



# State of Air Quality in Greenville County, SC



County Administrator's Office

September 16, 2010

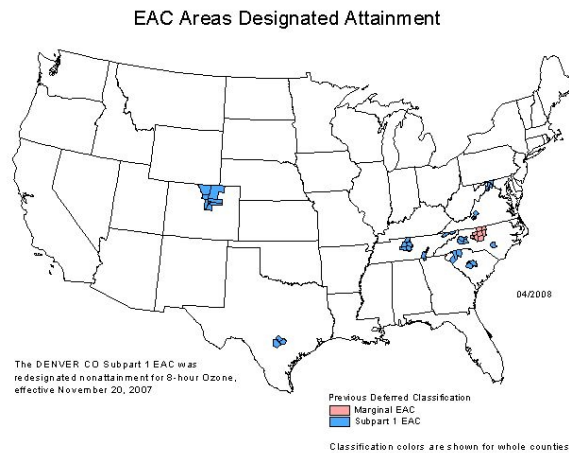
Revised October 20, 2010

## The Early Action Compact

With the execution of the Early Action Compact (EAC) between the US Environmental Protection Agency (EPA), the South Carolina Department of Health and Environmental Control (DHEC), and Anderson, Greenville, and Spartanburg county councils in December 2002, the counties set in motion a series of activities toward improving air quality. The goal of these activities was meeting the 1997 8-hour ground level ozone standard (0.084 parts per million (ppm)) established by the EPA as prescribed under the Clean Air Act earlier than required. By signing the compact, the three counties viewed their participation in the EAC as a proactive means of meeting the standard by December 31, 2007, ahead of the federally-mandated compliance date. This proactive approach assisted with avoiding burdensome federal requirements that normally apply to non-attainment areas.

## Attainment Designation

On January 31, 2008, EPA announced plans to designate 13 areas (the Appalachian Compact Area of Greenville-Spartanburg-Anderson included) in attainment with the 1997 8-hour ground level ozone standard under the EAC. EPA proposed "this action because each of the areas has demonstrated that they attained the standard by Dec. 31, 2007," through the EAC process. The 8-hour ozone design value for the Appalachian compact area was 0.083 ppm. The effective date for the attainment designation was



<http://www.epa.gov/oaqps001/greenbk/mapo3e.html>

Figure 1. Early Action Compact Areas Designated Attainment

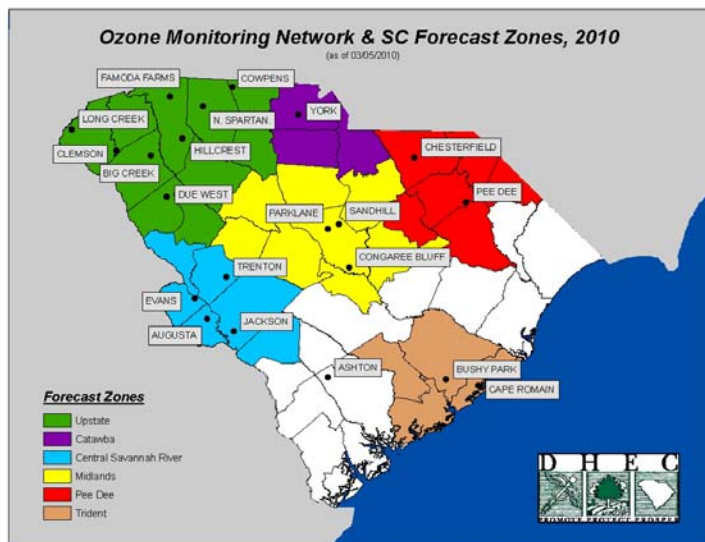


Figure 2. Ozone Monitoring Network in South Carolina

April 15, 2008. Figure 1 shows the areas that participated in the EAC designated as attainment areas.

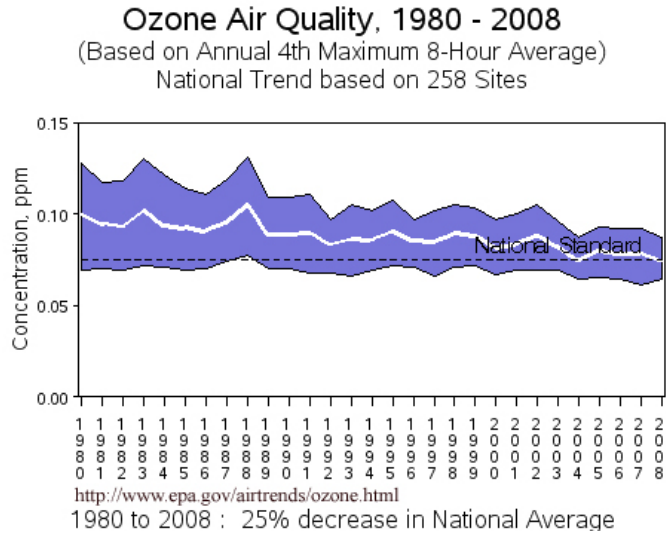
## Air Quality Monitoring Network and Trends

During 2007-2008, Greenville County and stakeholders worked with DHEC, Bureau of Air Quality, representatives to relocate the Particle Matter 2.5 (PM<sub>2.5</sub>) monitor from the Greenville County Health Department site on University Ridge to the Employment Security Commission (ESC) site on Pendleton Street and to establish two new ozone monitoring sites in Greenville County. These sites would meet EPA's siting criteria and provide

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more accurate monitoring data. Figure 2 shows the ozone monitoring network in South Carolina. The Final 2011 Monitoring Plan may be found at DHEC’s website.<sup>1</sup>

At the end of the exercise, DHEC established two new ozone monitors, one at Famoda Farms in the northern part of the county and a second one at Hillcrest Middle School in the southern Greenville.



DHEC established the Famoda Farms ozone monitor on August 7, 2008, and the Hillcrest Middle School ozone monitor on February 17, 2009. The monitors need three years worth of data in order for DHEC to use and report the monitoring air quality information. EPA has posted in its website a list of counties with monitors that are projected to violate the primary 8-hour ground level ozone standard in 2020.<sup>2</sup>

Additionally, DHEC relocated the PM<sub>2.5</sub> monitor from the Greenville County Health Department to the ESC site in Downtown Greenville. DHEC established the ESC PM<sub>2.5</sub> monitor on April 11, 2008.

**Figure 3. Ozone Air Quality Trends, 1980-2008**

According to EPA, “ozone adjusted for weather conditions declined 10 percent between 1997 and 2008. There have been improvements in Columbia and Greenville in recent years”<sup>3</sup>. Figure 3 shows the national trend from 1980 – 2008.

### ***EPA Revises the 2008 ground level ozone standard***

On March 12, 2008, the EPA Administrator announced that EPA was strengthening the 8-hour ozone standard from 0.084 ppm to 0.075 ppm for both the primary and secondary standards. Under these new standards, states were required to make attainment, nonattainment, or unclassifiable area recommendations to EPA by March 2009. In turn, EPA would make final designations in March 2010. However, on January 6, 2010, EPA announced a proposal, "Reconsideration of the National Ambient Air Quality Standard for Ozone," to further strengthen the 8-hour ozone standard beyond the 0.075 ppm level previously established in 2008. It is anticipated that by October 31, 2010, EPA will announce the new 2010 ozone standard to a level within the range of 0.060-0.070 ppm. According to EPA, this new standard is based on “grounded science” that protects public health and the environment and consistent with EPA’s Clean Air Scientific Advisory Committee (CASAC). At this time, EPA is unsure about the timing when the final designations (attainment, non-attainment, or unclassifiable) would be made after the new 2010 standard is announced in October 2010.

States must submit their State Implementation Plans (SIPs) outlining strategies to reduce air pollution to meet the new revised standards based on input from local governments and stakeholders. During the

<sup>1</sup> Source: <http://www.scdhec.gov/environment/baq/docs/ambientair/2011/Final2011MonitoringPlan.pdf>

<sup>2</sup> Source: <http://www.epa.gov/air/ozonepollution/pdfs/CountyOzoneLevels2020primary.pdf>

<sup>3</sup> Source: <http://www.epa.gov/airtrends/weather/region04.pdf#page=18>

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EAC process mentioned before, local governments in partnership with private industries and business established local strategies to improve air quality. Greenville County provided these strategies to DHEC and DHEC included them in the SIP. Depending on the severity of air quality in each area, states will be required to meet standards by the deadlines established by EPA for each area. The following is a proposed EPA accelerated schedule<sup>4</sup> from a previous announcement (this schedule may be subject change):

- January 2011: states must make recommendations on the areas of the state to be designated attainment, non-attainment or unclassifiable.
- July 2011: EPA makes final area designations.
- August 2011: designations become effective.
- December 2013: State Implementation Plans are due to EPA.
- 2014 to 2031: states required to meet the primary air quality standard. Deadlines for each area to meet the standard will depend on the severity of the problem.

### ***Preparing for a Non-Attainment Designation and Requirements***

In September 2010, EPA began offering training for the staffs of state and local governments about the transportation conformity process. Transportation conformity ensures “that federal funds go to transportation activities that are consistent with their air quality goals.”<sup>5</sup> The Clean Air Act requires state and local governments within non-attainment areas to comply with this process. Both, EPA and US Department of Transportation (USDOT) administer this requirement as it applies to “transportation plans, transportation improvement programs, and highway and transit projects funded or approved by the Federal Highway Administration (FHWA) and the Federal Transit Authority (FTA).”<sup>6</sup>

Metropolitan planning organizations (MPOs) make initial conformity determinations but the FHWA and FTA make final determinations. Conformity determination estimates emissions resulting from a region’s transportation system and shows that those emissions conform as outlined in the SIP each state submits. Transportation conformity also requires inter-agency consultation. It also requires that transportation control measures included and approved in the SIP are implemented in a timely fashion. Each time transportation plans are amended or updated or when FHWA or FTA approve or provide funding to non-exempt transportation projects, conformity determinations must be made.

Since 2006, with its Spare the Air Public Awareness Campaign and other initiatives, Greenville County and its municipalities have taken a proactive approach well before the non-attainment requirements such as transportation conformity are implemented. It is expected that the Upstate SC will be designated as a non-attainment area again with respect to the revised 2010 ozone standard. Some of the initiatives that have been implemented in non-attainment areas to show conformity include smart growth, transit-friendly transportation projects, commuter programs, use of alternative fuel vehicles and buses, diesel retrofit and anti-idling programs. Many of these initiatives are already in place in the county. They include use of alternative fuel vehicles in the County’s fleet and GreenLink buses, diesel retrofit on the county’s heavy equipment and trucks, the Breathe Better at School (B<sup>2</sup>)—anti-idling—program, transit friendly projects (i.e., Swamp Rabbit Trail and other greenway initiatives of municipalities in the county), and the school bus retrofit program that DHEC and the SC Department of

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<sup>4</sup> Source: <http://www.epa.gov/air/ozonepollution/pdfs/fs20100106std.pdf>

<sup>5</sup> Source: <http://www.epa.gov/otaq/stateresources/transconf/420f06001.pdf>

<sup>6</sup> Source: <http://www.epa.gov/otaq/stateresources/transconf/420f06001.pdf>

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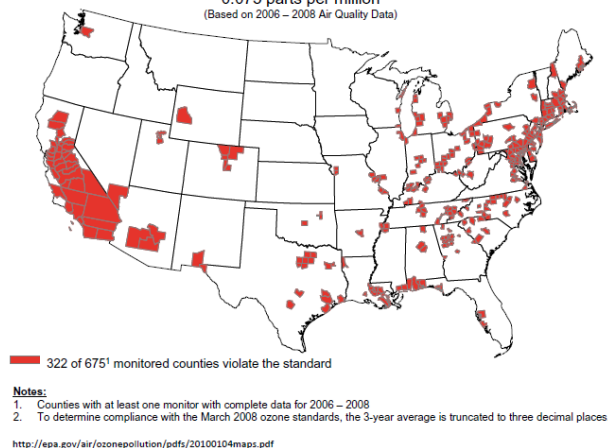
Education implemented (many of those buses operate in Greenville County). Other transportation control measures in the Upstate SC region include the truck stop electrification in Anderson County and production of biodiesel in Pickens County.

In addition to the transportation conformity issue, another significant requirement that will face non-attainment areas is the new source review (NSR) permitting program. NSR permits are legally binding documents and the owners/operators of the facilities must abide by. This program has two purposes:<sup>7</sup>

- First, it ensures that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers and power plants. In areas with unhealthy air, NSR assures that new emissions do not slow progress toward cleaner air. In areas with clean air, especially pristine areas like national parks, NSR assures that new emissions do not significantly worsen air quality.
- Second, the NSR program assures people that any large new or modified industrial source in their neighborhoods will be as clean as possible, and that advances in pollution control occur concurrently with industrial expansion.

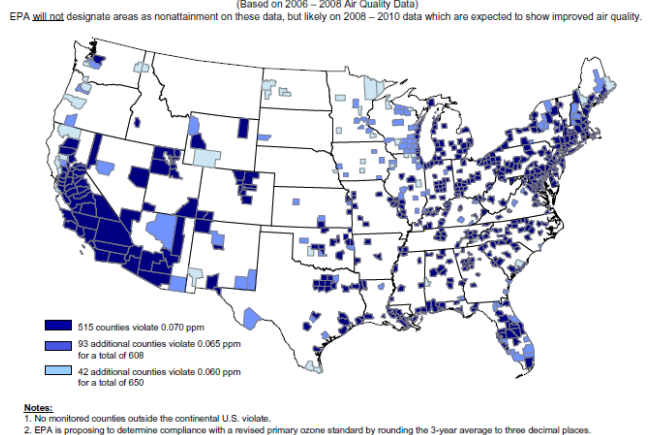
It has been generally accepted in the economic development field that (a) industries would turn away from non-attainment designated areas when considering relocating their businesses, (b) existing industries may not be able to expand if located in those areas until they show that expanding would not make air quality worse, and (c) they would have to go thru the cumbersome and lengthy NSR process. However, with the proposed new ozone standard range (0.060 – 0.070 ppm), even at 0.070 ppm, the number of non-attainment areas will increase considerably throughout the nation. Industries in those areas would be required to put in place pollution control measures and be subject to the NSR permitting process. Figure 4 and Figure 5 show the monitors violating the 2008 and the proposed ground level ozone standards, respectively. With the increase in non-attainment areas, the playing field may be somehow leveled nationally for economic development when it comes to recruiting new industries. However, at the state and local level, non-attainment designated areas may be at a disadvantage.

Counties With Monitors Violating the March 2008 Ground-Level Ozone Standards  
0.075 parts per million  
(Based on 2006 – 2008 Air Quality Data)



**Figure 4. Counties With Monitors Violating the 2008 Ground Level Ozone Standards**

Counties With Monitors Violating Proposed Primary 8-hour Ground-level Ozone Standards  
0.060 - 0.070 parts per million  
(Based on 2006 – 2008 Air Quality Data)



**Figure 5. Counties With Monitors Violating Proposed Primary 8-hour Ground Level Ozone Standards**

<sup>7</sup> Source: <http://www.epa.gov/nsr/>

### ***Conclusion***

In light of the imminent changes that EPA is making to the ground level ozone standard, it is important that Upstate counties and other stakeholders join forces to discuss and address those changes, which could have an impact in the Upstate SC. The Upstate Air Quality Improvement Committee has been reconvened. This is the committee composed of public and private sector organizations that was instrumental in developing more than 20 air quality strategies during the EAC process in 2004-2006. The first meeting will be held on November 4, 2010.