

## **Memphis/Shelby County, Tennessee Carbon Monoxide Maintenance Plan**

Effective Update Date: 12/26/06 (71 FR 62415, 10/26/06)

**Background of the Plan:** Memphis/Shelby County was designated under section 107 of the 1977 Clean Air Act (CAA) as nonattainment with respect to the carbon monoxide (CO) national ambient air quality standard (NAAQS) on March 3, 1978 (40 CFR 81.343). In accordance with section 110 of the CAA, the State submitted a Part D CO State Implementation Plan (SIP) on February 13 and April 12 and 27, 1979, which the Environmental Protection Agency (EPA) conditionally approved on February 6, 1980. On March 20 and December 17, 1980, Tennessee submitted revisions addressing the conditions stated in the February 6, 1980 notice. EPA, on September 2, 1981, gave final approval and published Tennessee as meeting the requirements of Section 110 and Part D of the CAA. On November 15, 1990, CAA Amendments were enacted (1990 Amendments). (Pub. L. 101-549, 104 Stat. 2399, codified at 42 U.S.C. 7401-7671q). The nonattainment designation of Memphis/Shelby County was continued by operation of law pursuant to section 107(d)(1)(C)(i) of the 1990 Amendments. Furthermore, it was classified by operation of law as moderate for CO according to section 186(a)(1). Memphis/Shelby County had ambient monitoring data showing attainment of the CO NAAQS, during the period from 1990 through 1991. Therefore, in an effort to comply with the CAA and to ensure continued attainment of the NAAQS, on October 30, 1992, the Memphis and Shelby County Health Department (MSCHD), submitted a maintenance plan and a request to redesignate the Memphis/Shelby County area from nonattainment to attainment for CO. The request for redesignation submittal was approved by the Tennessee Air Pollution Control Board on March 9, 1994. The CO nonattainment area consisted only of Memphis/Shelby County. There were no violations during the 1992 and 1993 CO season. Eight years after redesignation to attainment, section 175A(b) of the CAA requires the state to submit a revised maintenance plan which demonstrates that attainment will continue to be maintained for the ten years following the initial ten-year period (this is known as the second 10-year plan). The second 10-year plan updates the original 10-year CO maintenance plan for the next 10-year period. Thus, pursuant to the CAA section 175 A(b), Tennessee was required to submit the second 10-year maintenance plan for the Memphis/Shelby County area demonstrating that it would continue to attain the CO NAAQS in this area through at least 2014.

**Summary of the Plan:** EPA approved the original Memphis/Shelby County CO maintenance plan because it met the requirements of section 175A. In addition, the Agency approved the request and redesignated the Memphis/Shelby County CO area to attainment, because the State demonstrated compliance with the requirements of section 107(d)(3)(E) for redesignation. The second 10-year plan for the Memphis Area was also approved and includes a new ozone precursor emission inventory for 2002 for the Memphis area which reflects emission controls applicable for the Memphis area, and actual and projected emissions from 1990, 2002, 2007, 2017. The SIP revision also establishes new motor vehicle emission budgets (MVEBs) for 2017 for the Memphis area.

**Control Measures:** The control measures to which the emissions are attributed are Federal Motor Vehicle Control Program and the Inspection and Maintenance Program (I/M).

**Contingency Measures:** Continued attainment of the CO NAAQS in the Memphis/Shelby County area depends, in part, on the State's efforts toward tracking indicators of continued attainment during the maintenance period. The State of Tennessee provided contingency measures with a schedule for implementation in the event of a future CO air quality problem. The State has also committed to submitting periodic inventories of CO emissions every three years. Memphis/Shelby County's contingency plan will be triggered by two indicators, a violation of the CO NAAQS or should the triennial emission inventory for CO (winter season tons per day) exceed the 1990 CO emission levels. The plan contains a contingency to implement additional control measures such as the county-wide expansion of the I/M program and the implementation of a three point inspection of the automobile at the vent, gas cap, and the catalytic converter. The implementation of this inspection improvement will begin within one year of the above mentioned triggers.

**MVEBs:** The applicable MVEB for the Memphis/Shelby County area for CO in 2002 was 417.8 tons/day and in 2004 414.6 tons/day. As of 2006, the new CO MVEB for the year 2017 is 839.99 tpd.

**Emission Reductions:** On November 16, 1992, the State of Tennessee submitted a comprehensive inventory of CO emissions from the Memphis/Shelby County area. The inventories include area, stationary, and mobile sources using 1990 as the base year for calculations to demonstrate maintenance. Total CO emissions were projected from the 1990 base year out to 2004. The projections showed that CO emissions are not expected to exceed the level of the base year inventory during this 14-year period, with a total emission reduction of 3.57 percent. For a detailed emissions inventory summary, refer to the federal register notice, 59 FR 37939. The updated emissions inventory as of 2006 were as follows:

Memphis/Shelby County Second 10-year CO Maintenance Area Emissions Inventory (tpd)

Year	CO	Safety Margin
1990	1027.50	n/a
2002	791.60	235.90
2007	640.75	386.75
2017	546.81	480.69

**Federal Register Actions:** (59 FR Page 37939, 07/26/94), Memphis/Shelby County, Tennessee Carbon Monoxide Attainment and Maintenance Plan; (72 FR Page 62384, 10/25/06), Memphis/Shelby County, Tennessee Second 10-year CO Maintenance Plan – Direct Final Rule; (72 FR Page 62415, 10/25/06), Memphis/Shelby County, Tennessee Second 10-year CO Maintenance Plan – Proposed Rule.

**Contact Person:** James Hou, U. S. EPA, Region 4  
61 Forsyth Street, SW, Atlanta, Georgia 30303-8960  
Telephone: (404) 562-8965; email: [Hou.James@epa.gov](mailto:Hou.James@epa.gov)