

## **Raleigh-Durham, North Carolina Ozone Attainment and Maintenance Plan**

Effective Redesignation Date: 6/17/94 (59 FR 18300, 4/18/94)

**Background of the Plan:** Under section 107 (d) (1), in conjunction with the Governor of North Carolina, Environmental Protection Agency (EPA) designated the Raleigh/Durham area as nonattainment because the area violated the ozone standard during the period from 1987 through 1989. Furthermore, upon designation, the Raleigh/Durham area was classified as moderate under section 181 (a)(1). The ozone nonattainment area included the following counties: Durham, Wake, and the Dutchville Township portion of Granville. The Raleigh/Durham area had ambient monitoring data that show no violations of the ozone National Ambient Air Quality Standards (NAAQS), during the period from 1989 through 1992. Therefore, on November 13, 1992, the State of North Carolina submitted for parallel processing an ozone maintenance SIP for the Raleigh/Durham area and requested redesignation of the area to attainment with respect to the ozone NAAQS. During the 1993 ozone season there were no violations reported.

**Summary of the Plan:** The State Implementation Plan (SIP) relies on an attainment level of emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) to maintain the ozone standard through a combination of control measures. These measures include both stationary and mobile source controls. On August 11, 1993, Region 4 determined that the information received from the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR) constituted a complete redesignation request under the general completeness criteria of 40 CFR 51, appendix V, sections 2.1 and 2.2. Therefore, the EPA informed the State of North Carolina on August 11, 1993, that the redesignation request and maintenance plan submittals were complete under the general completeness criteria. EPA approved the Raleigh/Durham ozone maintenance plan, including the 1990 baseline emission inventory, because it met the requirements of Section 175A. The Agency redesignated the Raleigh/Durham area to attainment ozone because the State of North Carolina has demonstrated compliance with the requirements of Section 107 (d)(3)(E) for redesignation.

**Control Measures:** A variety of control measures will be utilized and enforced such as:

- Reduction of Fuel Volatility as measured by the Reid Vapor Pressure (RVP) of gasoline
- Federal Motor Vehicle Control Program (FMVCP)
- Inspection and Maintenance (I/M)

**Contingency Measures:** The State of North Carolina provided contingency measures with a schedule for implementation in the event of a future ozone air quality problem. The plan contains a contingency to implement pre-adopted additional control measures such as Reasonable Available Control Technology (RACT) level control for not previously controlled VOC sources, Stage II vapor control for gasoline dispensing facilities, and new source permit requirements for VOC and NO<sub>x</sub> emissions to include emission offsets, Lowest Achievable Emission Rate (LAER) level control, and permit applicability. These pre-adopted additional measures will be implemented within 45 days of the date the State certifies to EPA that the air quality data which demonstrates a violation of the ozone NAAQS is quality assured. Also contained in the plan is a secondary trigger that will apply where no actual violation of the NAAQS has occurred. The

secondary trigger is an exceedance of the baseline emissions inventory by more than 10%. On the occurrence of the secondary trigger, the State will commence, within 60 days of the trigger, regulation development and adoption of measures amending the State vehicle inspection and maintenance (I/M) program, extending coverage of the I/M program, extending and/or lowering vapor pressure limits for gasoline, extending geographic coverage of RACT controls, transportation control measures, and RACT level control for NO<sub>x</sub>. A complete description of these contingency measures can be found in the TSD prepared for this notice.

**Motor Vehicle Emissions Budgets:** The applicable MVEB for the total area of Raleigh/Durham for VOCs in 2002 is 76.39 tons/day and in 2004 is 79.18 tons/day. The applicable MVEB for the total area of Raleigh/Durham for NO<sub>x</sub> in 2002 is 81.35 tons/day and in 2004 is 82.24 tons/day. The subarea budgets for 2002 and 2004 are as follows:  
Raleigh - 43.5 tons/day, VOC; 50.3 tons/day, NO<sub>x</sub>  
Durham - 13.6 tons/day, VOC; 21.6 tons/day, NO<sub>x</sub>

**Emission Reductions:** The reduction of fuel volatility, as measured by the Reid Vapor Pressure (RVP), from 10.1 psi in 1988 and then to 7.8 psi in the summer of 1992. As a result of the RVP reductions, there has been a reduction of emissions of VOCs of more than 25% from 1988 to 1992 from gasoline powered vehicles of all classes. The Federal Motor Vehicle Control Program (FMVCP) reduces VOC and NO<sub>x</sub> emissions as newer, cleaner vehicles replace older, high emitting vehicles. VOC emissions reductions are 20.9% from 1988 to 1990 and NO<sub>x</sub> emissions reductions are 2.7% from 1988 to 1990. On November 13, 1992, the State of North Carolina submitted comprehensive inventories of VOC, NO<sub>x</sub>, CO emissions from the Raleigh/Durham area. The inventories included biogenic, area, stationary and mobile sources using 1990 as the base year for calculation to demonstrate maintenance. The area wide VOC emissions inventory for baseline year 1990 was 261.99 tons/day with a total reduction of .92 percent by 2004. The area wide NO<sub>x</sub> emissions inventory for baseline year 1990 was 92.95 tons/day with a total reduction of 6.61 percent by 2004.

**Federal Register Actions:**

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**Contact Person:** Rosymar De La Torre Colon, U. S. EPA, Region IV  
61 Forsyth Street, SW, Atlanta, Georgia 30303-8960  
Telephone: (404) 562-8965  
E-mail: delatorre.rosymar@epa.gov