Clean Air Opportunities

- New NAAQS:
  - Ozone
  - PM
  - SO2 primary and secondary
  - NO2 primary and secondary
  - Pb
  - CO
- Haze SIPS/FIPs
- CSAPR
- GHG permitting
- MACT/NSPS
# NAAQS Milestones

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NAAQS</th>
<th>Designations</th>
<th>SIPs due</th>
<th>Attainment Demo Due</th>
<th>Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{2.5}$ (current)</td>
<td>2012</td>
<td>2014</td>
<td>2015</td>
<td>2017</td>
<td>2019/2024</td>
</tr>
<tr>
<td>NO$_2$ (primary)</td>
<td>Jan 2010</td>
<td>Feb 2012</td>
<td>Jan 2013</td>
<td>Aug 2013</td>
<td>Feb 2017</td>
</tr>
<tr>
<td>SO$_2$ (primary)</td>
<td>June 2010</td>
<td>July 2012</td>
<td>June 2013</td>
<td>Jan 2014</td>
<td>July 2017</td>
</tr>
<tr>
<td>NO$_2$/SO$_2$ 2ndary</td>
<td>Mar 2012</td>
<td>TBD</td>
<td>Mar 2015</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Ozone NAAQS
Great Progress with 84 ppb Standard

- Non Attainment Areas:
  - Houston [120]→[84]
  - Beaumont [115]→[74]
  - Dallas [96]→[86]
  - Baton R. [105]→[78]
- BTR redesignation ... soon
- In 1997, 23 LA Parishes did not meet the 84 ppb standard
- Section 185 fee ‘Termination Determination’ for BTR final [issue in other locales]
75 ppb Ozone NAAQS

- 9/7/11- OMB returned proposed ozone reconsideration; 2008 standard deadlines passed, litigation prompted

- Practical approaches:
  - Use existing guidance and State recommendations
  - Use 2008 -2010 Design Values
  - Use 9 Factor analysis
  - Issue implementation guidance in 2012

- Schedule:
  - Jan 2011- LDEQ recommendations for E. Baton R
  - Dec 2011- EPA 120 day letters
  - Apr 2012- Designations
  - Dec 2015- Attainment for marginal areas
Region 6 Ground Level Ozone Concentrations

County Monitoring Data, 8-Hour Ozone Design Values

1997 8-hour ozone standard = 0.08 ppm (allowed to go as high as 0.084 ppm).
2008 8-hour ozone standard = 0.075 ppm. Design Values = 3-year average of the annual 4th highest 8-hour ozone maxima.

Sources: US EPA AQIS Database and State Agency Monitors.

2008-2010 8-Hour Ozone Design Value
- > 0.084 ppm
- > 0.075 ppm and < 0.085 ppm
- > 0.059 ppm and < 0.076 ppm
- < 0.060 ppm

EPA Region 6
GIS M2P2 Division
October 6, 2011
2011006JMS
Transition:
75ppb to the next [2014] NAAQS

- 2011 was *HOT*... Ozone readings soared. Prelim #’s:
  - 11 [instead of 3] communities over 75 ppb in R-6
  - In Louisiana: Shreveport [80], New Orleans [76], Lake Charles [76]
- The 2014 NAAQS will likely be in the 60-70 ppb range.
- Are there programs that would help new future nonattainment areas improve air quality in advance of the designation process????
SO$_2$ Monitor Design Values 2008-2010

Legend
- ▲ Above 2010 1 Hr NAAQS
- ▼ Below 2010 1 Hr NAAQS

St. Bernard Parish
W. BTR Parish
SO$_2$ NAAQS

59 violating monitors [of 424] in 18 states ('08-'10)

- Jun 3 '10: 75 ppb 1-hr SO2 NAAQS promulgated
- Mar 24 '11: Designation guidance issued.
- Jun '11: State designation recommendations
- Sep 23 to Nov 2 '11 Guidance on SIP open for comment
- Feb 2012: “120-day letters”
- Jun 2012: final designations
- 2014: States submit attainment demonstration SIPs
- 2017 Attainment date [5 years after effective date of designation probably based on 2014-2016 data]
NO2 NAAQS

- Jan ‘10: 1-hr 100 ppb standard promulgated
  All areas unclassifiable/attainment based on lack of violations
- Jun 29, ‘10 Guidance on NO2 PSD permit modeling includes:
  - interim significant impact level
  - Estimating ambient NO2 concentrations
  - Determining compliance with the new NO2 std
  - Modeling emergency equipment
- Jan 2013: Infrastructure SIPs
- 2013/2104: 52 near-road monitoring sites in cities > 1 million
GHG Regulations in 2010

- 1/1/10- National GHG Mandatory Reporting Rule
- 4/1/10- Light-Duty Vehicle and Corporate Average Fuel Economy (CAFE) Standards
- 5/13/10- PSD and Title V Greenhouse Gas Tailoring Rule
- 12/2010- SIP and FIP Actions affecting 50 States
<table>
<thead>
<tr>
<th>Standards</th>
<th>Results</th>
<th>Cost/Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light Duty Vehicles 5/7/10</strong></td>
<td>35.5 MPG</td>
<td><strong>Cost</strong>: $52 B</td>
</tr>
<tr>
<td>MY: 2012 – 2016</td>
<td></td>
<td><strong>Benefits</strong>: $240 B + 1.8 B bbl oil saved</td>
</tr>
<tr>
<td><strong>Medium/Heavy-Duty Vehicles 8/9/11</strong></td>
<td>Semi trucks: save 4 Gal/100 miles</td>
<td><strong>Cost</strong>: $8 B</td>
</tr>
<tr>
<td>MY: 2014 – 2018</td>
<td>Pickups/RV’s: save 1 Gal/100 miles</td>
<td><strong>Benefit</strong>: $99 B + 0.5 B bbl oil saved</td>
</tr>
</tbody>
</table>
Permitting Steps Under the Tailoring Rule

- **Step 1:** Source already subject to PSD “anyway” (tpy CO$_2$e)
  New source: NA
  Modification: 75,000

- **Step 2:** Sources already subject to PSD (tpy CO$_2$e)
  New source: 100,000
  Modification: 75,000

- **Step 3:** Implementation of potential additional phase-in and streamlining options

- **5-year study:** To examine GHG permitting for smaller sources

- Implementation of rule based on 5-year study

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Study Complete</td>
<td></td>
<td></td>
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</tbody>
</table>
GHG Permits Status

- 100 applications pending
- 10 issued [Nucor Steel in January]
- Principle issues:
  - Documentation of BACT
  - Practical enforceability
  - CCS
  - Biomass
# Pig Iron v. DRI Process

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>Pig Iron TV Permit 2560-00281-V0 (initial)</th>
<th>DRI TV Permit 3086-V0</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>1,200</td>
<td>200</td>
</tr>
<tr>
<td>PM2.5</td>
<td>400</td>
<td>120</td>
</tr>
<tr>
<td>PM10</td>
<td>680</td>
<td>140</td>
</tr>
<tr>
<td>SO2</td>
<td>3,800</td>
<td>30</td>
</tr>
<tr>
<td>NOx</td>
<td>3,800</td>
<td>120</td>
</tr>
<tr>
<td>CO</td>
<td>30,000</td>
<td>600</td>
</tr>
<tr>
<td>VOC</td>
<td>270</td>
<td>30</td>
</tr>
<tr>
<td>LEAD</td>
<td>0.4</td>
<td>0.003</td>
</tr>
<tr>
<td>MERCURY</td>
<td>0.3</td>
<td>+&lt;0.01</td>
</tr>
<tr>
<td>TOXIC VOC’s</td>
<td>110</td>
<td>40</td>
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<tr>
<td>PRODUCTION</td>
<td>6 M T/Y</td>
<td>5 M T/Y</td>
</tr>
<tr>
<td>Pig Iron</td>
<td></td>
<td>Sponge Iron</td>
</tr>
<tr>
<td>CO2 ESTIMATE</td>
<td>5 M T/Y</td>
<td>3.4 M T/Y</td>
</tr>
</tbody>
</table>

**Blast Furnace Pig Iron Process**

**DRI Sponge Iron Process**