**Attachment A**

# HEARING REPORT

**Prepared Pursuant to**
**Code of Federal Regulations Part 40, Section 51.102**

**Regarding Revision to the**
**State Implementation Plan for Air Quality**

**Hearing Officer: Patrice P. Kelly**

**Date of Hearing: August 14, 2007**

On July 9, 2007, the Commissioner of the Connecticut Department of Environmental Protection (CTDEP) signed a notice of intent to revise the State Implementation Plan (SIP) for air quality required by the Clean Air Act Amendments of 1990 (CAA). The proposed revisions to the SIP included adoption of the 2002 baseline emissions inventory and an attainment plan demonstrating that Connecticut's two 8-hour ozone non-attainment areas will meet their Reasonable Further Progress targets, and will attain the 8-hour ozone National Ambient Air Quality Standard (NAAQS), that Reasonably Available Control Measures analysis requirements have been fulfilled, and that onroad vehicle emission budgets have been established to ensure that transportation plans conform with the SIP. These SIP revisions were developed in accordance with Sections 172(b) and 182(b) of the federal Clean Air Act (CAA), for the 8-hour ozone plan, and Sections 172(c)(3) and 182(a)(3) of the CAA for the baseline emissions inventory.

Pursuant to such notice, a public hearing was held on August 14, 2007. The public comment period for the proposed amendment closed on August 15, 2007.

## I. Overview

This report describes the revisions to the SIP as proposed for hearing; the final post-hearing text of the revised SIP; and a statement of the principal reasons in support of the CTDEP's revisions. The only comments were submitted by David B. Conroy of the U.S. Environmental Protection Agency (EPA) Region 1.

## II. Summary and Text of the Revisions as Proposed

The revisions are in two parts, one documenting the State of Connecticut 2002 Periodic Ozone and Carbon Monoxide Emissions Inventory, and the other describing how Connecticut will reach attainment of the 8-Hour Ozone NAAQS.

**Revision to State Implementation Plan for Incorporation of State of Connecticut 2002 Periodic Ozone and Carbon Monoxide Emissions Inventory**

The first proposed revision to the SIP consists of documentation of 2002 nitrogen oxide, volatile organic compound and carbon monoxide emissions inventory estimates for the Connecticut 8-hour ozone non-attainment areas as is required under Sections 172(c)(3) and 182(a)(3) of the CAA. The point, area and mobile source daily ozone emissions estimates are based on 8-hour ozone design temperatures and 2002 activity data.

**Revision to the State Implementation Plan for Attainment of the 8-Hour Ozone National Ambient Air Quality Standard**

The second SIP revision sets out Connecticut's plan for attaining the federal 8-hour national ambient air quality standard (NAAQS) for ground-level ozone as is required by Sections 172(b) and 182(b) of the CAA. The plan describes the national, regional and local control measures to be implemented to reduce emissions and uses air quality modeling and other analyses of air quality and meteorological data to assess the likelihood of reaching attainment in Connecticut by the June 2010 attainment deadline.

The CTDEP concludes that attainment is likely to be achieved by the end of the 2009 ozone season in the five-county Greater Connecticut portion of the state. For the three-county Southwest Connecticut portion of the greater New York City nonattainment area, evidence suggests that there is a credible case for reaching attainment by the end of the 2009 ozone season, with the probability of attainment increasing in subsequent years, as emissions are reduced, such that attainment is highly likely to occur no later than the 2012 ozone season. Because ozone levels in Connecticut are dominated by transport from upwind areas, attainment can be assured in 2009 through additional emission reductions from upwind states that contribute significantly to nonattainment in Connecticut.

## III. Principal Considerations in Support of the Proposed Revision

Adoption of this plan will improve the health of residents of the State. Firstly, the SIP revision adopts and incorporates the 2002 periodic ozone and carbon monoxide baseline inventory. Secondly, this SIP revision explains how Connecticut's two 8-hour ozone non-attainment areas will meet their reasonable further progress targets and will attain the 8-hour ozone NAAQS. It presents assurances that requirements for reasonably available control measures analysis requirements have been fulfilled, and that onroad vehicle emission budgets have been established to ensure that transportation plans conform to the SIP. These SIP revisions were developed pursuant to Sections 172(c)(3) and 182(a)(3) of the CAA for the baseline inventory and Sections 172(b) and 182(b) of the federal Clean Air Act (CAA), for the 8-hour ozone plan.

## IV. Principal Considerations in Opposition to the Proposed Revision

No opposing considerations were submitted.

## V. Summary of Comments

The only comments received were from David B. Conroy, Chief, Air Programs Branch, EPA Region 1, Boston, Massachusetts. They are divided into four areas:

- Modeling and Weight-of-Evidence;
- RFP, RACT, and RACM;
- Motor Vehicle Emissions Budgets; and
- 2002 Base Year Inventory.

All comments submitted are summarized below with the CTDEP's responses. When changes to the proposed text are indicated in response to comment, new text is in bold font and deleted text is in strikethrough font.

**Modeling and Weight-of-Evidence**

**1. Comment:** On page E-6, the second sentence of section E.3 should be revised to state that Connecticut has 11 ozone monitors, not 10.

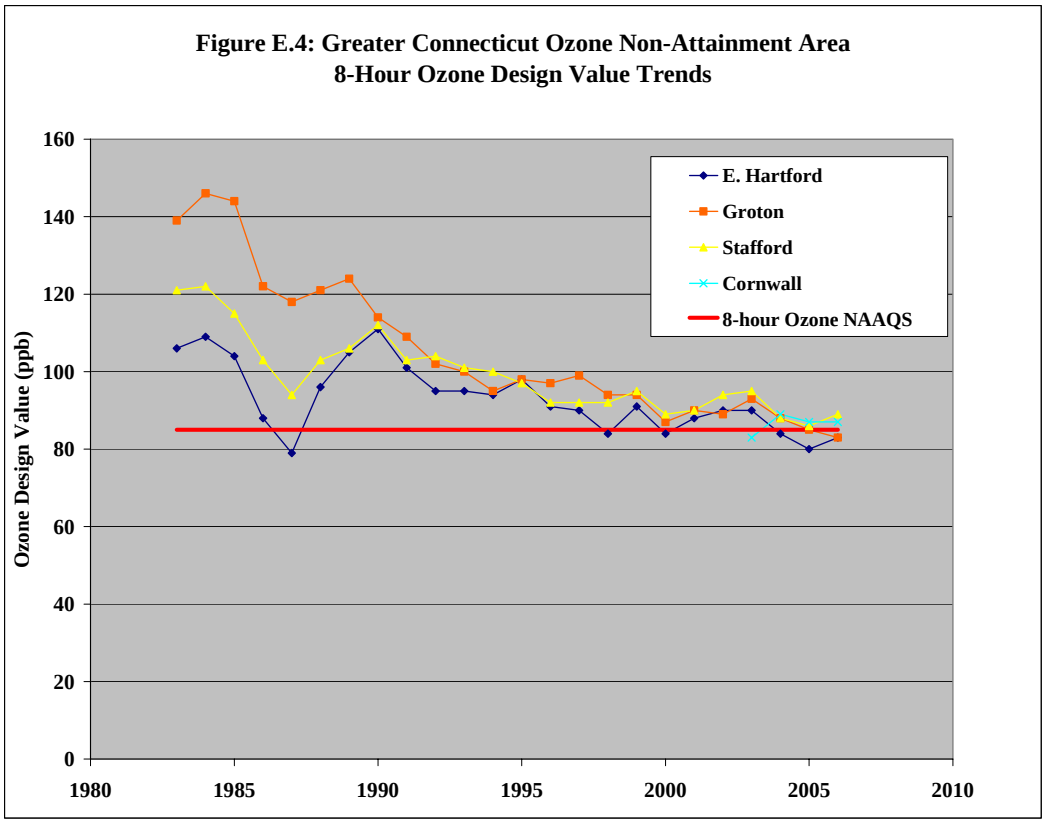
**Response:** CTDEP thanks EPA for bringing this discrepancy to our attention. The text for the first paragraph of Section E.3 will be modified as follows:

### E.3 Air Quality and Trends

> The CTDEP has been monitoring ambient ozone levels throughout the state since the early 1970s. The current network consists of the ~~ten~~ **eleven** sites depicted on the map in Figure E.3. In addition to ozone monitoring, since 1994 Connecticut has operated up to four Photochemical Assessment Monitoring Stations (PAMS) to collect ambient concentrations of volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NO and $NO_2$, which are collectively referred to as $NO_X$).

**2. Comment:** On page E-8, the term "8-hour ozone NAAQS" should be added to the key in Figure E.4 to identify the solid red line, as done in Figure E.5.

**Response:** The solid red line in Figure E.4 was inadvertently hidden in the key. The key will be enlarged so it is readable. This change will be repeated in Figure 3.1.1.1 in the main text of the document.




**3. Comment:** With regard to the text on page 8-12, EPA pointed out the difference between the EPA and CTDEP methods for determining a baseline design value, asserting that the CTDEP method leads to lower 2009 design value projections. "EPA strongly recommends that CTDEP follow the EPA modeling guidance and redo the projection year design values."

**Response:** EPA's modeling guidance makes the general recommendation that baseline design values be determined using the average of the three 8-hour ozone design values that straddle the baseline inventory year. This approach weights the 2002 4$^{th}$-high ozone value three times as much and the 2001 and 2003 4$^{th}$-high value twice as much as the 4$^{th}$-high value for 2000 and 2004. EPA points out that this method has the desired effect of weighting the projected ozone values towards the baseline emissions year of 2002. However, EPA's guidance also includes a footnote[1] cautioning that meteorological data should be evaluated to determine if "extreme" meteorological conditions have occurred during the period, especially during the middle year, which due to the weighting procedure could result in abnormally high or abnormally low concentrations depending on the nature of any extreme conditions.

Accordingly, as fully described in Section 8.4.2 (page 8-13) of the attainment demonstration SIP, CTDEP evaluated meteorological data from Bradley International Airport for the five-year period from 2000 through 2004 and concluded that summer temperatures in Connecticut,

[1] See footnote 15 on page 23 of EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze"; EPA-454/B-07-002; April 2007.

especially for the middle portion of that period, were extreme. Using the EPA's weighting procedure, the 5-year period ending in 2004 (i.e., with 2002 weighted three times) had the highest weighted number of 90+°F days for any 5-year period over the last 30 years. Furthermore, an examination of the middle years of the 5-year period, which are weighted more heavily based on the EPA method, revealed that the 2001 through 2003 period experienced the highest average number of 90+°F days over the 30-year period (i.e., 22 days, compared to the long-term average of 17 days).

Based on these findings, CTDEP concludes that EPA's recommended weighting method for determining baseline design values for modeling is not appropriate for Connecticut due to the extreme meteorological conditions that occurred during the middle years of the 5-year period. Instead, CTDEP's calculated baseline design values use the non-weighted 5-year average of 2000 through 2004 4$^{th}$-high ozone values. This simple averaging method more appropriately represents typical summer temperatures in Connecticut (i.e., 16 days of 90+°F days per year compared to the long-term average of 17 days), thereby providing more realistic baseline ozone design values for use in the modeling analysis[2].

**4. Comment:** On page 8-16 and elsewhere in the document, the monitoring values for the Connecticut portion of the greater New York nonattainment area are illustrated. EPA points out, however, "In order for EPA to approve an ozone attainment demonstration for the New York City nonattainment area, all monitors in the area must show attainment by 2009."

**Response:** As the downwind state in the New York City nonattainment area, CTDEP has not analyzed modeling results or conducted weight-of-evidence studies for monitors in the New Jersey or New York portions of the nonattainment area. However, both the New Jersey Department of Environmental Protection (NJDEP)[3] and the New York Department of Environmental Conservation (NYDEC)[4] have recently released ozone attainment demonstrations that include projected 2009 8-hour ozone levels for the upwind portions of the New York City nonattainment area.

NJDEP's proposed SIP includes a comprehensive discussion of attainment modeling results developed using EPA's general recommendations and including appropriate adjustments to account for deficiencies in how the CMAQ modeling accounts for ozone transport, uncertainties inherent in the modeling process, and quantitative estimates of ozone improvements expected due to control measures not included in the modeling.[5] NJDEP concluded, "the net result of applying this comprehensive multi-analysis approach to the photochemical modeling outputs is a plausible demonstration of attainment for the Northern New Jersey/New York/Connecticut 8-hour ozone nonattainment areas by 2010." NJDEP's attainment modeling results are summarized in the following table, excerpted from NJDEP's SIP document. The table also incorporates NJDEP's weight-of-evidence supporting analyses, which produce results consistent

[2] Use of CTDEP's weighting method produces baseline design values and 2009 projected design values 2 to 4 ppb less than those resulting from EPA's recommended method. For the controlling monitor in SWCT (i.e., Stratford), the 2009 projected design value is 87 ppb using CTDEP's method and 90 ppb using EPA's method. CTDEP's method avoids overweighting the extreme hot summers occurring during the middle years of the 2000-2004 period.
[3] NJDEP's final attainment demonstration SIP is available at: http://www.state.nj.us/dep/baqp/8hrsip/8hrsip.html.
[4] NYDEC's proposed attainment demonstration SIP is available at: http://www.dec.ny.gov/chemical/37012.html.
[5] NJDEP's attainment modeling results are documented in Section 5.3 of NJDEP's proposed SIP.

with NJDEP's conclusion of plausible attainment by 2010.

**Excerpt from NJDEP Final Attainment Demonstration SIP**

**Table 5.15: Summary of Attainment Modeling Results and Supporting Analyses**

| Site Name - County, State | Site Number | Starting Point | Attainment Modeling Results | | | Supporting Analyses | | | 2009 Modeled Results using Alternate Baseline and RRF and Taking Additional Quantifiable Measures Not Modeled into Account |
|---|---|---|---|---|---|---|---|---|---|
| | | 2009 Modeled Results ($DV_F$) (ppb) | 2009 Modeled Results Adjusted for Transport ($DV_{AT}$) (ppb) | Upper and Lower Bound of 2009 $DV_{AT}$ (ppb) | 2009 Modeled Results Adjusted for Transport and Taking Additional Quantifiable Measures Not Modeled into Account | 2009 Modeled Results ($DV_F$) (ppb) | 2009 Modeled Results using Alternate Baseline ($DV_{Falt}$) (ppb) | 2009 Modeled Results using Alternate Baseline and RRF ($DV_{Falt-rf}$) (ppb) | |
| **NNJ/NY/CT Nonattainment Area** | | | | | | | | | |
| Teaneck - BERGEN CO, NJ | 340030005 | 85 | 81 | 84 - 78 | 84 - 76 | 85 | 81 | **76** | 76 - 74 |
| Bayonne - HUDSON, NJ | 340170006 | 77 | 73 | **76** - 70 | 76 - 68 | 77 | 76 | **73** | 73 - 71 |
| Flemington - HUNTERDON, NJ | 340190001 | 83 | 76 | **79** - 73 | 79 - 71 | 83 | 82 | **82** | 82 - 80 |
| Rutgers Univ. - MIDDLESEX CO, NJ | 340230011 | 83 | 76 | **79** - 73 | 79 - 71 | 83 | 82 | **82** | 82 - 80 |
| Monmouth Univ. - MONMOUTH CO, NJ | 340250005 | 84 | 78 | **81** - 75 | 81 - 73 | 84 | 82 | **82** | 82 - 80 |
| Chester - MORRIS CO, NJ | 340273001 | 84 | 78 | **81** - 75 | 81 - 73 | 84 | 81 | **80** | 80 - 78 |
| Ramapo - PASSAIC CO, NJ | 340315001 | 77 | 72 | **75** - 69 | 75 - 67 | 77 | 75 | **73** | 73 - 71 |
| Botanical Garden - BRONX CO, NY | 360050083 | 78 | 75 | **78** - 72 | 78 - 70 | 78 | 74 | **69** | 69 - 67 |
| Queens College - QUEENS CO, NY | 360810124 | 74 | 69 | **72** - 66 | 72 - 64 | 74 | 74 | **73** | 73 - 71 |
| Susan Wagner - RICHMOND CO, NY | 360850067 | 84 | 79 | **82** - 76 | 82 - 74 | 84 | 82 | **79** | 79 - 77 |
| Babylon - SUFFOLK CO, NY | 361030002 | 85 | 80 | **83** - 77 | 83 - 75 | 85 | 82 | **78** | 78 - 76 |
| Holtsville - SUFFOLK CO, NY | 361030009 | 89 | 85 | **88** - 81 | 88 - 79 | 89 | 87 | **82** | 82 - 80 |
| Riverhead - SUFFOLK CO, NY | 361030004 | 74 | 69 | **72** - 66 | 72 - 64 | 74 | 72 | **70** | 70 - 68 |
| White Plains - WESTCHESTER CO, NY | 361192004 | 85 | 81 | **84** - 78 | 84 - 76 | 85 | 82 | **76** | 76 - 74 |
| Danbury - FAIRFIELD CO, CT | 90011123 | 85 | 79 | **82** - 76 | 82 - 74 | 85 | 83 | **81** | 81 - 79 |
| Greenwich - FAIRFIELD CO, CT | 90010017 | 87 | 82 | **85** - 79 | 85 - 77 | 87 | 83 | **79** | 79 - 77 |
| Stratford - FAIRFIELD CO, CT | 90013007 | 90 | 85 | **88** - 82 | 88 - 80 | 90 | 87 | **83** | 83 - 81 |
| Westport - FAIRFIELD CO, CT | 90019003 | 85 | 80 | **83** - 77 | 83 - 75 | 85 | 82 | **79** | 79 - 77 |
| Middletown - MIDDLESEX CO, CT | 90070007 | 84 | 78 | **81** - 75 | 81 - 73 | 84 | 82 | **81** | 81 - 79 |
| Hamden - NEW HAVEN CO, CT | 90099005 | 85 | 80 | **83** - 77 | 83 - 75 | 85 | 84 | **81** | 81 - 79 |
| Madison - NEW HAVEN CO, CT | 90093002 | 88 | 82 | **85** - 79 | 85 - 77 | 88 | 85 | **82** | 82 - 80 |

**5. Comment:** EPA questions CTDEP's reference to the University of Maryland "black out" study on page 8-21, stating that the results may not be applicable as far north as Connecticut.

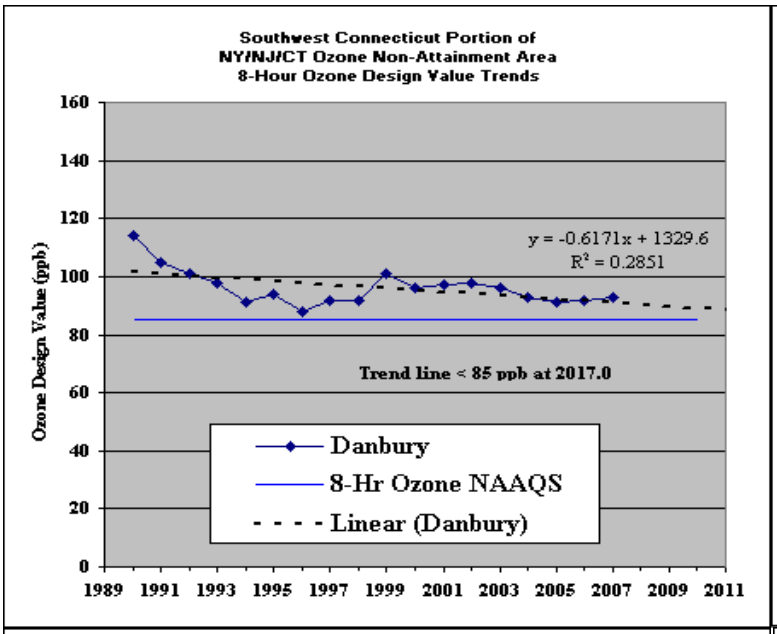
**Response:** CTDEP looks forward to reviewing EPA's upcoming critique of the University of Maryland's (UMD) research regarding the 2003 Northeast electricity blackout. Since the airborne measurements from UMD's study are from the Mid-Atlantic states, CTDEP acknowledges that associated conclusions regarding the magnitude of discrepancies between observations and CMAQ modeled results would apply most readily to that area. Nonetheless, since Connecticut is subject to significant ozone transport from the Mid-Atlantic states, any shortcomings of the CMAQ model occurring in that area would likely impact modeled values downwind in Connecticut. It should be noted that, unlike several Mid-Atlantic states submitting 8-hour ozone SIPs, CTDEP has not quantitatively adjusted 2009 projected design values to account for the potential inadequacies of the CMAQ model, choosing instead to discuss the concern qualitatively as part of the weight-of-evidence argument.

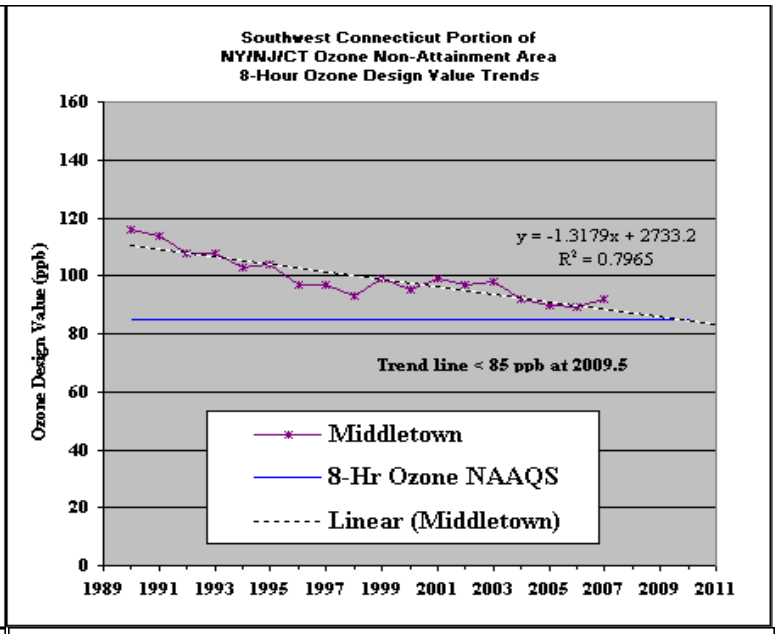
**6. Comment:** EPA recommends that on page 8-25, in Figure 8.5.2.1, CTDEP add a least-square, linear-fit trend line to the chart. "Please start in 1990 and exclude the New Haven ozone data since the New Haven monitor is missing a few years of data. If possible, show when this trend line falls below 85 ppb, and give the slope of the trend line in ppb/year."

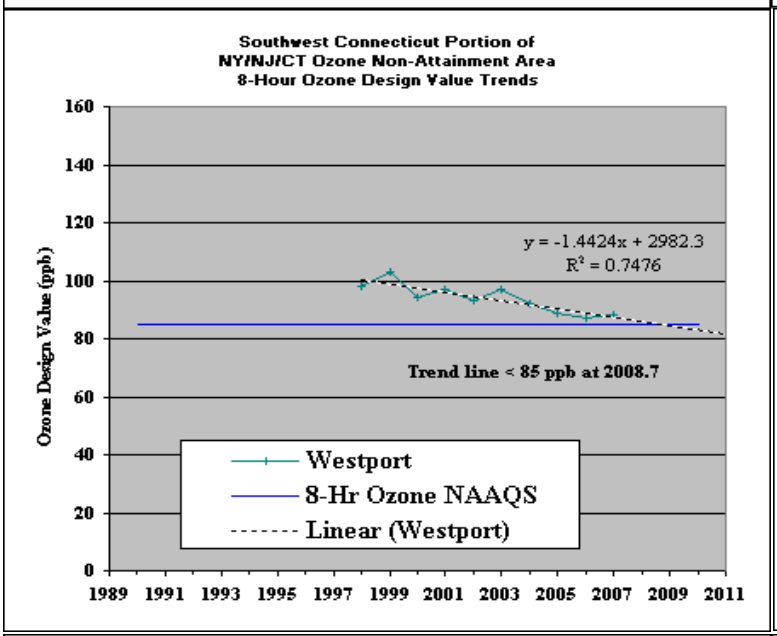
**Response:** As requested, individual trend lines are provided below for all sites except New Haven, using data from 1990 through 2007[6]. The extrapolated trend lines indicate that all sites except Danbury are projected to achieve design values less than 85 ppb by no later than the 2009/2010 timeframe. For the Danbury site, recent leveling off in the downward design value trend results in a projected 2017 date for achieving a design value less than 85 ppb. It is interesting to note that the CMAQ modeling for the Danbury site projects that the 2009 design value will be 83 ppb, in compliance with the 8-hour NAAQS.

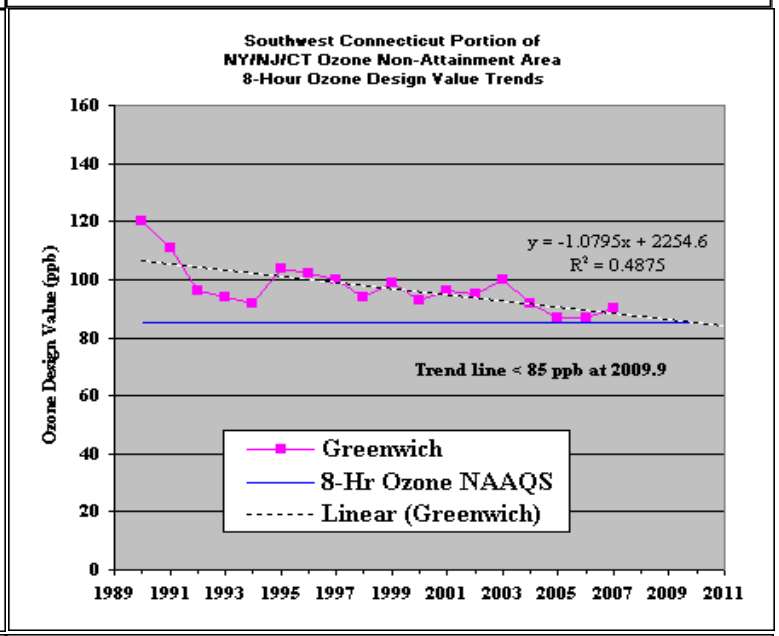
[6] 2007 ozone data are preliminary.

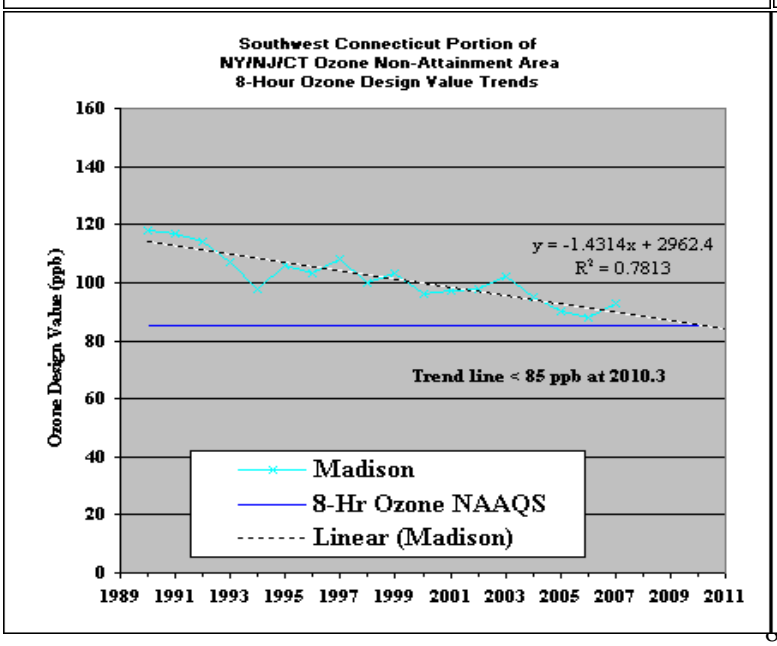
Supplement to Figure 8.5.2.1
8-Hour Ozone Design Value Trends in Southwest Connecticut

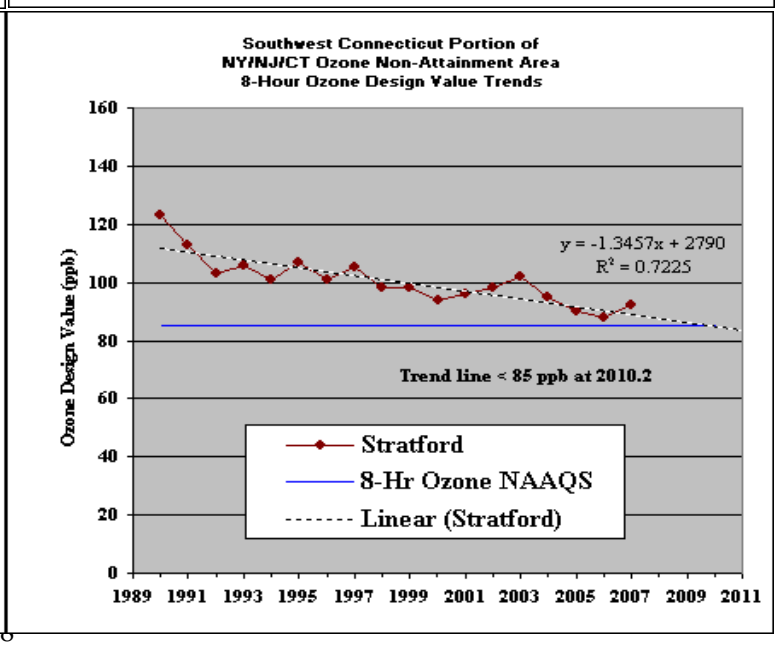


**7. Comment:** EPA strongly recommends that CTDEP repeat the analysis shown in Figure 8.5.2.3 and Table 8.5.2.2.1 using preliminary ozone data from 2007 instead of the actual 2006 design values. EPA includes the following table, showing preliminary 2007 data through August 13, 2007, and concludes that the preliminary data from 2007 "calls into question the conclusion that the Connecticut portion of the New York City area is on track to reach attainment in 2009."

| CT Portion of the New York City Nonattainment Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2004 | | 2005 | | 2006 | | 2007 | | Prelim. |
| Monitor | Exc. | 4th high (ppb) | Exc. | 4th high (ppb) | Exc. | 4th high (ppb) | Exc. | 4th high (ppb) | 2005-2007 Design Value |
| DANBURY | 4 | 86 | 11 | 104 | 4 | 87 | 7 | 89 | 93 |
| GREENWICH | 1 | 75 | 8 | 89 | 5 | 97 | 3 | 80 | 88 |
| STRATFORD | 2 | 81 | 8 | 90 | 7 | 95 | 7 | 92 | 92 |
| MADISON | 2 | 77 | 8 | 92 | 6 | 95 | 6 | 93 | 93 |
| MIDDLETOWN | 1 | 82 | 7 | 96 | 5 | 89 | 7 | 93 | 92 |

**Response:** As indicated by EPA, the 2007 summer season was hotter and, therefore, more conducive to ozone formation than was the 2004 summer season. As a result, 2007 design values (developed from 2005-2007 data) are generally higher than 2006 design values (developed from 2004-2006 data). When the 2007 data are incorporated into the monitored rate-of-progress calculations of Figure 8.5.2.3 (as updated below), progress achieved by 2007 is 4 ppb behind the 2007 target level. Based on continuation of the average rate of improvement in measured design values between 2003 and 2007 (i.e., 2 ppb), attainment of the NAAQS would occur in the 2012 timeframe.

**Updated Figure 8.5.2.3**
**Measured Improvement in Design Values Compared to Rate-of-Progress Needed to be On-Target for 2009 Attainment**

1) **Base Year (2003)**: Design Value = 102 ppb (measured in Stratford and Madison, CT)

2) **Target Year (2009) Goal:** Design Value ≤ 85 ppb

3) **Desired Rate-of-Progress to Meet Target (assumes even rate):**
   2009 – 2003 = 6 years
   102 ppb - 84 ppb = 18 ppb
   18 ppb/6 years = 3 ppb/year

4) **Goal for 2007:**
   2007-2003 = 4 years
   3 ppb/year x 4 years = 12 ppb (ozone improvement goal)
   102 ppb - 12 ppb = 90 ppb (ozone design value goal for 2007)

5) **Status for 2007:** Highest measured design value = 94 ppb (measured in Danbury, CT)

6) **Conclusion:** Monitored rate-of-progress is slightly more than one year (i.e., 4 ppb) short of the 2007 target level. Extrapolating the rate of improvement realized between 2003 and 2009 (i.e., 2 ppb/year), attainment of the 8-hour ozone NAAQS would occur in the 2012 timeframe.

Incorporating the 2007 ozone data into Table 8.5.2.2.1 (as updated below) reveals that measured 2007 design values at key monitoring locations exceed interpolated CMAQ modeling results for 2007, raising concerns that attainment levels will be difficult to achieve at those key monitors by 2009.

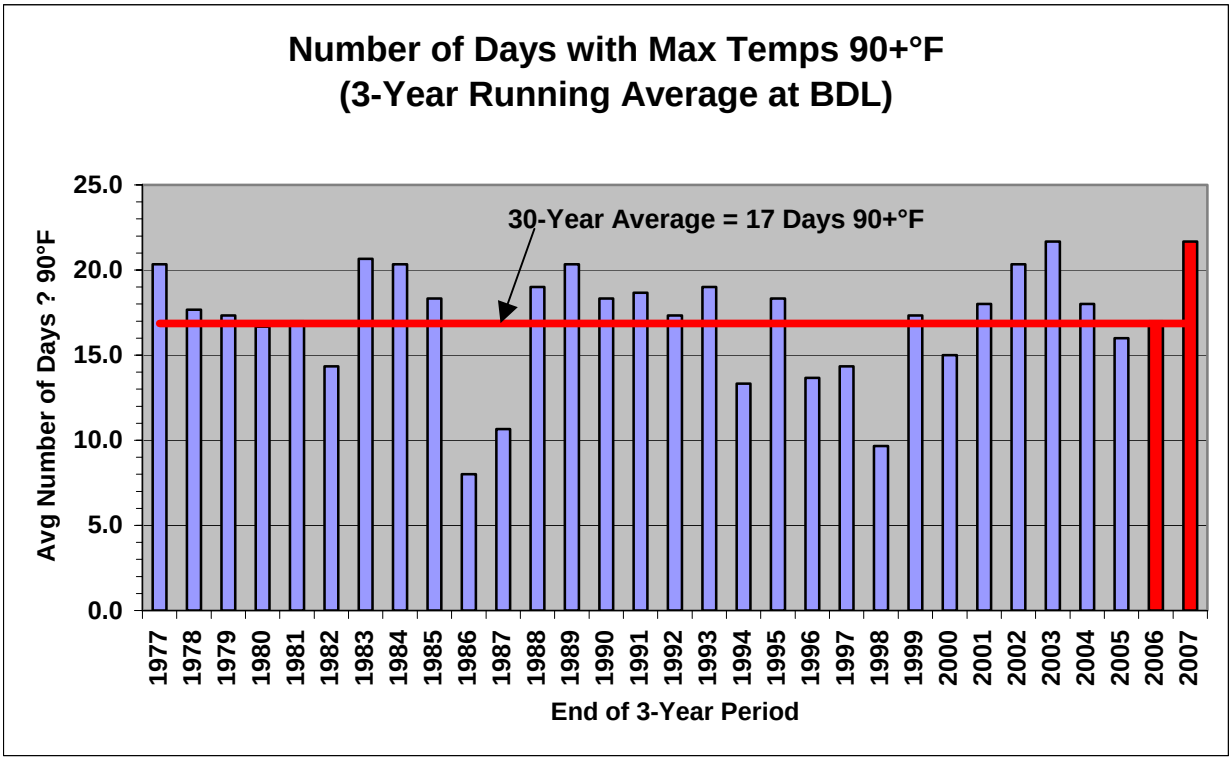
**Updated Table 8.5.2.2.1**
**Comparison of 2007 Actual Design Values to CMAQ Interpolated Results**

| Key SWCT Monitors | *CTDEP* DVb (ppb) | 2009 CMAQ BOTW DVf (ppb) | Interpolated 2007 CMAQ DV (ppb) | Actual 2007 DV (ppb) | Are Measured Design Values Ahead or Behind Model Predictions? |
|---|---|---|---|---|---|
| Stratford | 95.4 | 87.7 | 89.9 | 92 | Behind |
| Madison | 94.4 | 85.4 | 88.0 | 93 | Behind |
| Hamden | 93.8 | 85.5 | 87.9 | *na* | *na* |
| Danbury | 93.2 | 83.6 | 86.3 | 94 | Behind |

*na* – not applicable (The Hamden monitor was moved to New Haven in 2004. The 2007 design value in New Haven was 80 ppb.)

It is not unexpected that the inclusion of the 2007 data leads to different results than reached previously. As emission control programs have resulted in improvements in design values that

are now approaching the level of the NAAQS, year-to-year variations in meteorology are becoming a major factor in determining when the area will first achieve attainment. An updated version of Figure 8.4.2.2 (see below), with the 2007 season included, shows that the three-year period representative of 2007 design values (i.e., 2005-2007) averaged 21 days with 90+°F temperatures, tied for the hottest three-year period over the last 30 years. The extreme temperatures over the period contributed to the upturn in 2007 design values compared to the 2006 design value period (i.e., 2004-2006), which represents a "normal" period of 90+°F days (i.e., averaging 17 90+°F days).




As discussed in Section 8.5.3 of the attainment demonstration, when projected emission reductions are considered, the prospects for attainment in 2009 in Southwest Connecticut are largely dependent on the occurrence of cooler than normal summers in 2008 and/or 2009. Summers with less than 10 days of 90+°F temperatures occur, based on the 30-year average, about once every four years, with the most recent "cool" years being 2000 and 2004. In 2004, all monitors except Danbury recorded 4$^{th}$-high ozone levels less than the 8-hour NAAQS of 85 ppb (Danbury was 86 ppb), indicating that attainment levels can be achieved in Southwest Connecticut. Based on the statistical frequency of "cool" summers, there appears to be a reasonable chance that Connecticut could have another cool summer by 2009, raising the possibility that attainment could be achieved or that the area could qualify for an extension under Section 181(a)(5) of the Clean Air Act, as described in Section 8.5.4 of the attainment demonstration.

**RFP, RACT, and RACM**

**8. Comment:** With regard to Tables 4.2.2 and 4.3.2, which list post 2002 control measures and projections for resulting emissions reductions, EPA points out that some of the measures have not yet been adopted. "Connecticut will need to adopt, and submit to EPA as a SIP revision, all measures for which the State is seeking emission reduction credit, in order for EPA to approve Connecticut's attainment demonstration and reasonable further progress (RFP) SIP revisions."

**Response:** CTDEP continues to make progress in the adoption process for the seven outstanding post-2002 control measures listed in Table 4.2.2 of the attainment demonstration SIP. As depicted in an updated version of the table, provided below, rule adoption is now complete for consumer products (22a-174-40), architectural/industrial maintenance coatings (22a-174-41), solvent cleaning (22a-174-20(*l*), and the Clean Air Interstate Rule NOx trading program (22a-174-22c). Revisions to the $NO_X$ regulation affecting ICI boilers (22a-174-22) and the asphalt paving regulation (22a-174-20(k)) have been through the hearing process and are expected to be finalized within the next several months. The proposed regulation for adhesives and sealants (22a-174-44) is also progressing, with a public hearing that took place on October 16, 2007. The four regulations that have been fully processed and adopted are being submitted with this attainment plan. Adopted versions of the regulations still in progress will be submitted to EPA for inclusion in the ozone SIP as they become available. The updated table will be included in the final attainment demonstration document.

**Updated Table 4.2.2**
**Connecticut's Post-2002 Control Measures Included in Future Year Projections**

| Control Measure | Pollutant | Section of the Regulations of Connecticut State Agencies | Status of Regulation Adoption | Date Requirements Apply to Create Emissions Reductions |
|---|---|---|---|---|
| **VOC Content Limits for Consumer Products** | VOC | 22a-174-40 | Adoption completed July 26, 2007 | January 1, 2009 |
| **Design Improvements for Portable Fuel Containers (1) and (2)** | VOC | 22a-174-43 | Initial rule adopted May 10, 2004; amendment adopted January 29, 2007 | 1) Initial rule: May 1, 2004<br>2) Amendment: July 1, 2007 |
| **VOC Content Limits for Architectural and Industrial Maintenance (AIM) Coatings** | VOC | 22a-174-41 | Adoption completed July 26, 2007 | May 1, 2008 |
| **Restrictions on Asphalt in Paving Operations** | VOC | 22a-174-20(k) | Public hearing held May 1, 2007 | May 1, 2008 (per proposed rule) |
| **Restrictions on the Manufacture and Use of Adhesives and Sealants** | VOC | 22a-174-44 | Public hearing held October 16, 2007 | January 1, 2009 (per proposed rule) |
| **Automotive refinishing operations** | VOC | 22a-174-3b(d) | Adoption of amendment completed on April 4, 2006 | April 4, 2006 |
| **Stage II Vapor Recovery – Gasoline Service Station Pressure Vent Valves** | VOC | 22a-174-30 | Adoption of amendment completed on May 10, 2004 | May 10, 2005 |
| **Reduced Vapor Pressure Limitation for Solvent Cleaning** | VOC | 22a-174-20(*l*) | Adoption completed July 26, 2007 | May 1, 2008 |
| **Standards for Municipal Waste Combustion** | $NO_X$ | 22a-174-38 | Adoption of amendment completed October 26, 2000 | May 1, 2003 |
| **$NO_X$ Reductions from Industrial, Commercial and Institutional (ICI) Boilers** | $NO_X$ | 22a-174-22 | Public hearing held October 19, 2006 | May 1, 2009 (per proposed rule) |
| **CAIR $NO_X$ Ozone Season Trading Program** | $NO_X$ | 22a-174-22c | Adoption completed September 4, 2007 | May 1, 2009 |

**9. Comment:** EPA mentions some recent VOC RACT orders, submitted to EPA as SIP revisions on July 20, 2007, that were omitted from the discussion on page 6-2. EPA reminds CTDEP that, in order to fulfill its RACT obligation, Connecticut must also submit an additional group of VOC RACT orders that EPA understands to be going to notice in the near future.

**Response:** VOC RACT orders for Curtis Packaging, Sumitomo Bakelite and Cyro Industries were submitted to EPA as a SIP revision on July 20, 2007. Three remaining orders, with Stone Container Corporation, Hamilton Sundstrand and Cytec Industries, are expected to be completed and submitted to EPA as SIP revisions within the next several months.

**10. Comment:** With regard to the RACM analyses performed by the Ozone Transport Commission (OTC), EPA recommends that the OTC files be included as an appendix to the attainment demonstration. EPA makes additional suggestions that the attainment demonstration include VOC and $NO_X$ reductions expected in Connecticut from the OTC RACM measures and what the OTC modeling shows in terms of ozone reduction in the New York City and Greater Connecticut nonattainment areas.

**Response:** The OTC control measures Technical Support Document (TSD) will be added as Appendix 6B to the attainment demonstration. The TSD includes a full description of the regional process conducted by the OTC states to identify and narrow down the list of potential control measures to those recommended by the OTC Commissioners. As a result of that process, CTDEP is committed to pursue adoption and implementation of the additional control strategies listed in Table 4.2.2 (the status of which are updated above). Estimated emission reductions from this group of measures (as well as emission reductions from federal measures) are summarized in Table 4.3.2 of the attainment demonstration document. Modeling conducted for the OTC by the NYDEC indicates that regional implementation of the OTC measures will result in ozone improvements in Connecticut of 1 ppb or less in 2009. Although the group of measures is not projected to advance Connecticut's attainment date by one year or more, CTDEP is moving ahead with adoption and implementation as part of its commitment to pursue cost-effective controls on a regional basis.

**Motor Vehicle Emissions Budgets**

**11. Comment:** EPA observes that CTDEP is assuming credit for its revised Inspection and Maintenance (I&M) program, including an OBD-II component that was never submitted to EPA as a SIP revision. CTDEP is obligated to submit this program before it can take credit for the emissions reductions. The status of the ASM tailpipe test and the evaporative gas cap test must also be addressed to demonstrate that Connecticut is not backsliding from its previously approved I&M program.

**Response:** Connecticut's draft SIP revision for its revised I&M program, including the OBD-II component, was the subject of a public hearing on October 17, 2007. CTDEP submitted the final SIP revision to package to EPA on December 19, 2007.. In regards to the status of the ASM tailpipe test and evaporative gas cap check for pre-1996 model year vehicles, the MOBILE6.2 emissions modeling for the attainment demonstration SIP does include those components in the I/M program. Unfortunately, the last page of Appendix 4A to the attainment demonstration

document was inadvertently left out of the package. That page contains the remainder of the I/M input file used for 2008, 2009 and 2012 emission estimates, including input information for the ASM tailpipe test and gas cap test. An updated version of Appendix 4A has been included with the final attainment demonstration document. CTDEP appreciates EPA's thoroughness in noticing this omission.

**12. Comment:** EPA asks that CTDEP make it clear that it is or is not claiming credit for the CALEV2 program. If Connecticut is to claim credit for this program, it must be submitted to EPA as a SIP revision.

**Response:** CTDEP does not intend, at this point, to take credit for the CALEV2 program in either the RFP or attainment demonstration emission projections. The text of Section 4 (i.e., in Table 4.2.1.1 and on page 4-12) of the attainment demonstration SIP document will be revised to clearly indicate this fact.

**13. Comment:** On Page 7-3, in the third paragraph of Section 7.1.1, CTDEP should revise the discussion to indicate that SAFETEA-LU changed the Conformity SIP requirements, not SAFETEA. The discussion and footnote should be revised as follows:

> "The Safe, Accountable, Flexible, Efficient Transportation Equity Act ~~of 2003 (SAFETEA)[3]~~ : A Legacy for Users (SAFETEA-LU)[3] revised the CAA conformity SIP requirements in order to use state and local resources more efficiently.
>
> [3]~~PL 108-88, Sept. 24, 2003.~~
> [3]PL 109-59, August 10, 2005; (Section 6011)**.**"

**Response:** CTDEP thanks EPA for the correction. As shown below, Section 7.1.1 will be revised as suggested:

> The Safe, Accountable, Flexible, Efficient Transportation Equity Act**: A Legacy for Users (SAFETEA-LU)[3]** ~~of 2003 (SAFETEA)[3]~~ revised the CAA conformity SIP requirements in order to use state and local resources more efficiently.
>
> [3]~~PL 108-88, Sept. 24, 2003.~~**PL 109-59, August 10, 2005; (Section 6011).**

**14. Comment:** In the last paragraph on page 7-4. CTDEP should revise the discussion on the use of approved 1-hour ozone motor vehicle emissions budgets to determine 8-hour ozone conformity as follows:

> "In areas, such as Connecticut, that were classified with statewide nonattainment for both the 1-hour and 8-hour NAAQS, EPA's guidance requires that ~~interim 8-hour~~existing SIP-approved 1-hour ozone conformity budget levels be reallocated to follow the new boundaries of the 8-hour nonattainment areas. Table 7.2.1 shows the resulting ~~8~~1-hour ~~interim~~ budgets for Connecticut, which will continue to be used by CTDOT and the

MPOs to determine conformity until EPA ~~issues a ruling supplanting them with the final~~ determines the 8-hour budgets listed in Section 7.3 adequate or approved into the Connecticut SIP."

**Response:** CTDEP appreciates the clarification and will revise Section 7.2 as requested by EPA. In addition, the title of Table 7.2.1 will be revised to reflect the clarification. These changes are shown below:

> EPA issued guidance[7] specifying conformity procedures to be followed during the interim period between revocation of the 1-hour ozone NAAQS in June 2005 and the establishment of new 8-hour ozone budgets as part of the current 8-hour ozone planning process. In areas, such as Connecticut, that were classified with statewide nonattainment for both the 1-hour and 8-hour NAAQS, EPA's guidance requires that **existing SIP-approved 1-hour ozone** conformity budget levels be reallocated to follow the new boundaries of the 8-hour nonattainment areas. Table 7.2.1 shows the resulting ~~8~~**1**-hour ~~interim~~ budgets for Connecticut, which will continue to be used by CTDOT and the MPOs to determine conformity until EPA ~~issues a ruling supplanting them with the final~~ **determines the** 8-hour budgets listed in Section 7.3 **are adequate or approved into the Connecticut SIP**.

**Table 7.2: ~~Interim Eight~~Reallocated 1-Hour Ozone Nonattainment MVEBs for 2007**
**~~(Based on reallocated 1-Hour Ozone Nonattainment MVEBs for 2007)~~**

| Area | VOC (tons per summer day) | $NO_X$ (tons per summer day) |
|---|---|---|
| SWCT Portion of NY/NJ/CT | 34.6 | 66.5 |
| Greater Connecticut | 33.7 | 61.6 |
| Reallocated Statewide Total | 68.3 | 128.1 |

**15. Comment:** EPA requests that all MOBILE6.2 input files and external files used by the MOBILE6.2 program to generate Connecticut's mobile source emission factors be submitted electronically to EPA New England with the final SIP package. These files can be provided via CD, e-mail, or on an FTP site for downloading.

**Response:** All MOBILE6.2 files are included as part of Appendix 4A of the attainment demonstration document. In addition, the files will be provided to EPA on a CD with the final SIP submission.

**2002 Base Year Inventory**

**16. Comment:** EPA previously reviewed and commented on CTDEP's 2002 emissions inventory, and the State responded adequately to those comments and finalized the inventory in December of 2005. Since that time, updates were made to the inventory to take advantage of

[7] Memo from Donald Cooke (EPA New England Region) to Paul Bodner (CTDEP); "What Scenarios Apply in Connecticut and What 8-hour Conformity Test(s) Will Be Used ?"; December 6, 2004.

improved guidance for the on-road and off-road mobile sectors, and to several area source categories. EPA concurs with these updates to Connecticut's 2002 inventory.

**Response:** CTDEP thanks EPA for its additional review and concurrence with this material.

## VI. Final Text of Proposed SIP Revision

The final text of the proposed SIP revision is located in the beginning of this submission, directly behind the cover letter to Robert W. Varney.

## VII. Conclusion

I recommend the final text of the Connecticut State Implementation Plan Revision to document the 2002 Nitrogen Oxide, Volatile Organic Compound and Carbon Monoxide Emissions Inventory and to demonstrate that Connecticut will attain the 8-Hour Ozone NAAQS be submitted to EPA for approval as a revision to the Connecticut SIP for air quality.

Patrice P. Kelly
Hearing Officer

January 29, 2008
Date