

Overview of the Presentation

- CTDEP Draft Ambient Impact Analyses Guideline March 12, 2009
- A quick overview of the revisions to the Ambient Impact Analysis Guideline
- Document available on SIPRAC and DEP webpage for review and comment

Why The Revision-Its About Time!!

Part of implementing DEP's LEAN program

- DEP's user friendly modeling web page (background, meteorological & inventory data bases)
- Streamline the permit modeling review process (i.e. FOIA eliminated)

CTDEP's Ambient Impact Analyses Guideline

Revisions

- CT's Ambient Impact Analysis Guideline is a summary of EPA's Appendix W, Guideline On Air Quality Models (2005)
- AERMOD replaces ISCST3 & PTMTPA-CONN
- Recently available ASOS met sites ('03-07')
- Incorporate DEP'S new interim PM_{2.5} NSR modeling procedures
- Background data available on CTDEP's website, including CO
- Links to EPA's SCRAM site (models, guidance, met)

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Air Quality Modeling

Background on Air Quality Modeling:

The Clean Air Act – as amended in 1977 – mandated that air quality modeling be used as a tool to assess compliance with certain provisions of the Act. These provisions include attainment and maintenance of national Ambient Air Quality Standards and prevention of significant deterioration of air quality.

What is Air Quality Modeling?

Air quality models use mathematical techniques to simulate the physical and chemical processes that affect air pollutants as they scatter throughout the atmosphere. Based on inputs of meteorological data and source information, these models are designed to characterize both primary and secondary pollutants that are either emitted into the atmosphere or are formed as a result of complex chemical reactions within the atmosphere. Monitoring of air quality, on the other hand, is normally only performed at a fixed location for a limited duration. Modeling, therefore, complements monitoring by filling in information gaps in space and time.

What is the purpose of Air Quality Modeling?

Air Quality Modeling is used to assess the impact of air pollution from stationary sources. The Connecticut Regulations for the Abatement of Air Pollution require stationary sources of air pollution to be registered through the DEP, so Modeling is also the way to obtain a Permit to construct new sources or to modify existing sources. Air Quality Models can help in determining the needed controls to bring a source to attainment standards as well.

Further information:

[EPA Air Quality Modeling Information](#)

[Air Quality Modeling Guidance](#) <= This link will lead to Guidance Page
now in draft form

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AIR MONITORING

» AIR MONITORING BASICS

» NETWORK DESIGN

» MONITORING SITES

» POLLUTANT DESCRIPTIONS

» INSTRUMENTATION

» AIR QUALITY SUMMARY & TRENDS

» NATIONAL STANDARDS (NAAQS)

» AIR MONITORING MAIN PAGE

» AIR MAIN PAGE

» DEP MAIN MENU



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Air Quality Modeling Guidance

General Requirements	Model Selection	Source Data
Meteorological Data	Background Air Quality	Analysis

An air quality modeling demonstration is a key step in the licensing process. As with any licensing effort, great care must be taken to insure that the results are not only as accurate as possible, but also conform to all applicable state and federal modeling requirements.

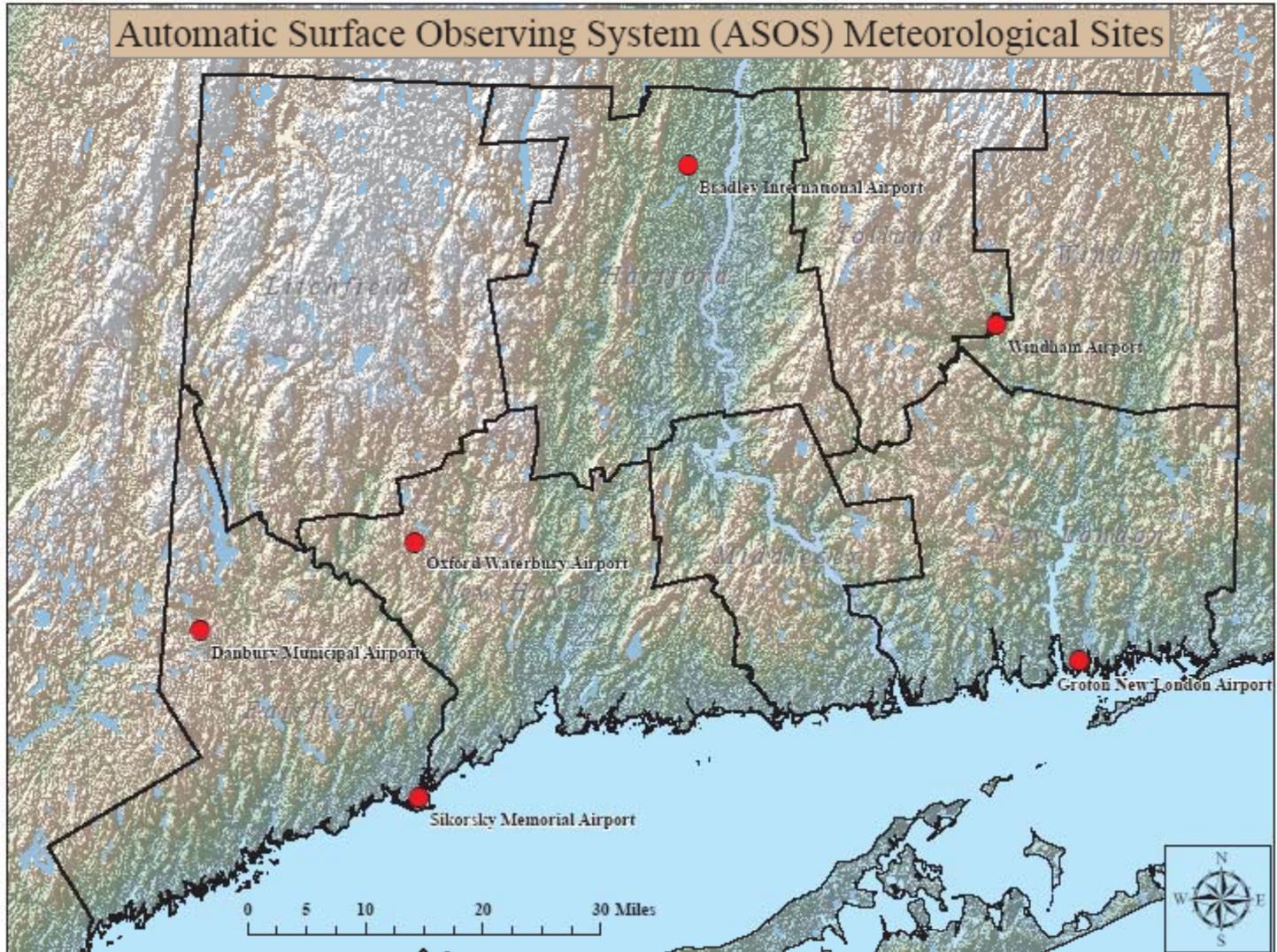
The information presented here is intended to clearly inform you of what the Connecticut Department of Environmental Protection - Bureau of Air Management (CTDEP-BAM) expects and requires for modeling submittals. Following these recommendations should greatly reduce the time, effort and expense of air quality modeling.

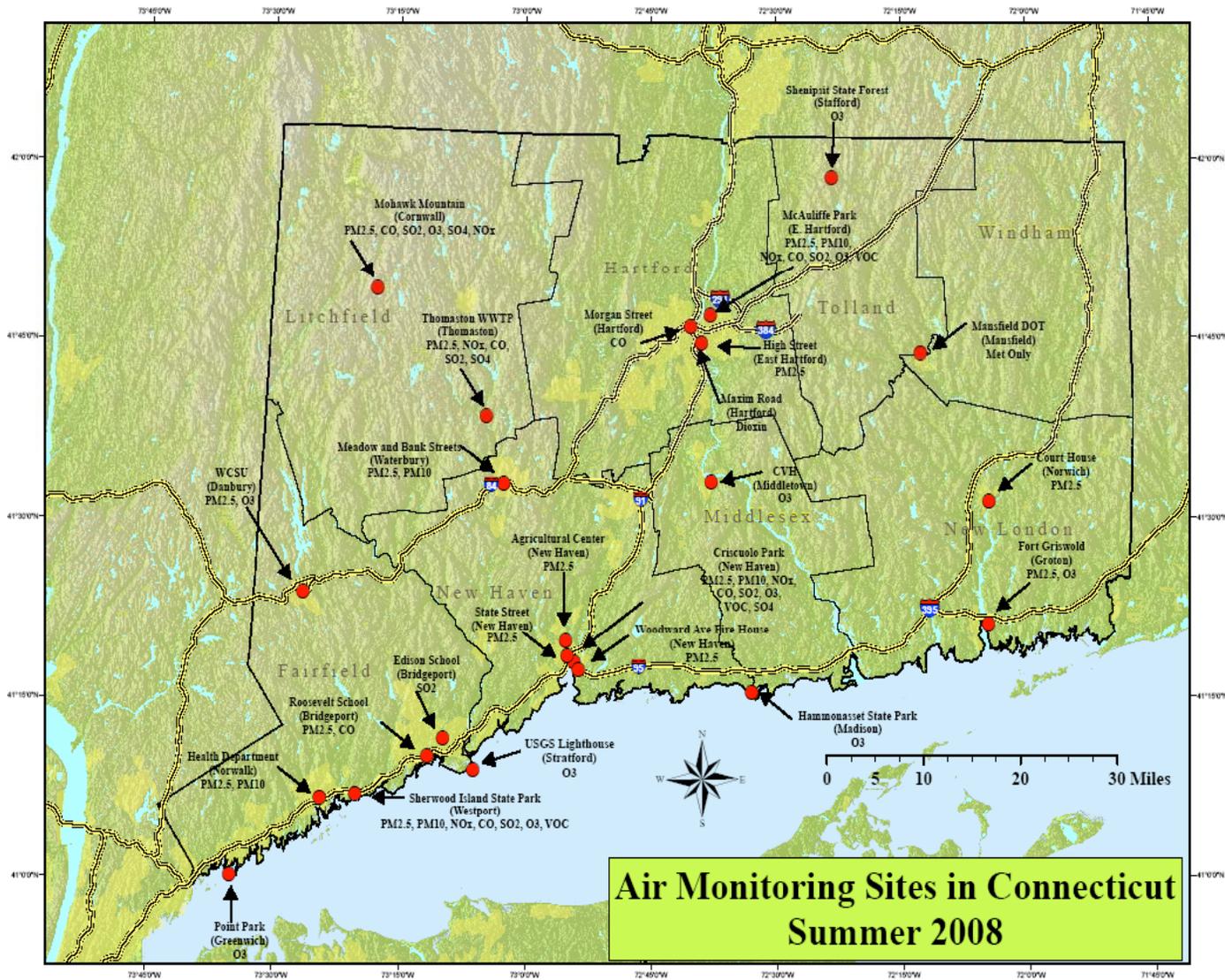
The following pages (and links) are provided as general guidance to help you through the air quality modeling process. Some currently approved models are identified and discussed in this document. Although the intent is for information to be as complete as possible, this guidance is also meant to be somewhat broad, as modeling methodologies and analyses can greatly vary from one project to the next. It is very important that you work in close consultation with the CTDEP-BAM as you prepare to submit a valid modeling protocol and demonstration.

General Requirements
(text to be added)

Model Selection

Automatic Surface Observing System (ASOS) Meteorological Sites





KPI NSR modeling [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

Cut Copy Paste Format Painter Clipboard

Arial 10 Bold Italic Underline Font

Wrap Text Merge & Center Alignment

General Number

Conditional Formatting Format as Table Cell Styles Styles

Insert Delete Format Cells

AutoSum Fill Clear Editing

Sort & Filter Find & Select

H14

B C D E F G H I J K L M N O P Q R S T

NSR REFINED PERMIT MODELING KEY PERFORMANCE INDICATORS

Permit Applications Received After January 1, 2006

	Project Name & Discription	Permit App. Receipt	Pre-modeling Meeting	Protocol Received	Protocol Approved	Received Modeling	Re-work Requested	Re
14	Yale School of Medicine, New Haven, CT: Two Solar Taurus turbines; ~ 15 MW Combined Heat and Power.	Mar-08	?			pending		
19	NRG Energy Montville Station., Montville, CT: Two GE LM6000 50 MW Combustion turbines; ~100 MW simple-cycle electric power.	Jan-08	?	Nov-07	Dec-07	1/11/2008		
24	Iroquois Gas, Brookfield, CT: 88MMBtu/hr Solar Taurus Turbine; NG compressor station.	Apr-07	?	Apr-07	Sep-07	4/1/2007	Jul-07 Apr-08	
29	Waterbury Gen. (FirstLight Power), Waterbury, CT GE LMS100 PA combustion turbine; ~96 MW siimple -cycle power generation.	Aug-07	?	Oct-07	Dec-07	3/13/2008		
34	Watwetown Renewable Energy, Watertown, CT: Fluidized bed wood gasification boiler; ~30 MW power generation.	Sep-07	?	NA	NA	10/30/2007		
39	Ansonia Generation LLC, Ansonia, CT: GE LM6000 turbine; ~50 MW Combined Heat and Power.	Jun-07	NA	NA	NA	9/21/2007	Mar-08	
44	Pfizer Inc, Groton, CT: Solar Taurus Turbine & duct burner;	Mar-07	?	NA	NA	11/5/2007		

What's Next

- Draft document available on DEP's website for review & comment
- Submit comments to jude.catalano@ct.gov