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**An Update on Recent Changes to the Texas SIP**

**Jay Hofmann**  
October 12, 2010

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### Texas SIP Issues

- US Clean Air Act, EPA, and Texas SIP "Gaps"
  - ◆ Flexible Permits, Public Participation, Qualified Facilities, New Source Review Reform
  - ◆ Response from the TCEQ
- New Climate Change Regulations
- New NAAQS
- New Permit-by-Rule and Standard Permit for O&G operations

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### US Clean Air Act

- Title I addresses stationary sources. EPA regulations:
  - ◆ New Source Performance Standards (NSPS)
  - ◆ National Ambient Air Quality Standards (NAAQS)
  - ◆ Hazardous Air Pollutants
  - ◆ New Source Review (NSR)
  - ◆ Additional requirements for sites located in non-attainment areas (DFW, HGB, etc.).

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## US EPA and Texas SIP

- Since the early 1970s, Texas has sought authorization to implement the US EPA (federal) regulations through the SIP process
- Meanwhile, Texas has created its own unique set of air regulations – particularly in the area of permitting
- Through the SIP approval process, the Texas regulations become “Federally Enforceable” and can replace specific EPA requirements




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## US EPA and Texas SIP Permitting

- Since 1994, Texas submitted a variety of air regulations to EPA seeking SIP approval
  - ◆ Flexible Permits (permit caps allowing operational flexibility – November, 1994)
  - ◆ Qualified Facilities (Senate Bill 1126, allows certain changes without case-by-case review) – March, 1996
  - ◆ Public Participation (rules describing the public notice and hearing process concerning NSR) – October, 1999
  - ◆ New Source Review Reform (rules adopted in response to significant changes to the EPA rules) – June, 2005 and February, 2006




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## Recent US EPA Disapprovals

- Flexible Permit rule formally disapproved July 15, 2010 – This disapproval is being challenged
- Qualified Facilities rule disapproved on April 14, 2010
- Public Participation rule received limited approval/disapproval in November, 2008
- New Source Review Reform rule was largely disapproved in September, 2009, and again on August 31, 2010




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## TCEQ Response

- Qualified Facilities (Senate Bill 1126)
  - ◆ EPA's primary concerns are
    - Facilities are authorized to make changes without formal review
    - Rule does not limit applicability to minor sources and/or require federal NSR applicability determinations
    - Rule does not explicitly require qualified facility changes to be permanent and enforceable
  - ◆ TCEQ adopted amended rules on 9/15/2010




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## TCEQ Response

- Public Participation
  - ◆ EPA's primary concerns are:
    - Insufficient notice of draft permit for minor NSR
    - Missing notice requirements for major NSR
  - ◆ TCEQ adopted amendments to its public participation procedures on June 2, 2010
    - Impact – Extends permitting time-line by at least 30 days




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## TCEQ Response

- New Source Review Reform
  - ◆ EPA's primary concerns are:
    - No reference to federal BACT requirement
    - Pollution control project exclusions were struck down at the EPA level
    - Anti-backsliding issues related to the "old" 1-hour ozone standard and related permitting requirements
    - Certain "PAL" rule elements missing
  - ◆ TCEQ adopted rule amendments on June 2, 2010. Additional amendments are pending




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## New Greenhouse Gas Regulations

- Proposed Mandatory Reporting Rule (MRR) – Oil and Natural Gas System
  - ◆ Applies to sites emitting more than 25,000 metric tons of carbon dioxide equivalent on an “actual” annual basis
  - ◆ Highly prescriptive monitoring and calculation methodologies – 1<sup>st</sup> reporting year - 2011 (reports due in March, 2012)
- Greenhouse Gas “Tailoring” Rule
  - ◆ Applies to “major sources” and “major modifications” in 2011
  - ◆ Emission thresholds in “potential” tons per year




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## GHG MRR – Oil and Natural Gas Systems Source Categories

- Onshore/Offshore petroleum and natural gas production
- Onshore natural gas processing plants
- Onshore NG transmission compression
- Underground natural gas storage
- LNG storage and Import/Export equipment
- Natural gas distribution




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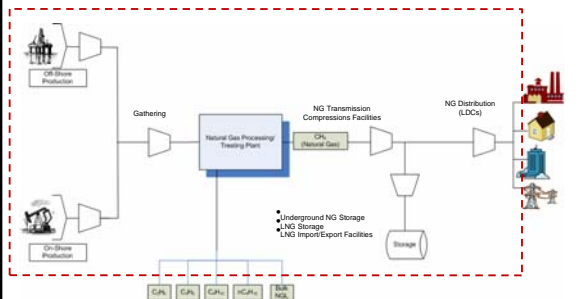
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## Covered Oil and Natural Gas Systems under Subpart W




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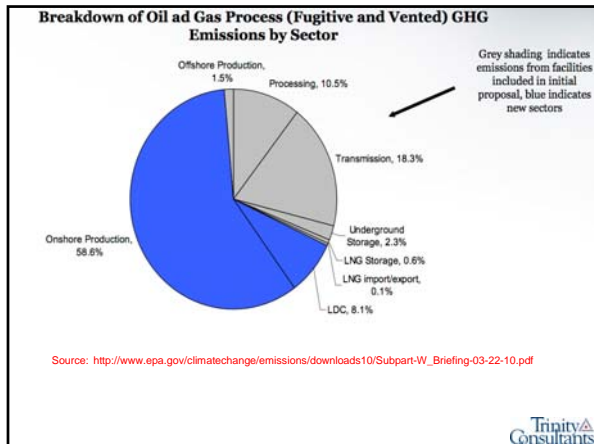
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### Recommendations

- Start collecting asset information so you are ready to determine applicability
  - ◆ Define your *facility* for Onshore Natural Gas Production Operations - Determine what sites are subject to the proposed rule
- Review proposed rule carefully
  - ◆ Look for gaps in current procedures and the procedures proposed in the rule
  - ◆ Additional equipment/resources needed?
  - ◆ What systems will you need to have in place?
  - ◆ How will you communicate with the field and keep track of assets, and activities?
    - Blowdowns, throughput, hours, etc.

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### Recommendations (cont.)

- Start developing data collection and reporting structure
  - Reporting structure to be in place by January 1, 2011
  - Work with operations personnel to conduct a gap analysis of current practices and available data vs. the rule requirements
  - Review and update/create relevant recordkeeping/monitoring/calibration procedures

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### Greenhouse Gas (GHG) Tailoring Rule

- The US EPA finalized the PSD rule (major sources) for GHGs on June 3, 2010
- Rule defines the new GHG pollutant (carbon dioxide, methane, and 4 others) and “potential” emission thresholds for which major sources (sites) are defined and permitting triggered (carbon dioxide equivalent basis)
- Many previously “minor” Oil & Gas sites will be “major” as of July 1, 2011 as a result




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### Practical Impacts of Tailoring Rule for PSD

- For existing major sites....
  - ◆ Most major source permit actions for non-GHGs involving combustion equipment will likely also trigger permitting for GHGs (CO<sub>2</sub>e modification trigger is 75,000 tpy)
  - ◆ Some projects not required to meet major permit regulations (with respect to non-GHG pollutants) will trigger for GHGs
- For existing minor sites....
  - ◆ Some sites will become newly minted major sources on July 1, 2011 due to GHG emissions (major source threshold is 100,000 tpy)
    - Permitting will be triggered more easily for non-GHG pollutants
    - Possible for projects to trigger permitting for GHGs only




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### Practical Impacts of Tailoring Rule for PSD

- Best Available Control Technologies for GHG?
  - ◆ EEPT – Energy Efficient Processes and Technologies
  - ◆ GHG (Methane) reduction strategies
- Permit review costs and time




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### Step 1 PSD - Tailoring Rule

Item	Requirement & Criteria
Start Date	<ul style="list-style-type: none"> <li>January 2, 2011</li> </ul>
Coverage	<ul style="list-style-type: none"> <li>New construction or modification subject to PSD for GHG ONLY if undergoing PSD anyway for non GHG pollutants ("anyway PSD sources") AND exceed major modification threshold for GHGs</li> <li>No additional PSD permitting <u>solely</u> for GHG emissions</li> </ul>
Major Modification Threshold	<ul style="list-style-type: none"> <li>GHG emissions (or net emissions increase) due to construction (or modification) calculated as the sum of the six well-mixed GHGs equal or exceed:               <ul style="list-style-type: none"> <li><input type="checkbox"/> on a mass basis, 0 tpy, AND</li> <li><input type="checkbox"/> on a CO<sub>2</sub>e basis, <b>75,000 tpy CO<sub>2</sub>e</b></li> </ul> </li> </ul>
Requirement	<ul style="list-style-type: none"> <li>PSD Permit, GHG emission calculations and BACT for GHGs</li> </ul>

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### Step 2 PSD - Tailoring Rule

Item	Requirement
Start Date	<ul style="list-style-type: none"> <li>July 1, 2011</li> </ul>
Coverage	<ul style="list-style-type: none"> <li>"Any PSD Sources" from Step 1, AND</li> <li>Major sources for GHG pollutants</li> <li>PSD permitting solely for GHG emissions is possible</li> </ul>
Major Source Threshold	<ul style="list-style-type: none"> <li>GHG potential emissions (sum-of-six well-mixed GHGs) equal or exceed:               <ul style="list-style-type: none"> <li><input type="checkbox"/> on a CO<sub>2</sub>e basis, <b>100,000 tpy CO<sub>2</sub>e</b></li> </ul> </li> </ul>
Major Modification Threshold	<ul style="list-style-type: none"> <li>GHG net emissions increase resulting from the project (sum-of-six well-mixed GHGs) equal or exceed:               <ul style="list-style-type: none"> <li><input type="checkbox"/> on a mass basis, 0 tpy, AND</li> <li><input type="checkbox"/> on a CO<sub>2</sub>e, <b>75,000 tpy CO<sub>2</sub>e</b></li> </ul> </li> </ul>
Requirement	<ul style="list-style-type: none"> <li>PSD Permit, GHG emission calculations and BACT for GHGs</li> </ul>

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### Nitrogen Dioxide Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Nitrogen Dioxide	53 ppb (100 µg/m <sup>3</sup> )	Annual	Same as Primary Standard	
	100 ppb (188 µg/m <sup>3</sup> )	1-hour	Under Review with SO <sub>2</sub>	

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## 2010 NO<sub>2</sub> NAAQS

- On February 9, 2010, EPA established a 1-hour NO<sub>2</sub> standard = 100 ppb (3 year average of the 98<sup>th</sup> percentile)
- The annual standard continues at 53 ppb (since April 30, 1971)
- On-road mobile sources are the largest producers of NO<sub>2</sub>
- Expect to see monitors near highways in urban areas
- Significant dispersion modeling challenges have been noted in permitting exercises – Delays!!**
- EPA expects to identify or designate areas as attainment, nonattainment, unclassifiable by January, 2012




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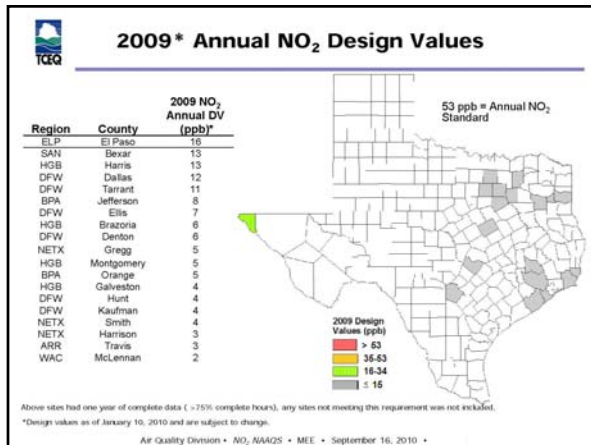
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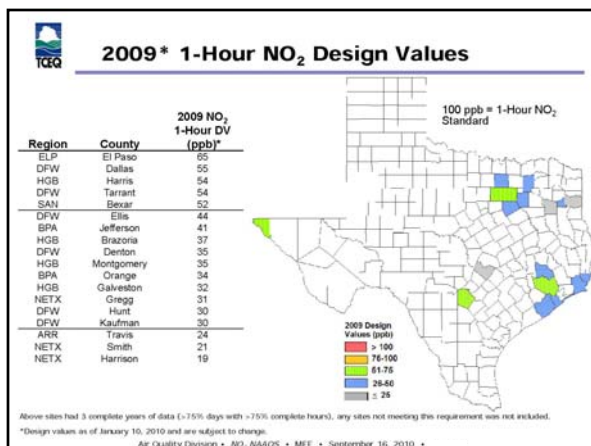
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## HRVOCs – Texas Rule

- The December 2002 revisions included new rules to reduce HRVOC emissions from 4 key industrial sources: fugitives, flares, process vents, and cooling towers.
- Analysis showed that limiting emissions of ethylene, propylene, 1,3-butadiene, and butenes in conjunction with an 80 percent reduction in NOx is equivalent in terms of air quality benefit to that resulting from a 90 percent point source NOx reduction requirement. As such, the HRVOC rules are performance based, emphasizing monitoring, recordkeeping, reporting, and enforcement, rather than establishing individual unit emission rates.

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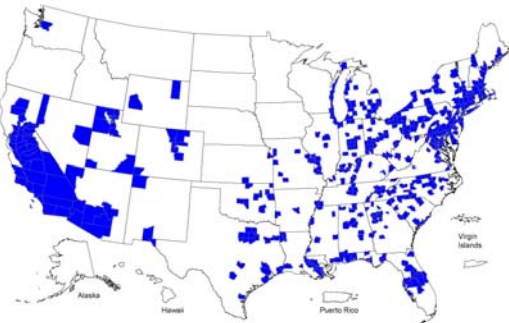
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Unofficial Counties with 2006-2008 8-hour Design Value Above 0.070 ppm



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Unofficial Counties with 2006-2008 8-hour Design Value Above 0.065 ppm



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## Important Legal Actions

- Federal (EPA)
  - ◆ GHGs - Various petitioners, several cases - EPA's Endangerment Finding, etc.
  - ◆ New 1-Hour Sulfur Dioxide NAAQS – Numerous petitioners (including Texas)
  - ◆ 2008 Ozone NAAQS – Various petitioners – Expect more when EPA finalizes the new 2010 Ozone NAAQS AFTER the November elections
- Texas (TCEQ)
  - ◆ Flexible Permits – Petition submitted by Texas on July 23, 2010
  - ◆ Qualified Facilities Rule – TCEQ filed for reconsideration on June 14, 2010
  - ◆ Ozone and PM2.5 – Texas SIP – Sierra Club v. EPA (Complaint filed September 14, 2010)




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## Construction/Modification Authorizations

- All companies in Texas must receive authorization from the TCEQ to build and operate any sources of emissions to the air
- Authorization types include:
  - ◆ Permit-by-Rule (PBR)
  - ◆ Standard Permit (SP)
  - ◆ Case-by-case Construction Permit




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## Proposed Permit-by-Rule 352




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### What Equipment is Covered?

- Fugitive components, pumps and meters
- Separators, condensers, cooling towers
- Treatment and processing
- Cooling towers, gas recover units
- Combustion units
- Storage tanks, truck loading equipment
- Control equipment
- Temporary facilities used for planned maintenance and controls for planned start-ups and shutdowns



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### What Equipment is not Covered?

- Sour water strippers and SRUs
- CO<sub>2</sub> hot carbonate processing units
- Water injection facilities (see PBR 351)
- Railcar, ship, and barge loading/unloading
- Solid waste incinerators
- Cooling towers and heat exchangers with direct contact with process streams
- Increases in emissions of an APWL contaminant in an APWL area



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### Proposed Rule Timing

- Public Notice Period Ended: October 1, 2010
- Public Hearing: September 14, 2010
- Goes Before Commission: December 14, 2010
- Expected Adoption: January 12, 2011
- Expected Effective Date: February 3, 2011



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## Controls and Best Practices

- The proposed PBR requires Best Management Practices (BMP) for some facilities
- Additional requirements (e.g., add'l monitoring and recordkeeping) may apply for control devices
- TCEQ expects 100,000 sites will need to apply new controls or implement new procedures




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## O&G Standard Permit

- If an O&G site does not qualify for a PBR, it may qualify for a Standard Permit
  - ◆ e.g., a site that handles sour gas and is within ¼ mile of an off-site receptor, or a site that emits > 25 tpy of VOC
- Emission limits and required practices for sources of VOC and SO<sub>2</sub> emissions
- Registration and approval are required BEFORE start of construction




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## Proposed Standard Permit

- Concurrent TCEQ SP proposal with new PBR proposal
- Existing SP sites must apply for the new SP:
  - ◆ For unchanged sites... Need clarification from TCEQ
  - ◆ When modified and emissions increases occur.
- TCEQ expects about 500 PBR 352 sites will get pulled into the SP
- BACT Requirements added in Tables 10 and 11




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**Summary**

- You are likely to experience ongoing challenges during the air permitting/authorization process as a result of EPA's recent actions
  - ◆ Expect extended construction authorization time frames (delays) for a variety of reasons
  - ◆ The pending legal petitions and even the November elections may have impacts
- Expect continued emphasis on NO<sub>x</sub>, VOCs, CO<sub>2</sub>, and methane emissions
- Track the need to update permit authorizations for your current operations – Focus on major sites first
- Can you leverage this with the upcoming GHG monitoring requirements?



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