Dallas Compressor Workshop
Regulatory Update

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Existing TCEQ Rules

- Texas air rules for gas-fired compressor engines can be separated into general categories.
- Permit authorization:
  - Chapter 106 – Permit by Rule
  - Chapter 116 – Site specific permit or standard permit
- Air rules for specific pollutants:
  - Chapter 111 – Visible Emissions and Particulate Matter
  - Chapter 112 – Sulfur Compounds
  - Chapter 115 – Volatile Organic Compounds (VOC)
  - Chapter 117 – Nitrogen Compounds
- General rules:
  - Chapter 101 – General Air Quality Rules

Chapter 117 NO_X Rules for Gas-Fired Compressor Engines

- Chapter 117 rules for nitrogen oxides (NO_X) are generally associated with specific nonattainment areas for the state implementation plan (SIP), although not necessarily limited to nonattainment areas.
- The requirements for stationary gas-fired internal combustion engines in Chapter 117 depend on a number of factors:
  - location;
  - site classification: major or minor site as defined in Chapter 117;
  - Mass Emission Cap & Trade applicability (Houston-Galveston-Brazoria Ozone Nonattainment Area);
  - engine size;
  - burn-type (lean-burn vs. rich-burn);
  - fuel-type;
  - date of installation, relocation, modification, or reconstruction.

Chapter 117 NO_X Rules for Gas-Fired Compressor Engines

- Major Industrial, Commercial, Institutional (ICI) Source Rules in Chapter 117 - Subchapter B:
  - Division 1: Beaumont-Port Arthur Ozone Nonattainment Area
    - Hardin, Jefferson, and Orange Counties
  - Division 2: Dallas-Fort Worth Ozone Nonattainment Area
    - Collin, Dallas, Denton, and Tarrant Counties
    - Replaced by Division 4
  - Division 3: Houston-Galveston-Brazoria Area Ozone Nonattainment Area
    - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties
  - Division 4: Dallas-Fort Worth 1997 Eight-Hour Ozone Nonattainment Area
    - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant Counties

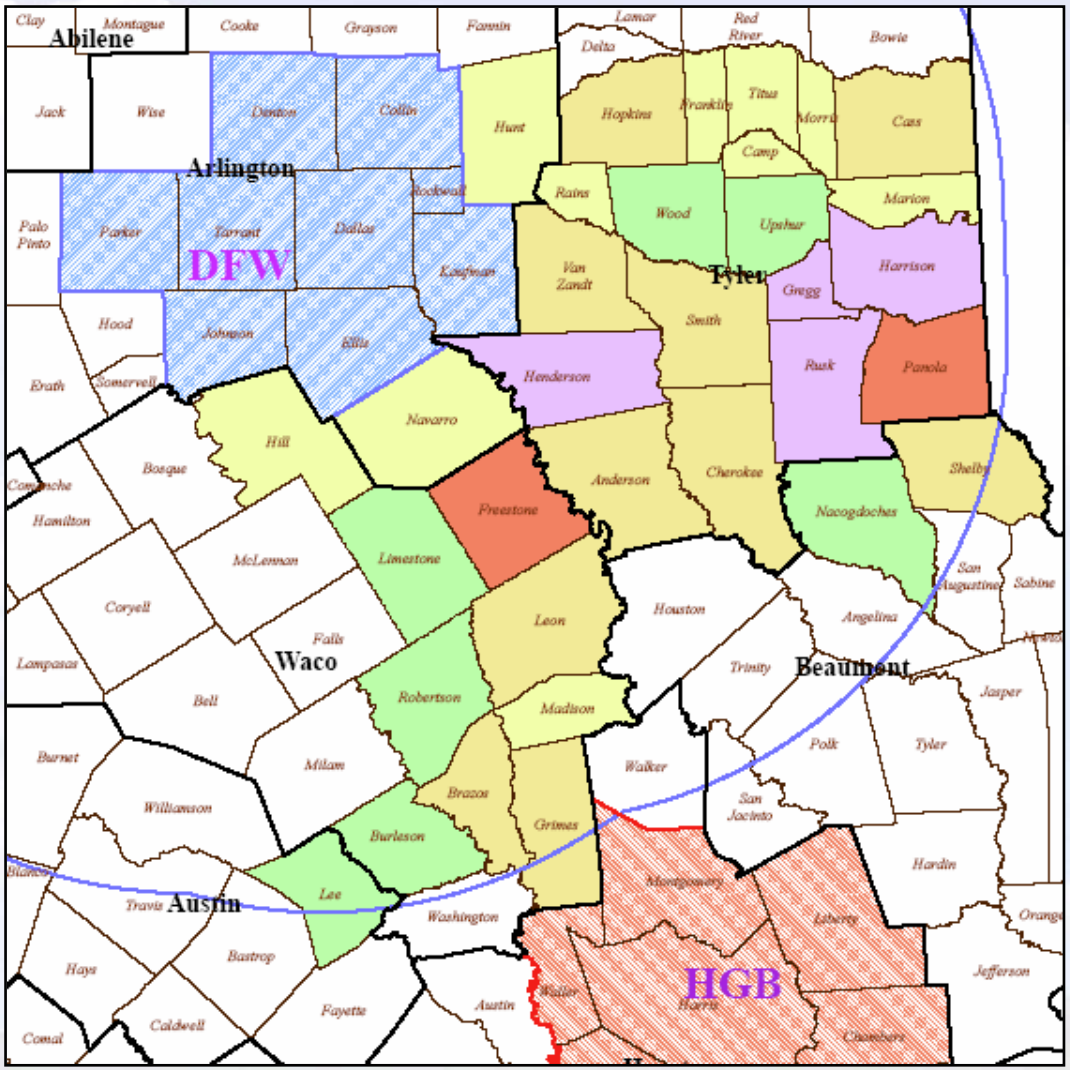
Chapter 117 NO_X Rules for Gas-Fired Compressor Engines

- Minor ICI Source Rules in Chapter 117 – Subchapter D:
  - Division 1: Houston-Galveston-Brazoria Area Ozone Nonattainment Area
    - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties
  - Division 2: Dallas-Fort Worth 1997 Eight-Hour Ozone Nonattainment Area
    - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant Counties

Chapter 117 NO_X Rules for Gas-Fired Compressor Engines

- East Texas Combustion Rule - Subchapter E, Division 4:
  - applies to stationary rich-burn gas-fired internal combustion engines rated 240 hp and above;
  - applies in 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 Counties; and
  - applies to any site with affected engines, regardless of potential to emit, i.e., no distinction between major or minor sites.

East Texas Combustion Rule



Chapter 117 NO_X Rules for Gas-Fired Compressor Engines

- Additional information:
  - Chapter 117 NO_X Emission Limits Table for Stationary Gas-Fired Engines

http://www.tceq.state.tx.us/implementation/air/sip/Chp117mgf.html

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Current Regulatory and SIP Activities

- Oil and Gas Permit by Rule and Standard Permit
- Chapter 115 VOC Storage Tank Rule Revisions
- Chapter 115 VOC Reasonably Available Control Technology (RACT) Rule Revisions
- Dallas-Fort Worth Reclassification SIP Revision

Proposed Changes to Oil & Gas Permit by Rule and Standard Permit

- Proposed July 28, 2010:
  - Proposed rule changes published in the August 13, 2010, issue of the *Texas Register* (35 TexReg 6937, 6997).
  - Copies of the proposed rule changes and the proposed standard permit available on the TCEQ's Web site at:

    http://www.tceq.state.tx.us/nav/rules/propose_adopt.html

- Public Comment:
  - Public hearing scheduled for September 14, 2010, 10:00 A.M., Austin (TCEQ Headquarters, Building E, Room 201S).
  - Public comment period closes September 17, 2010.

- Adoption:
  - Tentatively scheduled for agenda in mid-January 2011.

Proposed Changes to Oil & Gas Permit by Rule and Standard Permit

- General Overview of Proposals
  - Single site-wide authorization/registration for new projects and related equipment
  - Addresses Planned Maintenance, Startup, and Shutdown (MSS)
  - Evaluates protectiveness and compliance with ambient air quality standards

- Requirements for sites that trigger the new Permit by Rule or apply for the standard permit
  - Apply best management practices and appropriate equipment controls
  - Meet protectiveness limits and ambient air quality standards
  - Sites using the standard permit must meet Best Available Control Technology (BACT), and renew every 10 years.

Proposed Changes to Oil & Gas Permit by Rule and Standard Permit

- Retroactive requirements for existing sites:
  - all sites must register with agency by 2013;
  - all sites must meet Planned MSS requirements by January 5, 2012; and
  - any change that increases actual emissions or new equipment construction triggers new rules for the new or changed equipment.

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Chapter 115 VOC Storage Tanks

- Revisions to VOC storage tank rules Chapter 115, Subchapter B, Division 1:
  - update rules for areas currently subject to the rules to be consistent with requirements adopted for the Houston-Galveston-Brazoria Ozone Nonattainment Area;
  - requirements for upstream oil and gas storage tanks;
    - Condensate tanks with more than 1,500 barrels per year liquid throughput require vapor recovery, based on individual tank or aggregate of all tanks in the battery;
    - Crude or condensate tank or tank battery require vapor recovery if potential emissions are over 25 tons per year; and
  - requirements for tanks fittings and roof landings;
  - other revisions to clarify requirements and update rule for newer control technology.

Chapter 115 VOC Storage Tanks

- Tentative Schedule:
  - Proposal: December 2010
  - Comment period: December 2010 / January 2011
  - Adoption: June 2011

- Additional Information:

  http://www.tceq.state.tx.us/implementation/air/rules/115/115_stakeholder

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Chapter 115 VOC RACT Rules

- EPA issued 11 new Control Technique Guideline (CTG) documents for VOC RACT between 2006 and 2008, most applying to coating / printing operations.

- Industrial Cleaning Solvents CTG Document
  - Very broad applicability
  - Might apply to solvents used in compressor / engine maintenance.

- Scope of Rulemaking:
  - Houston-Galveston-Brazoria ozone nonattainment area;
  - Dallas-Fort Worth 1997 ozone nonattainment area; and
  - other areas potentially included to meet RACT for the proposed 2010 ozone standard.

Chapter 115 VOC RACT Rules

- Tentative Schedule:
  - Proposal: June 2011
  - Comment period: June / July 2011
  - Adoption: November 2011

- Additional Information:

  http://www.tceq.state.tx.us/implementation/air/rules/ctg/control_techniques_stakeholder.html

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Dallas-Fort Worth Reclassification SIP

- The Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area is being reclassified from moderate to serious nonattainment as a result of failing to meet the 1997 eight-hour ozone standard.

- Permitting thresholds and requirements in five counties (Ellis, Johnson, Kaufman, Parker, and Rockwall Counties) will be affected.

- Chapter 117 NO_X major source threshold is already at 50 tons per year for all nine counties.

Dallas-Fort Worth Reclassification SIP

- Tentative Schedule:
  - Proposal: June 2011
  - Comment period: June / July 2011
  - Adoption: November 2011
  - New attainment date: June 2013

- Will there be additional rules beyond storage tanks and others mentioned?

Stay tuned.

Future Rulemaking and SIP Activities

- EPA has recently finalized or proposed revisions, or has pending proposals for revisions, to many of the National Ambient Air Quality Standards (NAAQS).
  - Nitrogen dioxide (NO_2) primary NAAQS - Finalized January 2010
  - Sulfur dioxide (SO2) primary NAAQS - Finalized June 2010
  - Ozone primary and secondary NAAQS - Proposed January 2010
  - Carbon monoxide primary and secondary NAAQS - Proposal anticipated January 2011
  - Particulate matter primary and secondary NAAQS – Proposal anticipated February 2011
  - Secondary NO_2 and SO_2 NAAQS - Proposal anticipated July 2011

Future Rulemaking and SIP Activities

- 2010 Ozone NAAQS
  - EPA expects to finalize the primary ozone standard at or around the end of October 2010.
  - Secondary ozone standard may at the same time or later.
  - EPA has to give the Governor at least 120 days to make recommendations for nonattainment areas – late February / early March 2011.
  - EPA finalizes designations and classifications – Fall 2011.
  - Attainment demonstration SIP revisions due to EPA – tentatively December 2013.
    - Based on EPA's tentative schedule discussed in the preamble of the proposed 2010 ozone standards, but implementation rule sets the schedule.
    - Implementation rule scheduled for proposal with final standard.

Control Strategy Evaluation for 2010 Ozone NAAQS – General Overview

- Future specific rulemaking needed for 2010 ozone standard is difficult to predict at this point.
- Specific minimum federal requirements for any given area are dependent on the classification as well as the designation.
- There are two primary aspects of the TCEQ's control strategy analysis:
  - RACT, Reasonably Available Control Technology; and
  - RACM, Reasonably Available Control Measures.

Evaluating RACT

- What is RACT? EPA defines RACT as the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

- Specific requirements for RACT are triggered in the Federal Clean Air Act (FCAA) for areas that are classified as moderate, serious, severe, or extreme nonattainment for the ozone standard.

- RACT can be separated into two general categories based on how the FCAA requires states to address RACT.

Evaluating RACT

- Named categories for RACT – States must evaluate and address RACT for any categories of sources that EPA has issued a CTG document or an Alternative Control Technique (ACT) document.

- Examples of NO_X RACT named sources:
  - utility boilers;
  - stationary internal combustion engines;
  - cement kilns; and
  - industrial boilers.

Evaluating RACT

- Examples of VOC RACT named sources:
  - coating and printing operations;
  - VOC storage tanks;
  - industrial cleaning solvents; and
  - leak detection and repair programs.

- General RACT for unnamed major sources – States must evaluate and address RACT for any major sources of NO_X or VOC that EPA has not issued a CTG or ACT document.

Evaluating RACM

- After RACT, the state must evaluate RACM to determine if additional control measures will help advance attainment.

- RACM is a more strategic approach to controlling ozone.

- What criteria does the state look at for RACM (based on EPA's guidance)?
  - Technological feasibility
  - Economic feasibility
  - Enforceability
  - Practicality
  - Potential for widespread and long-term adverse impacts

Evaluating RACM

- What criteria does the state look at for RACM (based on EPA's guidance)?
  - Will it actually help advance attainment, i.e., reduce ozone?
    - This is a fundamental difference between RACT and RACM. The benefit of RACT is assumed under the FCAA, so RACT rules must be done even if modeling shows that the control measure will not actually have a measurable effect on ozone.
  - Can the measure be implemented in time to help advance attainment?
    - RACM control measures are to be implemented as expeditiously as practicable, but should be no later than the beginning of ozone season the year before the attainment date; e.g., if the attainment date is June 15, 2019, controls should be in place by beginning of ozone season 2018 (March 1 for DFW, January 1 for HGB).

Additional Information

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- For the latest information on SIP-related activities:
  - Visit the TCEQ SIP Hot Topics Web site:

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

  - Sign-up for email updates on the SIP Hot Topics Web site.