emissions inventory submission contained in Appendix A.

### **Clean Air Act Section 182(a)(2)(A): Reasonable Available Control Technology Corrections**

This requirement applies (per EPA) only to pre-1990 ozone issues. Since South Carolina had none, section 182(a)(2)(A) does not apply and is referred to here only for completeness.

### **Clean Air Act Section 182(a)(2)(B): Savings Clause for Vehicle Inspection and Maintenance**

This requirement applies (per EPA) only to pre-1990 ozone issues. Since South Carolina had none, section 182(a)(2)(B) does not apply and is referred to here only for completeness.

### **Clean Air Act Section 182(a)(2)(C): Permit Programs**

The Department has met the requirement of CAA Section 182(a)(2)(C) as outlined in 76 FR 36875 which fully approved South Carolina's Nonattainment NSR program. The Department has a SIP-approved nonattainment new source review permitting program at R. 61-62.5, Standard No. 7.1 which governs any new construction or modification of an existing facility in a nonattainment area subject to requirements for new source review. EPA approved the nonattainment new source review permitting program into South Carolina's SIP on June 2, 2008 (73 FR 31369) and June 23, 2011 (76 FR 36875)

### **Clean Air Act Section 182(a)(3)(A): Periodic Inventory – General Requirement**

As noted under the portion of this letter regarding CAA Section 182(a)(1), Regulation 61-62.1, Section III, Emissions Inventory, and the Air Emissions Reporting Requirements (AERR) Rule (73 FR 76539) requirements lay out the framework for periodic emissions inventory reporting. The Department will meet the requirement of CAA Section 182 (a)(3)(A) with 2014 data as part of the 2014 data submission.

EPA Region 4's September 24, 2013 comment letter states that EPA is currently developing guidance on this portion of the 2008 ozone NAA SIP Requirements. As of this document's date of submittal, EPA's guidance has not been published or otherwise disseminated.

### **Clean Air Act Section 182(a)(3)(B): Periodic Inventory – Emissions Statements**

South Carolina withdrew its August 31, 2007, attainment demonstration for 1997 8-Hour ozone NAAQS on December 22, 2008, and resubmitted it on April 29, 2010. On March 7, 2012, EPA determined that the bi-state Charlotte Area attained the 1997 8-hour ozone NAAQS and consequently, SC withdrew its attainment demonstration on January 12, 2012 pursuant to 40 CFR 51.918 (the RFP, emissions statements, and emissions inventory submittals, however, were not withdrawn).

The April 29, 2010, SIP revision states that the Department has the authority to require annual emissions statements and is taking specific action to comply with the emissions statement requirements for any class or category of stationary sources that emits 25 tons per year or more of VOCs or NO<sub>x</sub>. The Department "has and is requiring, receiving, and archiving" emissions statements, through Regulation 61-62.1, Section III. The Department requires reporting through Satellite i-STEPS or the form found at: <http://www.dhec.sc.gov/Library/d-1216.pdf>.

EPA evaluated the Department's April 29, 2010, SIP revision as it relates to the emissions statement requirements and made the determination that the requirements of CAA section 182(a)(3)(B) have been

met. EPA published a Direct Final Rule on June 25, 2012 (77 FR 37812), approving the Department's emissions statement SIP submittal:

<http://www.gpo.gov/fdsys/pkg/FR-2012-06-25/pdf/2012-14955.pdf>.

Additionally, the Department has taken action in the 2013 General Assembly Package (South Carolina *State Register* Document No. 4388) to put Emissions Statement requirements for ozone nonattainment areas into SC regulatory text in an act of good customer service—not to fulfill CAA Section 182(a)(3)(B) requirements as these requirements have previously been met. This amendment to Regulation 61-62.1, Section III will become law on June 27, 2014.

The Department certifies that the Emissions Statement requirements of CAA Section 182(a)(3)(B) have been met per the SIP approval published by EPA in 77 FR 37812. The Department did not stop collecting emissions statements from facilities between the 1997 and the 2008 ozone NAAQS nonattainment designations as the York nonattainment area had already been designated nonattainment for the 2008 ozone NAAQS (April 2012) at the time EPA approved the Department's York redesignation request for the 1997 standard (77 FR 75862, December 26, 2012). Annual emissions statement collection for the York nonattainment has been ongoing as the 1997 and the 2008 ozone NAAQS timelines overlap significantly (as may occur with the expected ozone NAAQS revision).

#### **Clean Air Act Section 182(a)(4): General Offset Requirements**

On December 31, 2002 (67 FR 80185) and October 27, 2003 (68 FR 61247), the EPA finalized revisions governing NSR program mandated by parts C and D of Title I of the CAA. The major NSR program contained in parts C and D of Title I of the CAA is a preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the CAA. In areas not meeting the health-based NAAQS, the program is implemented under the requirements of part D of title I of the CAA. This is referred to as the nonattainment NSR program. In areas meeting the NAAQS (attainment areas), the NSR requirements under part C of Title I apply. This is referred to as the Prevention of Significant Deterioration (PSD) program. Collectively, these programs are commonly referred to as the major NSR program.

On July 1, 2005, the Department submitted a final SIP amendment to then EPA Region 4 Regional Administrator, James I. Palmer which was conditionally approved via 73 FR 31369. On April 17, 2009, the Department submitted a SIP revision to EPA to meet the requirements of the conditional approval of SC's Nonattainment New Source Review program. On June 23, 2011, EPA took final action to approve SC's Nonattainment New Source Review program in full (76 FR 36875). Ozone nonattainment area emission offsetting ratios (to include marginal area offset requirements) have been adopted into SC's regulatory text at Regulation 61-62.5, Standard 7.1, Nonattainment New Source Review, paragraph (d)(1)(C)(vii)(b).

The Department believes 76 FR 36875 which approved SC's Nonattainment New Source Review program in full meets the requirements of CAA Section 182(a)(4).

#### **Clean Air Act Section 176(c): Transportation Conformity**

The purpose of transportation conformity is to ensure that Federal transportation actions occurring in nonattainment and maintenance areas do not hinder the area from attaining and maintaining the 8-hour ozone standard. The level of emissions estimated by the Rock Hill-Fort Mill Area Transportation Study (RFATS) for the Transportation Implementation Plan (TIP) and Long Range Transportation Plan (LRTP)

must not exceed the motor vehicle emission budget (MVEB) for the area (approved December 26, 2012 in 77 FR 75862). Item 2 below is a letter from Yvette G. Taylor (Federal Transit Administration Regional Administrator) and Robert L. Lee (Federal Highway Administrations Division Administrator), finding the Rock Hill-Fort Mill Area Transportation Study (RFATS) 2030 LRTP and FY 2014-2019 TIP in conformity with the purpose of the SIP in accordance with 40 CFR 93.

The Department believes this conformity determination meets the York County nonattainment area's transportation conformity requirements for the 2008 ozone NAAQS.

Item 1:

March 4, 2013

Letter from Richard A. Wayland to Ms. Myra Reece



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

March 4, 2013

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

Ms. Myra Reece  
South Carolina Department of Health and Environmental Control  
2600 Bull Street  
Columbia, SC 29201

Dear Ms. Reece:

Thank you for your agency's efforts to provide EPA emissions data, in compliance with the Air Emissions Reporting Rule (AERR) of 2008. We are especially appreciative that your agency voluntarily submitted hazardous air pollutant (HAP) emissions. Your efforts to comply with the AERR are important: EPA's Office of Air Quality Planning and Standards (OAQPS) uses these data to compile the 2011 National Emissions Inventory (NEI). An accurate national inventory is crucial to our shared mission of protecting air quality. We need your help to make this effort a success.

The purpose of this letter is to provide "completeness" feedback on your agency's emissions data submission, to ask for your continued support of the NEI, and to express our willingness to work with you to address any barriers to complete data submission. The criteria we used in evaluating completeness are described in the enclosure.

The 2011 NEI data will be the foundation for several upcoming key rules and analyses. For example, we plan to use these data to update modeling as we evaluate options for addressing transport in light of the recent court decision on the Cross State Air Pollution Rule. We also will use the data as the basis for the 2011 National Air Toxics Assessment (NATA) and in developing the benefits assessment for the National Ambient Air Quality Standards for ozone, which are currently under review. These data are also the starting point for State and Local Air agency's State Implementation Plan inventories and serve many other purposes. These efforts are extremely important for improving and maintaining air quality, and it is essential that we have complete and accurate data from your Agency to help make these efforts successful.

**Congratulations, our records indicate that your agency's emissions data submission is "complete."**

Thank you as well for your voluntary submission of HAP emissions. We also know that our quality assurance will likely identify some additional issues for your staff to address, so we will be continuing to work with your staff over the coming months to ensure the best possible data are available for use by EPA, other government agencies, and the public. Your staff have had February to review and update your agency's data and will have another opportunity in April 2013. They have already been notified of

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how to work with EPA on this, and we encourage you to support these efforts to the extent possible. An overall 2011 NEI development schedule is enclosed for your information.

<b>Data Category</b>	<b>Status</b>	<b>What to do</b>
Point sources	Complete	Review EPA QA feedback
Nonpoint sources	Complete and thank you for completing the nonpoint survey	Review EPA QA feedback
On-road mobile sources	Complete, model inputs submitted	Participate in ongoing QA and review
Nonroad equipment sources	Complete, accepted EPA inputs/emissions	Participate in ongoing QA and review

We recognize that this is the first time for the new December 31<sup>st</sup> AERR deadline, and that air agencies across the country are dealing with resource constraints. In most cases, agencies are already working with OAQPS and the Regional Offices to complete their data submissions. We have heard from a number of states about challenges they have had in using EPA's data system for the NEI, called the Emission Inventory System (EIS). Please do not hesitate to continue to provide us feedback on this and other issues. We are working to improve the EIS and our processes, and we want to do whatever we can to help states along the way. For example, we have provided many of the nonpoint and mobile source datasets for your agency's review and use as a way to meet the requirements of the AERR.

Despite the challenges, we need your help to make this effort a success. If you would like to discuss any concerns about this effort, please contact me or the Group Leader in my division responsible for the NEI, Marc Houyoux ([houyoux.marc@epa.gov](mailto:houyoux.marc@epa.gov) or 919-541-3649). And again, thank you for your efforts to date. Together, we can develop a 2011 emissions inventory that will be beneficial to all of us.

Sincerely,



Richard A. Wayland, Director  
Air Quality Assessment Division

Enclosures

cc: R. Scott Davis  
Brenda Johnson  
Henry Porter  
Carla Bedenbaugh  
Christopher Cheatham  
Chad Wilbanks  
Lynn Barnes

### **Enclosure: 2011 NEI Completeness criteria**

Complete – agencies have been identified as complete as follows:

- Point sources:
  - At least one pollutant was submitted for each of the point source facilities that your agency indicates was operating in 2011 (EIS “operating status” = “OP”) and for which your agency has provided an Agency facility ID in the past.
- Nonpoint sources:
  - Nonpoint emissions were submitted for any of the industrial, commercial, or institutional combustion categories, which EPA cannot estimate without agency input because of possible overlap with point sources of emissions.
  - Nonpoint emissions were submitted *or* EPA estimates were accepted for other nonpoint categories, and specifically checking for locomotives and commercial marine vessels, where these sources exist.
  - For agencies completing the nonpoint survey, all EIS sectors that were indicated for EPA to use agency data were actually reported in EIS.
- On-road mobile emissions or model inputs were successfully submitted or your agency told us that using EPA model inputs is okay.
- Nonroad mobile emissions or model inputs were successfully submitted or your agency told us that using EPA model inputs is okay.

Partially Complete – Agency submissions have been identified as partially complete when indications are that one or more data categories (point, nonpoint, on-road mobile, or nonroad mobile) have not been completed. This can occur because not all facilities have been submitted (or the status does not indicate a closure or non-reporting status), or because the completeness criteria for nonpoint, on-road, or nonroad mobile sources have not been met. For agencies that completed the nonpoint survey, a Partially Complete status could result if a sector was not reported that the agency indicated should come from the agency.

Not submitted any data – Agencies in this category are responsible for submitting emissions for point and nonpoint sources, and may be responsible for also submitting on-road mobile, and nonroad mobile sources, but have not yet submitted any data or notified EPA that EPA estimates are acceptable for any categories.

**Enclosure: NEI development schedule**

For the past year, OAQPS staff have reached out to your agency to provide instructions, assistance, and encouragement for providing these data. OAQPS is now sending out feedback to your agency contacts (cc'd below) as part of our quality improvement efforts, with a release of the 2011 NEI targeted for June 2013. The recent statutory 12/31/2012 deadline for submission of emissions data was extended to 1/7/2013 to allow reporting agencies additional time to comply with the AERR.

12/4/2008	AERR requirements published that affect this 2011 NEI submission
3/1/2012 – 5/30/2012	2011 NEI and EIS submission webinars provided for all data categories
5/16/2012 - present	2011- specific data and details posted on EPA 2011 website ( <a href="http://www.epa.gov/ttn/chief/net/2011inventory.html">http://www.epa.gov/ttn/chief/net/2011inventory.html</a> )
6/1/2012 - 12/31/2012	State, local, and tribal 2011 NEI data submissions accepted
6/15/2012 - 12/20/2012	EPA posted EPA estimates for nonpoint data categories and landing/take data for for state review
8/13/2012	In-person 2011 NEI and EIS training provided at 20 <sup>th</sup> International Emissions Inventory Conference, Tampa, Florida
10/4/2012	Reviewed 2011 NEI schedule on NACAA Emissions & Modeling call
11/1/2012 - 12/30/2012	EPA contacted state agencies who had not yet started in EIS and asked if they needed any assistance. Provided assistance as needed.
12/31/2012	AERR official submission window closed for 2011 NEI
1/8/2013	Close of one-week extension for agency submissions
1/25/2013 - 2/28/2013	EPA provides feedback to agencies on data completeness and outliers initially through 2/7, and EPA continues to work with agencies throughout the month
2/8/2013 - 3/1/2013	Agencies address quality assurance feedback from EPA
3/2/2013 - 4/1/2013	EPA prepares 2011 NEI draft, releases on 4/1/2013 in EIS Gateway
4/1/2013 - 4/30/2013	States review 2011 NEI draft and submit data updates as needed
7/1/2013	2011 NEI version 1 release
7/2/2013 - TBD	Continued review, state updates, and improvements for future 2011 NEI versions, including, those that will support regulatory efforts and 2011 NATA

Item 2:

June 07, 2013

RFATS 2035 LRTP and FY 2014-2019 TIP  
Conformity Determination



U.S. Department  
of Transportation

Federal Transit Administration  
Region IV  
230 Peachtree St., NW  
Suite 800  
Atlanta, GA 30303  
404-865-5600  
404-465-5605 (fax)

Federal Highway Administration  
South Carolina Division  
Strom Thurmond Federal Building  
1835 Assembly St, Suite 1270  
Columbia, SC 29201  
803-765-5411  
803-253-3989 (fax)

June 7, 2013

Ms. David Hooper  
RFATS Coordinator / Transportation Planner  
Rock Hill-Fort Mill Area Transportation Study  
P.O. Box 11706  
155 Johnston Street  
Rock Hill, SC 29731

Dear Mr. Hooper:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed the review of the Rock Hill-Fort Mill Area Transportation Study (RFATS) Transportation Conformity Determination Report for the 2035 Long Range Transportation Plan (LRTP) and FY 2014-2019 Transportation Improvement Program (TIP). We have also coordinated our review with the Environmental Protection Agency (EPA) Region IV.

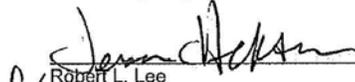
Based on our review and the comments provided to us by the EPA, we find that the RFATS 2035 LRTP and FY 2014-2019 TIP conform to the purpose of the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

We would like to thank you for your staff's time in helping us complete this review. Please do not hesitate to call if you have any questions or comments.

Federal Transit Administration

  
Yvette G. Taylor  
Regional Administrator  
Federal Transit Administration

Federal Highway Administration

  
Robert L. Lee  
Division Administrator  
Federal Highway Administration

Enclosure

cc: Mr. Mark Lester, SCDOT  
Mr. Nelson Roberts, SC DHEC  
Ms. Kelly Sheckler, US EPA, Region IV  
Mr. Curt Fehn, US EPA, Region IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-6960

June 5, 2013

Robert L. Lee  
Division Administrator  
South Carolina Division Office  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, South Carolina 29201

Dear Mr. Lee:

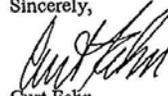
Thank you for requesting our review of the transportation conformity determination for the updated 2035 Long Range Transportation Plan (LRTP) and the updated Fiscal Year (FY) 2019-2019 Transportation Improvement Program (TIP) for the Rock Hill-Fort Mill Area Transit Study Metropolitan Planning Organization (RFATS MPO) for the York County portion of the bi-state Charlotte nonattainment area. These conformity determinations are for the 1997 8-hour ozone standard and the 2008 8-hour ozone standard, and are in accordance with the U.S. Environmental Protection Agency guidance entitled, *Companion Guidance for the July 1, 2004, Final Transportation Conformity Rule: Conformity Implementation in Multi-jurisdictional Nonattainment and Maintenance Areas for Existing and New Air Quality Standards*. The EPA's guidance allows the South Carolina and North Carolina portions of this bi-state nonattainment area to demonstrate conformity independently because there are budgets for a portion of this area, and there was an election made through interagency consultation to implement conformity requirements for each state independently. We have completed our review for the South Carolina portion of this area, and recommend a finding of conformity for the 8-hour ozone standard for the RFATS MPO's updated 2035 LRTP and the FY 2014-2019 TIP.

On August 15, 1997, and subsequently on July 1, 2004, and May 6, 2005, U.S. EPA published revisions related to the "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," or Transportation Conformity Rule (40 Code of Federal Regulations Part 93). These revisions outline the criteria that must be met for the 8-hour ozone and PM2.5 standards. The EPA has reviewed the conformity determination related to the 8-hour ozone standards for the amended 2030 LRTP and the amended FY 2007-2012 TIP and have concluded that all of the criteria, including those outlined in the July 1, 2004, conformity rule revision entitled, "Transportation Conformity Rule Amendments: Conformity Amendments for New 8-hour Ozone and PM2.5 National Ambient Air Quality Standards, Response to March 1999, Court Decision and Additional Rule Changes," (69 FR 40004), and those outlined in the May 6, 2005, conformity rule revision entitled, "Transportation Conformity Rule Amendments for the New PM2.5 National Ambient Air Quality Standard: PM2.5 Precursors" (70 FR 24280), have been met.

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We appreciate the opportunity to previously review advanced drafts of the conformity determination for the amended 2035 LRTP and amended FY 2014-2019 TIP for the Rock Hill-Fort Mill Area. The advanced drafts facilitated our review. If you have any questions regarding this letter, please contact Ms. Kelly Sheckler of the EPA Region 4 staff at (404) 562-9222.

Sincerely,



Curt Fein  
Chief  
Air Quality Modeling  
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cc: Jessica Hoover, FHWA SC  
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**Appendix A**  
**Emissions Inventory and Documentation for**  
**York County, SC Portion of Charlotte-Rock Hill, North Carolina-South Carolina Marginal**  
**Nonattainment Area (2008 NAAQS Ozone Standards)**

**Prepared by**  
**South Carolina Department of Health and Environmental Control**  
**Bureau of Air Quality**

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## LIST OF ACRONYMS

<b>Acronym</b>	<b>Definition</b>
AERR	Air Emissions Reporting Requirements
AVG	Average
CDB	County Data Base
CMV	Commercial Marine Vessel
CNG	Compressed Natural Gas
Department	South Carolina Department of Health and Environmental Control
DMV	South Carolina Department of Motor Vehicles
EDMS	Emissions and Dispersion Modeling System
EGU	(Point) Electric Generating Unit
EIA	Energy Information Administration
EIIP	Emissions Inventory Improvement Program
EIS	Emissions Inventory System
EPA	U.S. Environmental Protection Agency
EPA-OAQPS	EPA Office of Air Quality Planning and Standards
ERTAC	Eastern Regional Technical Advisory Committee
FAA	Federal Aviation Administration
GA	General Aviation
GHG	Greenhouse Gas
GSE	Ground Support Equipment
HAP	Hazardous Air Pollutant
HPMS	Highway Performance Management System
ICE	Internal Combustion Engine
LPG	Liquid Petroleum Gas
LTO	Landing and Takeoff
MACT	Maximum Achievable Control Technology
MOVES	Motor Vehicle Emission Simulator
MSW	Municipal Solid Waste
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCDB	NMIM County Database
NEI	National Emissions Inventory
NG	Natural Gas
NMIM	National Mobile Inventory Model
NO <sub>x</sub>	Nitrogen Oxides
PFC	Portable Fuel Container
PM	Particulate Matter
QA	Quality Assurance
SCC	Source Classification Code
SEDS	State Energy Data System
SF2	SMARTFIRE2 estimation system
SIC	Standard Industrial Classification
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WLF	Wild Land Fire

**PART I: EMISSIONS INVENTORY SUMMARY**

**I. INTRODUCTION**

The following section contains emission summary tables for York County, SC, which is part of the Charlotte-Rock Hill, NC-SC Nonattainment Area. The inventory data is for calendar year 2011.

**II. BASELINE YEAR (2011) INVENTORIES**

The emissions are reported as tons/average summer day of pollutant. In accordance with the requirements of EPA's, Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations November 2005, the only pollutants reported are Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOC) and emissions are summed as tons/average summer day for the year 2011.

**Table 1: 2011 Emissions Summary for York County, SC, tons per average summer day**

SECTOR	YORK COUNTY, SC* 2011 NO <sub>x</sub> TONS/AVG SUMMER DAY	YORK COUNTY, SC* 2011 VOC TONS/AVG SUMMER DAY
Point	4.71	4.29
Nonpoint	1.21	8.25
Events	0.08	0.77
Nonroad Mobile	3.21	2.82
Onroad Mobile	11.72	5.44
Total	20.96	21.6

\*Only part of York County is in the nonattainment area, however the emissions represented in the table above are for the whole county.

**Table 2: Biogenic Emissions Summary for York County, SC, tons/average summer day**

County	NO <sub>x</sub>	VOC
York, SC*	0.43	65.78

\*Only part of York County is in the nonattainment area, however the emissions represented in the table above are for the whole county.

**PART II: POINT SOURCE EMISSIONS INVENTORY DOCUMENTATION**

**I. INTRODUCTION**

The following three sections contain stationary point inventory documentation for York County, SC, which is part of the Charlotte-Rock Hill, NC-SC Nonattainment Area. The inventory data is for calendar year 2011.

The York County, SC emissions inventory was developed by the Department, with some additional sources and emissions supplied by EPA, as part of the 2011 NEI effort. The 2011 EI was developed per the Air Emissions Reporting Requirements (AERR) rule. Emission estimates were calculated in tons per year, and converted to tons per average summer day for this submittal. Section II documents the Department-developed 2011 point inventory. This inventory only includes the Title V permitted industrial

sources; Section III addresses additional point sources calculated by EPA as part of the 2011 NEI. These sources include airport and railyards, which used to be captured within the nonroad mobile category. However, there are no railyards in York County, SC, so that category will not be addressed in this document.

## **II. 2011 INDUSTRIAL POINT SOURCE INVENTORY DEVELOPMENT**

This section details the development of the 2011 base year inventory for industrial point sources. The development of the point source inventory by the Department began with the collection of actual 2011 process data and emission estimates from all stationary sources that are subject to Title V permitting program. Sources required to send in inventory data are determined in accordance with the Air Emissions Reporting Rule (AERR). Every 2011 inventory received was reviewed by the Department's staff to ensure that the correct procedures were followed in developing the inventory and to ensure that appropriate emission factors were used. The Department's staff rely on EPA-approved methodology and use preferred methods over less preferred methods where available when performing or accepting calculations. For example, Department approved stack testing emission factors are preferred over AP-42 emission factors; when available, continuous emission monitor data are used preferentially over stack test data. The order of preferred methods from best to least desirable are 1) mass balance calculations, 2) continuous emissions monitor data, 3) Bureau approved and reviewed stack test emission factors, 4) AP-42 or FIRE Emission factors, 5) in-house stack test, and 6) other.

The Department submitted the 2011 point data to the EPA as part of the 2011 NEI effort. The EPA did make some amendments to the Department's data, but primarily to "gap fill" pollutants or sources not provided by S/L/T agencies.

To estimate the average summer day emissions for industrial point sources, the Department used monthly throughput percentages provided by the facilities. If no monthly throughput percentages were provided by the facility, the Department assumed an equal percentage for all twelve months. The throughput percentage for months May, June, July, August, and September were added together to get the percentage of the throughput assumed to have been used during the ozone season. This ozone season percentage was then multiplied by the annual emissions to get an ozone season emission estimate. The ozone season emission estimate was then divided by the number of days in the 2011 ozone season, 153 days, to get an estimate of the average summer day emissions.

## **III. 2011 AIRPORT POINT SOURCE INVENTORY DEVELOPMENT**

The aircraft sector includes all aircraft types used for public, private, and military purposes. This includes four types of aircraft: (1) Commercial, (2) Air Taxis (AT), (3) General Aviation (GA), and (4) Military. A critical detail is whether each aircraft is turbine- or piston-driven, which allows the emissions estimation model to assign the fuel used, jet fuel or aviation gas, respectively. The fraction of turbine- and piston-driven aircraft is either collected or assumed for all aircraft types. Commercial aircraft include those used for transporting passengers, freight, or both. Commercial aircraft tend to be larger aircraft powered with jet engines. Air Taxis carry passengers, freight, or both, but usually are smaller aircraft and operate on a more limited basis than the commercial aircraft. General Aviation includes most other aircraft used for recreational flying and personal transportation. Finally, military aircraft are associated with military purposes, and they sometimes have activity at non-military airports.

The national AT and GA fleet includes both jet- and piston-powered aircraft. Most of the Air Taxi and General Aviation fleet are made up of larger piston-powered aircraft, though smaller business jets can

also be found in these categories. Military aircraft cover a wide range of aircraft types such as training aircraft, fighter jets, helicopters, and jet-powered and piston-powered planes of varying sizes. The 2011 NEI also includes emission estimates for aircraft auxiliary power units (APUs) and aircraft ground support equipment (GSE) typically found at airports, such as aircraft refueling vehicles, baggage handling vehicles, and equipment, aircraft towing vehicles, and passenger buses.

This sector includes the SCCs listed in Table 3 below:

**Table 3: Source Classification codes for the aircraft sector in the 2011 NEI**

SCC	Data Category	SCC Description	EPA estimates
2275001000	Point	Mobile Sources; Aircraft; Military Aircraft; Total	X
2275020000	Point	Mobile Sources; Aircraft; Commercial Aircraft; Total: All Types	X
2275050011	Point	Mobile Sources; Aircraft; General Aviation; Piston	X
2275050012	Point	Mobile Sources; Aircraft; General Aviation; Turbine	X
2275060011	Point	Mobile Sources; Aircraft; Air Taxi; Piston	X
2275060012	Point	Mobile Sources; Aircraft; Air Taxi; Turbine	X
2260008005	Point	Mobile Sources; Off-highway Vehicle Gasoline 2-Stroke; Aircraft Ground Support Equipment	X
2265008005	Point	Mobile Sources; Off-highway Vehicle Gasoline 4-Stroke; Aircraft Ground Support Equipment	X
2267008005	Point	Mobile Sources; LPG; Aircraft Ground Support Equipment	X
2268008005	Point	Mobile Sources; CNG; Aircraft Ground Support Equipment	X
2270008005	Point	Mobile Sources; Off-highway Vehicle Diesel; Aircraft Ground Support Equipment	X
2275070000	Point	Mobile Sources; Aircraft; Aircraft Auxiliary Power Total	X

EPA developed emissions estimates associated with aircrafts' landing and takeoff (LTO) cycle. The cycle begins when the aircraft approaches the airport on its descent from cruising altitude, lands, taxis to the gate, and idles during passenger deplaning. It continues as the aircraft idles during passenger boarding, taxis back out onto the runway for subsequent takeoff, and ascent (climb out) to cruising altitude. Thus, the five specific operating modes in an LTO are (1) Approach, (2) Taxi/idle-in, (3) Taxi/idle-out, (4) Takeoff, and (5) Climbout. The LTO cycle provides a basis for calculating aircraft emissions. During each mode of operation, an aircraft engine operates at a fairly standard power setting for a given aircraft category. Emissions for one complete cycle are calculated using emission factors for each operating mode for each specific aircraft engine combined with the typical period of time the aircraft is in the operating mode.

Refer to *Development of 2011 Aircraft Component for National Emissions Inventory, June 17, 2013* for more detail on preparing the LTO data and running the Emissions and Dispersion Modeling System (EDMS).

Emissions for GSE and APUs associated with aircraft-specific activity were also estimated by EDMS, using the assumptions and defaults incorporated in the model. EPA's NONROAD model also estimates GSE emissions, but that method is deemed less accurate than EDMS's LTO-based estimates and an EIS critical error check prohibits GSE SCCs from being submitted to the non-road equipment data category which would duplicate emissions.

The Department reviewed the EPA inputs into EDMS and the emissions for York Co, SC but no changes were made to the EPA data for 2011 NEI v1.

To estimate the average summer day emission for the airport related point emissions, the Department started with the EPA generated 2011 annual emissions. The Department had no actual activity data from these sources, so the exact amount of activity that occurred during the ozone season months could not be ascertained. Therefore, it was assumed that these sources operated at a constant rate throughout all months of the year (8.333% activity for each month). If each month of the year contributed 8.333% of the activity, the percent of activity for the 5 ozone season months would be 41.66%. Since there are 153 days in the 2011 ozone season, the 41.66% can be divided by 153 to get an estimate of activity for an average ozone season day. This gives a result of 0.272% activity for each ozone season day. The estimated ratio of 0.00272 was multiplied by the annual emissions to estimate the average summer day emissions.

#### IV. DETAILED 2011 ACTUAL POINT SOURCE INVENTORY

Table 4 details the final 2011 actual base year inventory for York County, SC. All values are in tons per average summer day.

**Table 4: 2011 Actual Point Source Emissions for York County, SC**

Facility Name	SCC	Unit ID	Process ID	NO <sub>x</sub> tons/average summer day	VOC tons/average summer day
BETHEL-LAKE WYLIE	2275050011	(blank)	(blank)	8.84935E-08	2.04861E-07
CYTEC CARBON FIBERS ROCK HILL	30102499	1	3	0.034899059	0.033080382
CYTEC CARBON FIBERS ROCK HILL	30102499	1	5	0.034899059	0.033080382
CYTEC CARBON FIBERS ROCK HILL	30102499	1	7	0.034899059	0.033080382
CYTEC CARBON FIBERS ROCK HILL	30102499	1	9	0.011367745	0.00099128
CYTEC CARBON FIBERS ROCK HILL	30102499	1	10	0.011367745	0.00099128
CYTEC CARBON FIBERS ROCK HILL	30102499	1	11	0.011367745	0.00099128
CYTEC CARBON FIBERS ROCK HILL	30102499	1	13	0	0.000506408
CYTEC CARBON FIBERS ROCK HILL	30102499	IAS	1	0	8.16667E-07
CYTEC CARBON FIBERS ROCK HILL	39000699	1	1	0	0
CYTEC CARBON FIBERS ROCK HILL	39000699	1	2	0.003735	0.000205425
CYTEC CARBON FIBERS ROCK HILL	39000699	1	4	0.00249	0.00013695
CYTEC CARBON FIBERS ROCK HILL	39000699	1	6	0.00249	0.00013695
CYTEC CARBON FIBERS ROCK HILL	39000699	1	8	0.003028415	0.000166564
CYTEC CARBON FIBERS ROCK HILL	39000699	1	12	0.00083	0.00004565
CYTEC CARBON FIBERS ROCK HILL	39000699	N01	1	0.002075	0.000114125
FALLS LANDING	2275050011	(blank)	(blank)	1.00298E-05	2.32189E-05
NORTH SAFETY PRODUCTS INC CLOVER	10200502	1	6	4.92118E-05	4.92118E-07
NORTH SAFETY PRODUCTS INC CLOVER	10200503	1	4	1.64224E-05	2.79235E-07
NORTH SAFETY PRODUCTS INC CLOVER	10200602	1	5	0.006335324	0.000348441
NORTH SAFETY PRODUCTS INC	10200603	1	3	0.002273971	0.00012507

Facility Name	SCC	Unit ID	Process ID	NO <sub>x</sub> tons/average summer day	VOC tons/average summer day
CLOVER					
NORTH SAFETY PRODUCTS INC CLOVER	20200102	IA1	1	0.000201923	1.64835E-05
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	4	0	0.003962843
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	5	0	0.000263105
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	7	0	0.088777451
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	8	0	0.023516667
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	9	0	0.100139771
NORTH SAFETY PRODUCTS INC CLOVER	30800699	2	11	0	0.000528922
NORTH SAFETY PRODUCTS INC CLOVER	30880001	2	10	0	0.047030621
NORTH SAFETY PRODUCTS INC CLOVER	39000699	2	2	0.000400082	2.20045E-05
NORTH SAFETY PRODUCTS INC CLOVER	39000699	IA1	2	2.7864E-06	1.5323E-07
NORTH SAFETY PRODUCTS INC CLOVER	39000699	IA1	3	6.96633E-06	3.83107E-07
NORTH SAFETY PRODUCTS INC CLOVER	40301028	IA1	4	0	3.75595E-05
PIEDMONT MEDICAL CENTER	2275050011	(blank)	(blank)	1.6327E-06	3.77968E-06
PIEDMONT MEDICAL CENTER	2275050012	(blank)	(blank)	1.45671E-05	3.10239E-05
RESOLUTE FP US INC	10200401	8	3	0.022595724	0.000365377
RESOLUTE FP US INC	10200401	8	8	0.036062639	0.000583141
RESOLUTE FP US INC	10200402	7	3	0.022619462	0.000115153
RESOLUTE FP US INC	10200402	7	5	0.019379827	9.86615E-05
RESOLUTE FP US INC	10200405	8	1	0.050851111	0.001022233
RESOLUTE FP US INC	10200601	7	7	0.00057308	1.12564E-05
RESOLUTE FP US INC	10200601	8	4	0.020387621	0.000400472
RESOLUTE FP US INC	10200601	8	9	0.023633136	0.000464223
RESOLUTE FP US INC	10200603	6	5	0.002119803	0.00011659
RESOLUTE FP US INC	10200603	6	7	0.092137694	0.00506758
RESOLUTE FP US INC	10200604	8	2	0.002150556	7.90288E-05
RESOLUTE FP US INC	10200901	8	5	0.661551722	0.051119794
RESOLUTE FP US INC	10200901	8	10	0.916988722	0.070858083
RESOLUTE FP US INC	10201002	6	8	0	0
RESOLUTE FP US INC	10201301	6	9	0.000707778	2.72222E-05
RESOLUTE FP US INC	30700101	2	3	0	0.030894444
RESOLUTE FP US INC	30700103	7	1	0	0.007595
RESOLUTE FP US INC	30700105	7	8	0.008884299	0.011105387
RESOLUTE FP US INC	30700105	7	9	0.017048162	0.021310209
RESOLUTE FP US INC	30700106	7	10	0.329416111	0.007849419

Facility Name	SCC	Unit ID	Process ID	NO <sub>x</sub> tons/average summer day	VOC tons/average summer day
RESOLUTE FP US INC	30700107	2	6	0	2.71242E-05
RESOLUTE FP US INC	30700110	7	4	0.666372778	0.062190256
RESOLUTE FP US INC	30700110	7	6	1.101846667	0.119342222
RESOLUTE FP US INC	30700114	3	2	0	0.177120915
RESOLUTE FP US INC	30700115	4	1	0	0.00089404
RESOLUTE FP US INC	30700117	2	4	0.550919281	0.234841176
RESOLUTE FP US INC	30700121	9	1	0	1.193607333
RESOLUTE FP US INC	30700122	7	11	0	0.051041667
RESOLUTE FP US INC	30700199	2	7	0	0.016518627
RESOLUTE FP US INC	30700199	2	8	0	0.002305556
RESOLUTE FP US INC	30700199	6	4	0	0.121656111
RESOLUTE FP US INC	30700199	7	2	0	0.008901667
RESOLUTE FP US INC	30700199	9	2	0.000108889	0.000471282
RESOLUTE FP US INC	30700199	10	1	0	0.166627222
RESOLUTE FP US INC	30700234	2	5	0	0.004665359
RESOLUTE FP US INC	30701220	5	1	0	0.523946111
RESOLUTE FP US INC	30701399	6	1	0	0.061222778
RESOLUTE FP US INC	30701399	6	2	0	0.098190556
RESOLUTE FP US INC	30701399	6	3	0	0.144223333
RESOLUTE FP US INC	39999996	IA	2	0	0.043538784
RESOLUTE FP US INC	39999996	IA	3	0	0.014322327
RESOLUTE FP US INC	39999996	IA	4	0	0.032919569
RESOLUTE FP US INC	39999996	IA	5	0	0.143114353
RESOLUTE FP US INC	39999996	IA	6	0	0.356587817
RESOLUTE FP US INC	39999996	IA	7	0	0.123427961
RESOLUTE FP US INC	40688801	IA	8	0	0.00547298
RESOLUTE FP US INC	50300107	8	6	1.63333E-05	0
RESOLUTE FP US INC	50300107	8	11	2.17778E-05	0
Rock Hill/York Co/Bryan	2275001000	(blank)	(blank)	1.07554E-05	9.66008E-05
Rock Hill/York Co/Bryan	2275050011	(blank)	(blank)	0.001339323	0.003100511
Rock Hill/York Co/Bryan	2275050012	(blank)	(blank)	0.002585183	0.005505737
Rock Hill/York Co/Bryan	2275060011	(blank)	(blank)	9.39158E-06	1.00857E-05
Rock Hill/York Co/Bryan	2275060012	(blank)	(blank)	0.000165033	0.0002141
YORK	2275050011	(blank)	(blank)	6.18888E-05	0.000143271
YORK	2275050012	(blank)	(blank)	0.000198505	0.000422759
				NO <sub>x</sub> tons/average summer day	VOC tons/average summer day
<b>Grand Total</b>				<b>4.71</b>	<b>4.29</b>

## **PART III: AREA, NONROAD MOBILE, and EVENT SOURCES EMISSIONS INVENTORY DOCUMENTATION**

### **I. INTRODUCTION AND SCOPE**

The following sections contain nonpoint, nonroad mobile, and events inventory documentation for York County, SC, which is part of the Charlotte-Rock Hill, NC-SC Nonattainment Area. The inventory data is for calendar year 2011.

The York County, SC emissions inventory was developed by the EPA, with input from the Department, as part of the 2011 NEI effort. The 2011 EI was developed per the Air Emissions Reporting Requirements (AERR) rule. Emission estimates were calculated in tons per year, and converted to tons per average summer day for this submittal. Section III documents EPA/Department developed 2011 Nonpoint Source inventory; Section IV addresses the development of the nonroad emissions inventory for 2011; Section V documents the development of the 2011 Events inventory.

### **II. OVERALL METHODOLOGY**

#### **A. SOURCE CATEGORY IDENTIFICATION**

Stationary source emissions data from sites and processes that do not meet the reporting requirements for point sources are classified as nonpoint sources. Nonpoint sources are small-scale industrial, commercial, and residential sources that generate emissions. Emissions are calculated and recorded on the county-level. For the 2011 NEI, the EPA developed emission estimates for many nonpoint sectors in collaboration with a consortium of state and regional planning organizations called the Eastern Regional Technical Advisory Committee (ERTAC, <http://www.ertac.us/>). This task is referred to by ERTAC as the “Area Source Comparability” project on the ERTAC website, and a subgroup was developed to work on this project. The purpose of the subgroup and project was to agree on methodologies, emission factors, and SCCs for a number of important nonpoint sectors, allowing EPA to prepare the emissions estimates for all states using the group’s final approaches.

Non-road sources are vehicles that do not normally operate on roads or highways and are often referred to as off-road or off-highway vehicles. The non-road source category is composed of a diverse collection of equipment, many of which are powered by diesel engines. Non-road emissions sources include, but are not limited to: agricultural equipment, construction and mining equipment, lawn and garden equipment, drilling rigs, and CMV. Also, aircraft and railyard emissions used to be included in the nonroad mobile category but are now tracked as point sources. For the 2011 NEI, the EPA developed emission estimates as part of the 2011 NEI. The sections below describe the emissions calculation methods used for the non-road mobile source subcategories.

Events are generally defined as any non-structural fire that occurs in wild lands. Events include wildfires and prescribed fires. These fires used to be included within the nonpoint sector but are now calculated and tracked by individual fire.

#### **B. NONPOINT SOURCE EMISSION ESTIMATION APPROACH**

Nonpoint source emissions are typically estimated by multiplying an emission factor by some known indicator of collective activity for each source category within the inventory area. An indicator is any parameter associated with the activity level of a source that can be correlated with the air pollutant emissions from that source, such as production, number of employees, or population.

In general, one of the following emissions estimation approaches is used to calculate the area source emissions: per capita emission factors, employment-related emission factors, commodity consumption-related emission factors, and level of activity based emission factors. The emission factors used were obtained from the EIIP Tech Reports, the Procedures document or the EPA's AP 42 Compilation of Air Pollutant Emission Factors, Fifth Edition, referred to as AP 42, and the ERTAC collaboration.

There are several methods for estimating the activity level for a specific area source category. These are: treating area sources as point sources, surveying local activity levels, apportioning national or statewide activity totals to local inventory areas, using population or employment data.

For certain categories, there can be overlap between the point source emissions and the area source emissions calculated with emission factors. The 2011 point source emissions in these categories were identified so that they could be subtracted where appropriate.

### C. NONROAD SOURCE EMISSION ESTIMATION APPROACH

Non-highway mobile sources, sometimes referred to as off-road mobile, are those sources that can move but do not use the highway system. Off-road mobile sources are further divided into non-road mobile and CMV. The estimation of emissions from mobile sources, like nonpoint sources, involves multiplying an activity level by an emission factor.

The majority of the off-road mobile emissions were estimated by using the EPA's off-road mobile model NONROAD2008a. Direct emissions are generated with this model.

### D. EVENT SOURCE EMISSION ESTIMATION APPROACH

For 2011, EPA continues to use the SMARTFIRE2 (SF2) system to estimate wild land fire emission estimates. The Department did provide EPA with a list of all York County, SC wild land and prescribed fires to improve the quality of the estimates.

## III. 2011 NONPOINT SOURCE INVENTORY

South Carolina is using the EPA's 2011 NEI v1 inventory for York County, SC.

**Table 5: EPA-estimated emissions sources expected to be exclusively nonpoint**

EPA-estimated emissions source description	Carried Forward	EIS Sector Name	Name of supporting data file or other reference
Residential Heating; bituminous and anthracite coal		Fuel Comb – Residential – Other	<a href="#">residential_consumption_coal.zip</a>
Residential Heating; distillate oil		Fuel Comb – Residential – Oil	<a href="#">residential_consumption_oil_revised_06272012.zip</a>
Residential Heating; Kerosene		Fuel Comb – Residential – Oil	<a href="#">residential_consumption_kerosene.zip</a>
Residential Heating; natural gas		Fuel Comb – Residential – Natural	<a href="#">residential_consumption_ng_revised_06222012.zip</a>

EPA-estimated emissions source description	Carried Forward	EIS Sector Name	Name of supporting data file or other reference
		Gas	
Residential Heating; liquefied petroleum gas		Fuel Comb – Residential – Other	<a href="#">residential_consumption_lpg.zip</a>
Residential Heating; Fireplaces, woodstoves, fireplace inserts, pellet stoves, indoor furnaces, outdoor hydronic heaters, and firelogs.		Fuel Comb – Residential – Wood	<a href="#">rwc_estimation_tool_2011v1_120612.zip</a>
Commercial Cooking		Commercial Cooking	<a href="#">commercial_cooking_2302002nnn_2011.zip</a>
Architectural Coatings		Solvent – Non-Industrial Surface Coating	<a href="#">surface_coatings_arch_coatings_whaps_2011.zip</a>
Traffic Markings		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">traffic_markings_whaps_2011.zip</a>
Consumer & Commercial – All personal care products		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_personal_care_products_whaps_2011.zip</a>
Consumer & Commercial – All household products		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_misc_products_whaps_2011.zip</a> <a href="#">cons_comm_cleaning_products_whaps_2011.zip</a> <a href="#">cons_comm_auto_aftermarket_whaps_2011.zip</a>
Consumer & Commercial – All coatings and related products		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_coatings_and_related_products_whaps_2011.zip</a>
Consumer & Commercial – All adhesives and sealants		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_adhesives_sealants_whaps_2011.zip</a>
Consumer & Commercial – All FIFRA related products		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_fifra_whaps_2011.zip</a>
Consumer Pesticide Application		Solvent – Consumer & Commercial Solvent Use	<a href="#">cons_comm_fifra_whaps_2011.zip</a>
Commercial Pesticide Application	x	Solvent – Consumer & Commercial Solvent Use	<a href="#">agricultural_pesticides_2011_eis_format.zip</a>
Residential Portable Gas Cans		Miscellaneous Non-Industrial NEC	<a href="#">portable_fuel_containers_2011.zip</a>
Commercial Portable Gas Cans		Miscellaneous Non-Industrial NEC	<a href="#">portable_fuel_containers_2011.zip</a>
Open Burning – Leaves		Waste Disposal	<a href="#">open_burning_yard_waste_2011.zip</a>
Open Burning – Brush		Waste Disposal	<a href="#">open_burning_yard_waste_2011.zip</a>
Open Burning – Residential		Waste Disposal	<a href="#">open_burning_msw_2011.zip</a>

EPA-estimated emissions source description	Carried Forward	EIS Sector Name	Name of supporting data file or other reference
Household Waste			
Open Burning – Land Clearing Debris		Waste Disposal	<a href="#">open_burning_land_clearing_debris_2011.zip</a>
Publicly Owned Treatment Works		Waste Disposal	<a href="#">potw_2011_rev.zip</a>
“Carried Forward” indicates whether EPA data were carried forward from the 2008 or other previous year inventory.			

**Table 6: Emissions sources with potential nonpoint and point contribution**

EPA-estimated emissions source description	Carried Forward	EIS Sector Name	Link to supporting data file
Industrial, Commercial/Institutional Fuel Combustion		Fuel Comb – Industrial Boilers, ICEs – All Fuels Fuel Comb – Comm/Institutional – All Fuels	<a href="#">ici_fuel_combustion_by_state/</a>
Industrial Surface Coating – Auto Refinishing		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_automobile_refinishing_2011whaps.zip</a>
Industrial Surface Coating – Factory Finished Wood		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_factory_finished_wood_2011whaps.zip</a>
Industrial Surface Coating – Wood Furniture		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_wood_furniture_2011whaps_rev_4.zip</a>
Industrial Surface Coating – Metal Furniture		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_metal_furn_2011whaps.zip</a>
Industrial Surface Coating – Metal Can Coating		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coatings_metal_can_whaps_2011.zip</a>
Industrial Surface Coating – Machinery and Equipment		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_machinery_and equip_ whaps2011.zip</a>
Industrial Surface Coating – Large Appliances		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_appliances_2011whaps.zip</a>
Industrial Surface Coating – Motor Vehicles		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_motor%20vehicles_ whaps_2011.zip</a>
Other Special Purpose Coatings		Solvent – Industrial Surface Coating & Solvent Use	<a href="#">surface_coating_other_special_purpose_ whaps_2011.zip</a>

EPA-estimated emissions source description	Carried Forward	EIS Sector Name	Link to supporting data file
Degreasing		Solvent – Degreasing	<a href="#">degreasing_whaps_2011_eisformat.zip</a>
Graphic Arts		Solvent – Graphic Arts	<a href="#">graphic_arts_w_haps_2011.zip</a>
Dry Cleaning		Solvent – Dry Cleaning	<a href="#">dry_cleaning_emissions_2011_rev.zip</a>
Gasoline Distribution – Stage 1 Bulk Plants	x	Bulk Gasoline Terminals	<a href="#">gasoline_distribution_stage_1_bulk_plants_2011.zip</a>
Gasoline Distribution – Stage 1 Bulk Terminals	x	Bulk Gasoline Terminals	<a href="#">gasoline_distribution_stage%201%20bulk_terminals_2011.zip</a>
Gasoline Distribution – Stage 1 Service Station Unloading		Gas Stations	<a href="#">gas_distribution_service_station_unloading_eis_format.zip</a>
Gasoline Distribution – Stage 1 Underground Storage Tanks		Gas Stations	<a href="#">gasoline_distribution_stage1_ust_2011.zip</a>
“Carried Forward” indicates whether EPA data were carried forward from the 2008 or other previous year inventory.			

## A. NONPOINT CATEGORY METHODOLOGIES

### A.1 Bulk Gasoline Terminals

Due to resource constraints at EPA, 2011 emissions are assumed to be the same as 2008 emissions. This category includes VOC emissions from bulk plants and bulk terminals. The Department did identify Point source emissions for this category and subtracted the point emissions from the nonpoint emissions. This ensured that the nonpoint emissions were not double counted. Detailed documentation for EPA’s 2008 NEI can be found at <http://www.epa.gov/ttn/chief/net/2008inventory.html>

### A.2 Commercial Cooking

Commercial cooking refers to the cooking of meat, including steak, hamburger, poultry, pork, and seafood, and french fries on five different cooking devices: chain-driven (conveyorized) charbroilers, underfired charbroilers, deep-fat fryers, flat griddles, and clamshell griddles. The York County, SC inventory includes VOC emissions from the following categories:

**Table 7: Source Classification Codes used in the Commercial Cooking sector**

2302002100	Commercial Cooking	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Charbroiling	Conveyorized Charbroiling
2302002200	Commercial Cooking	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Charbroiling	Under-fired Charbroiling
2302003100	Commercial Cooking	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Flat Griddle Frying
2302003000	Commercial Cooking	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Deep Fat Frying
2302003200	Commercial Cooking	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Clamshell Griddle Frying

The approach to estimating emissions from commercial cooking in 2011 consists of three general steps, as follows:

- Determine county-level activity, i.e., the number of restaurants in each county in 2011;
- Determine the fraction of restaurants with commercial cooking equipment, the average number of units of each type of equipment per restaurant, and the average amount of food cooked on each type of equipment; and
- Apply emission factors to each type of food for each type of commercial cooking equipment.

Data on the number of restaurants in each county are available from the U.S. Census Bureau County Business Patterns database, which reports the number of full-service restaurants (NAICS 722110) and limited-service restaurants (722211) in each county. The 2002 NEI, which is the most recent inventory in which the emissions from commercial cooking were estimated using restaurant-level data, rather than population data, used the Dun and Bradstreet industry database, which contains more specific information on the type of restaurant in each county. The documentation from the 2002 NEI identifies five specific categories of restaurants that are likely to have the equipment that matches the source categories for commercial cooking emissions, including: Ethnic food restaurants, Fast food restaurants, Family restaurants, Seafood restaurants, and Steak & Barbecue restaurants. Because Dun and Bradstreet data for 2011 were not readily available, the number of restaurants had to be estimated using the 2002 data. Using the estimated number of restaurants in 2002, the number of restaurants in 2011 was determined by employing a growth factor based on the change in the number of restaurants between 2002 and 2011 as determined by the U.S. Census Bureau County Business Statistics Database.

Emission factors for each pollutant for each type of commercial cooking equipment came from the 2002 NEI documentation. This information remains the most complete catalog of emission factors for commercial cooking. The fraction of restaurants with commercial cooking equipment and the average units of equipment per restaurant were obtained.

### **A.3 Fuel Combustion – Industrial Boilers, ICEs**

This category contains industrial boiler emissions from bituminous/subbituminous coal, distillate oil, residual oil, natural gas, wood, and kerosene. Liquid petroleum gas emissions are all assumed to be accounted for in the point source inventory. This category includes boilers, ICE, including reciprocating and turbines, industrial space heaters and orchard heaters (nonpoint) firing any type of fuel. The Department did identify point source fuel consumptions for this category and subtracted it from the total county level fuel consumption. The county level fuel consumption, minus point source contribution, was used to estimate the emissions for this category.

The EPA approach used in calculating emissions for industrial fuel combustion is to first develop state-level fuel consumption estimates, then to allocate these to the county-level, and then to multiply the resulting county-level consumption estimates by appropriate emission factors.

Total state-level industrial sector energy consumption data are available from the EIA's State Energy Data System (SEDS), and were used for most source categories. In calculating the emission activity for industrial fuel combustion, EPA excluded all SEDS fuel types for which EIA assumes 100 percent of consumption is non-fuel use. For fuel types for which non-fuel use occurs, but is less than 100 percent, EPA reviewed two information sources to identify the non-fuel use percentage to apply in the NEI: EIA's 2002 *Manufacturing Energy Consumption Survey* (MECS) and EIA's GHG emissions inventory for 2005. Further adjustments were made to the SEDS data for the coal and LPG sectors, and a separate EIA data source, Fuel Oil and Kerosene Sales, was used for distillate oil. These adjustments were necessary in order to avoid double counting between the point, nonroad, and nonpoint inventories. For example, coal

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consumed by coke plants is accounted for in the point source inventory, so when estimating nonpoint emissions, this consumption should be removed. Similarly, for distillate oil and LPG, the SEDS data includes consumption estimates for equipment that EPA includes in the nonroad sector inventory. Therefore, the SEDS data should be adjusted so that these emissions are not double counted. More details on these adjustments can be found in the documentation given in:  
<ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

Year 2009 SEDS data were used to estimate 2011 emissions because these were the most recent consumption data available at the time this work was performed in 2012. County-level activity estimates were developed by allocating the state-level adjusted EIA data. To do this, the EPA compiled 2009 estimates of manufacturing sector employment from the Bureau of Census' *County Business Patterns 2009* for use in this procedure. We allocated state-level industrial fuel combustion by fuel type to each county using the ratio of the number of manufacturing sector (NAICS codes 31-33) employees in each county to the total number of manufacturing sector employees in the state. A separate document describes how withheld *County Business Patterns* employment data were estimated.

#### **A.4 Fuel Combustion – Commercial/Institutional**

This section includes the description of five EIS sectors:

Fuel Comb – Commercial/Institutional Boilers, ICEs - Coal

Fuel Comb - Commercial/Institutional Boilers, ICEs – Oil

Fuel Comb - Commercial/Institutional Boilers, ICEs - Natural Gas

Fuel Comb - Commercial/Institutional Boilers, ICEs – Biomass

Fuel Comb - Commercial/Institutional Boilers, ICEs – Other

They are treated here in a single section because the methods used are the same across all sectors.

These five sectors are defined by the point source SCCs beginning with 103, 105 and 2030 and the nonpoint SCCs starting with 2103. These SCCs include boilers, ICE, including reciprocating and turbines, and space heaters. The primary fuels used by the boilers are coal, oil, and natural gas. Other fuels used by commercial/institutional boilers include biomass, waste products, and process gases. The primary fuels used by the ICE are natural gas and oil, but there are some which use various available process gases and LPG. The SCC-based EIS sector definitions will cause a different universe of units to be included in these sectors than would other definitions of boilers, turbines, or reciprocating internal combustion engines. For example, the Industrial/Commercial/Institutional Boilers and Process Heaters MACT include 25 MW and smaller boilers used to generate electricity; these boilers are not included in the sectors described here because they may have SCCs beginning with 101.

The approach in calculating nonpoint emissions for commercial/institutional fuel combustion is to first develop state-level fuel consumption estimates, then to allocate these to the county-level, and then to multiply the resulting county-level consumption estimates by appropriate emission factors. Total state-level commercial sector energy consumption data are available from the EIA's SEDS, and were used for most source categories. Several adjustments were made to the SEDS data. These adjustments were necessary in order to avoid double counting between the nonroad and nonpoint inventories. Furthermore, for the coal sector, SEDS data do not provide coal consumption estimates by type of coal (i.e., anthracite versus bituminous/subbituminous), and this level of data is needed because of differing emission factors for these coal types. For LPG and distillate oil, the SEDS data includes consumption estimates for equipment that EPA includes in the nonroad sector inventory. Therefore, the SEDS data should be adjusted so that these emissions are not double counted.

To estimate the volume of commercial/institutional sector LPG consumption that should not be included in the nonpoint source inventory, EPA subtracted 18 percent from each state’s commercial sector LPG consumption estimate reported in SEDS. EPA ran the NMIM, which uses the NONROAD2008a model, for 2006 and calculated the national volume of nonroad LPG consumption from commercial sector source categories. This estimate was then divided into the SEDS total commercial sector LPG consumption estimate to yield the proportion of total commercial/institutional sector LPG consumption attributable to the nonroad sector in that year (approximately 18 percent). To avoid double-counting of distillate oil consumption between the nonpoint and nonroad sector emission inventories, EPA relied on a source other than SEDS to estimate consumption. The approach uses more detailed distillate oil consumption estimates reported in EIA’s *Fuel Oil and Kerosene Sales*, and assumptions from the regulatory impact analysis (RIA) for EPA’s nonroad diesel emissions rulemaking. Table 8 displays the assumptions that were applied to the state-level distillate oil consumption estimates reported in *Fuel Oil and Kerosene Sales* to estimate total stationary source commercial/institutional sector consumption. The percentages shown in Table 8 come from page 7-8 of EPA’s RIA for the nonroad diesel emissions rulemaking. More details on these adjustments can be found in the documentation given in <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

Year 2009 SEDS data were used to estimate 2011 emissions because these were the latest year consumption data available at the time this work was performed in 2012.

**Table 8: Assumptions Used to Estimate Commercial/Institutional Sector Stationary Source Distillate Fuel Consumption**

Sector	Distillate Fuel Type	Percent (%) of Total Consumption from Stationary Sources
Commercial	No. 1 Distillate Fuel Oil	80
	No. 2 Distillate Fuel Oil	100
	No. 2 Distillate/Ultra-Low, Low, and High Sulfur Diesel	0 <sup>a</sup>
	No. 4 Distillate Fuel Oil	100

a. A very small portion of total commercial/institutional diesel is consumed by point sources (SCC 203001xx).

Year 2009 county-level activity estimates were developed by allocating the state-level activity resulting from the adjustments to the SEDS data described above. The EPA compiled 2006 estimates of commercial sector (NAICS codes 42 through 81) employment from the Bureau of Census’ *County Business Patterns 2009* for use in this procedure. A separate document describes how withheld *County Business Patterns* employment data were estimated. The EPA also developed 2006 county-level estimates of institutional sector (NAICS code 92) employment from 2007 local government employment data in the *2007 Census of Governments* and adjustments reflecting each state’s 2006/2007 local government employment ratio. State-level commercial/institutional fuel combustion by fuel type was allocated to each county using the ratio of the number of commercial/institutional sector employees in each county to the total number of commercial/institutional sector employees in the state.

### A.5 Fuel Combustion – Residential – Natural Gas, Oil, and Other

Table 9 shows the SCCs used in the 2011 NEI from the sectors: “Fuel Comb - Residential – Other,” “Fuel Comb - Residential – Oil,” and “Fuel Comb - Residential - Natural Gas.” EPA estimates emission for all SCCs other than SCC=2104005000 and SCC=2104006010.

**Table 9: SCCs in the Residential Fuel Combustion Sectors (except Wood) in the 2011 NEI**

SCC	SCC Level Three	SCC Level Four	EI Sector
2104001000	Anthracite Coal	Total: All Combustor Types	Fuel Comb - Residential - Other
2104002000	Bituminous/Subbituminous Coal	Total: All Combustor Types	Fuel Comb - Residential - Other
2104004000	Distillate Oil	Total: All Combustor Types	Fuel Comb - Residential - Oil
2104005000	Residual Oil	Total: All Combustor Types	Fuel Comb - Residential - Oil
2104006000	Natural Gas	Total: All Combustor Types	Fuel Comb - Residential - Natural Gas
2104006010	Natural Gas	Residential Furnaces	Fuel Comb - Residential - Natural Gas
2104007000	Liquified Petroleum Gas (LPG)	Total: All Combustor Types	Fuel Comb - Residential - Other
2104011000	Kerosene	Total: All Heater Types	Fuel Comb - Residential - Oil

The approach in calculating nonpoint emissions for commercial/institutional fuel combustion is to first develop state-level fuel consumption estimates, then to allocate these to the county-level, and then to multiply the resulting county-level consumption estimates by appropriate emission factors. Total state-level residential sector energy consumption data are available from the EIA’s SEDS, and were used for most source categories. Several adjustments were made to the SEDS data. These adjustments were necessary in order to avoid double counting between the nonroad and nonpoint inventories.

### A.6 Fuel Combustion – Residential – Wood

This source category includes residential wood burning devices such as fireplaces, fireplaces with inserts (inserts), free standing woodstoves, pellet stoves, outdoor hydronic heaters (also know as outdoor wood boilers), indoor furnaces, and outdoor burning in firepits and chimeneas. We further differentiate free standing woodstoves and inserts into three categories: conventional (not EPA certified); EPA certified, catalytic; and EPA certified, noncatalytic. Generally speaking, the conventional units were constructed prior to 1988. Units constructed after 1988 had to meet EPA emission standards and they are either catalytic or non-catalytic. Table 10 shows the SCCs used in the 2011 NEI from in this sector. EPA estimates emission for all SCCs in Table 84 other than SCC=2104008300, which is a general woodstove SCC that provides no details on the category.

**Table 10: SCCs in the Residential Wood Combustion Sector in the 2011 NEI**

SCC	SCC Level Three*	SCC Level Four
2104008100	Wood	Fireplace: general
2104008210	Wood	Woodstove: fireplace inserts; non-EPA certified
2104008220	Wood	Woodstove: fireplace inserts; EPA certified; non-catalytic
2104008230	Wood	Woodstove: fireplace inserts; EPA certified; catalytic
2104008300	Wood	Woodstove: freestanding, general
2104008310	Wood	Woodstove: freestanding, non-EPA certified
2104008320	Wood	Woodstove: freestanding, EPA certified, non-catalytic
2104008330	Wood	Woodstove: freestanding, EPA certified, catalytic
2104008400	Wood	Woodstove: pellet-fired, general (freestanding or FP insert)
2104008510	Wood	Furnace: Indoor, cordwood-fired, non-EPA certified
2104008610	Wood	Hydronic heater: outdoor
2104008700	Wood	Outdoor wood burning device, NEC (fire-pits, chimeneas, etc)
2104009000	Firelog	Total: All Combustor Types

\*SCC Level One is “Stationary Source Fuel Combustion” and SCC Level Two is Residential”

Emission estimates were developed using a tool in Microsoft® Access®, developed by EPA. This tool computes county- and SCC-level emissions of criteria and HAPs for the entire country. EPA updated the inputs to the tool for the 2011 NEI in partnership with ERTAC. For the 2011 inventory, the appliance profiles were updated using the newest American Housing Survey results.

The emissions from residential wood combustion are calculated using the equation below:

$$E_y = u \times EF_y \times CF_y \quad \text{where:}$$

$E_y$ = annual emissions (tons/yr) for a specific appliance (SCC)

$u$  = Annual activity (tons of fuel burned)

$EF_y$ = emission factor (tons of pollutant emitted/ mass of fuel used)

$CF_y$ = control factor

y is a specific pollutant

### A.7 Gas Stations

Gas Station emissions consist of estimates from Stage 1 gasoline distribution from service station unloading and from Stage 1 gasoline distribution from underground storage tanks. Emission factors and equations used to calculate these emissions came from the EPA’s AP-42. The York County, SC 2011 estimates were calculated by EPA. There are no gas stations that are point sources, so no point source subtraction was required.

## **A.8 Solvent – Consumer & Commercial Solvent Use**

This category includes only non-industrial solvents that are used in commercial or consumer applications. The solvent containing products consist of a diverse grouping, e.g. personal care products, household products, automotive aftermarket products, adhesives and sealants, pesticides, some coatings, and other commercial and consumer products that may emit VOCs. VOC emissions for this category is estimated by using an agreed upon emission factor during the ERTAC collaboration with EPA. York County, SC 2011 emission estimates came from the EPA 2011 NEI v1, with no changes by the Department.

## **A.9 Solvent – Degreasing, Dry Cleaning, and Graphic Arts**

Degreasing operations occur frequently in small shops, such as auto repair, painting operations, etc. Solvents, which can emit VOC, are often used to remove grease from a surface.

Graphic arts include operations that are involved in printing of newspapers, magazines, books, and other printed materials, which can be divided into several subsets based upon printing technology. Over the last decade ink-jet and offset lithography have emerged as the dominant technologies. The use of oils as ink solvents and the reduction of alcohols in the fountain solution and in the cleanup solutions have resulted in notable reductions in emissions for offset lithography. Ink-jet printing results in essentially no VOC emissions.

Dry cleaners are sources that launder clothing using solvents, some emitting VOC as a result. The VOC emissions from dry cleaning vary with the type of process and the solvent used. For the most part, dry cleaners (coin-op and conventional) are small business entities. As a result of their size, dry cleaning emissions are not captured as point sources.

An employee based emission factor was used for these categories. The emission estimates generated by the joint effort of ERTAC and EPA, were used in the 2011 NEI v1 and were also accepted for York County, SC. It is possible to have some overlap with point sources with these three categories, but that was not the case for York Co, SC and no point source subtractions were made.

## **A.10 Solvent – Industrial and Non-Industrial Surface Coating**

These categories include a list of similar operations that involve applying a coating to a surface, which may emit VOC. The following is a list of surface coating operations that were calculated for York County, SC in the 2011 NEI v1:

Architectural Coatings  
Auto Refinishing: SIC 7532  
Traffic Markings  
Factory Finished Wood: SIC 2426  
Wood Furniture: SIC25  
Metal Furniture: SIC 25  
Machinery and Equipment: SIC 35  
Large Appliances: SIC 363  
Motor Vehicles: SIC 371  
Industrial Maintenance Coatings  
Other Special Purpose Coatings

An employee based emission factor was used for these categories. The emission estimates generated by the joint collaboration of ERTAC and EPA, were used in the 2011 NEI v1 and were also accepted for York County, SC. It is possible to have some overlap with point sources with these three categories, but that was not the case for York Co, SC and no point source subtractions were made.

#### **A.11 Open Burning**

Open burning includes the outdoor combustion of yard waste, household waste, and land clearing debris. These fires result in the emission of NO<sub>x</sub> and VOC. The emission estimates generated by EPA in the 2011 NEIv1 were accepted for York County, SC. More detailed description of how these emissions were calculated should be available in the final draft of the 2011 NEI Technical Support Document.

#### **A.12 Portable Gas Cans**

PFCs cover emissions from residential and commercial sector portable gasoline containers. Permeation, diurnal, transport, spillage, and vapor displacement emissions are typically accounted for in this category.

The emission estimates generated by the joint effort of ERTAC and EPA, were used in the 2011 NEI v1 and were also accepted for York County, SC. More detailed description of how these emissions were calculated should be available in the final draft of the 2011 NEI Technical Support Document.

### **B. NON-POINT AVERAGE SUMMER DAY EMISSIONS ESTIMATE**

In order to generate the tons/avg summer day emission estimate, the Department chose to rely on emission modeling work already conducted by the EPA-Office of Air Quality Planning and Standards (EPA-OAQPS). The emissions modeling work was part of the EPA-OAQPS 2011 modeling platform effort, which will be used for the EPA's proposed rule related to the transport of ozone. The emissions modeling conducted by the EPA-OAQPS generated hourly emissions estimates which were then summarized at the monthly level. This was accomplished by first running the annual 2011 NEI emissions through the temporal allocation process used by SMOKE. For some sectors like onroad mobile the temporalization is performed by computing emissions based on the monthly VMT. For Point Electric Generating Units (EGUs) day-specific emissions are input to SMOKE based on the application of profiles based on CEMS data in the region.

With the monthly emissions, by sector, as a starting point, the values then had to be converted to a tons/avg summer day. The best way to accomplish this was to take the monthly emissions for the five summer months (May, June, July, August and September) and add them together to get a total summer emission estimate for each sector. This total summer estimate was then divided by the number of days in the 2011 summer (153 days) to generate an estimate for the 2011 average summer day per sector.

### **IV. 2011 NONROAD SOURCE INVENTORY**

Nonroad mobile sources are those sources that can move but do not use the highway system. Examples include lawn mowers, agricultural equipment, construction equipment, powerboats, and commercial marine (ships). All but the commercial marine activity were estimated using the EPA's off-road mobile model NONROAD2008a.

EPA created a comprehensive set of mobile source emissions data for criteria pollutants, hazardous air pollutants, and greenhouse gases for all states, Puerto Rico, and US Virgin Islands as a starting point for the NEI. EPA uses models to estimate emissions for most of the mobile sources categories. For development and documentation purposes, the major groups of nonroad mobile sources are commercial marine vessels and nonroad equipment included in the NONROAD 2008a model. For York Co, SC, there

are no commercial marine vessels so that category is not found in the inventory.

The nonroad mobile source category includes a diverse collection of equipment such as lawn mowers, chain saws, tractors, all terrain vehicles, fork lifts and construction equipment. The EPA NONROAD2008a model generates emissions directly and includes more than 80 different types of equipment.

The NMIM (<http://www.epa.gov/otaq/nmim.htm>) is EPA's consolidated mobile emissions estimation system that allows EPA to produce nonroad mobile emissions in a consistent and automated way for the entire country. EPA encouraged agencies to submit NMIM inputs to the EIS for the 2011 NEI for inclusion in the NCD. The NCD contains all the county-specific information needed to run NONROAD. It also contains the ratios that are applied to NONROAD outputs to estimate emissions of HAPs, dioxins/furans (not part of the NEI), and some metals. The Department did not have any improved data for the 2011 NONROAD sources, so the EPA generated NCD was accepted for use for the 2011 NEI v1 emission estimates.

In order to generate the tons/avg summer day emission estimate, the Department chose to rely on emission modeling work already conducted by the EPA-Office of Air Quality Planning and Standards (EPA-OAQPS). The emissions modeling work was part of the EPA-OAQPS 2011 modeling platform effort, which will be used for the EPA's proposed rule related to the transport of ozone. The emissions modeling conducted by the EPA-OAQPS generated hourly emissions estimates which were then summarized at the monthly level. This was accomplished by first running the annual 2011 NEI emissions through the temporal allocation process used by SMOKE. For some sectors like onroad mobile the temporalization is performed by computing emissions based on the monthly VMT. For Point Electric Generating Units (EGUs) day-specific emissions are input to SMOKE based on the application of profiles based on CEMS data in the region.

With the monthly emissions, by sector, as a starting point, the values then had to be converted to a tons/avg summer day. The best way to accomplish this was to take the monthly emissions for the five summer months (May, June, July, August and September) and add them together to get a total summer emission estimate for each sector. This total summer estimate was then divided by the number of days in the 2011 summer (153 days) to generate an estimate for the 2011 average summer day per sector.

## **V. 2011 EVENTS**

Events in 2011 include wild land fires, or WLFs. WLFs are generally defined as any non-structural fire that occurs in wild lands. Included in WLFs are the following types of fires:

Prescribed (Rx) fire: Any fire ignited by management actions to meet specific objectives, generally related to the reduction of the biomass potentially available for wildfires.

Wildfire (WF): An unplanned, unwanted WLF including unauthorized human-caused fires, escaped prescribed fire projects, or other inadvertent fire situations where the objective is to put the fire out.

Wild land Fire Use (WFU): The application of appropriate management response to naturally-ignited WLFs to accomplish specific resource management objective in pre-designated areas outlined in fire management plans. In other words, an unplanned fire that is subsequently controlled and used as a Rx fire to meet specific objectives. This category existed in 2008, but no longer is used as a way to classify fires in 2011, and thus will not be discussed further in this section.

For the dataset developed by EPA for the 2011 NEI, we used the following general equation to estimate wildfires and prescribed fires. Accurate estimates of fire emissions rely on accurate estimates of the terms in the equation below.

$$\text{Emissions} = \text{Area burned} * \text{Fuel Load Available} * \text{Fuel Consumed (Burn Efficiency)} * \text{Emission Factors}$$

SF2 estimates the “Area burned” term in the above equation, in conjunction with the Bluesky framework model that estimates the last three terms in the above equation. The “fuel load available” term is estimated using the Fuel Characteristic Classification System (FCCS) maps in the Bluesky model. The “fuel consumed” term is estimated from Bluesky using the CONSUME3 model, which predicts the fraction of fuel that burns based on many parameters including fuel moisture. Finally, the “Emission Factors” term is estimated in Bluesky using the Fire Emissions Prediction Simulator which relies on EFs from the literature apportioned by flaming and smoldering combustion. Since SF2 was recently developed, direct references to its development in conjunction with updated Bluesky methods are not yet available.

York County, SC actual 2011 prescribed fires and wildfires were obtained from the SC Forestry Commission and were provided to EPA for use in the 2011 NEI calculations.

In order to generate the tons/avg summer day emission estimate, the Department chose to rely on emission modeling work already conducted by the EPA-Office of Air Quality Planning and Standards (EPA-OAQPS). The emissions modeling work was part of the EPA-OAQPS 2011 modeling platform effort, which will be used for the EPA’s proposed rule related to the transport of ozone. The emissions modeling conducted by the EPA-OAQPS generated hourly emissions estimates which were then summarized at the monthly level. This was accomplished by first running the annual 2011 NEI emissions through the temporal allocation process used by SMOKE. For some sectors like onroad mobile the temporalization is performed by computing emissions based on the monthly VMT. For Point Electric Generating Units (EGUs) day-specific emissions are input to SMOKE based on the application of profiles based on CEMS data in the region.

With the monthly emissions, by sector, as a starting point, the values then had to be converted to a tons/avg summer day. The best way to accomplish this was to take the monthly emissions for the five summer months (May, June, July, August and September) and add them together to get a total summer emission estimate for each sector. This total summer estimate was then divided by the number of days in the 2011 summer (153 days) to generate an estimate for the 2011 average summer day per sector.

## **PART IV: ONROAD MOBILE SOURCE EMISSIONS INVENTORY DOCUMENTATION**

### **I. INTRODUCTION**

The following section contains onroad mobile inventory documentation for York County, SC, which is part of the Charlotte-Rock Hill, NC-SC Nonattainment Area. The inventory data is for calendar year 2011.

The York County, SC emissions inventory was developed by the EPA, with input from the Department, as part of the 2011 NEI effort. The 2011 EI was developed per the AERR reporting requirements. Emission estimates were calculated in tons per year, and converted to tons per average summer day for this submittal.

## II. ONROAD MOBILE SOURCE INVENTORY DEVELOPMENT

Onroad mobile sources are sources of pollution caused by vehicles transporting goods or people on public roadways. This includes passenger cars, motorcycles, minivans, sport-utility vehicles, light-duty trucks, heavy-duty trucks, and buses. The sectors include emissions from parking areas as well as emissions while the vehicles are moving.

EPA created a comprehensive set of mobile source input data, called the County Database files (CDB) as a starting point for the 2011 NEI. The Motor Vehicle Emissions Simulator (MOVES) 2010b is the current model used to estimate emissions for the onroad mobile source category. For the 2011 NEI effort, EPA encouraged state, local, and tribal agencies to submit model inputs, where applicable, rather than emissions, so that EPA could use those inputs beyond the 2011 NEI for future year projections. York County, SC's 2011 onroad mobile inventory was developed using a combination of the 2011 EPA developed MOVES inputs and Department-provided county-specific 2011 input data. The Department did not have county specific information for all of the MOVES required inputs, but any data that was available was provided and used in the 2011 NEI effort. The following sections will detail the actual county specific inputs the Department provided for York County, SC, during the 2011 NEI effort.

### A. YORK COUNTY 2011 VEHICLE POPULATION INPUTS

The SourceTypePopulation input file contains information for MOVES about the number of vehicles for each source type ID, or vehicle type. The Department collected a snapshot of the vehicle population in York County in early 2011, from the S.C. Department of Motor Vehicles (DMV). This snapshot included all registered vehicles in York County. The Department reviewed this information and made some corrections to exclude vehicles that do not actually have engines (i.e. trailers). Next, the data had to be organized into the MOVES source types. The DMV data originally had the registrations divided by the type of license plate they had and excluded information on the type of vehicle licensed. To split the total vehicles by the proper source type, the Department first did a MOVES run using default input data to extract the default ratios for the South Carolina 2011 vehicle populations by source type. These ratios were then applied to the York County actual total vehicle population value to get a population value for each source type. This information was then sent to EPA for the 2011 NEI effort and replaced the default CDB input for sourcetypepopulation. Table 11 shows the values calculated for the 2011 York County vehicle population.

**Table 11: York County, SC 2011 Vehicle Population**

yearID	sourceTypeID	sourceTypePopulation
2011	11	7185
2011	21	85024
2011	31	63959
2011	32	21367
2011	41	118
2011	42	61
2011	43	797
2011	51	63
2011	52	4503
2011	53	598
2011	54	1050
2011	61	1132
2011	62	1386

## B. YORK COUNTY 2011 VEHICLE MILES TRAVELED (VMT) INPUTS

The VehicleTypeVMT input file contains information for MOVES about the VMT for each Highway Performance Management System (HPMS) vehicle ID. The Department collected 2011 York County VMT data from the South Carolina Department of Transportation (SCDOT). The SCDOT VMT data was available by road classification but the data was not available by HPMS vehicle type. To split the total VMT into HPMS vehicle type, the Department first did a MOVES run using default input data to extract the 2011 default ratios of VMT per HPMS vehicle type for South Carolina. These default 2011 ratios were then applied to the York County actual total VMT value to get a 2011 VMT per HPMS source type. Table 12 shows the values calculated for the 2011 York County VehicleTypeVMT.

**Table 12: York County, SC 2011 Vehicle Miles Traveled**

HPMSVtypeID	yearID	HPMSBaseYearVMT	baseYearOffNetVMT
10	2011	10708956	
20	2011	1043726566	
30	2011	744272430	
40	2011	5552792	
50	2011	65443619	
60	2011	113435606	

## C. AVERAGE SUMMER DAY EMISSIONS ESTIMATE

In order to generate the tons/avg summer day emission estimate, the Department chose to rely on emission modeling work already conducted by the EPA-Office of Air Quality Planning and Standards (EPA-OAQPS). The emissions modeling work was part of the EPA-OAQPS 2011 modeling platform effort, which will be used for the EPA's proposed rule related to the transport of ozone. The emissions modeling conducted by the EPA-OAQPS generated hourly emissions estimates which were then summarized at the monthly level. This was accomplished by first running the annual 2011 NEI emissions through the temporal allocation process used by SMOKE. For some sectors like onroad mobile the temporalization is performed by computing emissions based on the monthly VMT. For Point Electric Generating Units (EGUs) day-specific emissions are input to SMOKE based on the application of profiles based on CEMS data in the region.

With the monthly emissions, by sector, as a starting point, the values then had to be converted to a tons/avg summer day. The best way to accomplish this was to take the monthly emissions for the five summer months (May, June, July, August and September) and add them together to get a total summer emission estimate for each sector. This total summer estimate was then divided by the number of days in the 2011 summer (153 days) to generate an estimate for the 2011 average summer day per sector.

# **Appendix B**

## **Legal Authority**

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## LEGAL AUTHORITY<sup>1</sup>

No plan for attaining a goal, the attainment of which is dependent upon regulatory action, can be used with any degree of effectiveness unless the legal framework is strong. Consequently, the Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 40 CFR 51, as amended, define the necessary statutory powers which must be immediately available to states to carry out the responsibility to the Clean Air Act.

40 CFR 51.230 sets forth six specific requirements for State authority. The South Carolina Pollution Control Act, Act 1157 of 1970, as amended, S. C. Code Sections 48-1-10 thru - 350 (1976), provides the State’s authority to respond to these requirements. The Attorney General of the State of South Carolina has given an opinion as to the adequacy of South Carolina laws, as follows:

<b>Legal Authority Required 40 CFR 51</b>	<b>Adequacy of S. C. Law</b>	<b>S. C. Statutes Involved</b>
(a) “Adopt emission standards and limitations and any other measures necessary for attainment and maintenance of national standards.”	Adequate	S. C. Code Secs. 48-1-20, 48-1-50(23)
(b) “Enforce applicable laws, regulations, & standards, and seek injunctive relief.”	Adequate	S. C. Code Sec. 48-1-50(1), (3), (4), (5), (11); Secs. 48-1-120, 48-1-130, 48-1-210, 48-1-320, 48-1-330.
(c) “Abate pollutant emissions on an emergency basis to prevent substantial endangerment to the health of persons, i.e., authority comparable to that available to the Administrator under section 305 of the Act.”	Adequate	S. C. Code Sec. 48-1-290.
(d) “Prevent construction, modification, or operation of a facility, building, structure, or installation, or combination thereof, which directly or indirectly results or may result in emissions of any air pollutant at any location which will prevent the attainment or maintenance of a national standard.”	Adequate	S. C. Code Sec. 48-1-50(5), (10); Secs. 48-1-100, 48-1-110.
(e) “Obtain Information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, Including authority to require recordkeeping and to make inspections and conduct tests of air pollution sources.”	Adequate	S. C. Code Sec. 48-1-50(10), (20), (22), (24).
(f) “Require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the State on the nature and amounts of emissions from such stationary sources; also authority for the State to make such data available to the public as reported and as correlated with any applicable emission standards or limitations.”	Adequate	S. C. Code Secs. 48-1-50(22), 48-1-270.

<sup>1</sup> Section 2 of the EPA-approved South Carolina Air Quality Implementation Plan (SIP), which defines the State’s statutory powers as required in 40 CFR 51.230.

## **Public Hearings**

The South Carolina Pollution Control Act provides for notice and public hearings prior to action by the Board of Health and Environmental Control concerning adoption of regulations and standards, adoption or modification of final compliance dates, and other specified legal actions.

Additionally, Act 176 of 1977 enacted by the South Carolina General Assembly requires, among other things, that at least thirty days public notice be given before adoption, amendment or repeal of any rule. It also requires that the substance of the intended action or a description of the subjects and issues involved be made known. While this act escapes the actual requirement for a public hearing in each case, the two Acts taken together do impose the requirement of a thirty days notice of public hearing, assuring compliance with the requirements of 40 CFR 51.102, as amended.

**Appendix C**  
**Public Notice**  
*South Carolina State Register*  
**May 23, 2014**

The Department is certifying to the EPA that it has addressed the SIP elements pertaining to the SO<sub>2</sub> attainment areas in South Carolina. This SO<sub>2</sub> infrastructure SIP certification specifies how the Department complies with each SIP element for the 2010 SO<sub>2</sub> NAAQS. This Final Amendment to the SIP will take effect upon publication of this Notice in the *South Carolina State Register*.

DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

NOTICE OF GENERAL PUBLIC INTEREST

NOTICE OF INTENT TO REVISE THE STATE IMPLEMENTATION PLAN (SIP)

MARGINAL NONATTAINMENT AREA SIP FOR THE YORK COUNTY PORTION OF THE  
CHARLOTTE-ROCK HILL NC-SC 8-Hour OZONE NONATTAINMENT AREA

Statutory Authority: The Clean Air Act, 42 U.S.C. Section 7401 et seq.; 42 U.S.C. Sections 7407 & 7410; 40 C.F.R. Parts 51.102 and 81.241; S.C. Code Ann. Section 48-1-10 et seq. (2008 & Supp. 2013)

**South Carolina Air Quality Implementation Plan:**

NOTICE IS HEREBY GIVEN, the South Carolina Department of Health and Environmental Control proposes to submit a final nonattainment area State Implementation Plan ("SIP") certification for the York County portion of the Charlotte-Rock Hill NC-SC 8-hour ozone nonattainment area to the Environmental Protection Agency ("EPA"), 40 C.F.R. 81.341.

**Opportunity for Public Comment:**

Interested persons are invited to present their views in writing to Roger Jerry, Division of Air Assessment and Regulation, Bureau of Air Quality, 2600 Bull Street, Columbia, SC 29201. Comments may also be submitted via email to [jerryre@dhec.sc.gov](mailto:jerryre@dhec.sc.gov). To be considered, comments must be received no later than 5:00 p.m. on June 23, 2014, the close of the drafting comment period. A public hearing has been planned for June 30, 2014, at 10 a.m. in the Wallace Room (3141), 2600 Bull Street, Columbia, South Carolina. The public is invited to attend. Pursuant to 40 CFR 51.102, if no adverse comment and no request for a public hearing are received by the close of the comment period (June 23, 2014), the hearing will be cancelled. If the public hearing has been cancelled, the Department will notify the public one week prior to the scheduled hearing via the "Scheduled Public Hearings" webpage: [http://www.scdhec.gov/environment/baq/Regulation-SIPManagement/SIP/public\\_hearings.asp](http://www.scdhec.gov/environment/baq/Regulation-SIPManagement/SIP/public_hearings.asp). Interested parties are encouraged to contact Roger Jerry at (803) 898-1799 or [jerryre@dhec.sc.gov](mailto:jerryre@dhec.sc.gov) for more information or to determine if the public hearing has been cancelled.

**Background:**

On April 30, 2012 (77 FR 30088), the EPA issued final area designations for the 2008 Ozone National Ambient Air Quality Standard ("NAAQS"), 40 C.F.R. 81.341. At that time, all of South Carolina was classified as unclassifiable/attainment with the exception of a portion of York County. Although the monitor in York County was meeting and continues to meet the standard, EPA included the eastern, urbanized area of York County in the Charlotte-Rock Hill, NC-SC nonattainment area ("York NAA") because of its proximity to Charlotte. This is the same portion of York County that was designated in 2004 as nonattainment for the 1997 ozone standard, with the exception of the Catawba Indian Nation Reservation. The York NAA was designated marginal for the 2008 ozone NAAQS (77 FR 30144) and South Carolina has already implemented Clean Air Act, Section 182(a), NAA requirements in the area due to the 1997 moderate designation.

*South Carolina State Register* Vol. 38, Issue 5  
May 23, 2014

## 8 NOTICES

### Purpose:

This proposed SIP revision provides EPA with nonattainment area SIP certifications which fulfill the requirements of Section 182(a) of the Clean Air Act as amended. Air quality monitoring data shows that the York NAA currently meets the 2008 8-hour ozone NAAQS of 0.075 ppm. Documents relating to this York NAA SIP certification will be available via the Department's website at: <http://www.scdhec.gov/environment/baq/Ozone/StandardsandRequirements/NAAQS.asp>

**Appendix D**  
**EPA Comments on Pre-Draft Submittal**  
**of 4/11/14 and Department's Response.**

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## U.S. Environmental Protection Agency's Preliminary Comments on South Carolina's Draft Submission for Marginal Area Requirements for the 2008 8-Hour Ozone National Ambient Air Quality Standard

May 19, 2014

### Key Comments

- Overall – Since this emissions inventory is being provided to meet nonattainment requirements and violations of the ozone standard typically occur in the summer, EPA notes that the emissions should not be based on annual emissions but should be based on a typical summer day unless there is some justification as to why annual emissions, even with the temperature variations, are representative of the emissions that would be expected on a typical summer day. Specifically, to meet the 8-hour ozone NAAQS emission inventory for nonattainment SIP, volatile organic compound (VOC) and nitrogen oxide (NO<sub>x</sub>), emissions should be reported as actual summer weekday. Summer weekday emissions are defined as an average day's emissions for a typical summer day during the ozone season. This requirement is consistently presented in the 2005 Emissions Inventory guidance, current draft Emissions Inventory guidance, and ozone implementation rules. The Annual Emissions Reporting Rule (AERR) is focused on emissions submitted for the annual National Emissions Inventory (NEI) inventory

### **Department Response:**

The Department will replace the annual emission inventory information with daily emission inventory information (tons per day) by source sector as requested. As always, the Department is committed to making more detailed emission inventory information available upon request by the public.

- Section 182(a) and 182(a)(1) states “Each State in which all or part of a Marginal Area is located shall, with respect to the Marginal Area (or portion thereof, to the extent specified in this subsection), submit to the Administrator the State implementation plan....submit a comprehensive, accurate, current inventory of actual emissions from all sources, as described in section 172(c)(3)....” Section 172(c)(3) references the nonattainment area. We recommend that the state consider using one of several methods discussed in EPA's [draft SIP emissions inventory guidance](#) in addressing this emissions inventory requirement. This document can be found at the following website: (<http://www.epa.gov/ttn/chief/einformation.html>).

### **Department Response:**

The Department consulted the aforementioned website and did not find any of the information helpful. In the interest of time and lacking appropriate and necessary guidance, the Department respectfully asks that EPA approve this submission as is, with whole county emissions inventory data. The Department appreciates EPA's response and the requirements per the CAA, but respectfully disagrees with the need to provide a more detailed emission inventory for a marginal nonattainment area.

- On page 4 of the document there is the following text “The Department also believes, and has had detailed dialogue with EPA Region 4, that states should be allowed the option to utilize full county data (AERR reporting) as opposed to partial county data to meet the requirements of CAA Section 182(a)(1). There are instances in which partial county data will be burdensome for states to extract from a previous AERR submittal. AERR requirements are met by full county emissions inventory submittals. Pulling out partial county data in some instances will provide little benefit as the theory behind a nonattainment area is that most of the area emissions are contained within the nonattainment area and adding emission reporting from the rest of the county will have a negligible impact on the data. The Department stands behind its belief that this is the case for York County.” As EPA has mentioned in dialogue with South Carolina, it is preferable, since the requirement is only for the nonattainment portion of the county, that South Carolina provide partial county emissions to satisfy the section 182(a)(2)(1) requirement for the **nonattainment area**. EPA is noting that, even in the event that EPA can accept a full county emissions inventory to satisfy the section 182(a)(2)(1) requirements (notwithstanding the comment above and other comments EPA is providing regarding the need for the emissions inventory to be based on a typical summer day), this will not be an acceptable approach for establishing motor vehicle emissions budgets for the area nor will it be an acceptable approach for the underlying emissions to support a redesignation of the area for the 2008 8-hour ozone standard in the event that the State recommends redesignation in the future. EPA would like to have further discussions to get clarity on what additional information would be necessary for South Carolina to develop to get partial county emissions given that the mobile emissions generated by the metropolitan planning organization are for the portion of the area that are designated nonattainment, and there is knowledge of where the point sources are in the County. As discussed previously, for the other source categories (i.e., area and nonroad), it may be appropriate to use population apportionment to generate partial county emissions.

**Department Response:**

In the interest of time and lacking appropriate and necessary guidance, the Department respectfully asks that EPA approve this submission as is, with whole county emissions inventory data. The Department appreciates EPA’s response and the requirements per the CAA, but respectively disagrees with the need to provide a more detailed emission inventory for a marginal nonattainment area. The Department appreciates and understands EPA’s comments clarifying that, “even in the event that EPA can accept a full county emissions inventory to satisfy the section 182(a)(2)(1) requirements...” this same emissions inventory is not acceptable for establishing motor vehicle emission budgets or to support redesignation.

- Page 6 – Section entitled “Clean Air Act Section 182(a)(3)(B): Periodic Inventory – Emissions Statements” – There is the following statement “The April 29, 2010, SIP revision states that the Department has the authority to require annual

emissions statements and is taking specific action to comply with the emissions statement requirements for any class or category of stationary sources that emits 25 tons per year or more of VOCs or NOx. The Department “has and is requiring, receiving, and archiving” emissions statements.” As EPA has noted in the past to South Carolina, the requirement is beyond the State having the authority and requires the State to have regulation in place to ensure that this requirement is being implemented in the nonattainment area. From previous discussions and through the review of other submissions provided by the State, EPA is aware that South Carolina is working to clarify that regulations are in fact in place to address this requirement. EPA believes that reference to those regulations would more appropriate to provide the reader with the clarity they may need to know that South Carolina has the regulations in place to ensure that this requirement is being met. Reference to these regulations, and not just the authority that the State has is also necessary for South Carolina to meet the emissions statement requirement for the 2008 8-hour ozone standard.

**Department Response:**

The Department appreciates this comment and offers the following clarification on the issue of emission statements. The Department proposed changes to Regulation 61-62.1 (Section III, Emissions Inventory), to incorporate into South Carolina regulatory text and the SIP the CAA requirement for sources in ozone nonattainment areas to submit an annual emissions statement. This proposed revision was approved by the South Carolina General Assembly as part of Doc. No. 4388 on May 14, 2014. These revisions will become State effective upon publication in the *South Carolina State Register* on June 27, 2014. As such, the Department understands and agrees to make the suggested change (to specifically refer to the text of the Regulation related to emission statements) in the final SIP package to the EPA (expected in July 2014).

**General Comments**

- On page 4 of the document there is the following text “The Department does not see the need for marginal area emissions inventory reporting as no modeling is required to be redesignated to attainment. Any emissions inventory reporting for marginal areas outside of what has already been collected into the National Emissions Inventory (NEI) seems to be redundant, burdensome, and unnecessary. The Department, however, understands that EPA Region 4 is requiring a subsequent submission of the same data to meet the 2008 ozone NAA SIP requirements.” EPA Region 4 notes that the section 182(a)(2)(1) is a separate statutory requirement that was triggered when the area was designated nonattainment for the 2008 8-hour ozone standard.

**Department Response:**

In the interest of time and lacking appropriate and necessary guidance, the Department respectfully asks EPA to clarify this comment.

- Page 5 – Section entitled “Clean Air Act Section 182(a)(2)(A): Reasonable Available Control Technology Corrections” – The requirement referenced here

Clean Air Act Section 182(a)(2)(A): Reasonably Available Control Technology Corrections is specific to pre-1990 ozone issues. Since South Carolina did not have any ozone nonattainment areas pre 1990, this probably did not apply to South Carolina at all. Even if it did apply for some reason, previously, or even if South Carolina chose to submit such RACT corrections back then, this statutory requirement is no longer relevant. The 1997 ozone RACT work cited here in this SIP submittal by South Carolina is for RACT required under CAA 182(b)(2) for moderate and above areas. York County is a marginal area for the 2008 ozone NAAQS and 182(b)(2) does not apply for the purpose of a 2008 ozone NAAQS SIP submittal. For clarity, if South Carolina intends to keep this text for the document that is provided for public comment, EPA suggests that South Carolina provides context for the pre-1990 requirements in terms of the specifics for South Carolina. **Otherwise, EPA suggests that this text be removed from this submittal.**

**Department Response:**

The Department understands and agrees to make this change in the text to the pre-hearing submittal to be published for public comment.

- Page 5 – Section entitled “Clean Air Act Section 182(a)(2)(B): Savings Clause for Vehicle Inspection and Maintenance” – The requirement referenced here Clean Air Act Section 182(a)(2)(B): Savings Clause for Vehicle Inspection and Maintenance is specific to pre-1990 ozone issues. Since South Carolina did not have any ozone nonattainment areas pre 1990, this probably did not apply to South Carolina at all. Even if it did apply for some reason previously or even if South Carolina chose to submit such savings clause back then this statutory requirement is no longer relevant. The 1997 ozone Vehicle Inspection and Maintenance work cited here in this SIP submittal by South Carolina is for Vehicle Inspection and Maintenance programs required under CAA 182(b)(4) for moderate and above areas. York County is a marginal area for the 2008 ozone NAAQS and 182(b)(4) does not apply for the purpose of a 2008 ozone NAAQS SIP submittal. Further, South Carolina has never implemented an inspection and maintenance program for this area. For clarity, if South Carolina intends to keep this text for the document that is provided for public comment, EPA suggests that South Carolina provides context for the pre-1990 requirements in terms of the specifics for South Carolina. **Otherwise, EPA suggests that this text be removed from this submittal.**

**Department Response:**

The Department understands and agrees to make this change in the text to the pre-hearing submittal to be published for public comment.

- Page 6 – Section entitled “Clean Air Act Section 182(a)(2)(C): Permit Programs” – EPA suggests that the following text “On December 31, 2002 (67 FR 80185), EPA finalized revisions governing the NSR program mandated by parts C and D of Title I of the CAA. In accordance with the federal rule, states are required to

adopt and submit revisions to their SIPs no later than January 2, 2006. South Carolina *State Register* Doc. No. 2943 (Vol. 29, Issue No. 6) was published on June 24, 2005. This document incorporated R. 61-62.5, Standard No. 7.1, Nonattainment New Source Review (NSR), into South Carolina regulation. This change was also a SIP amendment to meet the federal requirement promulgated in 67 FR 80185. There have been several subsequent SIP amendments to this portion of SC regulatory text, the most recent of which was approved into the SIP by EPA on June 23, 2011 (73 FR 36875). The Department has met the requirement of CAA Section 187(a)(2)(C) as outlined in 76 FR 36875 which fully approved South Carolina's Nonattainment NSR program (program had been conditionally approved in 73 FR 31369)." EPA for accuracy suggests the following text "The Department has met the requirement of CAA Section 182(a)(2)(C) as outlined in 76 FR 36875 which fully approved South Carolina's Nonattainment NSR program. The Department has a SIP-approved nonattainment new source review permitting program at R. 61-62.5, Standard No. 7.1 which governs any new construction or modification of an existing facility in a nonattainment area subject to requirements for new source review. EPA approved the nonattainment new source review permitting program into South Carolina's SIP on June 2, 2008 (73 FR 31368) and June 23, 2011 (76 FR 36875)."

**Department Response:**

The Department understands and agrees to make this change in the text to the pre-hearing submittal to be published for public comment.

- Since this emissions inventory is being provided to meet nonattainment requirements and violation of the ozone standard typically occur in the summer, EPA notes that the emissions should not be based on annual emissions but should be based on a typical summer day unless there is some justification as to why annual emissions are representative of the emissions that would be expected on a typical summer day.

**Department Response:**

Please see Department response to comment #1 above.

- For a complete comprehensive submission, EPA notes that, in addition to providing the point source totals (in addition to the other source categories) for the area, South Carolina should also provide documentation with specific details (i.e., name, emissions units, emissions limits, and so forth) for all applicable the point sources in the portion of the York County that is included in the Charlotte-Rock Hill 8-hour ozone nonattainment area. The submission should include the individual point sources emissions (VOC and NOx) that are included in the point source sector totals.

**Department Response:**

The Department understands and agrees to make this change in the text to the pre-hearing submittal to be published for public comment. Please see point source emission inventory data added beginning on page 8 of Appendix A.

**Other comments**

- On page 2 of the document, there is text that indicates that EPA included the eastern, urbanized area of York County in the Charlotte-Rock Hill, NC-SC nonattainment area because of its proximity to Charlotte. EPA wishes to clarify that the urbanized area of York County was included in the Charlotte-Rock Hill, NC-SC nonattainment area because of EPA's belief that emissions in that area contributed to violations at monitors in the Charlotte area.

**Department Response:**

The Department understands and agrees to make this change in the text to the pre-hearing submittal to be published for public comment.

- The submittal states (page 2 of main document and Appendix A) that it has met section 182(a)(1) of the CAA for the York County portion of the nonattainment area utilizing 2011 data through the AERR Rule (73 FR 76539) and their emissions inventory submittal of 2011 data for the NEI. EPA notes that the NEI submittal does not satisfy section 182(a)(1) of the CAA for the York County portion of the nonattainment area. Section 182(a)(1) is a specific requirement of the CAA (a part from AEER) for the York County nonattainment area emissions requirement. This requirement is explained in EPA's Ozone SIP Requirements rule which is due to be final in the Fall of 2014. Specifically, section 182(a)(1) requires submittal of the emissions inventory data for nonattainment areas with documentation on its development in a SIP revision that has gone through public notice process. The letter referred to in the submission from Mr. Wayland is only acknowledges South Carolina's submittal to the NEI per AERR. This is consistent with how this requirement has been implemented for 20 years.

**Department Response:**

The Department appreciates EPA's response and the requirements per the CAA, but respectively disagrees with the need to provide a more detailed partial county emission inventory for a marginal nonattainment area. Furthermore, the Department commented on this issue in its response to the proposed (and not yet final) Ozone SIP Requirements rule. Barring appropriate and necessary final guidance in a time sufficient to address the statutory requirements to submit this SIP, the Department respectfully asks that EPA approve this submission as is, with whole county emissions inventory data. The Department will make this emission inventory information available as part of this marginal nonattainment SIP submittal in its pre-hearing submittal to be published for public comment.