

Lexington-Fayette, Kentucky Area Ozone Maintenance Plan

Effective Redesignation Date: 11/13/95 (60 FR 47089, 9/11/95)

Background of the Plan: On November 13, 1992, the Commonwealth of Kentucky through the Natural Resources and Environmental Protection Cabinet (Cabinet), submitted a maintenance plan and a request to redesignate the Lexington area from nonattainment to attainment for the 1-hour ozone standard. Under section 107(d)(1), in conjunction with the Governor of Kentucky, EPA designated the Lexington-Fayette area as nonattainment because the area violated the ozone standard during the period from 1987 through 1989 [See 56 FR 56694 (Nov. 6, 1991) and 57FR 56762 (Nov. 30, 1992), codified at 40 CFR 81.318]. On November 13, 1992, Kentucky submitted a redesignation request and maintenance plan for the Lexington-Fayette area. EPA approved this request on September 11, 1995.

Summary of the Plan: This State Implementation Plan revision relies on an attainment level of emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx) to maintain the 1-hour ozone standard through a combination of control measures. These measures include both stationary and mobile source controls. The Commonwealth agreed to periodically update the emissions inventory to ensure maintenance of the standard and to implement certain contingency measures if the emissions level is exceeded or the standard is violated. The Lexington-Fayette marginal nonattainment area projected an increase in both VOCs and NOx emissions but demonstrated, through modeling, they will continue to meet the ozone standard.

Control Measures: A variety of control measures will be utilized including the following:

- Emissions Inventory
- Reasonably Available Control Technology (RACT)
- Emissions Statements
- New Source Review
- Reid Vapor Pressure (RVP)

This area is subject to the Federal Reid Vapor Pressure requirements. For a listing of the exact requirements please refer to <http://www.epa.gov/otaq/volatility.htm>.

Motor Vehicle Emissions Budget (MVEB): The MVEB budget year is 2004 for the Lexington area. The MVEB for VOCs is 26.03 tons/day and for NOx is 21.71 tons/day.

Contingency Measures: The Commonwealth's contingency plan is triggered by two indicators, the emissions inventory for interim years exceeding the baseline emission inventory by more than 10 percent or an air quality violation. The plan contains a contingency to implement RACT on existing major sources in the area where the violation occurred within ninety (90) days. RACT was not required for this nonattainment area because it was designated as a marginal nonattainment area pursuant to the CAA. However, Kentucky chose to apply RACT on all major sources which commenced on or after the effective date of a particular RACT rule.

Emission Reductions: On November 13, 1992, the Commonwealth of Kentucky submitted comprehensive inventories of VOC, NOx, and carbon monoxide emissions for the Lexington-Fayette marginal nonattainment area. The inventories included biogenic, area, stationary, and mobile sources using 1990 as the base year for calculations to demonstrate maintenance. The area wide VOC emissions inventory for baseline year 1990 was 63.79 tons/day with a total reduction of 9.20 percent by 2004. The area wide NOx emissions inventory for baseline year 1990 was 32.54 tons/day with a total reduction of 0.98 percent by 2004. The Lexington-Fayette marginal nonattainment was redesignated attainment on November 13, 1995. Because there were increases in VOC and NOx

emissions, Kentucky was required to model to demonstrate maintenance of the ozone standard despite emissions growth. The Empirical Kinetics Modeling Approach was the model used. The modeling indicated that the future mix of emissions produced ozone levels below the federal ozone standard. Thus, the analysis indicated that the Lexington area should continue to maintain the standard throughout the maintenance period.

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