

### III. What Are the Administrative Requirements?

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4).

This rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because it merely approves a state rule implementing a federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus

standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

**Authority:** 42 U.S.C. 7401 *et seq.*

Dated: October 4, 2002.

**Ira W. Leighton,**

*Acting Regional Administrator, EPA New England.*

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### ENVIRONMENTAL PROTECTION AGENCY

#### 40 CFR Part 52

[MA069-7205b:FRL-7394-1]

#### Approval and Promulgation of Implementation Plans; MA; One-hour Ozone Attainment Demonstration for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH Ozone Nonattainment Area

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The EPA is proposing to fully approve the one-hour ozone attainment demonstration State Implementation Plan (SIP) for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area, submitted by the Massachusetts Department of Environmental Protection on July 27, 1998, and supplemented on September 6, 2002. This action is based on the requirements of the Clean Air Act (CAA) as amended in 1990, related to one-hour ozone attainment demonstrations.

**DATES:** Comments must be received on or before November 14, 2002.

**ADDRESSES:** Written comments (two copies if possible) should be sent to:

David B. Conroy at the EPA Region I (New England) Office, One Congress Street, Suite 1100-CAQ, Boston, Massachusetts 02114-2023.

Copies of the state submittal and EPA's technical support document are available for public inspection during normal business hours (9 a.m. to 4 p.m.) at the following addresses: U.S. Environmental Protection Agency, Region 1 (New England), One Congress St., 11th Floor, Boston, Massachusetts, telephone (617) 918-1664, and at the Division of Air Quality Control, Department of Environmental Protection, One Winter Street, 8th Floor, Boston, Massachusetts 02108. Please telephone in advance before visiting.

#### FOR FURTHER INFORMATION CONTACT:

Richard P. Burkhart, (617) 918-1664.

**SUPPLEMENTARY INFORMATION:** This notice provides an analysis of the one-hour ozone attainment demonstration SIP submitted by the Massachusetts Department of Environmental Protection (Massachusetts DEP) for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH serious nonattainment area.

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#### I. Clean Air Act Requirements for Serious Ozone Nonattainment Areas

The Clean Air Act requires EPA to establish national ambient air quality standards (NAAQS or standards) for certain widespread pollutants that cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. CAA sections 108 and 109. In 1979, EPA promulgated the one-hour 0.12 parts per million (ppm) ground-level ozone standard. 44 FR 8202 (February 8, 1979). Ground-level ozone is not emitted directly by sources. Rather, emissions of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) react in the presence of sunlight to form ground-level ozone. NO<sub>x</sub> and VOC are referred to as precursors of ozone.

An area exceeds the one-hour ozone standard each time an ambient air quality monitor records a one-hour average ozone concentration of 0.125 ppm or higher.<sup>1</sup> An area is violating the standard if, over a consecutive three-year period, more than three exceedances are expected to occur at any one monitor. The area's 4th highest ozone reading at a single monitor is its design value. The CAA, as amended in 1990, required EPA to designate as nonattainment any area that was violating the one-hour ozone standard, generally based on air quality monitoring data from the three-year period from 1987–1989. CAA section 107(d)(4); 56 FR 56694 (November 6, 1991). The CAA further classified these areas, based on the area's design value, as marginal, moderate, serious, severe or extreme. CAA section 181(a). Marginal areas were suffering the least significant air pollution problems while the areas classified as severe and extreme had the most significant air pollution problems.

The control requirements and dates by which attainment needs to be achieved vary with the area's classification. Marginal areas are subject to the fewest mandated control requirements and have the earliest attainment date. Severe and extreme areas are subject to more stringent planning requirements but are provided more time to attain the standard. Serious areas were required to attain the one-hour ozone standard by November 15, 1999 and severe areas are required to attain by November 15, 2005 or November 15, 2007. The Boston-Lawrence-Worcester, MA–NH ozone nonattainment area is classified as serious and its attainment date is November 15, 1999.

Under section 182(c)(2) of the CAA, serious areas were required to submit by November 15, 1994 demonstrations of how they would attain the one-hour ozone standard and how they would achieve reductions in VOC emissions of 9 percent for each three-year period until the attainment year. In some cases, NO<sub>x</sub> emission reductions can be substituted for the required VOC emission reductions.

In general, an attainment demonstration SIP includes a modeling analysis component showing how the area will achieve the standard by its attainment date and the control measures necessary to achieve those reductions. Another component of the

attainment demonstration SIP is a motor vehicle emissions budget for transportation conformity purposes. Transportation conformity is a process for ensuring that states consider the effects of emissions associated with new or improved federally-funded roadways and transit on attainment of the standard. As described in section 176(c)(2)(A) of the CAA, attainment demonstrations necessarily include the estimates of motor vehicle emissions that are consistent with attainment, which then act as a budget or ceiling for the purposes of determining whether federally-supported transportation plans and projects conform to the attainment demonstration SIP.

## **II. Background and Current Air Quality Status of the Boston-Lawrence-Worcester, MA–NH Ozone Nonattainment Area**

The Boston-Lawrence-Worcester, MA–NH ozone nonattainment area is a multi-state nonattainment area consisting of a small portion of southern New Hampshire and the entire eastern half of Massachusetts. In New Hampshire, the nonattainment area consists of 28 individual cities and towns in portions of Hillsborough and Rockingham counties. In Hillsborough County, the individual cities and towns included in the nonattainment area are: Amherst Town, Brookline Town, Hollis Town, Hudson Town, Litchfield Town, Merrimack Town, Milford Town, Mont Vernon Town, Nashua City, Pelham Town, and Wilton Town. In Rockingham, the individual towns included in the nonattainment area are: Atkinson Town, Brentwood Town, Danville Town, Derry Town, E. Kingston Town, Hampstead Town, Hampton Falls Town, Kensington Town, Kingston Town, Londonderry Town, Newton Town, Plaistow Town, Salem Town, Sandown Town, Seabrook Town, South Hampton Town, and Windham Town. In Massachusetts, the nonattainment area includes a much larger area, consisting of 10 counties in their entirety (*i.e.*, Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester counties).

Historically and throughout most of the 1990's, ozone monitors throughout the Boston-Lawrence-Worcester, MA–NH nonattainment area violated the one-hour ozone standard. Directly downwind of the Boston-Lawrence-Worcester, MA–NH nonattainment area, there were also a number of other nonattainment areas violating the one-hour ozone standard during the 1990's in other parts of New Hampshire and in portions of southern Maine. On June 9,

1999, however, EPA determined that the Boston-Lawrence-Worcester, MA–NH serious ozone nonattainment area had attained the 1-hour ozone standard (64 FR 30911).<sup>2</sup> This determination was based on data collected from 1996–1998. On June 9, 1999, EPA also determined that the Portsmouth-Dover-Rochester, New Hampshire ozone nonattainment area and the Portland, Maine ozone nonattainment area had also attained the 1-hour ozone standard based on data collected from 1996–1998. See 64 FR 30911. At the time of these determinations of attainment, there were no areas in any portion of New Hampshire or Maine that violated the one-hour ozone standard.

The Boston-Lawrence-Worcester, MA–NH nonattainment area continued to have air quality meeting the one-hour ozone standard in 1999 (based on data from 1997–1999) and in 2000 (based on data from 1998–2000). Based on data collected in 1999–2001, however, the Boston-Lawrence-Worcester, MA–NH area now has air quality violating the one-hour ozone standard. The violating monitors are in the southern portion of the multi-state nonattainment area in Fairhaven and Truro, Massachusetts. The other nine ozone air quality monitors in the Boston-Lawrence-Worcester, MA–NH ozone nonattainment area (*i.e.*, in the Massachusetts cities and towns of Easton, Stow, Boston (two sites), Lynn, Lawrence, Worcester, and Newbury, and in Nashua, New Hampshire) show attainment of the one-hour ozone NAAQS, based on 1999–2001 data. Preliminary (not quality assured) ozone data readings from the monitors for the area from the summer of 2002 show only the Truro monitor registering a violation of the one-hour ozone NAAQS for the three-year period 2000–2002.

## **III. History and Time Frame for the State's Attainment Demonstration SIP**

### ***A. Ozone Transport Assessment Group and the NO<sub>x</sub> SIP Call***

Notwithstanding significant efforts by the states, in 1995 EPA recognized that many states in the eastern half of the United States could not meet the November 1994 time frame for submitting an attainment demonstration SIP because emissions of NO<sub>x</sub> and

<sup>2</sup> In that notice, EPA also determined the one-hour ozone standard no longer applied to the Boston-Lawrence-Worcester, MA–NH area. Subsequently, due to continued litigation regarding the 8-hour ozone standard, EPA reinstated the applicability of the one-hour ozone standard in all areas. See 65 FR 45182 (July 20, 2000). EPA, however, did not modify its determination that the Boston-Lawrence-Worcester, MA–NH area had attained the one-hour ozone standard.

<sup>1</sup> The one-hour ozone standard is 0.12 ppm. EPA's long-standing practice is that monitored values of 0.125 ppm or higher are rounded up, and thus considered an exceedance of the NAAQS and values less than 0.125 ppm are rounded down and are not an exceedance.

VOCs in upwind states (and the ozone formed by these emissions) affected these nonattainment areas and the full impact of this effect had not yet been determined. This phenomenon is called ozone transport.

On March 2, 1995, Mary D. Nichols, EPA's then Assistant Administrator for Air and Radiation, issued a memorandum to EPA's Regional Administrators acknowledging the efforts made by states but noting the remaining difficulties in making attainment demonstration SIP submittals.<sup>3</sup> Recognizing the problems created by ozone transport, the March 2, 1995 memorandum called for a collaborative process among the states in the eastern half of the country to evaluate and address transport of ozone and its precursors. This memorandum led to the formation of the Ozone Transport Assessment Group (OTAG)<sup>4</sup> and provided for the states to submit the attainment demonstration SIPs based on the expected time frames for OTAG to complete its evaluation of ozone transport.

In June 1997, OTAG concluded and provided EPA with recommendations regarding ozone transport. The OTAG generally concluded that transport of ozone and the precursor NO<sub>x</sub> is significant and should be reduced regionally to enable states in the eastern half of the country to attain the ozone NAAQS.

In recognition of the length of the OTAG process, in a December 29, 1997 memorandum, Richard Wilson, EPA's then Acting Assistant Administrator for Air and Radiation, provided until April 1998 for states to submit the following elements of their attainment demonstration SIPs for serious and severe nonattainment areas: (1) Evidence that the applicable control measures in subpart 2 of part D of title I of the CAA were adopted and implemented or were on an expeditious course to being adopted and implemented; (2) a list of measures needed to meet the remaining rate-of-progress (ROP) emissions reduction requirement and to reach attainment; (3) for severe areas only, a commitment to adopt and submit target calculations for post-1999 ROP and the control measures necessary for attainment and ROP plans through the attainment year by the end of 2000; (4) a commitment to implement

the SIP control programs in a timely manner and to meet ROP emissions reductions and attainment; and (5) evidence of a public hearing on the state submittal.<sup>5</sup> This submission is sometimes referred to as the Phase 2 submission. Motor vehicle emissions budgets can be established based on a commitment to adopt the measures needed for attainment and identification of the measures needed. Thus, state submissions due in April 1998 under the Wilson policy should have included motor vehicle emissions budgets.

Building upon the OTAG recommendations and technical analyses, in November 1997, EPA proposed action addressing the ozone transport problem. In its proposal, EPA found that current SIPs in 22 states and the District of Columbia (23 jurisdictions) were insufficient to provide for attainment and maintenance of the one-hour ozone standard because they did not regulate NO<sub>x</sub> emissions that significantly contribute to ozone transport. 62 FR 60318 (November 7, 1997). The EPA finalized that rule in September 1998, calling on the 23 jurisdictions to revise their SIPs to require NO<sub>x</sub> emissions reductions within the state to a level consistent with a NO<sub>x</sub> emissions budget identified in the final rule. 63 FR 57356 (October 27, 1998). This final rule is commonly referred to as the NO<sub>x</sub> SIP Call.

#### *B. Massachusetts Ozone Attainment Demonstration Submittals*

On July 27, 1998, Massachusetts DEP submitted an ozone attainment demonstration for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area as a revision to its SIP. On June 9, 1999, however, EPA determined that the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area had attained the 1-hour ozone standard (64 FR 30911). This determination was based on data collected from 1996–1998. Consistent with EPA policy,<sup>6</sup> since the Boston-

Lawrence-Worcester, MA-NH area had attained the standard by November 15, 1999, its statutory attainment date, EPA took no action on the Massachusetts attainment demonstration SIP submittal for the Boston-Lawrence-Worcester, MA-NH area. The Boston-Lawrence-Worcester, MA-NH nonattainment area continued to have air quality meeting the one-hour ozone standard through the summer of 2000.

As mentioned above, based on data collected in 1999–2001, the Boston-Lawrence-Worcester, MA-NH area now has air quality violating the one-hour ozone standard. Thus, this nonattainment area is once again required to have an approved attainment demonstration and 9% ROP plan with respect to section 182(c)(2) of the CAA. Today, in this proposed rule, EPA is proposing action on the attainment demonstration SIP submitted by the Massachusetts DEP on July 27, 1998 and supplemented on September 6, 2002 for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH area. EPA approved the state's 15% and 9% ROP plans for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH area via a direct final rulemaking on August 28, 2002 (67 FR 55121). In a subsequent action, EPA will propose action on the attainment demonstration for the New Hampshire portion of this same nonattainment area. EPA will also take action separately on contingency measures for both the New Hampshire and Massachusetts portions of the Boston-Lawrence-Worcester, MA-NH nonattainment area.

The supplement that Massachusetts submitted on September 6, 2002 to its 1998 Attainment Demonstration contained the following elements: (1) A revised and updated "weight of evidence" analysis showing how attainment would be achieved in the nonattainment area by 2007; (2) an analysis showing that Massachusetts is implementing all reasonably available control measures (RACM) and that no other RACM could be adopted in Massachusetts that would advance the attainment year; and (3) new mobile source conformity budgets for the 2007 attainment year. Massachusetts also requested that a new attainment date of November 15, 2007 be established for the area. Massachusetts Department of Environmental Protection held a public hearing on this supplement to its 1998 Attainment Demonstration on July 25, 2002.

The statutory attainment date for the Boston Area was November 15, 1999. The area attained the standard as of its attainment date, but then subsequently

<sup>3</sup> Memorandum, "Ozone Attainment Demonstrations," issued March 2, 1995. A copy of the memorandum may be found on EPA's Web site at <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

<sup>4</sup> Letter from Mary A. Gade, Director, State of Illinois Environmental Protection Agency to Environmental Council of States (ECOS) Members, dated April 13, 1995.

<sup>5</sup> Memorandum, "Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM 10 NAAQS," issued December 29, 1997. A copy of this memorandum may be found on EPA's Web site at <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

<sup>6</sup> Policy guidance contained in a May 10, 1995 memorandum from John Seitz, Director of EPA's Office of Air Quality Planning and Standards, entitled "Reasonable Further Progress, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard" recommends that ROP and attainment demonstration requirements, along with certain other related requirements, of Part D of Title 1 of the Clean Air Act are no longer applicable to an area once it has air quality data indicating that the one hour ozone standard has been attained.

experienced a violation. The CAA does not expressly address the appropriate attainment date for an area that attains the standard by its attainment date but then subsequently violates the standard nor does it address the planning requirements that apply to such an area. (CAA sections 179(c) and (d) and 181(b)(2) establish requirements only for those areas that EPA determines do not attain the standard by their attainment date.) With respect to the attainment date, both subparts 1 and 2 specify outside dates for attainment and provide that attainment must be "as expeditiously as practicable." CAA sections 172(a)(2) and 181(a)(1). With respect to control obligations, EPA generally attempts first to work with the State to submit a revised SIP and, where necessary, would issue a SIP Call pursuant to section 110(k)(5). See *e.g.*, 65 FR 64352 (Oct. 27, 2000). Here, Massachusetts has already submitted an attainment demonstration and has indicated that the demonstration provides for attainment as expeditiously as practicable. We review Massachusetts' submission in the following sections.

#### IV. What Are the Components of a Modeled Attainment Demonstration?

The EPA provides that states may rely on a modeled attainment demonstration supplemented with additional evidence to demonstrate attainment.<sup>7</sup> In order to have a complete modeling demonstration submission, states should have submitted the required modeling analysis and identified any additional evidence that EPA should consider in evaluating whether the area will attain the standard.

##### A. Modeling Requirements

For purposes of demonstrating attainment, section 182(c) of the CAA requires serious areas to use photochemical grid modeling or an analytical method EPA determines to be as effective.<sup>8</sup> The photochemical grid model is set up using meteorological conditions conducive to the formation of ozone. Emissions for a base year are used to evaluate the model's ability to

reproduce actual monitored air quality values and to predict air quality changes in the attainment year due to the emission changes which include growth up to and controls implemented by the attainment year. A modeling domain is chosen that encompasses the nonattainment area. Attainment is demonstrated when all predicted concentrations inside the modeling domain are at or below the NAAQS or at an acceptable upper limit above the NAAQS consistent with conditions specified by EPA's guidance. When the predicted concentrations are above the NAAQS, an optional Weight of Evidence (WOE) determination which incorporates, but is not limited to, other analyses, such as air quality and emissions trends, may be used to address uncertainty inherent in the application of photochemical grid models.

The EPA guidance identifies the features of a modeling analysis that are essential to obtain credible results. First, the state must develop and implement a modeling protocol. The modeling protocol describes the methods and procedures to be used in conducting the modeling analyses and provides for policy oversight and technical review by individuals responsible for developing or assessing the attainment demonstration (state and local agencies, EPA Regional offices, the regulated community, and public interest groups). Second, for purposes of developing the information to put into the model, the state must select air pollution days, *i.e.*, days in the past with poor air quality, that are representative of the ozone pollution problem for the nonattainment area. Third, the state needs to identify the appropriate dimensions of the area to be modeled, *i.e.*, the domain size. The domain should be larger than the designated nonattainment area to reduce uncertainty in the boundary conditions and should include large upwind sources just outside the nonattainment area. In general, the domain is considered the local area where control measures are most beneficial to bring the area into attainment. Fourth, the state needs to determine the grid resolution. The horizontal and vertical resolutions in the model affect the dispersion and transport of emission plumes. Artificially large grid cells (too few vertical layers and horizontal grids) may dilute concentrations and may not properly consider impacts of complex terrain, complex meteorology, and land/water interfaces. Fifth, the state needs to generate meteorological data that describe atmospheric conditions and emissions inputs. Finally, the state

needs to verify that the model is properly simulating the chemistry and atmospheric conditions through diagnostic analyses and model performance tests. Once these steps are satisfactorily completed, the model is ready to be used to generate air quality estimates to support an attainment demonstration.

The modeled attainment test compares model-predicted one-hour daily maximum concentrations in all grid cells for the attainment year to the level of the NAAQS. A predicted concentration above 0.124 ppm ozone indicates that the area is expected to exceed the standard in the attainment year and a prediction at or below 0.124 ppm indicates that the area is expected to attain the standard. This type of test is often referred to as an exceedance test. The EPA's guidance recommends that states use either of two modeled attainment or exceedance tests for the one-hour ozone NAAQS: a deterministic test or a statistical test.

The deterministic test requires the state to compare predicted one-hour daily maximum ozone concentrations for each modeled day<sup>9</sup> to the attainment level of 0.124 ppm. If none of the predictions exceed 0.124 ppm, the test is passed.

The statistical test takes into account the fact that the form of the one-hour ozone standard allows exceedances. If, over a three-year period, the area has an average of one or fewer exceedances per year, the area is not violating the standard. Thus, if the state models a very extreme day, the statistical test provides that a prediction above 0.124 ppm up to a certain upper limit may be consistent with attainment of the standard. (The form of the one-hour ozone standard allows for up to three readings above the standard over a three-year period before an area is considered to be in violation.)

The acceptable upper limit above 0.124 ppm is determined by examining the size of exceedances at monitoring sites which meet the one-hour NAAQS. For example, a monitoring site for which the four highest one-hour average concentrations over a three-year period are 0.136 ppm, 0.130 ppm, 0.128 ppm and 0.122 ppm is attaining the standard. To identify an acceptable upper limit, the statistical likelihood of observing ozone air quality exceedances of the standard of various concentrations is equated to the severity of the modeled day. The upper limit generally represents the maximum ozone concentration observed at a location on

<sup>7</sup> The EPA issued guidance on the air quality modeling that is used to demonstrate attainment with the one-hour ozone NAAQS. See U.S. EPA, (1991), Guideline for Regulatory Application of the Urban Airshed Model, EPA-450/4-91-013, (July 1991). A copy may be found on EPA's Web site at <http://www.epa.gov/ttn/scram/> (file name: "UAMREG"). See also U.S. EPA, (1996), Guidance on Use of Modeled Results to Demonstrate Attainment of the Ozone NAAQS, EPA-454/B-95-007, (June 1996). A copy may be found on EPA's Web site at <http://www.epa.gov/ttn/scram/> (file name: "O3TEST").

<sup>8</sup> *Ibid.*

<sup>9</sup> The initial, "ramp-up" days for each episode are excluded from this determination.

a single day and it would be the only reading above the standard that would be expected to occur no more than an average of once a year over a three-year period. Therefore, if the maximum ozone concentration predicted by the model is below the acceptable upper limit, in this case 0.136 ppm, then EPA might conclude that the modeled attainment test is passed. Generally, exceedances well above 0.124 ppm are very unusual at monitoring sites meeting the NAAQS. Thus, these upper limits are rarely substantially higher than the attainment level of 0.124 ppm.

#### *B. Additional Analyses Where Modeling Fails To Show Attainment*

When the modeling does not conclusively demonstrate attainment, additional analyses may be presented to help determine whether the area will attain the standard. As with other predictive tools, there are inherent uncertainties associated with modeling and its results. For example, there are uncertainties in some of the modeling inputs, such as the meteorological and emissions data bases for individual days and in the methodology used to assess the severity of an exceedance at individual sites. The EPA's guidance recognizes these limitations, and provides a means for considering other evidence to help assess whether attainment of the NAAQS is likely. The process by which this is done is called a weight of evidence (WOE) determination.

Under a WOE determination, the state can rely on and EPA will consider factors such as: other modeled attainment tests, *e.g.*, a rollback analysis; other modeled outputs, *e.g.*,

changes in the predicted frequency and pervasiveness of exceedances and predicted changes in the design value; actual observed air quality trends; estimated emissions trends; analyses of air quality monitored data; the responsiveness of the model predictions to further controls; and, whether there are additional control measures that are or will be approved into the SIP but were not included in the modeling analysis. This list is not an exclusive list of factors that may be considered and these factors could vary from case to case. The EPA's guidance contains no limit on how close a modeled attainment test must be to passing to conclude that other evidence besides an attainment test is sufficiently compelling to suggest attainment. However, the further a modeled attainment test is from being passed, the more compelling the WOE needs to be.

The EPA's 1996 modeling guidance also recognizes a need to perform a mid-course review as a means for addressing uncertainty in the modeling results. Because of the uncertainty in long term projections, EPA believes a viable attainment demonstration that relies on WOE needs to contain provisions for periodic review of monitoring, emissions, and modeling data to assess the extent to which refinements to emission control measures are needed. The mid-course review is discussed below.

#### **V. What Is the Framework for Proposing Action on the Attainment Demonstration SIPs?**

In addition to the modeling analysis and WOE support demonstrating attainment, the EPA has identified the

following key elements which generally must be present in order for EPA to approve the one-hour attainment demonstration SIPs. These elements are: measures required by the CAA and measures relied on in the modeled attainment demonstration SIP; NO<sub>x</sub> reductions affecting boundary conditions; motor vehicle emissions budgets; any additional measures needed for attainment;<sup>10</sup> and a Mid-Course Review (MCR).

#### *A. CAA Measures and Measures Relied on in the Modeled Attainment Demonstration SIP*

The states should have adopted the control measures already required under the CAA for the area classification. In addition, a state may have included control measures in its attainment strategy that are in addition to measures required in the CAA. For purposes of fully approving the state's SIP, the state needs to adopt and submit all VOC and NO<sub>x</sub> controls within the local modeling domain that were relied on for purposes of the modeled attainment demonstration.

The information in Table 1 is a summary of the CAA requirements that should be met for a serious area for the one-hour ozone NAAQS. These requirements are specified in section 182 of the CAA. EPA must have taken final action approving all measures relied on for attainment, including the required ROP control measures and target calculations, before EPA can issue a final full approval of the attainment demonstration as meeting CAA section 182(c)(2). This was done for all the measures for Massachusetts.

TABLE 1.—CAA REQUIREMENTS FOR SERIOUS AREAS

- NSR for VOC and NO<sub>x</sub><sup>a</sup>, including an offset ratio of 1.2:1 and a major VOC and NO<sub>x</sub> source cutoff of 50 tons per year.
- Reasonable Available Control Technology (RACT) for VOC and NO<sub>x</sub><sup>a</sup>.
- Enhanced Inspection and Maintenance (I/M) program.
- 15% volatile organic compound plans.
- Emissions inventory.
- Emission statements.
- Periodic inventories.
- Attainment demonstration.
- 9 percent ROP plan through 1999.
- Clean fuels program or substitute.
- Enhanced monitoring Photochemical Assessment Monitoring Stations.
- Stage II vapor recovery.
- Contingency measures.
- Reasonably Available Control Measures Analysis.

<sup>a</sup> Unless the area has in effect a NO<sub>x</sub> waiver under section 182(f). The Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH is not such an area.

<sup>10</sup> As discussed in detail below, the Massachusetts attainment demonstration shows attainment without the need for additional

measures beyond what has been adopted into the SIP or will be required by federal regulations.

Therefore additional measures are not required for Massachusetts.

## 1. Control Measures Adopted by Massachusetts

Adopted and submitted rules for all previously required CAA mandated measures for the specific area classification that are being relied on in the attainment demonstration are required. This also includes measures that may not be required for the area classification but that the state relied on in the SIP submission for attainment. As explained in Table 2, Massachusetts has submitted SIPs for all of the measures they are relying on for attainment.

TABLE 2.—CONTROL MEASURES IN THE ONE-HOUR OZONE ATTAINMENT PLAN FOR THE MASSACHUSETTS PORTION OF THE BOSTON-LAWRENCE-WORCESTER, MA–NH SERIOUS OZONE NONATTAINMENT AREA

Name of control measure	Type of measure	Approval status
On-board Refueling Vapor Recovery .....	Federal rule .....	Promulgated at 40 CFR part 86.
Federal Motor Vehicle Control program (Tier 0) .....	Federal rule .....	Promulgated at 40 CFR part 86 (pre-1990).
CA Low Emission Vehicle (CA LEV) .....	State initiative .....	SIP approved (60 FR 6027; 2/1/95).
CA LEV II .....	State initiative .....	SIP approval pending. EPA will publish final rules for the CA LEV II SIP before or at the same time as we publish final rules on the attainment demonstration.
Heavy Duty Diesel Engines (On-road) .....	Federal rule .....	Promulgated at 40 CFR part 86.
Federal Non-road Heavy Duty diesel engines .....	Federal rule .....	Promulgated at 40 CFR part 89.
Federal Non-road Gasoline Engines .....	Federal rule .....	Promulgated at 40 CFR part 90.
Federal Marine Engines .....	Federal rule .....	Promulgated at 40 CFR part 91.
Rail Road Locomotive Controls .....	Federal rule .....	Promulgated at 40 CFR part 92.
AIM Surface Coatings .....	State initiative .....	SIP approved (60 FR 65242; 12/19/95).
Consumer & commercial products .....	State initiative .....	SIP approved (60 FR 65242; 12/19/95).
Automotive Refinishing .....	State initiative .....	SIP approved (61 FR 5696; 2/14/96).
Enhanced Inspection & Maintenance .....	CAA SIP Requirement .....	SIP approved (65 FR 69254; 11/16/00).
NO <sub>x</sub> RACT .....	CAA SIP Requirement .....	SIP approved (64 FR 48095; 9/2/99).
VOC RACT pursuant to sections 182(a)(2)(A) and 182(b)(2)(B) of CAA.	CAA SIP Requirement .....	SIP approved (58 FR 34908; 6/30/93 and 64 FR 48297; 9/3/99).
VOC RACT pursuant to section 182(b)(2)(A) and (C) of CAA.	CAA SIP Requirement .....	SIP approved (Portions approved 64 FR 48297; 9/3/99) Final approval (67 FR 62179; 10/04/02).
Stage II Vapor Recovery .....	CAA SIP Requirement .....	SIP Approved (65 FR 78974; 12/18/2000).
Reformulated Gasoline .....	State opt-in .....	SIP approved (67 FR 55121; 8/28/02).
Clean Fuel Fleets .....	CAA SIP Requirement .....	SIP approved (60 FR 6027; 2/1/95). Massachusetts used CAL LEV reductions to meet the Clean Fuel Fleet requirement.
Base Year Emissions Inventory .....	CAA SIP Requirement .....	SIP approved (62 FR 37510; 7/14/97).
15% VOC Reduction Plan .....	CAA SIP Requirement .....	SIP approved (67 FR 55121; 8/28/02).
9% rate of progress plan .....	CAA SIP Requirement .....	SIP approved (67 FR 55121; 8/28/02).
Emissions Statements .....	CAA SIP Requirement .....	SIP approved (61 FR 11556; 3/21/96).
Enhanced Monitoring (PAMS) .....	CAA SIP Requirement .....	SIP approved (62 FR 37510; 7/14/97).
OTC NO <sub>x</sub> MOU Phase II .....	State initiative .....	SIP approved (64 FR 29567; 6/2/99).
NO <sub>x</sub> SIP Call .....	EPA requirement .....	SIP approved (65 FR 81743; 12/27/00).

### B. NO<sub>x</sub> Reductions Consistent With the Modeling Demonstration

On October 27, 1998, EPA completed rulemaking on the NO<sub>x</sub> SIP call which required states to address transport of NO<sub>x</sub> and ozone to other states. To address transport, the NO<sub>x</sub> SIP call established emissions budgets for NO<sub>x</sub> that 23 jurisdictions were required to show they would meet by 2007 through enforceable SIP measures adopted and submitted by September 30, 1999. The NO<sub>x</sub> SIP call is intended to reduce emissions in upwind states that significantly contribute to nonattainment problems. The EPA did not identify specific sources that the states must regulate nor did EPA limit the states' choices regarding where to achieve the emission reductions. The courts have largely upheld EPA's NO<sub>x</sub> SIP Call, *Michigan v. United States Env. Prot. Agency*, 213 F.3d 663 (D.C. Cir. 2000), cert. denied, U.S., 121 S.Ct. 1225, 149 L.Ed. 135 (2001); *Appalachian*

*Power v. EPA*, 251 F.3d 1026 (D.C. Cir. 2001). Although a few issues were vacated or remanded to EPA for further consideration, states subject to the NO<sub>x</sub> SIP call have largely adopted the controls necessary to meet the budgets set for them under the NO<sub>x</sub> SIP call rule. The controls to achieve these reductions should be in place by May 2004.

Massachusetts used the best available NO<sub>x</sub> SIP Call information in its modeling analysis. The modeling analysis is discussed in more detail below. Furthermore, Massachusetts adopted control measures to meet the requirements of the NO<sub>x</sub> SIP call. EPA approved the regulation Massachusetts adopted pursuant to the NO<sub>x</sub> SIP call on December 27, 2000 (65 FR 81743).

### C. Motor Vehicle Emissions Budgets (MVEBs)

The estimates of motor vehicle emissions from SIPs that EPA finds adequate or approves are used to

determine the conformity of transportation plans and programs, as described by CAA section 176(c)(2)(A). The budgets serve as a ceiling on emissions from the on-road mobile source sector in conformity determinations. Control strategy SIPs, such as attainment demonstrations, 15 percent plans, and post-1996 rate-of-progress plans all contain budgets. Attainment demonstration SIPs must estimate the motor vehicle emissions that will be produced in the attainment year and demonstrate that these emissions levels, when considered with emissions from all other sources, are consistent with attainment. Similarly, SIPs submitted for other Clean Air Act requirements, such as 15% plans and post-1996 rate-of-progress plans, also contain motor vehicle emissions budgets. In these SIPs, the budgets are the amount of emissions from motor vehicles that are consistent with the SIP's purpose of progress in achieving the standard. Once EPA finds a SIP

adequate or approves it, the budgets from that SIP must be used for conformity. In a conformity determination, the budget that applies for a particular analysis year is the adequate or approved budget for the most recent prior year.

Massachusetts submitted an ozone attainment demonstration plan to EPA in 1998 with budgets for eastern Massachusetts for the year 2003. EPA found these budgets adequate on February 19, 1999. These 2003 budgets are more restrictive than those in the post-1996 rate-of-progress plan. The specific 2003 budgets for eastern Massachusetts are 117.118 tons per summer day for VOC, and 243.328 tons per summer day for NO<sub>x</sub>.

On September 6, 2002, Massachusetts submitted its supplement to its 1998 Attainment Demonstration which contains motor vehicle emissions budgets for both VOC and NO<sub>x</sub> for the year 2007. With this supplement to the attainment demonstration, it is clear that the area will not attain in the year 2003. Therefore, the budgets for the year 2003 are not consistent with attainment, and therefore EPA believes they are no longer adequate. Therefore, EPA proposes to find the 2003 budgets inadequate, and proposes to approve the 2007 motor vehicle emissions budgets into the SIP. On the date of publication of EPA's final rulemaking action approving Massachusetts's ozone attainment demonstration, the 2007 budgets would apply in a conformity determination for an analysis year of 2007 and later. Note that the post-1996 rate-of-progress budgets would apply, as of the effective date of the direct final notice described above, if there was an analysis year between the present and 2006. However, at this time there is no analysis year required prior to 2007. The 2007 motor vehicle emissions budgets are shown in Table 3 below.

TABLE 3.—2007 EMISSIONS BUDGETS FOR ON-ROAD MOBILE SOURCES IN TONS PER SUMMER DAY (TPSD)

Area	2007 VOC budget	2007 NO <sub>x</sub> budget
Massachusetts portion of the Boston-Lawrence Worcester, MA-H area .....	86.700	226.363

#### D. Mid-Course Review

A mid-course review (MCR), which generally is performed midway between approval of the attainment

demonstration and the attainment date, is a reassessment of modeling analyses and more recent monitored data to determine if a prescribed control strategy is resulting in emission reductions and air quality improvements needed to attain the ambient air quality standard for ozone as expeditiously as practicable. The states have worked with EPA in a public consultative process to develop a methodology for performing the MCR and developing the criteria by which adequate progress would be judged.<sup>11</sup> Massachusetts has submitted a commitment with its September 6, 2002 attainment demonstration supplement committing to complete a mid-course review pursuant to EPA requirements and guidance. Massachusetts committed to perform this mid-course review by December 31, 2004.

#### E. Reasonably Available Control Measures Analysis

Section 172(c)(1) of the CAA requires SIPs to contain all RACM and provide for attainment as expeditiously as practicable. EPA has previously provided guidance interpreting the requirements of 172(c)(1). See 57 FR 13498, 13560. In that guidance, EPA indicated its interpretation that potentially available measures that would not advance the attainment date for an area would not be considered RACM. EPA also indicated in that guidance that states should consider all potentially available measures to determine whether they were reasonably available for implementation in the area, and whether they would advance the attainment date. Further, states should indicate in their SIP submittals whether measures considered were reasonably available or not, and if measures are reasonably available they must be adopted as RACM. Finally, EPA indicated that states could reject measures as not being RACM because they would not advance the attainment date, would cause substantial widespread and long-term adverse impacts, or would be economically or technologically infeasible. The EPA also issued a memorandum re-confirming the principles in the earlier guidance, entitled, "Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas." John S. Seitz, Director, Office of Air Quality Planning

and Standards. November 30, 1999. Web site: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

When EPA presented this statutory argument in support of its RACM policy to the U.S. Court of Appeals for the DC Circuit in defense of its approval of the Washington DC ozone SIP, the DC Circuit found reasonable EPA's interpretation that measures must advance attainment to be RACM. *Sierra Club v. EPA*, 294 F.3d 155, 162 (DC Cir. 2002). Specifically, the Court found that:

EPA reasonably concluded that because the Act "use[s] the same terminology in conjunction with the RACM requirement" as it does in requiring timely attainment, *compare* 42 U.S.C. § 7502(c)(1) (requiring implementation of RACM "as expeditiously as practicable but no later than" the applicable attainment deadline), *with id.* § 7511(a)(1) (requiring attainment under same constraints), the RACM requirement is to be understood as a means of meeting the deadline for attainment. *Id.* Moreover, the D.C. Circuit rejected, as a "misreading of both text and context," *Sierra Club's* arguments that EPA's interpretation of RACM conflicts with the Act's text and purpose and lacks any rational basis. The D.C. Circuit also found reasonable EPA's interpretation that it could consider costs in a RACM analysis and that measures may be rejected if they would require an intensive and costly effort for regulation of many small sources. *Sierra Club v. EPA*, 294 F.3d at 162,163.

#### VI. What Are the Relevant Policy and Guidance Documents?

This proposal has cited several policy and guidance memoranda. The documents and their location on EPA's web site are listed below; these documents will also be placed in the docket for this proposal action.

#### Relevant Documents

1. "Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled." U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, Air Quality Modeling Group, Research Triangle Park, NC 27711. November 1999. Web site: <http://www.epa.gov/ttn/scram> (file name: "ADDWOE1H").

2. "Serious and Severe Ozone Nonattainment Areas: Information on Emissions, Control Measures Adopted or Planned and Other Available Control Measures." November 24, 1999. OAQPS. U.S. EPA, RTP, NC.

<sup>11</sup> The EPA issued guidance on the MCR. A copy dated March 28, 2002 may be found on EPA's Web site at <http://www.epa.gov/scram001/tt25.htm> (file name: "MCRGUIDE").



3. Memorandum, "Guidance on Motor Vehicle Emissions Budgets in One-Hour Attainment Demonstrations," from Merrylin Zaw-Mon, Office of Mobile Sources, to the Air Division Directors, Regions I–VI. November 3, 1999. Web site: <http://www.epa.gov/oms/transp/trafconf.html>.

4. Memorandum from Lydia Wegman and Merrylin Zaw-Mon to the Air Division Directors, Regions I–VI, "1-Hour Ozone Attainment Demonstrations and Tier 2/Sulfur Rulemaking," November 8, 1999. Web site: <http://www.epa.gov/oms/transp/trafconf.html>.

5. Memorandum from John Seitz, Director, Office of Air Quality Planning and Standards, "Mid-Course Review Guidance for the 1-Hour Ozone Nonattainment Areas that Rely on Weight-of-Evidence for Attainment Demonstration." Web site: <http://www.epa.gov/scram001/tt25.htm> (file name: "MCRGUIDE").

6. Memorandum, "Guidance to Clarify EPA's Policy on What Constitutes 'As Expeditiously as Practicable' for Purposes of Attaining the One-Hour Ozone Standard for Serious and Severe Ozone Nonattainment Areas." John S. Seitz, Director, Office of Air Quality Planning and Standards. November 1999. Web site: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

7. U.S. EPA, (1991), Guideline for Regulatory Application of the Urban Airshed Model, EPA-450/4-91-013, (July 1991). Web site: <http://www.epa.gov/ttn/scram/> (file name: "UAMREG").

8. U.S. EPA, (1996), Guidance on Use of Modeled Results to Demonstrate Attainment of the Ozone NAAQS, EPA-454/B-95-007, (June 1996). Web site: <http://www.epa.gov/ttn/scram/> (file name: "O3TEST").

9. Memorandum, "Ozone Attainment Demonstrations," from Mary D. Nichols, issued March 2, 1995. Web site: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

10. December 29, 1997 Memorandum from Richard Wilson, Acting Assistant Administrator for Air and Radiation "Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM<sub>10</sub> NAAQS." Web site: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

## VII. How Do the Massachusetts Submittals Satisfy the Framework?

This section provides a review of Massachusetts' submittal and an analysis of how this submittal satisfies the framework discussed in section V. of this notice.

### A. What Did the State Submit?

The attainment demonstration SIP submitted by the Massachusetts Department of Environmental Protection for the Boston-Lawrence-Worcester, MA-NH area includes a modeling analysis using the CALGRID model. The SIP was submitted on July 27, 1998. The SIP was subject to public notice and comment and a hearing was held in June 1998. Supplementary information on the 1998 attainment demonstration, including a RACM analysis and motor vehicle emissions budgets was submitted on September 6, 2002. The supplemental SIP was also subject to public notice and comment, and a hearing was held on July 25, 2002. Information on how the photochemical grid modeling and RACM analysis is consistent with the CAA and EPA guidance is summarized below.

### B. How Was the Photochemical Grid Modeling Conducted?

The one-hour attainment demonstration submitted by Massachusetts is for both the Boston-Lawrence-Worcester, MA-NH serious area as well as the Springfield (Western Massachusetts) serious area. EPA approved the attainment demonstration for the Springfield (Western Massachusetts) serious area in a previous action (66 FR 665; January 3, 2001).

The key element of the attainment demonstration is the photochemical grid modeling required by the CAA. The Massachusetts SIP used the CALGRID model which was approved for use by EPA since it was found to be at least as effective as the guideline model which is UAM-IV. The modeling domain for CALGRID extends from southwest Connecticut, northward 340 km to northern Vermont, and eastward to east of Nantucket, Massachusetts. For the Boston-Lawrence-Worcester, MA-NH nonattainment area, the domain meets EPA guidance since it contains adequate areas both upwind and downwind of the nonattainment area. The domain also includes the monitors with the highest measured peak ozone concentrations in Massachusetts and coastal Maine and New Hampshire. Since the original modeling was done for a much larger domain that includes not only all of Massachusetts but also includes all of Rhode Island, most of Connecticut, southern New Hampshire, southern Vermont, and most of southern Maine, the CALGRID model has several "source" areas and several receptor areas. The only receptor area of import to this notice and the Massachusetts SIP submittal is the Boston-Lawrence-

Worcester, MA-NH nonattainment area. For the purposes of this notice, only model results in this geographic area will be used, unless otherwise noted. As shown below, EPA believes the modeling portion of the attainment demonstration meets EPA guidance.

The model was run for 10 days during four distinct episodes (August 14–17, 1987, June 21–22, 1988, July 7–8, 1988 and July 10–11, 1988). These episodes represent a variety of ozone conducive weather conditions, and also include the three worst ranked ozone episodes (1987 to 1998) for the Boston-Lawrence-Worcester, MA-NH area. The episodes selected also reflect days with high measured ozone in a variety of areas within the entire domain. This is because, as stated above, the domain covers several nonattainment areas, and in order to model the meteorology that causes high ozone, several different episodes were needed. The model results for the first day of each episode are not used for attainment demonstration purposes, because they are considered "ramp-up days." Ramp-up days help reduce impacts of initial conditions; after ramp-up days, model results are more reflective of actual emissions being emitted into the atmosphere. Since the first day of each episode was not considered, this leaves six days for strategy assessment.

The CALGRID model was run using the CALMET meteorological processor. This processor took actual meteorological data collected by the National Weather Service and the State Air Pollution Agencies and using extrapolation and other analysis techniques provided winds, temperatures and other meteorological parameters at approximately 400 specific grid points for each hour of the episode up to 14 levels (*i.e.*, from the surface to top of the model which is about 5000 feet). CALMET is described in detail in the Massachusetts attainment demonstration, and was approved by EPA for use in the CALGRID modeling system.

The CALGRID model was run with emissions data prepared by EPA Region I and/or a contractor working with EPA Region I. The data were taken from the EPA Aerometric Informational Retrieval System (AIRS) data base in late 1993 and reflect the emission data supplied from the six New England States. The emission data for the small portion of New York state that forms the western edge of the domain was supplied by New York. EPA Region I quality assured all the New England AIRS data, the New York supplied data and all necessary modifications to the data. The data was further processed through the Emissions



Preprocessor System (EPS Version 2.0). To more accurately model ozone in New England, day specific emissions were simulated for on-road mobile sources (cars, trucks, busses, etc.), and for large fossil-fueled fired power plants in New England. The base case CALGRID model is consistent with EPA guidance on model performance.

Future emissions were projected to 1999 and 2007 accounting for both emission increases due to industrial growth, population growth and growth in the number of miles traveled by cars, as well as emission reductions due to cleaner gasoline, cleaner cars and controls on industrial pollution. Growth factors were derived using the EPA-approved Bureau of Economic Analysis (BEA) factors and all the emissions were processed using the EPS 2.0 system.

Model runs were also performed for the year 2007. The runs employed 2007 emission estimates inside the New England Domain, along with boundary condition files reflecting EPA's NO<sub>x</sub> SIP Call emission estimates in upwind areas. Year 2007 emissions estimates for the states inside the modeling domain reflected EPA's NO<sub>x</sub> SIP call as well as other federal and state control strategies being implemented by the beginning of the 2007 ozone season. This was accomplished using a two-step process. The first step was to project emissions using growth factors to account for increases or decreases in economic activity by industrial sector. In general, the states projected their emissions using the same growth factors that were used in the OTAG modeling effort. The second step involved applying control factors to source categories that would be regulated by the year 2007. States used a combination of information for control levels: those used for the OTAG modeling effort, and state-specific information relating to the effectiveness of control programs planned or in place. These 2007 emission estimates did not, however, include the Tier 2/Gasoline Sulfur program that was subsequently adopted by EPA on February 10, 2000 (65 FR 6698). The ozone reductions in 2007 from the Tier 2/Gasoline Sulfur program are discussed in Section VII.C.4.

### *C. What Are the Conclusions From the Modeling?*

The EPA guidance for approval of the modeling aspect of a one-hour ozone attainment demonstration is to use the one-hour ozone grid modeling to apply one of two modeled attainment tests (deterministic or statistical) with optional weight of evidence analyses to supplement the modeled attainment test results when the modeled attainment

test is failed. The modeling performed for the Boston-Lawrence-Worcester, MA-NH area does not show attainment of the one-hour ozone standard (0.124 ppm) at every grid cell for every hour of every episode day modeled. The maximum predicted 2007 concentration in the Boston-Lawrence-Worcester, MA-NH nonattainment area for the relevant episodes is 0.177 ppm. The 2007 modeling was performed for two episode days: July 8 and July 11. Only these two days could be run for 2007, because 2007 boundary conditions were not available for the other four days. This concentration is north of Boston. This does not pass the deterministic test. Since the CALGRID model, as run for this analysis, does not show attainment, additional weight-of-evidence analyses were performed. When these additional weight-of-evidence analyses are considered, attainment is demonstrated.

Massachusetts performed a separate weight of evidence analysis using the model predicted change in ozone to estimate a future air quality design value. Massachusetts uses the air quality modeling in a relative sense. An analysis of the modeled ozone data, from the EPA-approved CALGRID model used in the Massachusetts attainment demonstration, in conjunction with monitored air quality data shows that, with the planned emission reductions in the two precursor emissions (VOC and NO<sub>x</sub>), ground-level ozone concentrations will be below the ambient standard by the 2007 attainment date. More specifically, Massachusetts conducted a four-step analysis which shows how the photochemical modeling results, when applied to ozone design values at the Truro and Fairhaven monitors (the only two monitors in the Boston-Lawrence-Worcester, MA-NH monitoring 1-hour ozone violations based on 1999–2001 ozone data), predict attainment at these two monitors by 2007 after taking into account anticipated emission reductions from the NO<sub>x</sub> SIP call and the Tier 2/Low Sulfur program. The four steps are discussed in the next four subsections.

#### **1. Base Year Ozone Design Values**

In the 1998 Attainment Demonstration, DEP reviewed ozone monitoring data to determine a base-year design value for each monitor in the New England Domain. Ozone data collected in 1995, 1996, and 1997 were used for calculating 1997 design values, and design values for all monitors in the New England Domain located in Massachusetts, southern New Hampshire and Maine (areas impacted by Massachusetts emissions) are

provided in the September 1998 submittal. When the state submitted its Attainment Demonstration in 1998, ozone data for 1998 and 1999 was not yet available, and that is why 1997 design values were used. In their 2002 supplemental submittal, Massachusetts did not update the base year design values using this data since the Boston-Lawrence-Worcester, MA-NH area was in attainment during the 1997–1999 time period, and all design values were below the one-hour ozone standard. Thus, using 1997 design values versus 1999 design values results in a conservative analysis.

#### **2. Ozone Reduction Between 1999 and 2007**

The second step of this approach consists of comparing photochemical modeling run results in order determine the predicted ozone reduction at each ozone monitor in Massachusetts, southern New Hampshire and Maine between 1999 and 2007. Modeling runs were not performed for 1997 but were performed for 1999. The DEP's use of modeling results for 1999 is conservative since as emissions reductions that occurred between 1997 and 1999 are not accounted for and relied on. Modeling results for 1999 were then compared with modeling results for 2007 to estimate changes between 1999 and 2007.

The results of the 1999 runs and the 2007 runs were compared (only two strategy days, July 8 and July 11, are used for 2007, because these are the only two days for which 2007 boundary conditions are available), and the predicted change in ozone levels was determined at each 5 by 5 kilometer surface cell in the New England Domain. The change in ozone level (for each cell) was then divided by the 1999 modeled concentration (for each cell), in order to calculate the percent ozone reduction in each cell between 1999 and 2007. The percent ozone reduction for each cell that contained an ozone monitor was then extracted from this information. The percent ozone reductions for monitoring locations in Massachusetts, southern New Hampshire and Maine are presented in the state's submittal.

#### **3. Predicted Ozone Design Values for 2007**

The third step was to determine a 2007 ozone design value for each ozone monitoring station location. This was accomplished by reducing the 1997 ozone design value by the percent ozone reduction predicted for each monitoring location derived in step 2, above. If the resulting design value dropped below

the one-hour ozone standard, it is reasonable to assume that the monitor can attain the one-hour ozone standard by 2007. Massachusetts showed in their submittal that the predicted 2007 design values for all monitors in Massachusetts, southern New Hampshire, and Maine (areas impacted by Massachusetts emissions) are all below the one-hour ozone NAAQS.

For the Truro monitor (the monitor currently with the highest design value), there was a reduction in ozone levels of 11 percent for the July 8 episode and a reduction in ozone levels of 16 percent at the Truro monitor for the July 11 episode. For both episodes, the future adjusted design value for the Truro monitor is predicted to be well below the one-hour ozone standard (0.117 ppm for July 8 and 0.110 ppm for July 11.)

#### 4. Predicted Ozone Design Values for 2007 With the Tier 2/Gasoline Sulfur Program

As previously noted, the CALGRID runs for 2007 included the benefits of the NO<sub>x</sub> SIP call as well as other CAA measures, but did not account for the Tier 2/Gasoline Sulfur program. The Tier 2/Gasoline Sulfur program consists of emission reductions due to more protective tailpipe emissions standards for all passenger vehicles, including sport utility vehicles (SUVs), minivans, vans and pick-up trucks, as well as lower standards for sulfur in gasoline. These new standards require passenger vehicles to be 77 to 95 percent cleaner than those on the road today and reduce the sulfur content of gasoline by up to 90 percent. This program, which does not achieve emission reductions until 2004 and beyond, was not incorporated into the 1998 Attainment Demonstration's weight of evidence analysis.

In their 2002 supplemental submittal, Massachusetts looked at the EPA modeling performed in 1999<sup>12</sup> to assess the effectiveness of the Tier 2/Gasoline Sulfur. For three episodes in the summer of 1995, EPA performed two sets of modeling runs: one run with 2007 CAA emission files including emission reductions associated with Tier 2/Gasoline Sulfur program and a second run that did not include Tier 2/Gasoline Sulfur Program emission reductions. In both cases, the CAA emission files included EPA's NO<sub>x</sub> SIP Call emission reductions. After the modeling runs were completed, EPA used the modeling results in a relative manner to estimate the percent ozone

reduction associated with the Tier 2/Gasoline Sulfur program.

In their 2002 supplemental submittal, Massachusetts included the predicted ozone design values for the 2007 CAA run and the 2007 Tier 2 run for each Massachusetts county in the Boston-Lawrence-Worcester, MA-NH nonattainment area. As shown in their submittal, the largest benefit (0.002 ppm) occurred at the Truro monitor. The Tier 2 program was predicted to reduce ozone levels from 0.119 ppm to 0.117 ppm, a 1.7 percent reduction in ozone levels, at that location. Note, these values are well below the level of the one-hour ozone standard.

Massachusetts believes it is reasonable to conclude that the design value at the Truro monitor for 2007 will be reduced by approximately 1.7 percent once the Tier 2/Gasoline Sulfur program is implemented.

#### 5. Conclusions From the Future Air Quality Design Value Analysis

Through these additional analyses, Massachusetts has demonstrated that substantial ozone reductions can be expected to occur after implementation of a number of control strategies that are in place both within and upwind of the New England Domain. Those strategies include EPA's NO<sub>x</sub> SIP Call as well as EPA's Tier 2/Gasoline Sulfur program. Therefore, EPA believes it is reasonable to conclude that the Boston-Lawrence-Worcester, MA-NH nonattainment area will attain the one-hour ozone standard by 2007. While the absolute modeling results do not demonstrate attainment, the modeling results are useful in demonstrating a relative reduction in ozone levels sufficient to demonstrate attainment in 2007.

In summary, the modeling submitted for the Boston-Lawrence-Worcester, MA-NH area is consistent with the CAA and EPA guidance and demonstrates attainment. Other information, which provides additional support for concluding the Boston-Lawrence-Worcester, MA-NH will attain in 2007 are the ambient ozone data trends and a trajectory analysis of exceedance days in the area.

#### D. What Are the Conclusions From the Ozone Data Trends?

There are 11 ozone air quality monitors in the Boston-Lawrence-Worcester, MA-NH nonattainment area that have data from 1999–2001. They are in the Massachusetts cities and towns of Boston (2 sites), Easton, Fairhaven, Lawrence, Lynn, Newbury, Stow, Truro, and Worcester, and Nashua, New Hampshire. All of the monitors show attainment with the one-

hour ozone NAAQS except for the Fairhaven and Truro, MA sites.

The original serious classification of the nonattainment area was based on data from the 1987 through 1989 time period. Since then and up to and including 2001 ozone data, the latest available quality assured ozone data for the area, all 11 sites show a decrease in ozone due to emission reductions, both within Massachusetts and New Hampshire and also upwind. The monitoring sites north of the city of Boston (which are downwind of Boston during ozone conducive meteorology) are showing the greatest decline. For example, the one-hour ozone design value for the site in Newbury has dropped from 0.139 ppm in 1989 to 0.112 ppm in 2001, a drop of 19 percent. At the Nashua, NH site, the only site in the nonattainment area in New Hampshire, the design value has dropped from 0.121 ppm in 1989 to 0.103 ppm in 2001, a drop of 15 percent.

If we look at three additional monitors downwind of the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area, we see similar downward trends. The three monitors are Rye, NH, Kennebunkport, ME and Cape Elizabeth, ME. At the Rye, NH site, the design value has dropped from 0.156 ppm in 1989 to 0.123 ppm in 2001, a drop of 21 percent. At the Kennebunkport, ME site, the design value has dropped from 0.152 ppm in 1989 to 0.120 ppm in 2001, also, a drop of 21 percent. At the Cape Elizabeth, ME site the design value has dropped from 0.156 ppm in 1989 to 0.111 ppm in 2001, a drop of 29 percent. These substantial decreases in ozone are the result of emission reductions both within the tri-state area of Massachusetts, New Hampshire and Maine, as well as reduction in longer-range transport emissions from upwind areas. Additional emission reductions in Massachusetts will occur in the intervening years from now until 2007.

At the two eastern Massachusetts monitors recording violations of the ozone standard in 2001 (*i.e.*, Fairhaven and Truro, Massachusetts), the ozone trend is also downward. These two sites are in the extreme southern portion of the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area, and were monitoring attainment until the summer of 2001. At the Fairhaven, MA site, the one-hour ozone design value has dropped from 0.150 ppm in 1989 to 0.125 ppm in 2001, a drop of 17 percent. This site is not in attainment, based on 1999–2001 ozone data. At the Truro, MA site, the one-hour design value has dropped from 0.146 ppm in 1989 to 0.138 ppm in 2001, for a drop

<sup>12</sup> See "Technical Support Document for the Tier 2/Gasoline Sulfur Ozone Modeling Analyses," EPA420-R-99-031, December 1999.

of 5 percent. This site, too, is not in attainment, based on 1999–2001 ozone data. To show how close Fairhaven and Truro are to meeting the NAAQS one can look at the fifth highest value over the same 3-year period 1999–2001. The fifth highest value for Fairhaven is below the level of the standard. The fifth highest value for Truro is 0.127 ppm, and the sixth highest value for Truro is below the level of the standard. Furthermore, preliminary ozone data for the Boston-Lawrence-Worcester, MA–NH area collected during the summer of 2002, a hot summer, show that of the 11 monitors that have recorded ozone data for the past three years, only the Truro, MA monitor has an ozone design value of 0.125 ppm or above. Truro's preliminary design value for 2000–2002 is 0.130 ppm, a drop of 0.008 ppm from 2001. During 2000–2002, the fifth highest value at the Truro site is below the level of the one-hour ozone standard.

Based on the overall downward trend in one-hour ozone concentrations in this area, and because precursor emissions are projected to keep falling, both within the nonattainment area and upwind from it, there is no reason to believe that the downward trend in ozone concentrations will not continue over the near term. The future emission reductions will be a result of the following: continued benefits from tighter standards on vehicles (California Low Emission Vehicles (CA LEV) in Massachusetts and National Low Emission Vehicles or CA LEV in upwind areas) due to fleet turnover; the reductions from large point sources due to the OTC NO<sub>x</sub> Budget Program and EPA's NO<sub>x</sub> SIP call; other federal control measures such as controls on non-road engines; and the Tier 2 vehicle and low sulfur gasoline program.

#### *E. What Do the Ozone Exceedance Day Trajectory Analyses Show?*

Trajectory analysis is a tool for assessing atmospheric transport and identifying likely source regions of locally measured air contaminants. The Massachusetts DEP used the HYSPLIT-4 (Hybrid Single-Particle Lagrangian Integrated Trajectory) model, developed by NOAA's Air Resources Lab (ARL), to compute backward trajectories.

To assess airflow patterns on days when either the Truro or Fairhaven monitor recorded exceedances of the one-hour ozone NAAQS during the period 1999–2001, 24-hour backward trajectories were computed by the Massachusetts DEP. The surface-based trajectories (start height of 10 meters) for these days, indicators of shorter range transport, follow a general track that

crosses near the New York metropolitan area before turning northeastward toward the Massachusetts south coast and Cape Cod. These trajectories cross no high emission areas in Massachusetts. Upper-level trajectories (200 and 500 meters elevation), indicators of long-range transport, generally begin farther west over New York State or Pennsylvania and follow a more west-to-east track, passing north of the New York metropolitan area. Since the trajectories for the six exceedance days strongly resemble one another, the DEP concluded that there is a consistent meteorological pattern and source region for ozone and precursors when monitors in southeastern Massachusetts exceed the one-hour ozone NAAQS. Furthermore, the DEP concluded that one-hour exceedance level ozone concentrations will occur at the Truro or Fairhaven monitors only if the air reaching these monitors had previously crossed nearby high emission areas such as the greater New York metropolitan area. It should be noted, that on all days when there are exceedances at Truro and/or Fairhaven, there are also exceedances in Connecticut. Without the influence of the emissions from the greater New York metropolitan area the DEP concluded, no exceedances would have occurred at these monitors. Attainment demonstrations already approved by EPA for Connecticut and the New York city area show attainment will be achieved in 2007, and likewise this attainment demonstration for Massachusetts concludes that attainment will be achieved in 2007.

To corroborate the DEP's results, EPA performed its own trajectory analyses for those days when there were exceedances of the one-hour ozone standard on Cape Cod, in southeastern Massachusetts, and/or in Rhode Island, over the last three years (1999–2001). This area encompasses the ozone monitoring sites in Truro, MA; Fairhaven, MA; Narragansett, RI; East Providence, RI; and West Greenwich, RI. The exceedance days at these sites during 1999–2001 are as follows: June 7, 1999, July 6, 1999, July 16, 1999, June 10, 2000, June 30, 2001, July 25, 2001, August 7, 2001, and August 9, 2001.

EPA's trajectory analyses of the days with ozone exceedances at these sites (Truro, MA, Fairhaven, MA, Narragansett, RI, East Providence, RI and West Greenwich, RI) support the CALGRID modeling which shows that the most probable source region of the exceedances at these sites is southern New England and areas to the south and west of Massachusetts, including Connecticut and the New York City

area. Connecticut is less than 60 miles from Fairhaven or about four hours of typical meteorological transport time. Details of this analysis are found in the TSD for this action. Both the analyses done by the DEP and EPA support the conclusion that without the influence of emissions from upwind, no exceedances would have occurred at the Truro, MA and Fairhaven, MA monitors. This further supports the conclusion that the Boston-Lawrence-Worcester, MA–NH ozone nonattainment area will attain in 2007.

#### *F. Are the Causes of the Recent Violation Being Addressed?*

The Boston-Lawrence-Worcester, MA–NH ozone nonattainment area was in attainment for three consecutive, three-years periods from 1998–2000 (*i.e.*, 1996–1998, 1997–1999, and 1998–2000). The violations based on the three-year period from 1999–2001 occurred at two monitors in the southeastern portion of Massachusetts.

Sensitivity runs presented in the 1998 Attainment Demonstration looked at the effectiveness of NO<sub>x</sub> reductions versus VOC reductions by reducing each pollutant individually within the domain by varying percentages (*i.e.*, 25%, 50%, 75% and 100%). These sensitivity runs concluded that reducing nitrogen oxide emission reductions is a more effective ozone control strategy for the New England Domain. Furthermore, in order to assess the role of transport into the New England domain, Massachusetts did sensitivity modeling runs where very clean boundary conditions are assumed. These runs use boundary conditions from the OTAG run IN60, which assumed the reductions similar to NO<sub>x</sub> SIP call emissions, plus an additional 60 percent reduction in NO<sub>x</sub> from the ozone nonattainment areas classified as serious or above. These runs show that upwind NO<sub>x</sub> reductions would be effective at reducing ozone throughout southern New England, including in southeastern Massachusetts where the current one-hour ozone violations occur. From these sensitivity runs as well as its trajectory analyses, Massachusetts DEP concluded that elevated ozone levels at the Fairhaven and the Truro monitors are principally due to ozone and NO<sub>x</sub> generated in southern New England and upwind areas. Massachusetts DEP further concluded based on CAMx Source Apportionment Modeling described in EPA's October 27, 1998 Final Rulemaking on the NO<sub>x</sub> SIP Call (63 FR 57355), that reducing NO<sub>x</sub> emissions in adjacent upwind areas—Connecticut, Rhode Island, New York City and New

Jersey—will significantly reduce ozone levels at the Fairhaven and Truro monitors. Emissions of NO<sub>x</sub> and VOC will also be lowered in Massachusetts as well, as a result of the emission control programs listed in Table 2. These local controls, combined with upwind controls will result in the Boston-Lawrence-Worcester, MA–NH ozone nonattainment area attaining in 2007.

As part of its 2002 supplemental submittal, DEP included the NO<sub>x</sub> emission reductions anticipated to occur in Connecticut, Rhode Island, New York City and New Jersey between 1999 and 2007 and between 2002 and 2007. The reduction between 2002 and 2007 was intended to illustrate the reductions that can be expected to reduce current air quality levels being monitored in southeastern Massachusetts. The NO<sub>x</sub> reduction expected to occur in Connecticut, Rhode Island, New York City and New Jersey between 1999 and 2002 is expected to be 190.0 tons per summer day. Those emission reductions have already occurred, and presumably affect the current ozone levels measured in 2002. Between 2002 and 2007, the NO<sub>x</sub> reduction expected to occur in Connecticut, Rhode Island, New York City and New Jersey is expected to be quite a bit higher, at 320.2 tons per summer day. These reductions, which largely have not occurred yet, will benefit future ozone levels in southeastern Massachusetts and will help the Boston-Lawrence-Worcester, MA–NH ozone nonattainment area meet attainment by 2007.

As part of its 2002 supplemental submittal, DEP also calculated the NO<sub>x</sub> and VOC emission reductions projected to occur between 1999 and 2007 in the Massachusetts portion of the Boston-Lawrence-Worcester, MA–NH area. VOC emissions in eastern Massachusetts are projected from 1999 to 2007 to go from 619 tons per summer day (tpsd) to 491 tpsd, which is a reduction of 128 tpsd or 21 percent. NO<sub>x</sub> emissions in eastern Massachusetts are projected from 1999 to 2007 to go from 829 tpsd to 606 tpsd, which is a reduction of 223 tpsd or 27 percent. When combined with the significant reductions in NO<sub>x</sub> emissions expected in upwind states by 2007, the eastern Massachusetts emissions inventory data provides additional reason to anticipate that the area will attain the one-hour ozone standard by 2007.

#### *G. Is the Massachusetts RACM Analysis Consistent With the CAA and EPA Guidance?*

The EPA has reviewed the SIP and the RACM submittal for the Massachusetts

portion of the Boston-Lawrence-Worcester, MA–NH area to determine if it includes all required RACM measures and sufficient documentation concerning available RACM measures. The RACM analysis was subject to a public hearing on July 25, 2002, and submitted to EPA on September 6, 2002.

Before estimating how much emission reduction could be achieved by certain control measures implemented in Massachusetts, the DEP assessed where geographically emission reductions would help most to alleviate the violations being measured in the Boston-Lawrence-Worcester, MA–NH area to determine if any measures could advance the attainment date for the area. To do this, Massachusetts relied on various trajectory and modeling analyses.

The trajectory analyses, which are discussed in greater detail in section VII.E, indicate that elevated ozone levels at the Fairhaven and Truro monitors are largely the result of local transport from upwind high emission areas in Connecticut, New York City and New Jersey.<sup>13</sup> In addition to what the MA DEP submitted, EPA performed a trajectory analysis of each of the days during 1999 through 2001 when exceedances of the one-hour ozone NAAQS were monitored in the Boston-Lawrence-Worcester, MA–NH ozone nonattainment area. That analysis shows similar results, *i.e.*, that the source region for these exceedances is areas to the south and west of Massachusetts.

In addition to the MA DEP trajectory analyses, the MA DEP used the results of the CALGRID model runs, to help demonstrate that Massachusetts' emissions contribute primarily to a "Boston Plume," which flows north of Boston,<sup>14</sup> and much less to the five southeastern counties in Massachusetts (the only part of the Boston-Lawrence-Worcester, MA–NH area violating the ozone standard in 2001). The results of the first CALGRID run, which employed July 8, 1988 meteorological conditions and 1999 CAA controls for each state in the New England Domain, show elevated ozone levels in Connecticut and Western Massachusetts and a large "Boston Plume" extending up the coastline into southern Maine. In a separate CALGRID run, all anthropogenic NO<sub>x</sub> and VOC emissions in Massachusetts were reduced to zero.

<sup>13</sup> These areas have approved attainment demonstrations and also have EPA-enforceable emission reduction strategies to bring about attainment of the 1-hour standard by 2007.

<sup>14</sup> The Massachusetts WOE analysis discussed in section VII.C. above shows the Boston Plume will be below the one-hour ozone NAAQS by 2007.

The "zero-out" CALGRID run reflects a large reduction of 911.6 tons per day of VOC, and 712.7 tons per day of NO<sub>x</sub>. The difference plot for these two runs indicates that reducing Massachusetts emissions will substantially reduce ozone levels in the "Boston Plume," but have less effect on reducing ozone levels in southeastern Massachusetts, where the 2001 nonattainment was monitored. This was further illustrated for all episode days in modeling performed by New Hampshire where they reduced NO<sub>x</sub> emissions in the northern half of eastern Massachusetts by an additional 60 percent beyond 1999 projected emission levels. For those sensitivity runs, there is no apparent ozone benefit in the southeastern portions of Massachusetts.

The trajectory analyses and sensitivity runs discussed above indicate that Massachusetts must rely on significant emission reductions from upwind states in order to attain the one-hour ozone standard, and that additional emission reduction measures adopted in Massachusetts alone would have a sufficiently small impact on ozone levels that they could not advance the attainment date in the Boston-Lawrence-Worcester, MA–NH area. Nonetheless, the DEP RACM analysis does review control measures that could reduce emissions of VOC and NO<sub>x</sub> in EMA and analyzed whether adoption of such measures might lead to attainment earlier than 2007.

Because the trajectory analyses and zero-out runs discussed above demonstrate that emissions from counties in the northern portion of the Boston-Lawrence-Worcester, MA–NH area do not have an impact on the Fairhaven and Truro monitors, the DEP limited its RACM analysis to a review of potential controls in the counties where local emissions could have an impact on these two monitors. These are the southeastern MA counties of: Barnstable, Bristol, Dukes, Plymouth and Nantucket.

DEP examined emissions from all significant emission source categories in the stationary point, stationary area, and non-road mobile sectors to assess whether there are any additional RACM that could be adopted. The methodology used, is a two-step procedure. First the procedure performed an emission inventory screen to identify significant source categories; and second, the MA DEP screened potential control measures to determine if they first, could provide sufficient benefits to accelerate attainment in the Boston-Lawrence-Worcester, MA–NH area, and, if so, if they are feasible.

The methodology used by the MA DEP is based on the RACM analysis performed by EPA for the Greater Connecticut serious ozone nonattainment area. See 66 FR 634; January 3, 2001. The RACM analysis for Greater Connecticut looked at projected 2007 emissions from various source categories after taking into account CAA-mandatory controls, additionally adopted regional and national controls, and State-adopted SIP controls. The RACM analysis then assumed that stationary sources that have already been controlled nationally, regionally or locally in the SIP would not be effective candidates for additional controls that could be considered RACM, since these categories have only recently been required to reduce emissions or are about to shortly. The state concluded that additional controls on these sources would not be feasible within the time frame to advance attainment. The analysis eliminated these categories that were subject to controls from further consideration. The analysis then reviewed the uncontrolled sources and of those, eliminated from consideration the bottom 20 percent of emitters in any source category on the assumption that the individual category contribution would be too small and/or the number of source types too numerous to regulate. Control measures for the remaining source categories were then reviewed for economic and technological feasibility and their potential to result in an earlier attainment year.

Massachusetts' conclusion from this analysis was that, based on the types of measures reviewed and the costs of these programs in association with the potential emission reduction benefits for the five southeastern counties in the Boston-Lawrence-Worcester, MA-NH area, there are no RACM that could be adopted in the Boston-Lawrence-Worcester, MA-NH area that would advance attainment prior to 2007. The MA DEP analysis meets EPA requirements, which as noted above were recently upheld by the DC Circuit Court.

Massachusetts also analyzed whether there were any additional mobile source measures that could be implemented that represent RACM. The DEP's conclusion is that Massachusetts is currently implementing all of the reasonably available TCMs listed in the Clean Air Act, and noted that included in the Massachusetts SIP, are a wide range of statewide mobile source emissions-reducing programs, including California LEV, Stage 2 vapor recovery, enhanced inspection and maintenance, and reformulated gasoline.

Massachusetts also noted that over \$3 billion in transit improvements and transportation-related environmental actions are being implemented as an integral part of the \$14 billion Central Artery/Third Harbor Tunnel project.

The DEP further did an analysis where they calculated VOC and NO<sub>x</sub> reductions for all projects submitted to the Massachusetts Highway Department for state and/or federal funding over the last three years in the five southeastern counties in Massachusetts. Funding limitations prevented many of these projects from being implemented, however, Massachusetts believes that the entire list constitutes an accurate sample of the hypothetically reasonable and available TCMs for this area. DEP found that potential TCMs would have a minimal impact<sup>15</sup> on reducing 2007 on-road mobile source emissions, the year the Boston-Lawrence-Worcester, MA-NH area is expected to achieve attainment. The DEP concluded that inclusion of these TCMs in the SIP would not allow the Boston-Lawrence-Worcester, MA-NH area to attain the one-hour ozone standard sooner than 2007 and are therefore not RACM.

EPA concludes that based on the available information, there are no additional technologically and economically feasible emission control measures in Massachusetts that will advance the attainment date for the Boston-Lawrence-Worcester, MA-NH ozone nonattainment area. Thus no potential measure can be considered RACM for purposes of section 172(c)(1) for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH area for its one-hour ozone attainment demonstration. The EPA therefore proposes that the Massachusetts SIP meets the requirements for RACM.

Although EPA does not believe that section 172(c)(1) requires implementation of additional measures for this area, this conclusion is not necessarily valid for other areas.

#### *H. Is the Attainment Date as Expeditiously as Practical?*

As explained earlier, the Boston-Lawrence-Worcester, MA-NH area attained the one-hour ozone standard as of 1999, its statutory deadline under the CAA. Moreover, the Boston-Lawrence-Worcester, MA-NH nonattainment area continued to have air quality meeting the one-hour ozone standard until the 1999 through 2001 time period. In its 2002 supplement to its 1998 attainment

demonstration, Massachusetts provides evidence that the area will once again attain by 2007.

Massachusetts chose a 2007 attainment date because it has determined that the current violations are due to upwind emissions, some of which cannot be reduced until as late as the beginning of the 2007 ozone season. The additional reductions that will occur in upwind areas, as well as in Massachusetts, include the following programs: (1) EPA's NO<sub>x</sub> SIP call, which will be implemented by May 31, 2004, with states expected to fully comply with their budgets by 2007; (2) EPA's Tier 2 standards, which will impose new tailpipe standards for motor vehicles and reduce the sulfur content of fuel, and will be phased in beginning in 2004; (3) EPA's NO<sub>x</sub> requirements for highway heavy-duty engines (*i.e.*, trucks and buses), which beginning in 2004 require new diesel trucks and buses to be 50 percent cleaner than today's models; (4) new nonroad diesel NO<sub>x</sub> standards, which started in 1996 with increasingly more stringent standards being phased in through 2006; and (5) a number of upwind states will adopt new VOC controls for architectural coatings and consumer products that will go into effect in 2004.

Massachusetts also notes that New York, New Jersey and Connecticut have CAA attainment dates of 2007, which is when these upwind states will have implemented all measures necessary for them to attain the standard. Based on this information, EPA agrees that an attainment date of November 15, 2007 is as expeditiously as practicable and EPA proposes approval of this attainment date for the Boston-Lawrence-Worcester, MA-NH area.

#### *I. Contingency Measures*

The EPA continues to believe the contingency measure requirements of CAA sections 172(c)(9) and 182(c)(9) are independent requirements from the attainment demonstration requirements under sections 172(c)(1) and 182(c)(2)(A) and the rate-of-progress (ROP) requirements under sections 172(c)(2) and 182(c)(2)(B). The contingency measure requirements are to address the event that an area fails to meet a ROP milestone or fails to attain the ozone NAAQS by the attainment date established in the SIP. The contingency measure requirements have no bearing on whether a state has submitted a SIP that projects attainment of the ozone NAAQS or the required ROP reductions toward attainment. The attainment or ROP SIP provides a demonstration that attainment or ROP requirements ought to be fulfilled, but

<sup>15</sup> The MA DEP RACM analysis shows that potential TCMs would reduce 2007 on-road mobile emissions for the Massachusetts portion of the nonattainment area by only 0.12 percent for VOC and 0.07 percent for NO<sub>x</sub>.

the contingency measure SIP requirements concern what is to happen only if attainment or ROP is not actually achieved. The EPA acknowledges that contingency measures are an independently required SIP revision, but does not believe that submission of contingency measures is necessary before EPA may approve an attainment or ROP SIP.<sup>16</sup>

### VIII. Proposed Action

EPA is proposing to fully approve as meeting CAA section 182(c)(2) the ground-level one-hour ozone attainment demonstration State Implementation Plan for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH nonattainment area submitted by Massachusetts on July 27, 1998, and supplemented on September 6, 2002. EPA is proposing an attainment date of November 15, 2007 for the area, and is proposing that the RACM analysis for the Massachusetts portion of the Boston-Lawrence-Worcester, MA-NH area meets the requirements of section 172(c)(1). This notice also proposes to approve 2007 motor vehicle emissions budgets for eastern Massachusetts into the SIP.

EPA is soliciting public comments on the issues discussed in this proposal. These issues will be considered before EPA takes final action. Interested parties may participate in the Federal rulemaking procedure by submitting written comments to the EPA Regional office listed in the **ADDRESSES** section of this action.

A more detailed description of the state submittal and EPA's evaluation are included in a Technical Support Document (TSD) prepared in support of this rulemaking action. A copy of the TSD is available upon request from the EPA Regional Office listed in the **ADDRESSES** section of this document.

### IX. Administrative Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not

subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4).

This rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because it merely approves a state rule implementing a federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the state to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the

National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*)

### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Nitrogen dioxide, Ozone, Volatile organic compounds.

**Authority:** 42 U.S.C. 7401 *et seq.*

**Dated:** October 4, 2002.

**Ira W. Leighton,**

*Acting Regional Administrator, New England Region.*

[FR Doc. 02-26172 Filed 10-11-02; 8:45 am]

**BILLING CODE 6560-50-P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 660

[I.D. 092402E]

RIN 0648-AP87

#### Fisheries Off West Coast States and in the Western Pacific; Coastal Pelagic Species Fishery; Notice of Availability of Amendment 10; Corrections.

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Correction to notice of availability of an amendment to a fishery management plan.

**SUMMARY:** This document corrects the address and phone number for the Pacific Fishery Management Council (Council) in the notice of availability of Amendment 10, which was published October 3, 2002.

**DATES:** Effective October 15, 2002.

#### SUPPLEMENTARY INFORMATION:

##### Background

The notice of availability of Amendment 10 to the Coastal Pelagic Species Fishery Management Plan was published in the **Federal Register** on October 3, 2002 (67 FR 62001), and requested comments by December 2, 2002. The interested public was directed to obtain a copy of Amendment 10 from the Council, but the Council's former address and phone number was cited, not its current address and phone number.

<sup>16</sup> The U.S. Court of Appeals for the D.C. Circuit recently addressed this issue in the context of a challenge to the Washington D.C. ozone attainment demonstration SIP, and concluded that contingency measures were required as part of an attainment demonstration SIP. See *Sierra Club v. EPA*, 294 F.3d 155, 164 (D.C. Cir. 2002). However, EPA believes that the court misconstrued the statute, and declines to follow the court's reasoning outside of the D.C. Circuit. EPA believes that the statute does not compel contingency measures as part of attainment demonstration SIPs because they are required as a separate submission under a separate statutory provision. See sections 172(c)(9) and 182(c)(2).