

DFW 8-Hour Ozone
SIP & Rules A&WMA Presentation
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DFW 8-Hour SIP & NO_x Control Measures

- DFW Eight-hour Ozone Attainment
- Chapter 117 Reorganization
- DFW NO_x Control Measures
- East Texas Combustion Rule
- Compliance Dates
- TCEQ Contacts



DFW 8-Hour Ozone Attainment

- DFW designated moderate nonattainment for 8-hour ozone standard in 2004.
 - Standard = 0.08 ppm.
 - 9 counties designated nonattainment:
 - 4 original 1-hour ozone nonattainment counties: Collin, Dallas, Denton, and Tarrant Counties.
 - 5 new counties: Ellis, Johnson, Kaufman, Parker, and Rockwall.
 - DFW area must attain 8-hour ozone standard by June 15, 2010.



DFW 8-Hour Ozone Attainment

- DFW area air quality status:
 - has improved over the past 15 years
 - design value for the 1-hour standard (revoked in 2005) attained in 2006
 - further reductions are required to meet the more stringent 8-hour standard
 - NO_x controls have been shown most effective for ozone reduction in the area.



DFW 8-Hour Ozone Attainment

- The new 8-hour ozone attainment demonstration SIP was adopted by the commission on May 23, 2007.
- Control Strategy
 - DFW local initiatives reduce NO_x by 4.16 tpd.
 - Voluntary Mobile Emissions Reduction Program (VMEP)
 - Transportation Control Measures (TCM)
 - TCEQ control measures reduce NO_x by 44.27 tpd.



DFW 8-Hour Ozone Attainment

- The DFW 8-hour SIP demonstrates attainment of the 8-hour standard by June 15, 2010, with:
 - Photochemical modeling
 - Weight of Evidence (WoE)
 - Corroborative analysis
 - Control measures not included in modeling
 - EPA Smartway, Blue Skyways, energy efficiency, clean school bus, stationary diesel and dual-fuel engine controls, TERP, LIRAP, and fleet turnover



DFW 8-Hour Ozone Attainment

- SIP includes other required components:
 - Reasonably Available Control Technology (RACT) analysis
 - Reasonably Available Control Measures (RACM) analysis
 - Motor Vehicle Emissions Budget (MVEB), for transportation conformity purposes
- A Reasonable Further Progress (RFP) SIP was adopted along with the attainment demonstration.



Chapter 117 Reorganization

- Reasons for reformatting Chapter 117
 - Provide additional room for new rules for Dallas–Fort Worth eight–hour ozone attainment demonstration
 - Provide additional space for future rules
 - Reorganize and separate by region to improve readability of rule
- Reformatted Chapter 117
 - Adopted May 23, 2007
 - Effective June 14, 2007



Chapter 117 Reorganization

- Section Numbering
 - Numbering extends full range to provide room for future rulemaking without renumbering or reorganizing: §§117.10 – 117.9810
 - Similar numbering sequences used in most cases for readability
 - §117.X10 Emission Specifications for Attainment Demonstration
 - §117.X35 Initial Demonstration of Compliance
 - §117.X45 Notification, Recordkeeping, and Reporting Requirements



Chapter 117 Reorganization

- Subchapter A – Definitions
- Subchapter B – Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Areas
- Subchapter C – Combustion Control at Major Utility Electric Generation Sources in Ozone Nonattainment Areas



Chapter 117 Reorganization

- Subchapter D – Combustion Control at Minor Sources in Ozone Nonattainment Areas
- Subchapter E – Multi-Region Combustion Control
- Subchapter F – Acid Manufacturing



Chapter 117 Reorganization

- Subchapter G – General Monitoring and Testing Requirements
- Subchapter H – Administrative Provisions



DFW NO_x Control Measures

- NO_x emission control measures adopted in Chapter 117 as part of the DFW 8-hr ozone attainment demonstration include:
 - Major Industrial, Commercial, and Institutional Sources
 - Major Electric Generation Facilities
 - Cement Kilns
 - Minor Industrial, Commercial, and Institutional Sources
 - East Texas Combustion
- Chapter 117 control measures adopted on May 23, 2007.
- Chapter 117 also reorganized in same rulemaking.



DFW NO_x Control Measures

- What is a “major source” in DFW for Chapter 117?
 - Section 117.10(29)(B): 50 tons per year NO_x or greater, based on potential to emit.
- Chapter 117 “major source” definition is independent of Air Permits definitions:
 - A source can be major for NO_x in Chapter 117 but not major for permitting purposes.



DFW Major ICI Source Controls

- ICI boilers & process heaters
- Gas, diesel, & dual-fuel fired stationary IC engines
- Stationary gas turbines
- Duct burners used in turbine exhaust ducts
- Lime, brick and ceramic kilns
- Metallurgical heat treat and reheat furnaces
- Lead smelting reverberatory and blast furnaces
- Incinerators
- Glass, fiberglass, & mineral wool melting furnaces
- Fiberglass & mineral wool curing ovens
- Natural gas-fired heaters, dryers and ovens



DFW Major EGU Source Controls

- New controls for 8-hour attainment demonstration:
 - Utility boilers
- EGU RACT controls expanded to 5 new counties.
 - Auxiliary steam boilers
 - Stationary gas turbines
 - Duct burners used in turbine exhaust ducts



Small vs. Large Utility Systems

- A large DFW utility system is one that had a combined electric generating capacity equal to or greater than 500 MW on January 1, 2000
- A small DFW utility system is one that had a combined electric generating capacity less than 500 MW on January 1, 2000



Major Source Compliance Dates

- The following units must demonstrate compliance by March 1, 2009
 - ICI boilers & all electric generating units
 - Gas-fired, diesel, and dual fueled IC engines
 - Glass, fiberglass, and metallurgical furnaces
 - Lime kilns
 - Turbines
- The following unit types must demonstrate compliance by March 1, 2010
 - Process heaters
 - Brick and ceramic kilns
 - Ovens, dryers, heaters, and incinerators



DFW Cement Kiln Controls

- Subchapter E, Division 2
- Sections 117.3100 – 117.3145
- Mandatory site-wide source cap for 3 portland cement kiln companies in Ellis County.
- Applies to all 10 existing portland cement kilns in the area:
 - 3 dry preheater–precalciner/precalciner type kilns
 - 7 wet kilns



DFW Minor ICI Source Rule

- Subchapter D, Division 2.
- Sections 117.2100 – 117.2145.
- Applies to any stationary minor source of NO_x in the following affected counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant.



DFW Minor ICI Source Controls

- Applies to gas, diesel, & dual-fuel fired stationary IC engines at minor sources of NO_x in the DFW area.
- Exempted boilers, process heaters, and stationary gas turbines from adopted rule.



Minor Source Compliance Dates

- The following unit types must demonstrate compliance by March 1, 2009
 - Rich-burn gas-fired, diesel, and dual fueled stationary IC engines
- The following unit types must demonstrate compliance by March 1, 2010
 - Lean-burn stationary gas-fired IC engines



East Texas Combustion Rule

- Subchapter E, Division 4.
- Sections 117.3300 – 117.3345.
- Applies to the following affected counties:
Anderson, Brazos, Burleson, Camp, Cass,
Cherokee, Freestone, Franklin, Gregg, Grimes,
Harrison, Henderson, Hill, Hopkins, Hunt, Lee,
Leon, Limestone, Madison, Marion, Morris,
Nacogdoches, Navarro, Panola, Rains, Robertson,
Rusk, Shelby, Smith, Titus, Upshur, Van Zandt,
and Wood.



East Texas Combustion Rule

- Applies to rich-burn gas-fired stationary IC engines in 33 counties specified in the rule.
- Exempted lean-burn gas-fired engines from adopted rule due to numerous adverse comments received.



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