

Dallas-Fort Worth 1997 Eight-Hour Ozone Reclassification State Implementation Plan (SIP) Stakeholder Meeting

June 24, 2010





DFW Topics

- SIP Update
- Modeling in SIP Development
- Potential Control Strategies



SIP Update



Background

- The 1997 Eight-Hour Ozone Standard is attained when the ozone design value is 84 parts per billion (ppb) or less.
- On April 30, 2004, the EPA designated the nine-county Dallas-Fort Worth (DFW) area as nonattainment for the 1997 eight-hour ozone standard:
 - Consists of Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant Counties
 - Classified as moderate, with an attainment deadline of June 15, 2010



DFW Reclassification

- The DFW area's 2009 design value of 86 parts per billion exceeded the 1997 eight-hour ozone standard.
- The DFW area will be reclassified to serious, with a new attainment deadline of June 15, 2013.
- As a result of this reclassification and failure to attain, TCEQ is required to:
 - trigger the area's contingency measures;
 - submit a SIP revision that will demonstrate attainment of the 1997 eight-hour ozone standard by June 15, 2013; and
 - submit a SIP revision demonstrating that the area is reducing nitrogen oxides and/or volatile organic compounds emissions by at least 3 percent per year through 2012.



Dallas-Fort Worth (DFW) Contingency Measures

- Chapter 115, Subchapter F, Division 3, Degassing or Cleaning of Stationary, Marine, and Transport Vessels
- Chapter 115, Subchapter F, Division 4, Petroleum Dry Cleaning Systems
- A *Texas Register* notice was published on May 21, 2010, that compliance with the measures included in the contingency plan for the DFW area's 1997 eight-hour ozone attainment demonstration is necessary as a result of the area's failure to attain the standard.
- The affected sources will be required to comply with these rules as soon as practicable, but no later than one year after publication of the notice in the *Texas Register*.



SIP and Rule Timeline

- Modeling: June – December 2010
- Control strategy development: September – December 2010
- Proposal agenda for SIP revision and rules: May 2011
- Adoption agenda: November 2011



Elements of the Attainment Demonstration

- Demonstration that the state's control strategy for the area will result in its attainment of the 1997 eight-hour ozone standard by June 15, 2013.
- Photochemical modeling
 - Conceptual model
 - Emissions inventories
 - Modeling (base case, baseline, future baseline)
 - Attainment test
 - Corroborative analysis/weight of evidence
- Control strategies
 - Reasonably Available Control Technology (RACT)
 - Reasonably Available Control Measures (RACM)
 - Other measures necessary to attain
 - New Contingency measures
- Reasonable Further Progress (RFP) analysis



Elements of the Reasonable Further Progress (RFP) Demonstration

- Demonstration that the state's control strategy for the area will reduce NO_x and/or VOC emissions by 3 percent per year through 2012.
- Base-year inventory: 2002
- RFP already demonstrated 2002-2008
- Must demonstrate additional 9 percent reduction of NO_x and/or VOC emissions between 2009-2011
- Must demonstrate an additional 3 percent reduction of NO_x and/or VOC emissions in 2012
- Contingency measures



Contact Information

- To receive e-mail notification of updates on SIP revisions and SIP-related news items:
 - Go to TCEQ’s Web site at: <http://www.tceq.state.tx.us>
 - Choose “Sign up for e-mail updates”
 - From the list of choices, look under Air Quality and select “SIP Hot Topics”
- DFW Attainment Demonstration SIP Coordinator:
Kathy Singleton
 - Phone: 817-588-5914
 - E-mail: ksinglet@tceq.state.tx.us
- DFW RFP SIP Coordinator:
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Modeling in SIP Development



Basic Principles in Ozone Formation

Ozone is a secondary pollutant

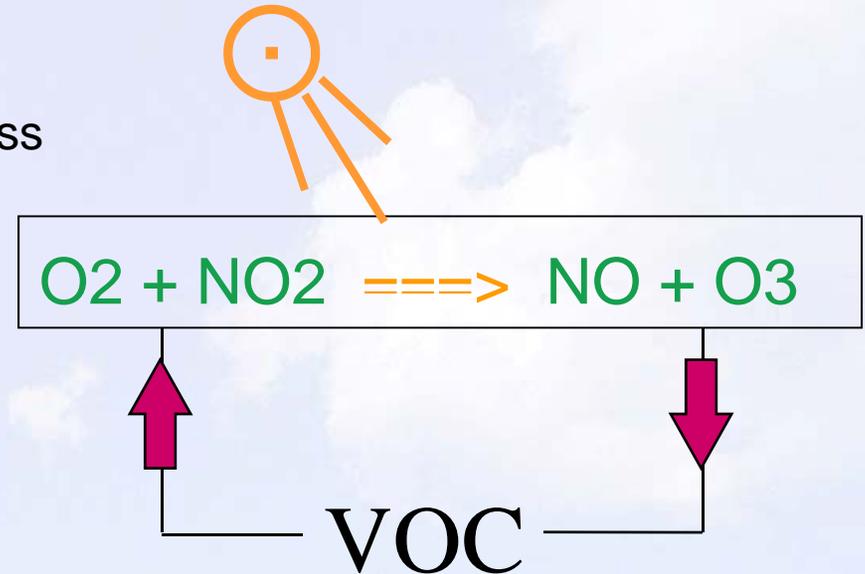
- Not emitted directly into atmosphere
- Forms via a complex chemical process
- Human (anthropogenic) emissions

Complex nonlinear reaction between

- NO_x - Nitrogen Oxides (NO , NO_2)
- VOCs - Volatile Organic Compounds

Photochemical process

- Requires ultraviolet energy from sunlight
- Forms during daytime, decreases at night





Modeling Overview

- Computer Simulation
 - Estimate pollutant concentrations in places without monitors
- Federal Clean Air Act Requirement
 - Nonattainment areas moderate and above
- Estimate the amount of emission reductions needed to attain the National Ambient Air Quality Standard
 - Model outcomes of scenarios to study effectiveness of plans and control measures
 - Demonstrate that the proposed control strategies will achieve the standard by the attainment date



The Big Picture



Meteorology



Emissions



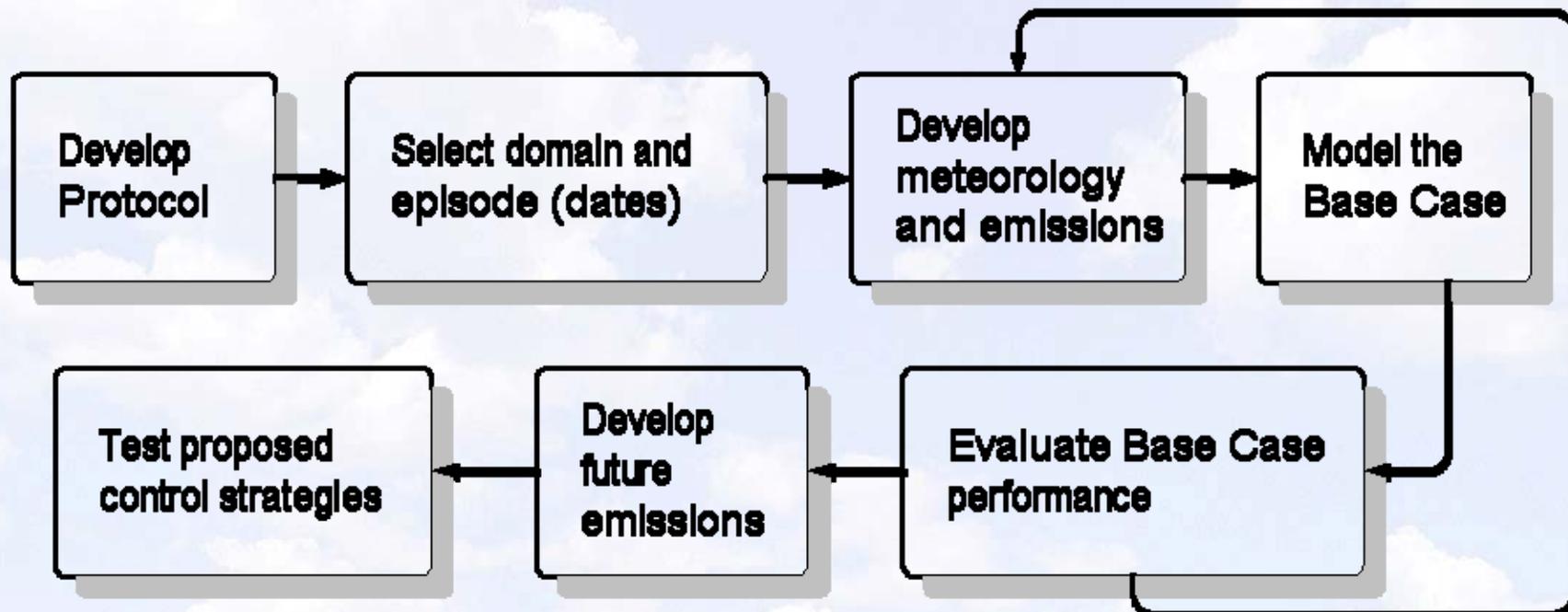
**Air Quality
Model**



**Air Pollutant
Concentrations**



Modeling Procedures





Modeling Timeline

* All dates are estimates based on current SIP revision schedule *

2006 Base Case: Through July 2010

2006 Baseline: Through July 2010

2012 Future Baseline: July – November 2010



Contact Information

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The TCEQ Data Analysis and Air Modeling Teams contributed to these modeling slides.



Potential Control Strategies



DFW Control Strategy Planning

- RACM
 - Federal Clean Air Act, §172(c)(1) requires states to implement all RACM as expeditiously as practicable and to include RACM analyses in the SIP.
 - Federal Clean Air Act also requires states to implement RACT for certain named source categories and major sources from unnamed categories.

- To be considered RACM a potential control measure must meet the following criteria:
 - technologically feasible;
 - economically feasible;
 - does not cause adverse impacts;
 - is not unenforceable or impracticable;
 - ozone reduction benefit; and
 - reduce emissions before the beginning of the ozone season prior to the attainment date (March 1, 2012).



DFW Control Strategy Planning

- The initial concept draft list of potential control strategies for the DFW 1997 eight-hour ozone attainment demonstration is available for informal comment.
 - It will also be posted on the TCEQ Web site at:
http://www.tceq.state.tx.us/implementation/air/sip/dfw_stakeholder_2.html
- Control strategy concept list is preliminary.
 - Further analysis is necessary to determine ozone reduction benefit as well as technical and economic feasibility.
 - Control strategy concept list is not considered exhaustive; other concepts may be added.
 - The presence or absence of a particular strategy on this list does not mean it will or will not be pursued.



DFW Control Strategy Planning

- Requesting informal comments on:
 - Technical and economic feasibility
 - Modifications or alternatives for specific control strategy concepts
 - Suggestions for additional control strategy concepts
- When submitting comments:
 - Provide as much detail and technical information as possible
 - If suggesting rules for control strategies, please provide a copy, Web link, or citation for the rule
 - Clearly identify any confidential information
 - Please explain the basis of economic feasibility information provided on a dollar per ton basis, e.g., TCEQ fiscal analysis is typically done on a five-year basis
- Please submit written comments on draft initial control strategy concept list presented today by **July 30, 2010.**



DFW Control Strategy Planning

- Written comments (non-confidential information) will be posted on the stakeholder group web site at:

http://www.tceq.state.tx.us/implementation/air/sip/dfw_stakeholder_2.html

- Please send comments by postal mail or e-mail to:

Chance Goodin – Stationary Sources
cgoodin@tceq.state.tx.us

Guy Hoffman – Mobile Sources
ghoffman@tceq.state.tx.us

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Open Discussion