Greater Connecticut Attainment Demonstration

Draft for Hearing

11/10/16
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Attainment Demonstration

What is an attainment demonstration?

1. A Clean Air Act Requirement.

2. A set of analyses, budgets, strategies and contingency plans which “demonstrate” that an area currently measuring air quality above the standard will measure (or “attain”) levels below the standard by the given deadline.
When is it required?

When an ozone nonattainment area is classified as moderate severity or higher.

*CAA § 182(b)*

Specific to Connecticut–

On June 3, 2016 the two nonattainment areas were reclassified from marginal to moderate. In the ruling, EPA also set an attainment deadline of July 18, 2018 and an attainment demonstration deadline of January 1, 2017.
The Greater Connecticut Attainment Demonstration is the first of two we are currently working on. It covers the 5 counties to the North and East: Litchfield, Hartford, Tolland, Windham and New London.
The Required Elements

- Conceptual Model—A description/analysis of the problem.
- Base and Future Year Inventories (2011 and 2017)
- Reasonable Further Progress Goals and Demonstration (15% Emissions Reduction by 2017)
- Reasonably Available Control Technology/Reasonably Available Control Measure (RACT/RACM) Analysis
- Photochemical Modeling Demonstration
- Transportation Conformity -> Motor Vehicle Budgets
- Contingency Plans (Additional 3% emissions reductions required if an area fails to meet RFP goals or if an area fails to attain)
The Conceptual Model

Three Types of Greater Connecticut Exceedances:

- Inland
- Coastal
- Statewide
Base and Future Year

Emissions for the Greater Connecticut Area will have large reductions between 2011 and 2017. These reductions are driven primarily by the mobile sector.

In excess of the required RFP (15%), thus the RFP requirement is fulfilled.
Motor Vehicle Emissions Budgets

In addition to the attainment demonstration for the Greater Connecticut area, the agency is submitting motor vehicle emissions budgets (MVEBs) for the southwestern portion of the state.

Why-

1. For consistency when DOT evaluates their projects.
2. Update the Budgets. Establish more stringent limits on transportation planning while the SWCT attainment plan is prepared.
## Motor Vehicle Emissions Budgets

### Greater Connecticut Budgets

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>2017 MVEB (tons per ozone season day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>15.9</td>
</tr>
<tr>
<td>NOx</td>
<td>22.2</td>
</tr>
</tbody>
</table>

### Southwest Connecticut Budgets

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>2017 MVEB (tons per ozone season day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>17.6</td>
</tr>
<tr>
<td>NOx</td>
<td>24.6</td>
</tr>
</tbody>
</table>
# Strategies and Controls that get us there..

## On-Road:
- Tier 1 Vehicle Standards
- Reformulated Gasoline
- On-Board Vapor Refueling
- National Low Emission Vehicle Program
- Tier 2 MV Controls/30 ppm Sulfur Gasoline
- Heavy-Duty Diesel Vehicle Controls and Fuels
- CT OBD-II Enhance I/M Program
- 2007 High Motorcycle Emissions standards
- CT LEV2
- CT LEV3
- Tier 3 Vehicle Standards

## Non-Road:
- Compression Ignition Diesel Engines Tier 1-4
- Spark Ignition Engines
  - Phase I SI Engines <25HP
  - Phase II Non- Handheld SI Engines
  - Phase II Handheld SI Engines
  - Gasoline SI Marine Engines
  - Large Spark Engines
  - Rec. Land Based Spark Engines
- Marine Diesel
  - APPS
  - Commercial Marine Vehicles
  - Recreational Equipment
  - Marine Diesel Engines
  - Spark engines
- Locomotives
  - New and Remanufactured Locomotives
  - Non-Road Diesel Fuel
  - Aircraft 1-3

## Stationary and Area:
- CSAPR (Upwind areas- Does not apply to CT)
- RICE NESHAP
- ICI Boilers and Process Heater MACT
- Mercury and Air Toxics Standards
- Portable Fuel Container Rule
- Metal Furniture Coating
- Paper Film and Foil Coating
- Flexible Package Printing
- Offset Lithographic and Letter Press Printing
- Large Appliance Coating
- Industrial Solvent Cleaning
- Spray application equipment cleaning
- Mic Metal and Plastics Parts Coating
- Pleasure Craft Coating
- Above ground Storage Tanks
- Stage I
- Sulfur Limits for heating oil
Additional Strategies/Controls...

..not accounted for in the modeling but will aide in ensuring we get to attainment.

- MWC
- Architectural Coatings
- Control of NOx from major sources (22e and 22f)
- Electric Vehicle MOU
- Consumer Products
- CSAPR Update from upwind states
- CSAPR Full Remedy?
Modeling indicates attainment

*Greater Connecticut Projected Design Values With Differing Models and Inputs*

- NY, CMAQ, ERTAC 2.4, BEIS 3.61
- MD, CAMX, ERTAC 2.4, BEIS 3.6
- MD, CAMX, ERTAC 2.4, BEIS 3.61
- EPA, CAMX, IPM 5.15, BEIS 3.61*

![Graph showing projected design values with different models and inputs for East Hartford, Cornwall, Stafford, and Groton.](image-url)

*2017 DVs

Connecticut Department of Energy and Environmental Protection
The Monitoring/Ground Truth

For the Greater Connecticut Area the analyses indicated that it is likely the Greater Connecticut Area will attain the standard in the 2017 ozone season.
What we need in 2017 to attain 75 ppb

<table>
<thead>
<tr>
<th>Site</th>
<th>Maximum 4th High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornwall</td>
<td>73</td>
</tr>
<tr>
<td>East Hartford</td>
<td>77</td>
</tr>
<tr>
<td>Groton Fort Griswold</td>
<td>75</td>
</tr>
<tr>
<td>Stafford</td>
<td>83</td>
</tr>
<tr>
<td>Abington (CASTNET)</td>
<td>89</td>
</tr>
</tbody>
</table>
Are we likely to see those needed values?

Solid line = Trend we have seen

Range we need in 2017
Are we likely to see those needed values?

Groton Fourth High Ozone Concentrations:
- Solid line = Trend we have seen
- Range we need in 2017

Stafford Fourth High Ozone Concentrations:
- Range we need in 2017
Comments and Hearing

Comments must be received by November 28\textsuperscript{th}, 2016 5:00 PM.

Mail to: Kate Knight
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Email to: Kathleen.Knight@ct.gov

A hearing will be held here at DEEP in the Holcombe Room November 28, 2016 at 1:00 PM
Stay tuned for the NY-NJ-CT Attainment Plan

What is an equitable share of the reductions needed?
Questions?

Enter Name
Enter Title
Enter Email
Enter Phone
Enter Web site if desired