Revision to the

New Hampshire
State Implementation Plan

To Meet the Requirements of

Clean Air Act Section 110(a)(2)(D)(i)

March 2008

Prepared by

The New Hampshire
Department of Environmental Services

Table of Contents

1.0 Summary 1
2.0 Background 1
3.0 Significant Contribution and Interference with Maintenance (Section 110(a)(2)(D)(i)(I)) 5
3.1 Ozone and $PM_{2.5}$ Attainment Status of Downwind Areas 6
3.2 Air Quality Dispersion Modeling 6
3.2.1 Identification of Models and Domain Used 6
3.2.2 Emissions Processing Methodology 9
3.2.3 Summary of USEPA's CAIR Modeling Results 12
3.2.4 Summary of OTC and NHDES Modeling Results 14
3.2.5 CALGRID Zero Out of New Hampshire 17
3.2.6 Monitoring Data and Back Trajectories 20
4.0 Prevention of Significant Deterioration and Protection of Visibility (Section 110(a)(2)(D)(i)(II)) 27
5.0 Administrative Materials 29

List of Figures

Figure 2-1. Ozone Nonattainment Areas in New Hampshire 3
Figure 3-1. Map of the CMAQ/CALGRID Modeling Domain 7
Figure 3-2. Map of the RPO National Domain 8
Figure 3-3. QA/QC Plot of Surface Source CO Emissions 10
Figure 3-4. QA/QC Plot of Surface Source VOC Emissions 10
Figure 3-5. QA/QC Plot of Point Source NOx Emissions 11
Figure 3-6. QA/QC Plot of Point Source SO_2 Emissions 11
Figure 3-7. CMAQ SIP Quality Modeling Results for 2009 OTC OTB/OTW vs. 2002 Design Value Factors 15
Figure 3-8. Plot of the Maximum (Worst-case) Difference in Model Predicted 8-Hour Ozone Concentrations Between 2009 OTB/OTW and Zero Out of New Hampshire 18
Figure 3-9. Historical 8-Hour Ozone Monitoring Data for Maine 21
Figure 3-10. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Chicopee and Worcester, Massachusetts 2003-2005 25
Figure 3-11. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Newbury, Haverhill, and Chelmsford, Massachusetts 2003-2005 25
Figure 3-12. HYSPLIT Back Trajectories for 80Hour Ozone Exceedances Fairhaven and Truro, Massachusetts 2003 - 2005 26
Figure 3-13. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Boston (Long Island) and Lynn, Massachusetts 2003-2005 26

List of Tables

Table 3-1. Summary of CAIR Modeling Results for Ozone for New Hampshire, Maine, and Massachusetts (in ppb) 13
Table 3-2. Summary of CAIR Modeling Results for Annual $PM_{2.5}$ for New Hampshire, Maine, and Massachusetts (in micrograms per cubic meter) 14
Table 3-3. Modeling Summary of Monitors in New Hampshire and Downwind Areas (ppb) 16
Table 3-4. CMAQ/CALGRID Screening Results for Zero Out New Hampshire Scenario (ppb) 19
Table 3-5. Summary of Monitored 8-Hour Ozone Exceedances in Massachusetts for 2003-2005 22
Table 4-1. Major Source Emission Thresholds for Ozone Precursors 28

List of Appendices

Appendix A – Public Notice for SIP Revision
Appendix B – Public Comments and NHDES Response
Appendix C – Certification of Public Process
Appendix D – Evidence of Legal Authority

1.0 Summary

The New Hampshire Department of Environmental Services (NHDES) submits this State Implementation Plan (SIP) revision to fulfill the requirements of the United States Environmental Protection Agency's (USEPA's) Findings of Failure to submit a SIP meeting the requirements of Clean Air Act (CAA) Section 110(a)(2)(D)(i).[1] (70 FR 21147.) NHDES submits this SIP in accordance with CAA Section 110(a)(2)(D)(i), the general SIP submittal requirements of 40 CFR Part 51 Appendix V, and guidance provided by USEPA.[2]

This SIP certifies that sources and emission activities in New Hampshire do not contribute to nonattainment of the 8-hour ozone National Ambient Air Quality Standard (NAAQS) and the 1997 fine particulate matter ($PM_{2.5}$) NAAQS in other states and do not interfere with maintenance of the 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS in other states. This SIP also confirms that New Hampshire's SIP already contains provisions to prohibit major sources from interfering with measures in other states to prevent significant deterioration through the Prevention of Significant Deterioration (PSD) and nonattainment New Source Review (NSR) provisions. In addition, NHDES confirms that the current SIP, in the PSD and NSR regulations, contains provisions to prevent sources from interfering with measures to protect visibility according to the 1980 visibility requirements. NHDES along with other states in Mid-Atlantic/Northeast Visibility Union (MANE-VU) and other Regional Planning Organizations (RPOs) are analyzing the 1999 regional haze requirements and will make a determination concerning these provisions in the December 2007 regional haze SIP submittal.

On January 15, 2008, NHDES published in a statewide newspaper a public notice soliciting comment and announcing the opportunity for the public to request a public hearing for this SIP Revision. After the public comment period and public hearing, if requested, NHDES will document and review any comments received and provide a response, if necessary. NHDES will amend this SIP Revision, as necessary, and resubmit it, with the additional documents required to certify the SIP submittal.

2.0 Background

On July 18, 1997, the USEPA adopted a new National Ambient Air Quality Standard (NAAQS) for ozone and fine particulate matter ($PM_{2.5}$). The new 8-hour ozone NAAQS is 0.08 parts per million (ppm) based on the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration measured at each monitor. The original 1997 $PM_{2.5}$ NAAQS was 65 $\mu g/m^3$ based on the three-year average of the 98th percentile of

[1] *Finding of Failure to Submit Section 110 State Implementation Plans for Interstate Transport for the National Ambient Air Quality Standards for 8-Hour Ozone and $PM_{2.5}$,* 70 FR 21147 (April 25, 2005).
[2] Memorandum from William Harnett, Director, Air Quality Policy Division, USEPA to Regional Air Quality Directors, USEPA, dated August 15, 2006.

24-hour concentrations and 15 μg/m^3 based on the three-year average of the weighted annual mean concentration. The 24-hour $PM_{2.5}$ standard was revised recently to 35 μg/m^3 based on the three-year average of the 98th percentile of 24-hour concentrations. This SIP submittal covers the new 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS.

Portions of Hillsborough, Merrimack, Rockingham, and Strafford Counties are designated as moderate 8-hour ozone nonattainment areas. The rest of the state is designated attainment except for the portions designated as maintenance areas for the 1-hour ozone NAAQS. These maintenance areas include Cheshire County for which there was incomplete data on the date of the designation for the 1-hour ozone NAAQS and portions of the 4-counties (Hillsborough, Merrimack, Rockingham, and Strafford) that were designated nonattainment under the 1-hour ozone NAAQS and are currently designated as attainment under the 8-hour ozone NAAQS. The entire state is designated attainment for the 1997 $PM_{2.5}$ NAAQS. Figure 2-1 shows the current 8-hour ozone nonattainment areas (and previous 1-hour boundaries).

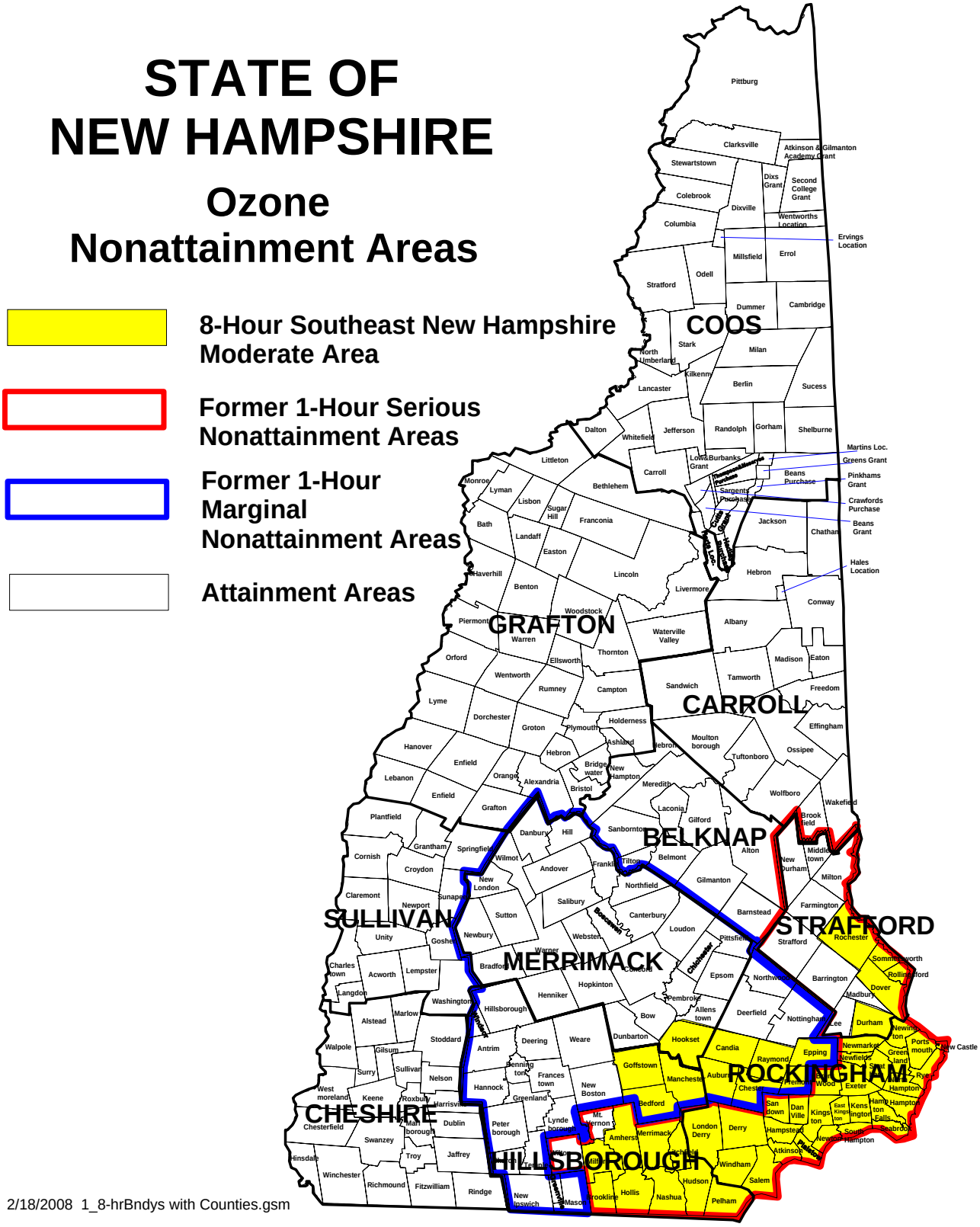
Section 110(a)(1) of the Clean Air Act (CAA) requires States to submit a State Implementation Plan (SIP) revision to provide for the implementation, maintenance and enforcement of the new or revised NAAQS. Section 110(a)(2) lists the elements that the SIP revision must include. Section 110(a)(2)(D) specifically relates to the transport of air pollution and the contribution or interference with other states' air quality.

Section 110(a)(1) says that states must submit the SIP revisions three years after the promulgation of a new or revised NAAQS. Because of litigation over both the 8-hour ozone and 1997 $PM_{2.5}$ NAAQS and the need for additional monitoring of $PM_{2.5}$, the SIP submittals have been delayed. On April 25, 2005, the USEPA published a finding that States had failed to submit the SIP revisions for the ozone and 1997 $PM_{2.5}$ NAAQS[3]. This finding was limited to the requirements of Section 110(a)(2)(D)(i), the interstate transport provisions. With this finding, a 24-month sanction clock was started requiring the USEPA to issue a final Federal Implementation Plan (FIP) unless a State makes the required SIP submission and the USEPA approves the submission within the 24-month period by May 25, 2007.

The USEPA issued this finding of failure to submit SIPs as part of a Consent Decree between the USEPA and plaintiffs, who sued the USEPA for failure to take action on the SIP submission requirements for the new 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS. As part of this Consent Decree, the USEPA also committed to take action on the remaining SIP elements by March 17, 2008, for ozone and October 5, 2008, for $PM_{2.5.}$

[3] *Finding of Failure to Submit Section 110 State Implementation Plans for Interstate Transport for the National Ambient Air Quality Standards for 8-Hour Ozone and $PM_{2.5,}$* 70 FR 21147 (April 25, 2005).

Figure 2-1. Ozone Nonattainment Areas in New Hampshire



2/18/2008 1_8-hrBndys with Counties.gsm

Section 110(a)(2)(D)(i)(I) requires that each state's SIP must contain provisions prohibiting sources in a State from contributing significantly to the nonattainment of another State or interfering with the maintenance in another State. In addition, Section 110(a)(2)(D)(i)(II) requires that each state's SIP must also contain provisions prohibiting emissions within the State from interfering with measures necessary to prevent significant deterioration of air quality or to protect visibility in another State.

In March 2005, the USEPA promulgated the Clean Air Interstate Rule (CAIR). [4] Based upon the requirements of Section 110(a)(2)(D)(i), the USEPA determined in CAIR that nitrogen oxide (NOx) emissions from 25 States[5] and the District of Columbia (DC) contribute significantly to nonattainment and interfere with maintenance of the 8-hour ozone NAAQS in downwind states. In CAIR and a subsequent ruling[6] for Delaware and New Jersey, the USEPA determined that sulfur dioxide (SO_2) and nitrogen oxide (NOx) emissions from 23 States[7] and DC contribute significantly to the nonattainment and interfere with maintenance of the 1997 $PM_{2.5}$ NAAQS. New Hampshire was not included in CAIR as a state that contributes significantly to nonattainment nor interferes with maintenance of the 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS in downwind states.

The 8-hour ozone NAAQS Implementation Rule[8] and the 1997 PM NAAQS Implementation Rule[9] require States to develop and submit SIP revisions demonstrating attainment with the 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS. The 8-hour ozone NAAQS attainment plans were due June 15, 2007, and the 1997 $PM_{2.5}$ NAAQS attainment plans are due April 5, 2008.

To demonstrate attainment, States must conduct air quality modeling. To fulfill this requirement, the member States[10] of the Ozone Transport Commission (OTC) have been conducting air quality modeling. As part of CAIR, the USEPA also conducted air quality modeling as the basis for determining what states contribute to the transport of air pollution in downwind states and thus which states were to be included in CAIR.

The USEPA guidance for this Transport SIP submittal says that states should submit technical information such as air quality modeling to support a negative declaration. NHDES

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[4] *Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NOx SIP Call; Final Rule*, 70 FR 25162 (May 12, 2005).
[5] Alabama, Arkansas, Connecticut, Florida, Delaware, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New York, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.
[6] *Inclusion of Delaware and New Jersey in Clean Air Interstate Rule*, 71 FR 25288 (April 28, 2006).
[7] Alabama, Florida, Delaware, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.
[8] *Final Rule to Implement the 8-hour Ozone National Ambient Air Quality Standard*, 70 FR 71612 (November 29, 2006).
[9] *Clean Air Fine Particle Implementation Rule*; Final Rule, 72 FR 20586 (April 25, 2007).
[10] The Ozone Transport Region consists of Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Northern Virginia, Pennsylvania, Rhode Island, and Vermont.

will rely on the air quality modeling conducted for the OTC states for the attainment demonstration, modeling conducted by NHDES, as well as the USEPA's modeling for CAIR. The OTC and NHDES modeling confirms the conclusions reached by the USEPA—that New Hampshire does not contribute to nonattainment or maintenance in downwind states.

NHDES adopted Prevention of Significant Deterioration (PSD) requirements (Env-A 619) and New Source Review (NSR) regulations (Env-A 618) to help New Hampshire maintain and attain the NAAQS. These requirements also help prevent New Hampshire from contributing significantly to other states nonattainment and from interfering with the maintenance of air quality in other states.

In regards to visibility and regional haze, the USEPA issued regulations in 1980 to address visibility and in 1999 to address regional haze. The 1980 regulations address reasonably attributable visibility impairment—that is, visibility impairment caused by emissions of air pollutants from one or a few sources. The 1999 regulations address regional haze—that is, visibility impairment caused by air emissions from numerous sources located over a wide geographic area. In accordance with the 1980 regulations, any new major source or major modification is required to assess visibility impacts as part of the permit application process. In the 1999 regional haze regulations, the USEPA found that all States contain sources that contribute to regional haze in at least one Class I area. Thus, States are required to submit a SIP by December 17, 2007 that addresses control measures for regional haze. States and Regional Planning Organizations (RPOs) are currently analyzing alternative strategies for addressing regional haze.

3.0 Significant Contribution and Interference with Maintenance (Section 110(a)(2)(D)(i)(I))

Section 110(a)(2)(D)(i)(I) requires states to include provisions in the SIP that prohibit any source or other type of emissions activity from emitting air pollutants in amounts which contribute to nonattainment in another state or interfere with maintenance in another state for newly promulgated NAAQS, that is, for ozone and $PM_{2.5}$. **New Hampshire makes a negative declaration to certify that sources in the state do not significantly contribute to nonattainment in another state or interfere with maintenance in another state with respect to ozone and $PM_{2.5}$.**

The basis for New Hampshire's certification is the attainment status of downwind areas and air quality modeling results conducted by the USEPA, the OTC, and NHDES. In addition, the NHDES' New Source Review and PSD regulations help to prevent sources from interfering with maintenance in downwind areas. Finally, NHDES has implemented reduction measures in the past, and will implement additional reduction measures in the future as specified in ozone and regional haze SIPs, if necessary, to help prevent sources from contributing to nonattainment in other states and from interfering with maintenance in other states.

3.1 Ozone and $PM_{2.5}$ Attainment Status of Downwind Areas

The primary basis for NHDES' certification that New Hampshire sources do not contribute to nonattainment of the ozone and 1997 $PM_{2.5}$ NAAQS in other areas is the fact that all of the areas downwind of New Hampshire are in attainment. Maine requested and was granted redesignation of the Portland, Maine ozone nonattainment area and the Midcoast Maine (Hancock, Knox, Lincoln, and Waldo Counties) ozone nonattainment areas to attainment in 2006. These areas have monitored attainment of the 8-hour ozone NAAQS based on the 3-year average of 2003 to 2005 and continuing through the summer of 2007. The rest of Maine was designated attainment for the 8-hour ozone standard. One downwind area in Massachusetts is designated as an 8-hour ozone nonattainment area. All areas downwind of New Hampshire are already designated as $PM_{2.5}$ attainment areas.

3.2 Air Quality Modeling

For the purposes of its 8-hour ozone and the 24-hour and annual $PM_{2.5}$ and regional haze modeling, New Hampshire relied on the regional photochemical air quality modeling that was done by the New York State Department of Environmental Conservation (NYSDEC), Northeast States for Coordinated Air Use Management (NESCAUM), and other modeling centers on the Community Multiscale Air Quality (CMAQ) and Regional Modeling System for Aerosols and Deposition (REMSAD) modeling platform. In addition, New Hampshire and other states used the CALGRID (California Photochemical Grid Model) screening-level modeling platform to evaluate additional emissions control scenarios and to perform sensitivity runs. The general methodologies that were used in running these modeling platforms are described in the sections below.

3.2.1 Identification of Models and Domain Used

As described above, the SIP-quality modeling that was done in support of New Hampshire and other states' 8-hour ozone, $PM_{2.5}$, and regional haze SIPs was performed on the CMAQ modeling platform. Additional modeling was done on the REMSAD and CALGRID screening-level platforms. The CMAQ and CALGRID platforms were run on the same modeling domain using a common set of model inputs. Specifically, the OTC ozone modeling domain was set up on a Lambert Conic Conformal projection and covers the eastern United States and parts of Canada. The southwest corner of the domain was set at 264 km, -888 km and the northeast corner was set to 2328 km, 1176 km. A 12-km grid cell resolution was used with 172 grid cells in the east-west direction and 172 grid cells in the north-south direction. For the vertical grid definition, 22 layers were used in the CMAQ simulations. For CALGRID, processing programs were used to reformat the boundary conditions, meteorology, and emissions; these mapped the 22 layers used for CMAQ to a total of nine vertical layers for the CALGRID modeling. The OTC CMAQ/CALGRID modeling domain is shown in Figure 3-1. The OTC 12-km modeling domain is a subset of the 36-km national domain which was used by the RPOs for regional haze analysis. The 36-km national grid is shown in Figure 3-2.

Figure 3-1. Map of the CMAQ/CALGRID Modeling Domain

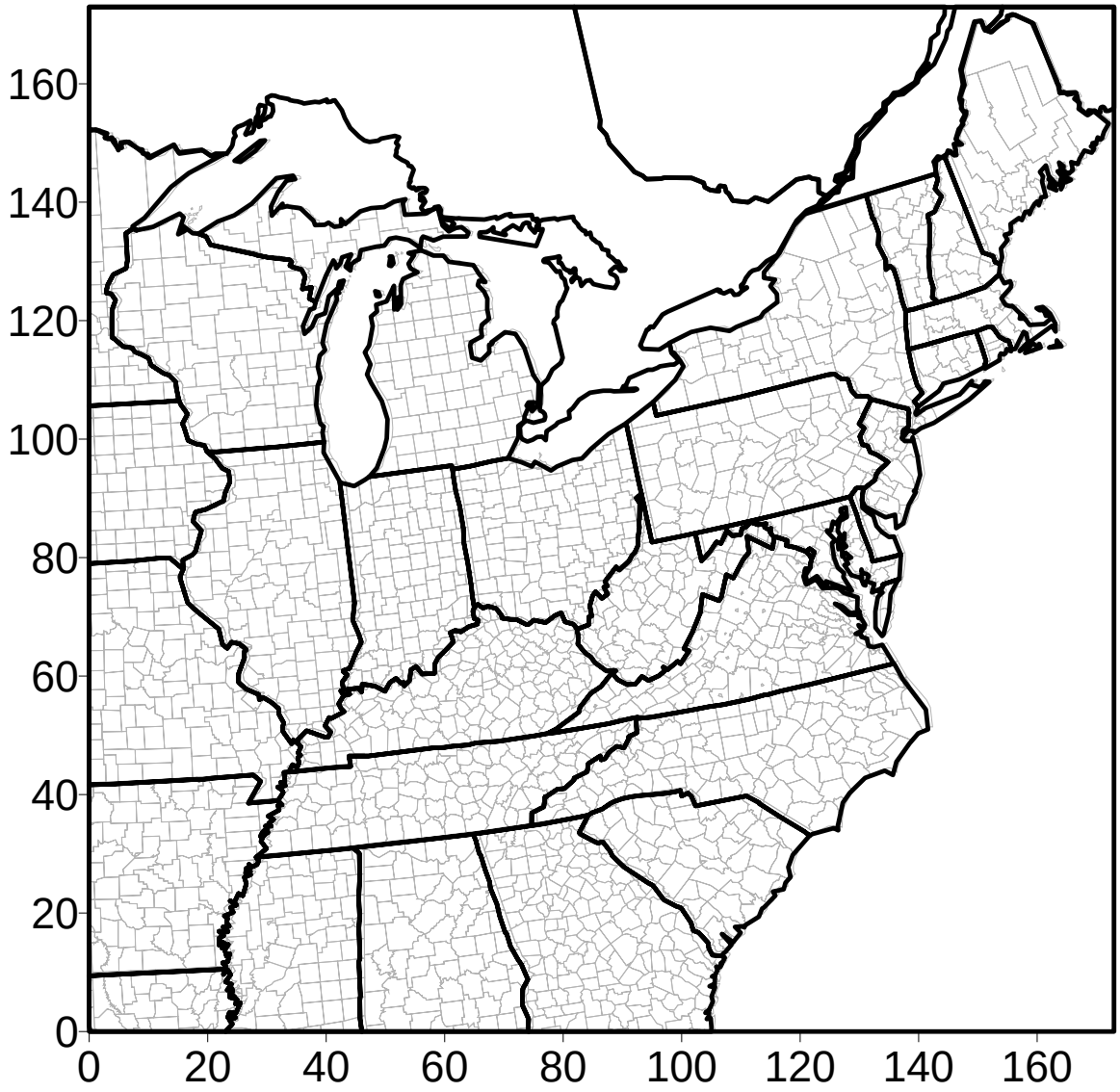
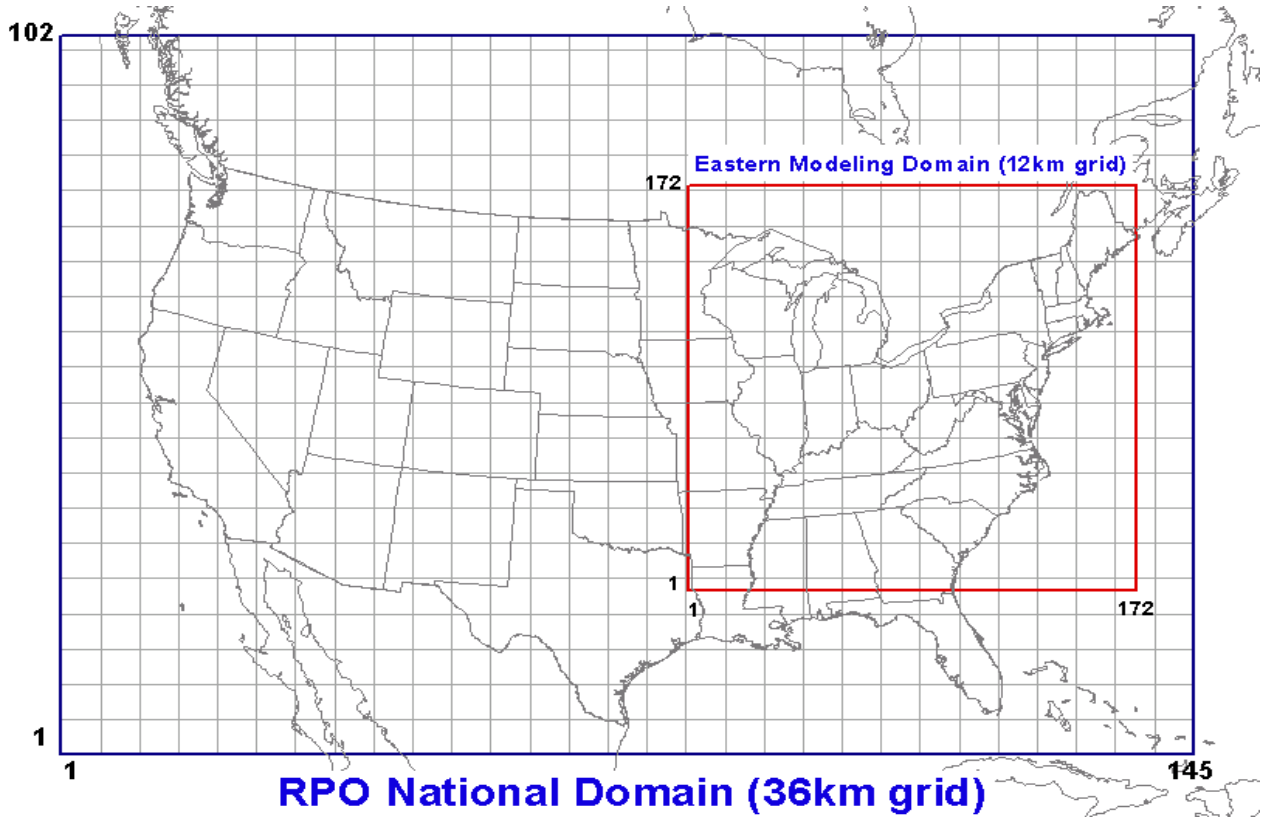


Figure 3-2. Map of the RPO National Domain



For the CMAQ modeling, boundary conditions were derived from GEOS-Chem (Goddard Earth Observing System) global atmospheric simulations by running CMAQ on the 36-km continental grid. For the CALGRID platform, initial conditions, side boundary conditions, and top layer concentrations were derived from the CMAQ boundary conditions files by means of a processing program. This program mapped the 22 vertical layers used in the CMAQ simulations to the nine layers used with CALGRID. It produced the necessary side boundary file and top layer concentration file for each modeled episode day. It also produced an initial conditions file for each episode day processed; these files could be retained so that the CALGRID user could begin a simulation on any desired episode day. It should be noted that the default option of using 2002 boundary conditions was employed for all of the base case and future year CMAQ and CALGRID simulations.

Further details regarding the technical options used in the CMAQ simulations are available in NYSDEC's technical support document TSD-1d, *8hr Ozone Modeling using the SMOKE/CMAQ system, February 1, 2006.* Additional information on the CALGRID modeling platform can be found in NHDES' *Modeling Protocol for the OTC CALGRID Screening-Level Modeling Platform for the Evaluation of Ozone, May 23, 2007.*

3.2.2 Emissions Processing Methodology

The RPOs and their contractors prepared a set of base year and future year emissions inventories for use in the regional photochemical air quality modeling for the 8-hour ozone attainment demonstration as well as for the analysis of particulate matter and regional haze. These emissions inventories became the basis of the modeling inventories that were processed for input into the CMAQ air quality model using the Sparse Matrix Operator Kernel Emissions (SMOKE) model. The SMOKE modeling was performed by New York State Department of Environmental Conservation (NYSDEC) and other modeling centers, including the Virginia Department of Environmental Quality (VADEQ) and Northeast States for Coordinated Air Use Management (NESCAUM). Emissions processing was done for the 2002 Base Year, 2009 On The Books/On The Way (OTB/OTW), 2009 Beyond On The Way (BOTW), and 2012 BOTW modeling scenarios. Further details on the SMOKE processing that was done in support of the 8-hour ozone attainment demonstration are provided in NYSDEC's technical support document TSD-1c, *Emission Processing for the Revised 2002 OTC Regional and Urban 12 km Base Case Simulations*, September 19, 2006.

For the CALGRID modeling effort, the pre-merged SMOKE emissions files were obtained from the modeling centers and re-formatted for input into EMSPROC (Emissions Processor), the emissions pre-processor for the CALGRID modeling system. EMSPROC allows the CALGRID user to adjust emissions temporally, geographically, and by emissions category for control strategy analysis. The pre-merged SMOKE files that were obtained from the modeling centers were broken down into the biogenic, point, area, non-road, and on-road emissions categories. These files by component were then converted for use with EMSPROC, thus giving CALGRID users the flexibility to analyze a wide variety of emissions control strategies. QA/QC plots were generated during the re-formatting of the emissions data to ensure that an accurate modeling inventory was generated for the CALGRID platform. Example emissions QA/QC plots are shown in Figures 3-3 through 3-6.

Figure 3-3. QA/QC Plot of Surface Source CO Emissions

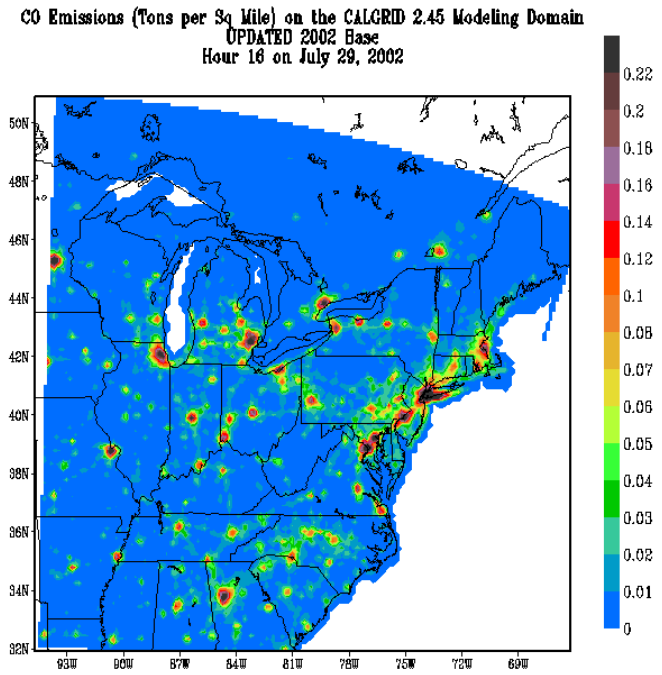


Figure 3-4. QA/QC Plot of Surface Source VOC Emissions

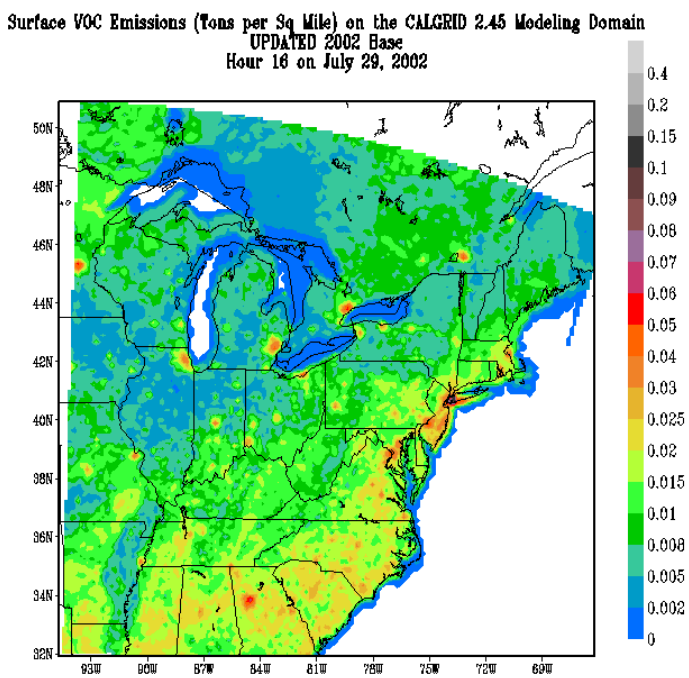


Figure 3-5. QA/QC Plot of Point Source NOx Emissions

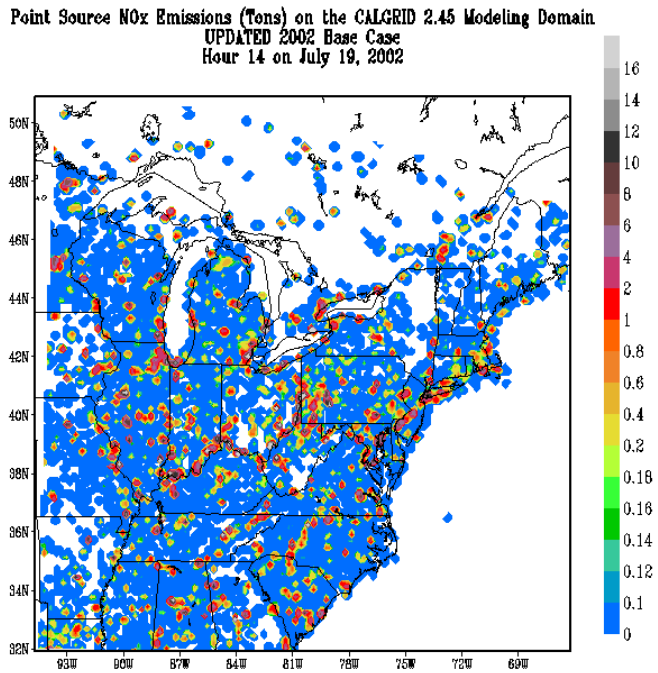
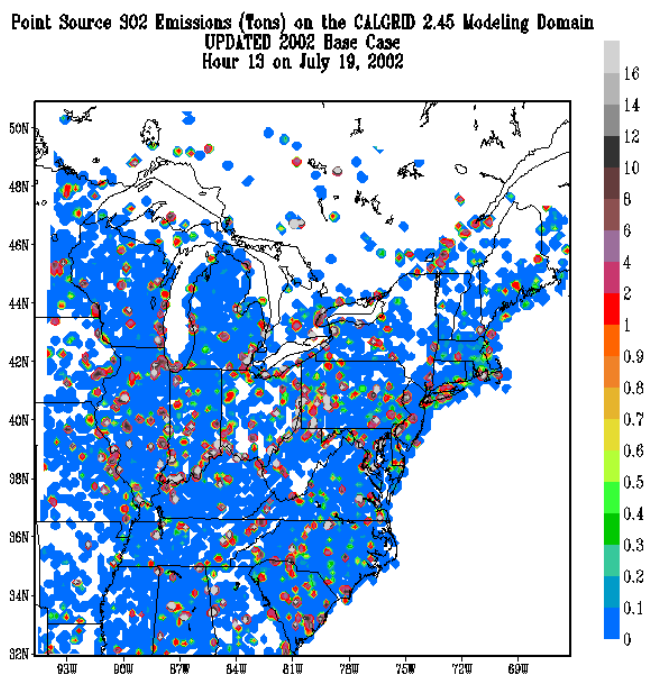


Figure 3-6. QA/QC Plot of Point Source SO_2 Emissions



3.2.3 Summary of USEPA's CAIR Modeling Results

USEPA promulgated the Clean Air Interstate Rule (CAIR) on March 10, 2005. Under CAIR, 28 states across the eastern United States and the District of Columbia will make reductions in emissions of NOx and SO_2. Similarly, USEPA issued the Clean Air Mercury Rule (CAMR) on March 15, 2005. CAMR will reduce mercury emissions from coal-fired power plants.

USEPA performed a technical analysis in support of CAIR and CAMR, including air quality modeling to evaluate ozone and $PM_{2.5}$. The air quality modeling done in support of the final CAIR is described in USEPA's *Technical Support Document for the Final Clean Air Interstate Rule, Air Quality Modeling*, March 2005. The air quality modeling for ozone was performed with the Comprehensive Air Quality Model with Extensions (CAMx) version 3.10 on a modeling domain covering much of the eastern United States. For $PM_{2.5}$, visibility, and deposition, the air quality modeling was done with CMAQ version 4.3 on a domain encompassing the lower 48 states and parts of Canada and Mexico. For the ozone analysis, three summer 1995 meteorological episodes were used in the CAMx modeling. For $PM_{2.5}$, visibility, and deposition, the CMAQ model was run for the entire year 2001. The analysis years and emissions scenarios that were assessed included the following:

- 2001 Base Year
- 2010 Base Case
- 2015 Base Case
- 2010 CAIR Controls
- 2015 CAIR Controls
- 2015 CAIR+BART
- 2015 BART-only

The 2010 and 2015 Base Cases reflect expected economic growth and the anticipated benefits associated with existing emissions control programs.

The CAMx and CMAQ model predictions for ozone and $PM_{2.5}$ were used in a relative manner. Weighted-average 1999-2003 design values were used as the basis of the observed 8-hour ozone and annual average $PM_{2.5}$ concentrations. Using this methodology, USEPA estimated maximum 8-hour ozone and annual $PM_{2.5}$ design values for each future-year scenario for each county in the modeling domain with a monitor. Table 3-1 shows the maximum estimated future 8-hour ozone design values for New Hampshire, Maine, and Massachusetts. These results show that, even without the emissions benefits associated with CAIR, all New Hampshire counties were predicted to be in attainment for 8-hour ozone for the 2010 and 2015 analysis years. Further, the table shows that areas downwind of New Hampshire (i.e., Maine and Massachusetts) were also predicted to be in attainment for 8-hour ozone for 2010 and 2015, even without the benefits of CAIR. Similarly, Table 3-2 shows the maximum estimated future annual design values for $PM_{2.5}$. All of the maximum estimated future design values were predicted in be in attainment for annual $PM_{2.5}$ for New Hampshire

and its downwind areas. The technical support document for the final CAIR did not summarize estimated design values for 24-hour $PM_{2.5}$, therefore they are not provided here.

Table 3-1. Summary of CAIR Modeling Results for Ozone for New Hampshire, Maine, and Massachusetts (in ppb)

State	County	1999 – 2003 Average Design Value	Estimated Maximum 8-hour Future Design Values			
			2010 Base	2010 CAIR	2015 Base	2015 CAIR
New Hampshire	Belknap	78.0	68.5	68.2	65.8	65.0
	Carroll	66.5	60.3	60.0	58.6	58.0
	Cheshire	73.7	65.2	64.9	63.1	62.0
	Hillsborough	85.0	76.7	76.6	74.1	73.9
	Merrimack	73.0	64.8	64.6	62.3	61.8
	Rockingham	82.7	75.2	75.1	73.3	72.9
	Strafford	77.3	69.2	69.1	66.8	66.5
Maine	Cumberland	84.7	75.9	75.8	73.4	73.0
	Hancock	92.0	80.7	80.5	77.2	76.8
	Kennebec	77.7	68.1	68.0	65.3	64.9
	Knox	83.3	73.7	73.6	70.7	70.4
	Oxford	61.0	54.9	54.7	53.2	52.7
	Penobscot	83.0	72.8	72.6	70.0	69.5
	York	89.0	80.3	80.2	78.0	77.6
Massachusetts	Barnstable	94.7	83.7	83.6	80.8	80.2
	Berkshire	87.0	76.3	76.1	73.6	73.2
	Bristol	92.7	83.1	83.0	80.3	80.0
	Essex	89.7	81.8	81.7	80.6	80.2
	Hampden	90.3	80.4	80.2	77.3	76.7
	Hampshire	87.3	78.2	78.0	75.4	74.9
	Middlesex	88.7	79.3	79.1	76.1	75.8
	Suffolk	88.0	78.3	78.1	75.2	74.9
	Worcester	85.3	76.1	76.0	73.3	72.9

Note: Data taken from Appendix E of USEPA's *Technical Support Document for the Final Clean Air Interstate Rule, Air Quality Modeling, March 2005.*

Table 3-2. Summary of CAIR Modeling Results for Annual $PM_{2.5}$ for New Hampshire, Maine, and Massachusetts (in micrograms per cubic meter)

State	County	1999 – 2003 Average Design Value	Estimated Maximum Annual Future Design Values			
			2010 Base	2010 CAIR	2015 Base	2015 CAIR
New Hampshire	Cheshire	11.81	11.04	10.39	10.85	10.11
	Coos	10.11	9.98	9.49	9.93	9.37
	Merrimack	9.96	9.22	8.67	9.11	8.49
	Sullivan	9.95	9.40	8.75	9.26	8.53
Maine	Androscoggin	10.60	10.16	9.75	10.04	9.58
	Aroostook	11.16	11.41	11.11	11.38	11.04
	Cumberland	11.44	10.66	10.23	10.50	10.02
	Hancock	6.20	5.98	5.65	5.95	5.58
	Kennebec	10.55	10.21	9.81	10.12	9.67
	Oxford	10.29	10.23	9.74	10.15	9.60
	Penobscot	9.87	9.81	9.46	9.73	9.34
	York	9.63	9.07	8.64	8.97	8.50
Massachusetts	Berkshire	12.40	11.68	10.93	11.49	10.66
	Hampden	13.80	12.81	12.10	12.59	11.79
	Plymouth	11.34	10.65	10.02	10.50	9.78
	Suffolk	12.81	12.05	11.48	11.80	11.15

Note: Data taken from Appendix F of USEPA's *Technical Support Document for the Final Clean Air Interstate Rule, Air Quality Modeling, March 2005.*

3.2.4 Summary of OTC and NHDES Modeling Results

Regional air quality modeling was performed to examine various emission control strategies and determine the most acceptable SIP strategy. As described earlier, the model results were used in a relative sense—the effects on future design values were evaluated by applying relative reduction factors (RRF) based on model output to base year monitored design values. This RRF design value approach recognizes that the regional models have innate uncertainties and that these uncertainties can be minimized if the model is used in a relative, rather than an absolute manner. To minimize the effects of seasonal fluctuations on design values, the base year design values that were used, in accordance with USEPA guidance, were calculated as the three-year average of monitored design values for the periods of 2000-2002, 2001-2003, and 2002-2004.

Based upon USEPA guidance, the following monitoring/modeling attainment demonstration strategies have been developed:

- The 2009 OTC On The Way/On the Books (2009 OTW/OTB) - SIP Strategy
- The 2009 OTC Beyond On The Way (2009 BOTW) - Contingency SIP Strategy

Estimated future year 8-hour ozone design values for each of the above strategies are shown to be below the NAAQS for all New Hampshire monitors and those monitors in downwind areas. Figure 3-7 shows the CMAQ predicted 2009 design values compared to actual 2002 design values. Table 3-3 summarizes the modeling results for monitors in New Hampshire and its downwind areas. The results in Table 3-3 indicate that all areas in New Hampshire and downwind are expected to be in attainment for 8-hour ozone.

Figure 3-7. CMAQ SIP Quality Modeling Results for 2009 OTC OTB/OTW vs. 2002 Design Value Factors

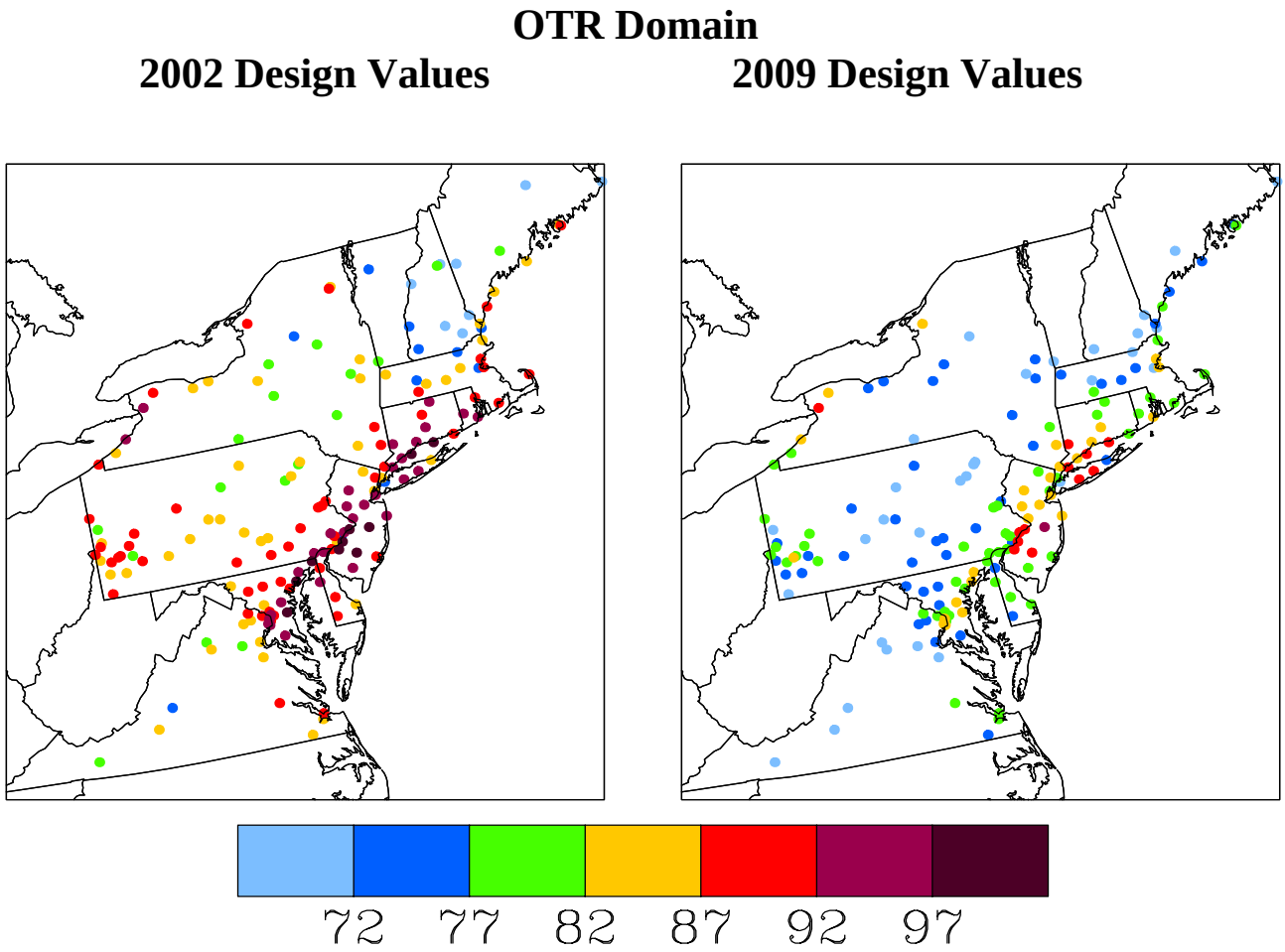


Table 3-3. Modeling Summary of Monitors in New Hampshire and Downwind Areas (ppb)

AIRS ID	Name	Current Design Value (DVC)	Predicted Future Design Values (DVF)	
			2009 OTB/OTW (CMAQ)	2009 BOTW (CMAQ)
330012004	Laconia	76.5	nc	nc
330031002	Conway	67	nc	nc
330050007	Keene	74.3	64	64
330090008	Haverhill	70.3	nc	nc
330110020	Manchester	75.5	n/a	n/a
330111010	Nashua	86	74	74
330115001	Peterborough	84	73	73
330130007	Concord	74.7	nc	nc
330150012	Rye	83.5	72	72
330150013	Brentwood	80	68	68
330150015	Portsmouth	68	59	59
330173002	Rochester	78.5	67	67
330190003	Claremont	74.3	nc	nc
230090102	ANP Cadillac Mt.	91.7	79	79
230312002	Kennebunkport	88.3	77	77
230313002	Kittery	85.3	74	74
230052003	Cape Elizabeth	84.3	73	73
230130004	Port Clyde	83.7	73	72
230090103	ANP McFarland	83.7	72	72
230112005	Gardiner	78	68	67
230090301	Castine	75	65	65
230310038	West Buxton	75	64	64
230173001	North Lovell	60.7	nc	nc
230194008	Holden Rider	79	nc	nc
250213003	Milton	91	83	82
250092006	Lynn	90	82	82
250010002	Truro	92	80	80
250051002	Fairhaven	91	80	79
250130008	Chicopee	92	80	80
250250041	Boston (Long I.)	88.7	80	80
250094004	Newbury	86	76	75
250154002	Ware	86.3	75	75
250171102	Stow	85.7	74	74
250034002	Adams	83.3	73	73
250130003	Agawam	83	72	72
250270015	Worcester	84	72	72
250250042	Boston (Harrison Ave.)	73	66	66
250150103	Amherst	74.7	69	65
250090005	Lawrence	70	61	61

Notes: 1) An "nc" indicates that a future design value was not calculated because of the limitation of the relative reduction factor (RRF) methodology. 2) The Manchester monitor was not included in the CMAQ results; this is indicated by "n/a" in the table.

3.2.5 CALGRID Zero Out of New Hampshire

NHDES performed a screening-level CALGRID model run to evaluate the impacts of New Hampshire's emissions on downwind areas. For this model run, all anthropogenic emissions in New Hampshire were turned off. In this manner, an assessment of the change in estimated future 8-hour ozone design values could be made for the hypothetical case in which New Hampshire had no emissions. Figure 3-8 shows the differences in maximum predicted 8-hour ozone concentrations between the 2009 OTB/OTW scenario and the Zero Out New Hampshire run. With New Hampshire's emissions turned off, improvements in 8-hour ozone concentrations (which are expressed as positive differences in the figure) can be seen in Maine and Massachusetts. Improvements of between 3 and 5 ppb occur along the Maine coast and in northeastern Massachusetts. Areas of less significant improvement (0.25 to 3 ppb) extend into inland areas of Maine and Massachusetts.

Table 3-4 shows the estimated future design values for monitors in New Hampshire, Maine, and Massachusetts for the 2009 OTB/OTW and Zero Out New Hampshire scenarios. For the most part, estimated future design values were less sensitive to the turning off of New Hampshire's emissions than were the maximum predicted 8-hour ozone concentrations. In Maine, estimated future design values improved by 5 ppb at monitors in Gardiner and West Buxton. Estimated future design values at all other Maine monitors improved by 2 ppb or less. For monitors in Massachusetts, estimated future design values improved by 1 ppb or less. Even in New Hampshire, estimated future design values at most monitors improved by 4 ppb or less. The exceptions to this were the monitors at Laconia, Manchester, and Concord; these monitors showed improvements of between 8 and 10 ppb. The CALGRID screening-level results for the Zero Out New Hampshire model run suggest that 8-hour ozone values in New Hampshire, Maine, and Massachusetts are strongly influenced by emissions from upwind areas.

Figure 3-8. Plot of the Maximum (Worst-case) Difference in Model Predicted 8-Hour Ozone Concentrations Between 2009 OTB/OTW and Zero Out of New Hampshire

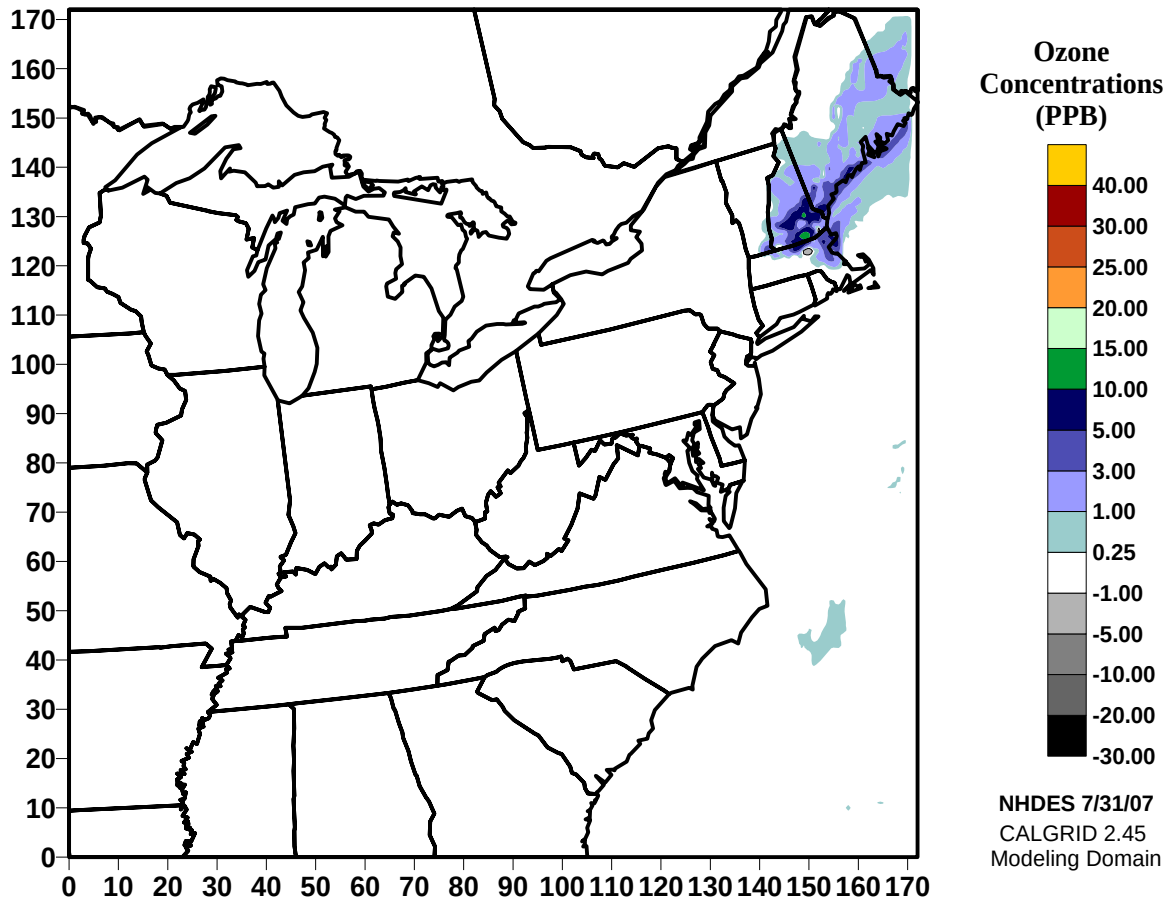


Table 3-4. CMAQ/CALGRID Screening Results for Zero Out New Hampshire Scenario (ppb)

AIRS ID	Name	Current Design Value (DVC)	Predicted Future Design Values (DVF)	
			2009 OTB/OTW (CMAQ)	CALGRID 2009 Predicted Difference
330012004	Laconia	76.5	nc	8
330031002	Conway	67	nc	3
330050007	Keene	74.3	64	1
330090008	Haverhill	70.3	nc	0
330110020	Manchester	75.5	n/a	9
330111010	Nashua	86	74	2
330115001	Peterborough	84	73	4
330130007	Concord	74.7	nc	10
330150012	Rye	83.5	72	1
330150013	Brentwood	80	68	3
330150015	Portsmouth	68	59	0
330173002	Rochester	78.5	67	2
330190003	Claremont	74.3	nc	0
230090102	ANP Cadillac Mt.	91.7	79	2
230312002	Kennebunkport	88.3	77	1
230313002	Kittery	85.3	74	0
230052003	Cape Elizabeth	84.3	73	0
230130004	Port Clyde	83.7	73	1
230090103	ANP McFarland	83.7	72	2
230112005	Gardiner	78	68	5
230090301	Castine	75	65	1
230310038	West Buxton	75	64	5
230173001	North Lovell	60.7	nc	2
230194008	Holden Rider	79	nc	0
250213003	Milton	91	83	1
250092006	Lynn	90	82	1
250010002	Truro	92	80	0
250051002	Fairhaven	91	80	0
250130008	Chicopee	92	80	0
250250041	Boston (Long I.)	88.7	80	0
250094004	Newbury	86	76	1
250154002	Ware	86.3	75	0
250171102	Stow	85.7	74	0
250034002	Adams	83.3	73	0
250130003	Agawam	83	72	0
250270015	Worcester	84	72	1
250250042	Boston (Harrison Ave.)	73	66	0
250150103	Amherst	74.7	69	0
250090005	Lawrence	70	61	0

3.2.6 Monitoring Data and Back Trajectories

To further support the CMAQ and CALGRID modeling, monitoring data and trajectory analyses reveal that New Hampshire does not significantly contribute to the attainment status of Maine and Massachusetts, the two states that lie downwind of New Hampshire during weather patterns typical of this region.

Maine

Monitoring data from Maine over the last ten years illustrate that the maximum ozone design value has been steadily declining, and for the last two years, the maximum design value has stayed below the current 8-hour ozone NAAQS of 0.08 ppm. For these reasons, Maine submitted and was granted a redesignation request to remove the nonattainment status of the Portland and MidCoast 8-hour ozone nonattainment area. Historical monitoring data for Maine is illustrated in Figure 3-9.

Furthermore, none of Maine's historical maximum $PM_{2.5}$ design values have exceeded the daily or annual standard. Thus, the entire state of Maine has been and currently remains in attainment of the $PM_{2.5}$ NAAQS.

Massachusetts

Table 3-5 presents a summary of the exceedances of the 8-hour ozone standard for monitors in Massachusetts for 2003 - 2005. A back trajectory analysis of these exceedances indicates that New Hampshire has not been a major contributor to ozone events in Massachusetts. Three-day back trajectories were run with the HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) model for selected sites in four regions of the state: central, northeastern, southeastern, and eastern (near Boston) Massachusetts. The ending times correspond to the hour of the 8-hour ozone exceedance at the site, and the ending locations are 100 meters above mean sea-level, approximately ground level. These back trajectories are shown below in Figures 3-10 to 3-13.

These trajectories rarely pass through New Hampshire. Instead, they indicate source regions in the Midwest and along the eastern corridor, including major metropolitan areas such as New York City. Those trajectories that do pass through New Hampshire, such as several ending in the Boston area, originate in the Midwest and tend to pass through the southwestern corner of New Hampshire as opposed to the more densely population areas of south central and relatively low emission southeastern New Hampshire. Thus, these trajectories are clearly dominated by large-scale transport from more distant regions. With the exception of the Newbury site on the far northeastern corner of the state, even those exceedances occurring at Haverhill and Chelmsford, located just south of the New Hampshire border, involve air masses traveling up the coast.

Figure 3-9. Historical 8-Hour Ozone Monitoring Data for Maine

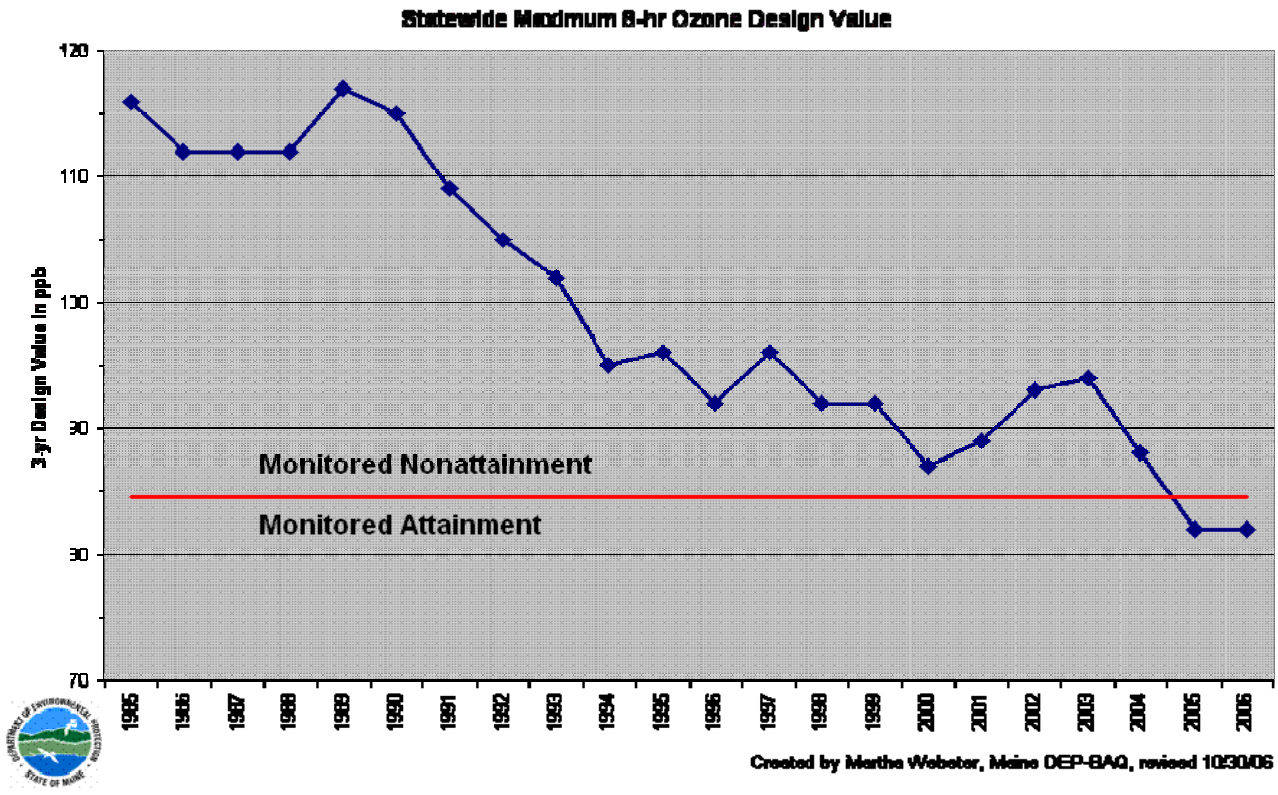


Table 3-5. Summary of Monitored 8-Hour Ozone Exceedances in Massachusetts for 2003-2005

Central MA			
Date	**Site**	**8-Hr Conc (ppm)**	**Hour (EST)**
6/25/2003	Chicopee	0.099	10
6/27/2003	Chicopee	0.089	9
6/27/2003	Worcester	0.089	9
6/29/2003	Chicopee	0.093	11
7/22/2004	Chicopee	0.093	10
4/20/2005	Worcester	0.090	13
6/8/2005	Chicopee	0.088	12
6/9/2005	Chicopee	0.104	11
6/9/2005	Worcester	0.085	12
6/24/2005	Chicopee	0.085	12
6/24/2005	Worcester	0.087	13
6/25/2005	Chicopee	0.090	10
6/25/2005	Worcester	0.092	14
6/26/2005	Chicopee	0.095	9
7/26/2005	Chicopee	0.090	13
7/26/2005	Worcester	0.085	13
8/8/2005	Chicopee	0.085	11
8/12/2005	Chicopee	0.098	12
Northeastern MA			
Date	**Site**	**8-Hr Conc (ppm)**	**Hour (EST)**
6/25/2003	Newbury	0.092	11
6/27/2003	Newbury	0.099	10
7/22/2004	Haverhill	0.091	10
7/30/2004	Newbury	0.085	11
6/25/2005	Chelmsford	0.085	16
6/27/2005	Chelmsford	0.095	10

Table 3-5 (Continued) - Summary of Monitored 8-Hour Ozone Exceedances in Massachusetts for 2003-2005

Southeastern MA			
Date	**Site**	**8-Hr Conc (ppm)**	**Hour (EST)**
6/25/2003	Fairhaven	0.098	12
6/25/2003	Truro	0.094	10
6/26/2003	Fairhaven	0.100	13
6/27/2003	Fairhaven	0.117	5
6/27/2003	Truro	0.110	9
7/4/2003	Fairhaven	0.086	16
7/4/2003	Truro	0.087	19
7/5/2003	Fairhaven	0.094	11
7/5/2003	Truro	0.094	13
7/8/2003	Truro	0.088	11
7/26/2003	Fairhaven	0.087	13
7/26/2003	Truro	0.087	16
8/16/2003	Fairhaven	0.101	12
8/16/2003	Truro	0.089	12
8/21/2003	Fairhaven	0.085	12
8/21/2003	Truro	0.087	13
5/11/2004	Truro	0.085	14
6/8/2004	Truro	0.089	16
6/9/2004	Fairhaven	0.099	13
6/9/2004	Truro	0.107	13
4/19/2005	Truro	0.088	19
4/20/2005	Truro	0.088	13
6/9/2005	Truro	0.087	8
6/25/2005	Truro	0.088	12
6/26/2005	Truro	0.087	10
8/5/2005	Truro	0.094	10
8/11/2005	Fairhaven	0.086	9
8/11/2005	Truro	0.095	12

Table 3-5 (Continued) - Summary of Monitored 8-Hour Ozone Exceedances in Massachusetts for 2003-2005

Eastern MA (Boston Area)			
Date	**Site**	**8-Hr Conc (ppm)**	**Hour (EST)**
6/25/2003	Lynn	0.088	9
6/27/2003	Boston - Long Island	0.102	7
6/27/2003	Lynn	0.100	9
8/22/2003	Lynn	0.092	9
6/8/2004	Boston - Long Island	0.094	16
6/8/2004	Lynn	0.092	17
7/30/2004	Lynn	0.088	10
4/20/2005	Lynn	0.086	10
6/24/2005	Boston - Long Island	0.086	14
6/24/2005	Lynn	0.094	16
6/25/2005	Boston - Long Island	0.095	16
6/25/2005	Lynn	0.099	15
6/26/2005	Boston - Long Island	0.091	9
6/26/2005	Lynn	0.096	9
7/22/2005	Lynn	0.085	11
7/26/2005	Lynn	0.088	12
7/27/2005	Boston - Long Island	0.085	9
8/11/2005	Boston - Long Island	0.089	11,12

The Newbury trajectories do not fit the general patterns described above, but notwithstanding this site's proximity to southeastern New Hampshire, they also fail to imply significant contribution from New Hampshire emissions. Trajectory models have historically had problems accurately reproducing the complicated air flows, vertically and horizontally, along the New England sea coast. As a result, trajectory modeling analyses in this region can suffer and produce non-intuitive results. For instance, two of the three Newbury trajectories come predominately off the ocean; these occur on June 25th and 27th, 2003, days during which several other sites also exceeded the ozone standard despite very different trajectory paths. Most other sites in the state received westerly flow on the 25th and slow southwesterly flow on the 26th. These conditions point to a regional episode in which sea breezes may have drawn off-shore plumes derived from sources to the west and south into the coastal site at Newbury.

The third Newbury trajectory does cross directly through New Hampshire, but the original HYSPLIT plot reveals that this air mass descended sharply from a maximum elevation near 3000 meters over the vicinity of Montreal. One other Massachusetts site, Lynn, also exceeded the standard on the same day (July 30, 2004), and its trajectory followed a similar profile, descending from a similarly high elevation after stalling briefly in Canada; yet the Lynn trajectory is shifted more to the west and barely hits the southwestern corner of New Hampshire. Comparison of these trajectories reveals that the elevated ozone

concentrations on this day came from air transported aloft from locations upwind of both Massachusetts and New Hampshire.

Figure 3-10. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Chicopee and Worcester, Massachusetts 2003-2005

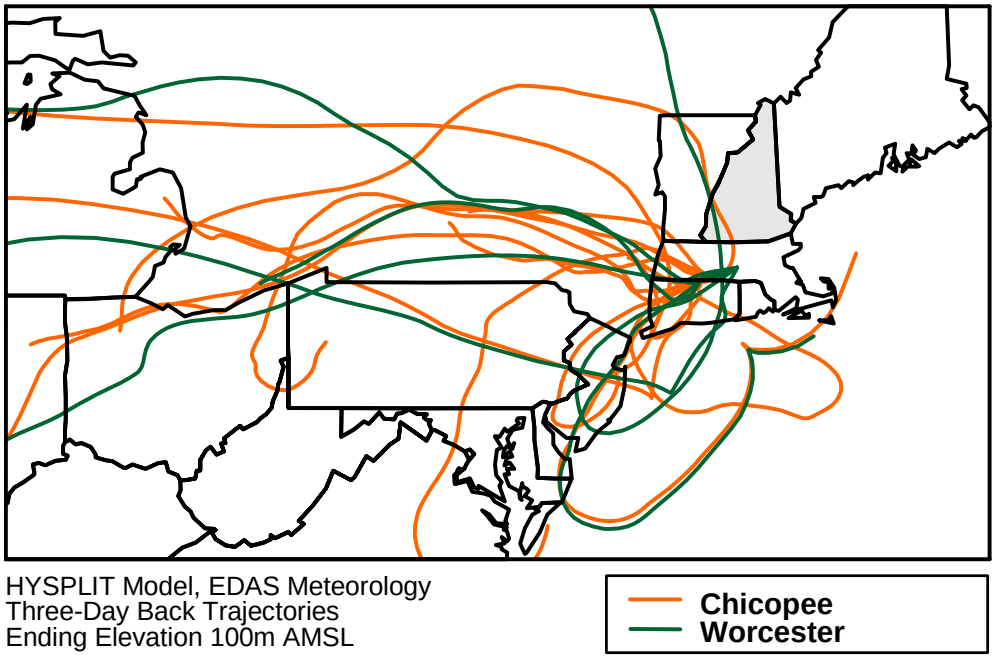


Figure 3-11. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Newbury, Haverhill, and Chelmsford, Massachusetts 2003-2005

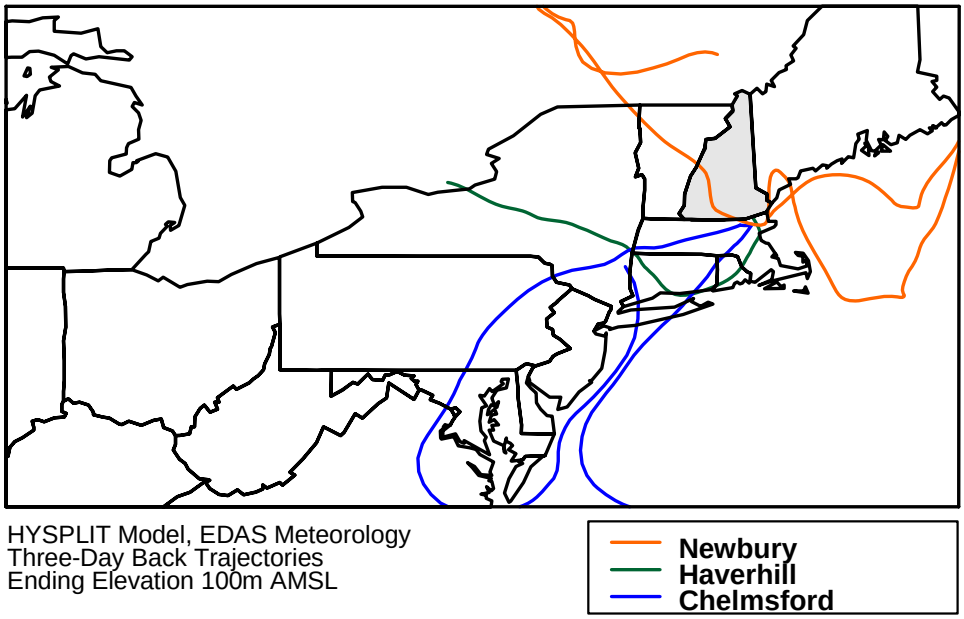


Figure 3-12. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Fairhaven and Truro, Massachusetts 2003 - 2005

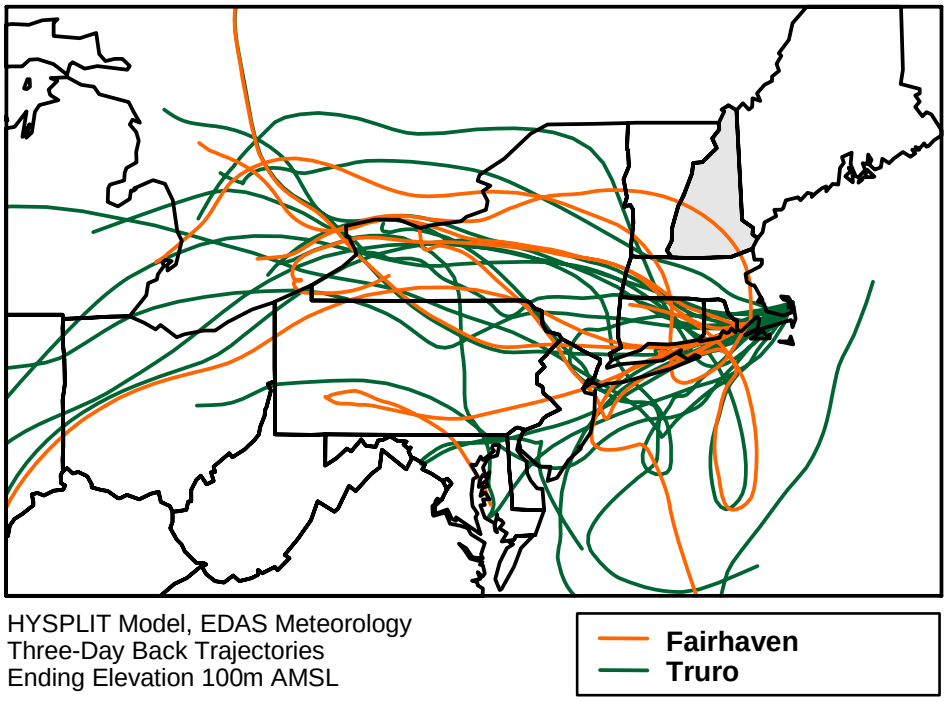
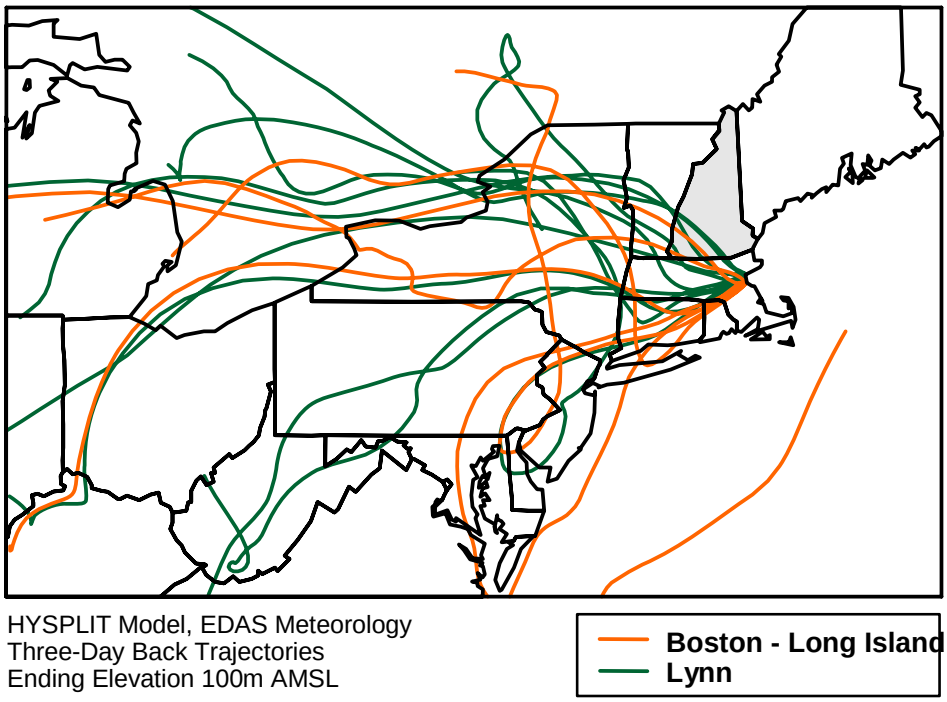


Figure 3-13. HYSPLIT Back Trajectories for 8-Hour Ozone Exceedances Boston (Long Island) and Lynn, Massachusetts 2003-2005



4.0 Prevention of Significant Deterioration and Protection of Visibility (Section 110(a)(2)(D)(i)(II))

Section 110(a)(2)(D)(i)(II) requires states to include provisions in the SIP that prohibit any source or other type of emissions activity from emitting air pollutants in amounts which will interfere with measures required to be included in the SIPs of another State to prevent significant deterioration and to protect visibility. NHDES confirms that no major sources in the state interfere with measures in the SIP to prevent significant deterioration and to protect visibility according to the 1980 visibility provisions. Because regional haze studies are only now underway, NHDES cannot make a determination at this time in regards to interference with measures to protect visibility in accordance with the 1999 regional haze provisions, but NHDES plans to make such a determination in the Regional Haze SIP.

NHDES confirms that major sources and major modifications in the state are subject to Prevention of Significant Deterioration (PSD) provisions in ozone and $PM_{2.5}$ attainment areas, including Best Available Control Technology (BACT) requirements and to Nonattainment New Source Review in ozone nonattainment areas, including Lowest Achievable Emission Rate (LAER) and emission offset requirements. The PSD provisions are contained in Env-A 619, *Prevention of Significant Deterioration of Air Quality Permit Requirements.*

In addition, New Hampshire is part of the Ozone Transport Region (OTR); therefore, NHDES also meets the additional NSR[11] and PSD provisions required in the OTR, particularly the major source and major modification emission thresholds and offset ratios. The federal requirement for the emission threshold for major NOx sources in New Hampshire under the 8-hour ozone NAAQS is 100 tons per year (tpy) statewide because the minimum federal emission threshold in the OTR is 100 tpy and also is 100 tpy in a moderate 8-hour ozone nonattainment area. The federal emission threshold for major volatile organic compound (VOC) sources under the 8-hour ozone NAAQS is 50 tpy statewide because the minimum federal emission threshold in the OTR is 50 tpy even though the federal emission threshold for moderate 8-hour ozone nonattainment areas is 100 tpy.

NHDES is currently more stringent than the federal emission threshold requirements under the 8-hour ozone NAAQS because NHDES currently uses the emission thresholds that NHDES adopted for the 1-hour ozone NAAQS, which were more stringent than required at that time as well because the emission thresholds are implemented countywide even if only a partial county is designated as nonattainment for the 8-hour ozone NAAQS. The emission threshold for major sources for VOCs is 50 tpy statewide. For NOx, the major source emission threshold is 50 tpy in the 4 counties (Hillsborough, Merrimack, Rockingham, and

[11] NSR provisions are contained in Env-A 618, *Additional Requirements in Non-Attainment Areas and the New Hampshire Portion of the Northeast Ozone Transport Region*.

Stafford), designated in part or whole as nonattainment for the previous 1-hour ozone standard (current 8-hour ozone NAAQS) and 100 tpy elsewhere in the state. Note that for anti-backsliding purposes, New Hampshire must maintain the major source emissions thresholds established under the 1-hour ozone standard. See Table 4-1 for a comparison of current emission thresholds and current federal requirements. For $PM_{2.5}$ (or PM_{10} or TSP), the major source emission threshold is 250 tpy or 100 tpy statewide depending upon the source category.

Table 4-1. Major Source Emission Thresholds for Ozone Precursors

	Current Emission Threshold (tpy)	1-Hour Ozone Required Emission Threshold (tpy)	8-Hour Ozone Required Emission Threshold (tpy)	OTR Required Emission Threshold (tpy)
VOC	50	50	100	50
NOx – 4 Counties	50	50	100	100
NOx – Statewide (Except 4 Counties)	100	100	100	100

For major modifications, the significant net emission increase level is 25 tpy for TSP and 15 tpy for PM_{10} and $PM_{2.5}$, since New Hampshire is using the PM_{10} emission threshold and standard as a surrogate for $PM_{2.5}$ until $PM_{2.5}$ specific provisions are adopted. For VOCs, the significant net emission increase level for major modifications is 25 tpy in the 4-counties (Hillsborough, Merrimack, Rockingham, and Stafford) and 40 tpy elsewhere in the state. For NOx, the significant net emission increase level for major modifications is 25 tpy in the 4-counties (Hillsborough, Merrimack, Rockingham, and Stafford) and 40 tpy elsewhere in the state.

NHDES also has a special provision, *Env-A 615, Interstate Air Quality Impacts*, which currently states the following:

> *The department shall apply special emission limits to a stationary source to ensure that its air quality impacts on adjacent states shall not interfere with the measures taken in those states to prevent significant deterioration of air quality and shall not prevent the attainment or maintenance of the NAAQS in those states.*

For these provisions, air quality dispersion modeling is used to determine significant deterioration.

The PSD and NSR provisions for the 8-hour ozone and 1997 $PM_{2.5}$ NAAQS and the Interstate Air Quality Impact provisions are measures to prevent major sources from contributing to significant deterioration of the 8-hour ozone and 1997 $PM_{2.5}$ NAAQS.

If deemed necessary, NHDES will update the PSD/NSR provisions to meet the 8-hour ozone NAAQS and 1997 $PM_{2.5}$ NAAQS. In the meantime, NHDES uses the PSD and NSR regulations adopted to implement the 1-hour ozone NAAQS. These PSD and NSR provisions are equivalent to or more stringent than what would be required under the 8-hour ozone NAAQS.[12]

In the future, if necessary, NHDES will revise its PSD regulations accordingly. In the meantime, New Hampshire uses the PM_{10} emission threshold and standard as a surrogate for $PM_{2.5}$, per USEPA's interim guidance. In addition, New Hampshire, in conjunction with other NESCAUM states, has developed PSD increment levels for air quality dispersion modeling purposes.

In terms of visibility, NHDES implements the 1980 visibility provisions as part of the PSD/NSR permitting procedures; therefore, no major source or major modification can obtain a PSD/NSR permit unless it does not interfere with the 1980 visibility requirements. At this time, NHDES along with other States in MANE-VU and other RPOs are analyzing emissions and emission reduction strategies and formulating an approach for addressing the 1999 regional haze provisions. In the regional haze SIP submittal due December 17, 2007, NHDES plans to discuss potential measures to address the 1999 regional haze requirements, if necessary.

5.0 Administrative Materials

On January 15, 2008, NHDES published in a statewide newspaper a public notice soliciting comment and announcing the opportunity for the public to request a public hearing for this SIP Revision. Appendix A includes a copy of the public notice of the comment period and request for a public hearing for this SIP revision. After the public comment period and public hearing, if requested, NHDES will document and review any comments received and provide a response, if necessary. NHDES will amend this SIP Revision, as necessary, and resubmit it with the additional documentation required to certify the SIP submittal. Appendices B and C will contain the comments received on this SIP revision and NHDES' responses and the certification of the public hearing, if held. The Governor has designated the Director of the Air Resources Division as his designee per a copy of the letter included in Appendix D.

[12] Note that in December 2005, NHDES submitted a SIP revision with a preliminary draft of revisions to the PSD and NSR regulations. This revision was submitted in accordance with Parts C and D of Title I of the CAA.

Appendix A
Public Notice for SIP Revision

STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
AIR RESOURCES DIVISION
CONCORD, NH

NOTICE OF PUBLIC COMMENT PERIOD AND PUBLIC HEARING

In accordance with New Hampshire Administrative Rule, Env-A 204.01(b) and Title 40 of the Code of Federal Regulations (CFR) Section 51.102, notice is hereby given that the New Hampshire Department of Environmental Services, Air Resources Division (the Department) has prepared, and intends to submit to the U.S. Environmental Protection Agency, a revision to New Hampshire's State Implementation Plan (SIP) to meet the requirements of the federal Clean Air Act (the Act), section 110(a)(2)(D)(i).

This SIP revision certifies that sources and emission activities in New Hampshire do not contribute to nonattainment of either the 8-hour ozone National Ambient Air Quality Standard (NAAQS) or the 1997 fine particulate matter ($PM_{2.5}$) NAAQS in other states, nor do they interfere with maintenance of the 8-hour ozone NAAQS and the 1997 $PM_{2.5}$ NAAQS in other states. This SIP revision also confirms that New Hampshire's SIP already includes provisions to prohibit major sources from interfering with measures in other states to prevent significant deterioration of air quality through the Prevention of Significant Deterioration and New Sources Review provisions of the Act. Additionally, the Department confirms that the current SIP includes provisions that prevent sources from interfering with measures to protect visibility according to the 1980 visibility requirements. The Department, along with other states in the Mid-Atlantic/Northeast Visibility Union (MANE-VU) and other regional planning organizations, is analyzing the 1999 regional haze requirements and will make a determination concerning these provisions in the regional haze SIP submittal.

The Department hereby solicits comment on this SIP revision and offers the public the opportunity to request a public hearing on this SIP Revision. Written comments on the proposed SIP revision and/or a written request for a public hearing must be submitted no later than 4:00 p.m. on Friday, February 15, 2008 to Andrew Bodnarik, Air Resources Division, NH Department of Environmental Services, P.O. Box 95, Concord, NH 03302-0095, or Andrew.Bodnarik@nh.des.gov. A copy of the SIP revision is available at the Department located at 29 Hazen Drive, Concord, NH during working hours from 8:00 a.m. – 4:00 p.m., Monday through Friday or may be obtained from the Department upon request from Andrew Bodnarik at the above address or at (603) 271-1370.

Robert R. Scott
Director, Air Resources Division
NH Department of Environmental Services

Dated: January 15, 2008

Appendix B
Public Comments and NHDES Response

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
1 Congress Street, Suite 1100
BOSTON, MA 02114-2023

February 14, 2008

RECEIVED
NEW HAMPSHIRE
FEB 19 2008
AIR RESOURCES DIVISION

Andy Bodnarik
Air Resources Division
Department of Environmental Services
6 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Dear Mr. Bodnarik:

On January 15, 2008, the New Hampshire Department of Environmental Services submitted to EPA a proposed Clean Air Act Section 110(a)(2)(D)(i) transport State Implementation Plan (SIP).

EPA has reviewed the proposed transport SIP. You will find the Agency's comments in the Enclosure. Our review indicates that the proposed SIP is consistent with EPA's guidance.[1] We offer the enclosed comments for purposes of clarifying some of the SIP narrative.

If you have any questions on these issues, please contact Richard Burkhart of my staff at 617-918-1664.

Sincerely,

Anne Arnold

Anne Arnold, Manager
Air Quality Planning Unit

Enclosure

[1] "Guidance for SIP Submissions to Meet the Current Outstanding Obligations under Section 110(a)(2(D)(i) for the 8-hour Ozone and $PM_{2.5}$ National Ambient Air Quality Standards," August 15, 2006.

Enclosure

EPA'S COMMENTS ON NEW HAMPSHIRE'S PROPOSED TRANSPORT SIP

1. (Page 2, Last Paragraph) As you may know, EPA amended the Consent Decree on Findings for other 110 elements. EPA will now take action on the Infrastructure SIP for ozone on March 17, 2008. Please update the transport SIP narrative to reflect this new date.

2. (Page 3, Figure 2-1) Merrimack County was designated as marginal under the 1-hour ozone standard. Please update the map to reflect this.

3. (Page 17, 2nd paragraph) The following sentence should be corrected as follows:

> "In Maine, estimated future design values **improved by** ~~of~~ 5 ppb occurred at monitors in Gardiner and West Buxton."

4. (Page 20, 2nd paragraph) The last sentence should be revised to add the MidCoast area, as follows:

> "For these reasons, Maine submitted and was granted a redesignation request to remove the nonattainment status of the Portland **and MidCoast** 8 -hour ozone nonattainment areas."

RECEIVED
NEW HAMPSHIRE
FEB 19 2008
AIR RESOURCES DIVISION

NH DES Responses to EPA's Comments on New Hampshire's
Clean Air Act (CAA) Section 110(a)(2)(D)(i)
State Implementation Plan (Transport SIP)

Response to Comment #1: NH DES has revised the Transport SIP narrative to reflect the revised action date of March 17, 2008, for the Infrastructure SIP.

Response to Comment #2: NH DES has revised Figure 2-1 to show Merrimack County as being designated marginal under the 1-hour ozone standard.

Response to Comment #3: NH DES has revised the referenced section of the text to read as follows: "In Maine, estimated future design values improved by 5 ppb at monitors in Gardiner and West Buxton."

Response to Comment #4: NH DES has revised the referenced section of the text to read as follows: "For these reasons, Maine submitted and was granted a redesignation request to remove the nonattainment status of the Portland and MidCoast 8-hour ozone nonattainment areas."

Appendix C
Certification of Public Process

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

CERTIFICATION OF PUBLIC PROCESS

I hereby certify that:

In accordance with New Hampshire Administrative Rule, Env-A 204.01(b) and Title 40 of the Code of Federal Regulations (CFR) Section 51.102, public notice was given that the New Hampshire Department of Environmental Services (the Department) prepared and intended to submit to the U.S. Environmental Protection Agency, a revision to New Hampshire's State Implementation Plan (SIP) to meet the requirements of the federal Clean Air Act (the Act), section 110(a)(2)(D)(i).

The notice solicited comments on the SIP revision and offered the public the opportunity to request a public hearing on the SIP revision, provided that written comments and/or requests for a public hearing were submitted to the Department no later than 4:00 p.m. on Friday, February 15, 2008.

The notice was published at least 30 days prior to the date of said hearing in a newspaper of general, state-wide circulation. The notice stated that a copy of the proposed SIP revision could be obtained from the Department upon request.

No request for a public hearing on the SIP revision was submitted to the Department; consequently, no public hearing was held.

The above statements are true to the best of my knowledge and belief.

Robert R. Scott
Director, Air Resources Division

Dated: 11 MAR 08

COPY

DES Web Site: **www.des.nh.gov**
P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095
Telephone: (603) 271-3503 Fax: (603) 271-2867 TDD Access: Relay NH 1-800-735-2964

Appendix D
Evidence of Legal Authority

JOHN H. LYNCH
Governor

State of New Hampshire

OFFICE OF THE GOVERNOR
107 North Main Street, State House - Rm 208
Concord, New Hampshire 03301
Telephone (603) 271-2121
www.nh.gov/governor
governorlynch@nh.gov

May 25, 2006

Robert W. Varney, Regional Administrator
U.S. EPA Region I
Suite 1100 (RAA)
1 Congress Street
Boston, MA 02114-2023

Dear Mr. Varney:

I have designated Robert R. Scott, Director of the New Hampshire Air Resources Division, as the official having the authority to request the U.S. Environmental Protection Agency approval of all New Hampshire State Implementation Plan revisions. Mr. Scott replaces Mr. Kenneth Colburn who previously held this authority.

Sincerely,

John H. Lynch
Governor

cc: Michael P. Nolin, NHDES Commissioner
Robert R. Scott, NHDES ARD Director

TITLE X
PUBLIC HEALTH

CHAPTER 125-C
AIR POLLUTION CONTROL

Section 125-C:4

125-C:4 Rulemaking Authority; Subpoena Power. –

I. The commissioner shall adopt rules under RSA 541-A, relative to:

(a) The prevention, control, abatement, and limitation of air pollution, including, but not limited to, open air source pollution, mobile source pollution, and stationary source pollution.

(b) Primary and secondary ambient air quality standards.

(c) Procedures to meet air pollution emergencies, as authorized by RSA 125-C:9.

(d) The establishment and operation of a statewide permit system, as authorized by RSA 125-C:6, XIV, RSA 125-C:11, I and RSA 125-C:11, I-a.

(e) Devices, in addition to those devices defined under RSA 125-C:2, subject to the permit requirements of RSA 125-C:11, as authorized by RSA 125-C:11, II.

(f) The exemption of certain devices and non-Title V sources from the permit requirements of RSA 125-C:11, I and the conformance of exempted devices to established standards, as authorized by RSA 125-C:11, I.

(g) The forms and information required on applications for temporary and permanent permits required under RSA 125-C:11, as authorized by RSA 125-C:12, I.

(h) Notification of and public hearing on permit applications, including exemptions from those requirements, as authorized by RSA 125-C:12, II.

(i) Fees for permit application and review, as authorized by RSA 125-C:12, IV.

(j) Procedures for permit application review, as authorized by RSA 125-C:11, IV, and criteria for permit denial, suspension or revocation, as authorized by RSA 125-C:13.

(k) Procedures for air testing and monitoring and recordkeeping, as authorized by RSA 125-C:6, XI.

(l) Procedures for receiving violation complaints and for rules enforcement, as authorized by RSA 125-C:15, I.

(m) Procedures for granting variances, as authorized by RSA 125-C:16.

(n) The manufacture, use, or sale of consumer products for purposes of implementing RSA 485:16-c.

(o) Applicability thresholds for emissions of particulate matter, mercury, and dioxin as provided in RSA 125-C:10-b, VII(f).

(p) The duration of time during which no additional best available control technology determination is required as provided in RSA 125-C:10-b, IV and VI.

(q) Procedures for establishing standards for and certification of any material, that is not an exempt fuel, to be combusted in a device at an affected source subject to RSA 125-C:10-b.

I-a. In adopting rules under paragraph I, the department may incorporate by reference standards issued by the California air resources board relative to certification and testing of vapor recovery equipment.

I-b. In adopting rules under subparagraph I(n), the department may incorporate by reference other state test methods and procedures that are referenced in the model rules of the Ozone Transport Commission (OTC) concerning consumer products, as defined in RSA 125-C:2, V-c.

II. The commissioner is authorized to issue subpoenas requiring the attendance of such witnesses and the production of such evidence and to administer such oaths and to take such testimony as he may deem necessary.

Source. 1979, 359:2. 1986, 202:8. 1996, 228:19, 104; 278:2, 3. 2001, 293:5. 2003, 137:3. 2004, 175:2, eff. May 27, 2004. 2005, 173:3, eff. June 29, 2005.