

Knox County, Tennessee Ozone Attainment and Maintenance Plan

Effective Redesignation Date: 10/27/93 (58 FR 50271, 9/27/93)

Background of the Plan: On November 6, 1991, Knox County was designated as nonattainment for ozone due to monitored exceedances of the ozone standard during the summer of 1988. This designation became effective 60 days later on January 6, 1992. On August 26, 1992, the State of Tennessee, through the Tennessee Department of Environment and Conservation, submitted a request for Knox County (classified as a marginal nonattainment area) to be redesignated to attainment for ozone. This request was based on three years (1989, 1990, and 1991) of quality-assured monitoring data with an expected exceedance rate for the ozone standard of less than 1.0 per year.

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_x) to maintain the ozone standard through a combination of control measures. These measures include both stationary and mobile source controls. The state 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 Knox County marginal nonattainment area is expected to achieve a 7.27 percent reduction in VOCs and 17.18 percent reduction in NO_x by the year 2004. On June 28, 1993, the Tennessee SIP and approval of the submitted revisions were made federally effective. This area was designated to attainment on October 27, 1993.

Control Measures: A variety of control measures will be utilized and enforced such as: the federal requirements to reduce the Reid Vapor Pressure (RVP) of gasoline, Federal Motor Vehicle Control Program (FMVCP), and Reasonably Available Control Technology (RACT) regulations. The Federal requirements to reduce the Reid Vapor Pressure (RVP) of gasoline to 9.5 psi went into effect in Knox County during the summer of 1989. As required for nonattainment areas in the southeast, an RVP of 7.8 psi went into effect on June 1, 1992, but a request to revise this standard to 9.0 psi accompanied the redesignation request. FMVCP produces significant reductions in average emissions per vehicle each year as new, highly controlled vehicles replace old, dirty vehicles in the vehicle fleet. Tennessee voluntarily adopted and implemented VOC Reasonably Available Control Technology (RACT) for sources that are applicable to Knox County.

Contingency Measures: Tennessee has submitted a maintenance plan based on the 1990 Base Year Inventory submitted as required in section 175A of the CAA. The maintenance plan includes a requirement to assess growth factors on a triennial basis with the contingency to assess on a yearly basis if the projection inventory is exceeded by 10% or more. The monitoring network in Knox County will be maintained in accordance with the regulatory requirements of 40 CFR part 58. The projection inventory is required by the CAA to demonstrate maintenance of the standard for 10 years from the date of final approval of the redesignation request. The plan contains a contingency to implement additional control measures, such as all EPA Control Technique Guideline (CTG) categories which are not currently implemented, within six (6) months should actual monitored violations of the ozone standard occur in the area. Also, if

actual monitored violations of the ozone standard occur within twelve (12) months after regulation for all VOC CTG categories are effective, NO_x control measures will be considered as an alternate/additional strategy.

Motor Vehicle Emissions Budgets (MVEB): The applicable MVEB for Knox County for VOCs in 2002 was 31.40 tons/day and in 2004 is 35.94 tons/day. The applicable MVEB for Knox County for NO_x in 2002 was 35.45 tons/day and in 2004 is 38.21 tons/day.

Emission Reductions: The projected inventory shows that even with the 9.0 psi RVP (as opposed to the present RVP of 7.8 psi), the total emissions for VOC, NO_x, and CO for the year 2004 will be less than the 1990 base year total emissions for those pollutants. The inventories included point, area, and mobile sources using 1990 as the base year for calculations which demonstrate maintenance. The area wide VOC emissions inventory for baseline year 1990 was 69.97 tons/day with a total reduction of 7.27 percent by 2004. The area wide NO_x emissions inventory for baseline year 1990 was 55.95 tons/day with a total reduction of 7.6 percent by 2004.

Federal Register Actions:

09/27/93	58 FR Page 50271	Designation of Areas for Air Quality Planning Purposes - Final Rule
08/05/01	62 FR Page 42068	Revisions to Maintenance Plan for Knox County, Tennessee - Direct Final Rule
08/05/01	62 FR Page 42087	Revisions to Maintenance Plan for Knox County, Tennessee - Proposed Rule

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