Greenhouse Gas Permitting

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Dallas, TX
LMOP July 16, 2013
BASICS of GHG

• GHG is a single pollutant defined as an aggregate of six gases.

• The global warming potential (GWP) is a measure of the total energy that a gas absorbs over a particular period of time compared to carbon dioxide
  
  – Carbon Dioxide  
  GWP = 1
  – Methane  
  GWP = 21 (25)
  – Nitrous Oxide  
  GWP = 300
  – Sulfur Hexafluoride  
  GWP = 23,900
  – HFCs  
  Vary
  – PFCs  
  Vary
Sources of GHG

- Fuel combustion (Utilities, Refineries, Steel etc)
  - Carbon Dioxide
  - Nitrous Oxide

- Oil and gas production & Landfills
  - Methane

- Electrical transmission & Magnesium Production
  - Sulfur Hexafluoride (SF₆)

- Refrigerant, Semiconductor and Aluminum Industries
  - Hydrofluorocarbons
  - Fluorinated hydrocarbons
PSD Applicability Criteria for New Sources of GHGs

<table>
<thead>
<tr>
<th>Permits issued from January 2, 2011, to June 30, 2011 (Step 1 of the Tailoring Rule)</th>
<th>Permits issued on or after July 1, 2011 (Step 2 of the Tailoring Rule)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSD applies to GHGs, if:</td>
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</tr>
<tr>
<td>• The source is otherwise subject to PSD (for another regulated NSR pollutant), <strong>and</strong></td>
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<td>• The source has a GHG PTE equal to or greater than:</td>
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<tr>
<td>o 75,000 TPY CO₂e</td>
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<tr>
<td><strong>OR</strong></td>
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<td>• Source has a GHG PTE equal to or greater than:</td>
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</tr>
<tr>
<td>o 100,000 TPY CO₂e, <strong>and</strong></td>
<td>o 100/250 TPY mass basis</td>
</tr>
</tbody>
</table>

Note: All thresholds are expressed in short tons (2,000 lbs)!
Please refer to the **PSD and Title V Permitting Guidance for Greenhouse Gases** found at: [http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf](http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf)
### PSD Applicability Criteria for Modified Sources of GHGs

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| **PSD applies to GHGs, if:**  
- Modification is otherwise subject to PSD (for another regulated NSR pollutant), and has a GHG emissions increase and net emissions increase:  
  - Equal to or greater than 75,000 TPY CO$_2$e, **and**  
  - Greater than -0- TPY mass basis, | **PSD applies to GHGs, if:**  
- Modification is otherwise subject to PSD (for another regulated NSR pollutant), and has a GHG emissions increase and net emissions increase:  
  - Equal to or greater than 75,000 TPY CO$_2$e, **and**  
  - Greater than -0- TPY mass basis  
  
**OR BOTH:**  
- The existing source has a PTE equal to or greater than:  
  - 100,000 TPY CO$_2$e **and**  
  - 100/250 TPY mass basis  
- Modification has a GHG emissions increase and net emissions increase:  
  - Equal to or greater than 75,000 TPY CO$_2$e, **and**  
  - Greater than -0- TPY mass basis  
  
**OR BOTH:**  
- The source is an existing minor source for PSD, **and**  
- Modification alone has actual or potential GHG emissions equal to or greater than:  
  - 100,000 TPY CO$_2$e, **and**  
  - 100/250 TPY mass basis |

Please refer to the *PSD and Title V Permitting Guidance for Greenhouse Gases* found at:  
Emission Estimations

• Use EPA GHG Reporting Rule Part 98
• LandGem
• Facility test data for landfill material
• GHG Permitting guidance - [http://www.epa.gov/nsr/ghgpermitting.html](http://www.epa.gov/nsr/ghgpermitting.html)
• For Landfills: [http://www.epa.gov/nsr/ghgdocs/landfills.pdf](http://www.epa.gov/nsr/ghgdocs/landfills.pdf)
GHG Permits in Region 6

• Website address:

  • [http://yosemite.epa.gov/r6/Apermit.nsf/AirP](http://yosemite.epa.gov/r6/Apermit.nsf/AirP)

• All permit applications, draft and final permits are posted on the website
What are the elements of an EPA- PSD PERMIT

• General information on the process and emission units
• Applicability- Calculations for GHG emissions
  – CO$_2$equivalent
  – Mass basis
• BACT evaluation
• Additional Considerations
  – Endangered Species Act
  – National Historical Protection Act
  – Environmental Justice
Public Participation

- Public notice in newspaper
- 30 day public comment period
- EAB appeal
EPA Region 6 GHG Permits

• Applications in Texas should be sent to:
  U.S. EPA Region 6
  1445 Ross Avenue, Suite 1200
  Dallas, TX 75202-2733
  Attn: Air Permits Section (PD-R)

• Contacts:
  Jeffrey Robinson
  Melanie Magee
  http://yosemite1.epa.gov/r6/Apermit.nsf/AirP?OpenView#B