Clean Air Update

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EPA Region 6
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AWMA Fall Conference
Baton Rouge, LA

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

Pollutant	NAAQS	Designations	SIPs due	Attainment Demo Due	Attainment
$PM_{2.5}$ (2006)	Sept 2006	Dec 2009	Sept 2009	Dec 2012	Dec 2014/2019
$PM_{2.5}$ (current)	2012	2014	2015	2017	2019/2024
Pb	Oct 2008	Dec 2010/2011	Oct 2011	June 2012/2013	Dec 2015/2016
NO_2 (primary)	Jan 2010	Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO_2 (primary)	June 2010	July 2012	June 2013	Jan 2014	July 2017
Ozone (2008)	Mar 2008	2012	(Mar 2011)	2015	2015-2035
Ozone (current)	July 2014	2016	July 2017	2019/2020	2019-2039
NO_2/SO_2 2ndary	Mar 2012	TBD	Mar 2015	TBD	TBD

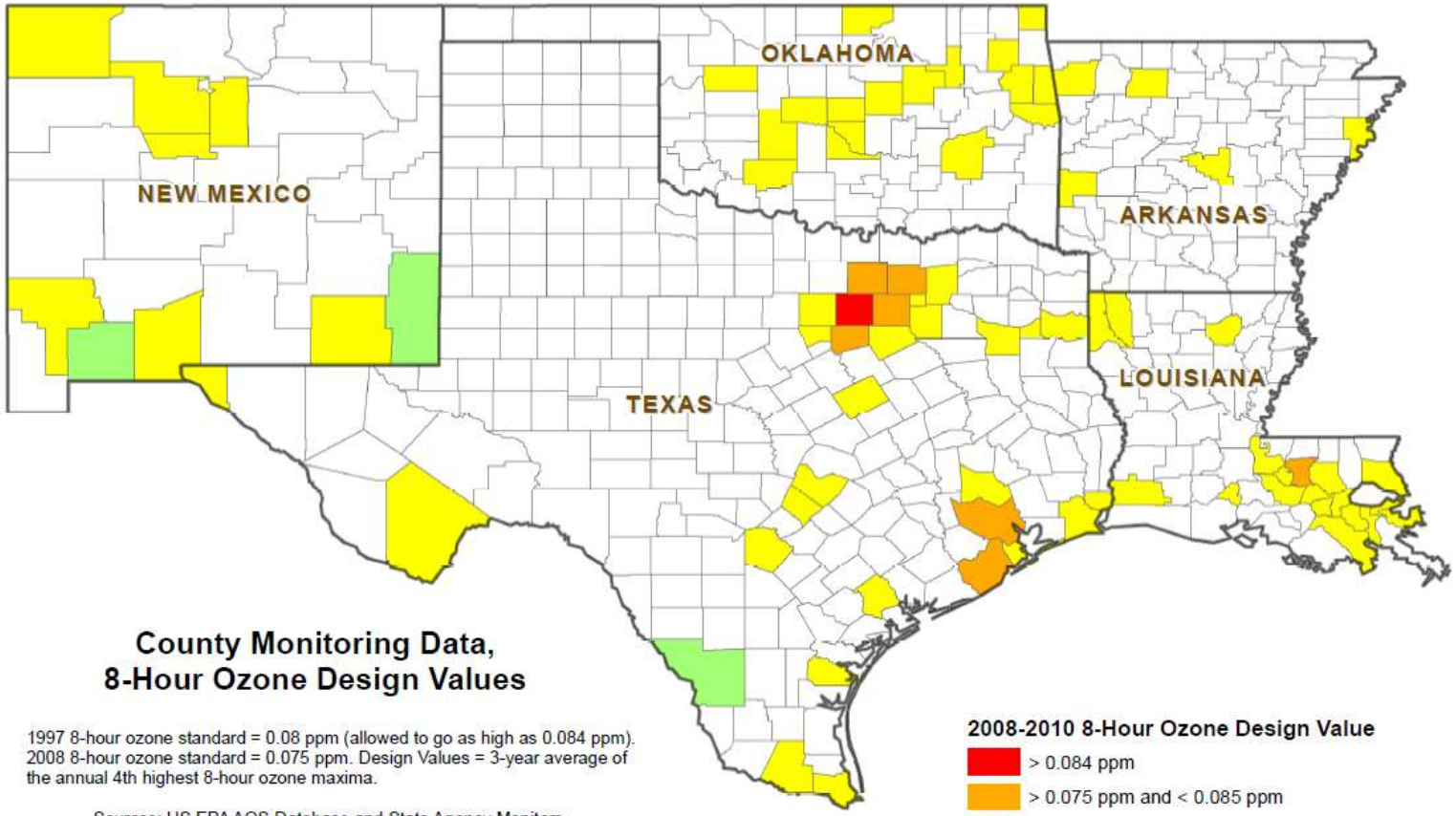
Ozone NAAQS
Great Progress with 84 ppb Standard

- 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 AQS 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

0 50 100 200 300 Miles

N W E S

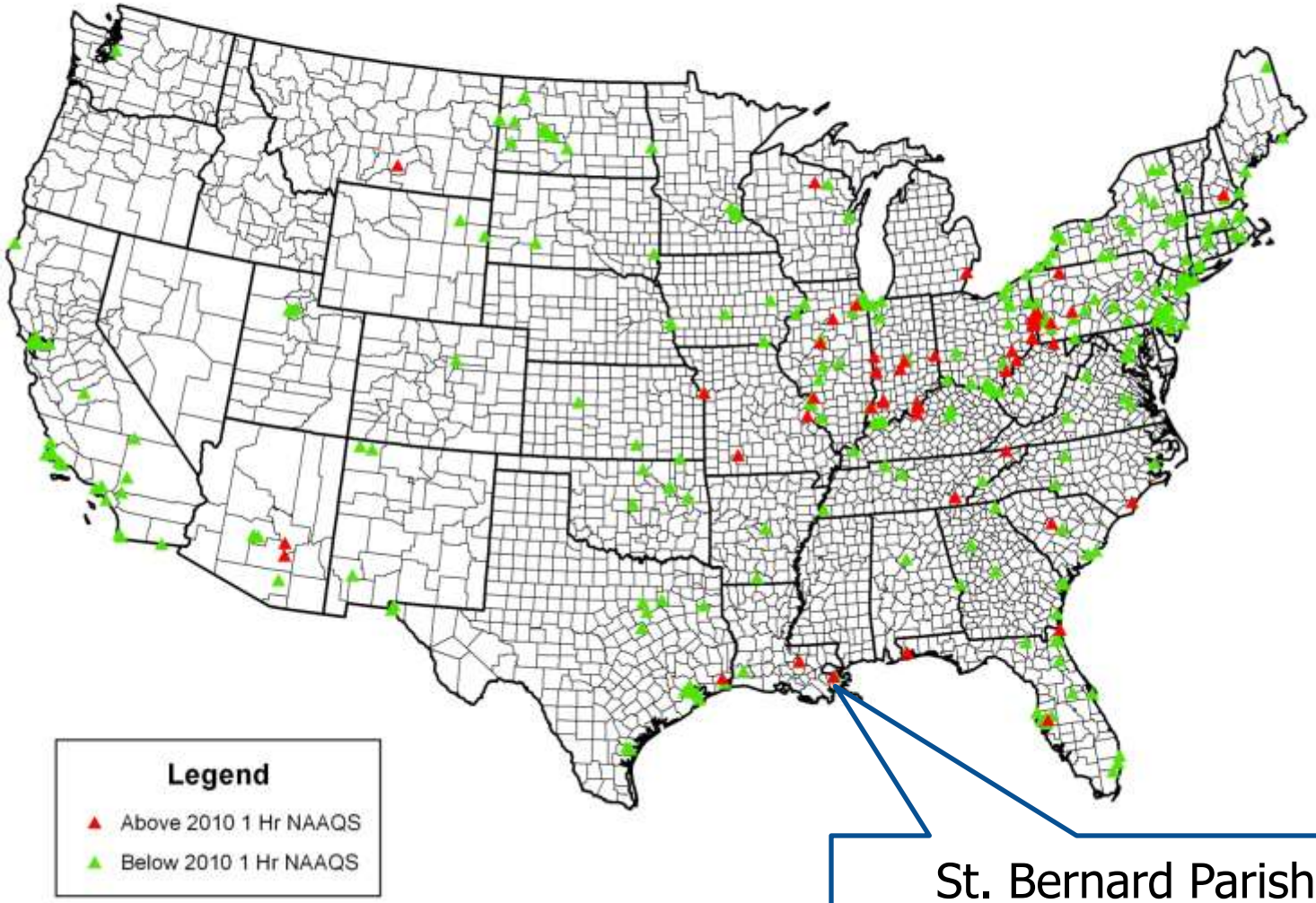
EPA Region 6
GIS M2P2 Division
October 6, 2011

20111006JMS

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



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]

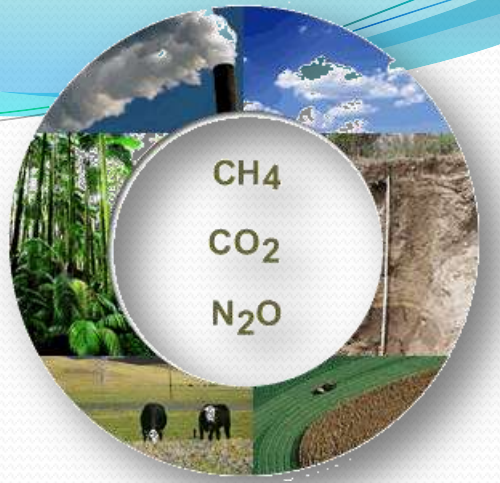
NO2 NAAQS

- 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

Mobile Source GHG Rules

Standards	Results	Cost/Benefits
Light Duty Vehicles 5/7/10 MY: 2012 – 2016	35.5 MPG	Cost: $52 B Benefits: $240 B + 1.8 B bbl oil saved
Medium/Heavy-Duty Vehicles 8/9/11 MY: 2014 – 2018	Semi trucks: save 4 Gal/100 miles Pickups/RV's: save 1 Gal/100 miles	Cost: $8 B Benefit: $99 B + 0.5 B bbl oil saved

Permitting Steps Under the Tailoring Rule

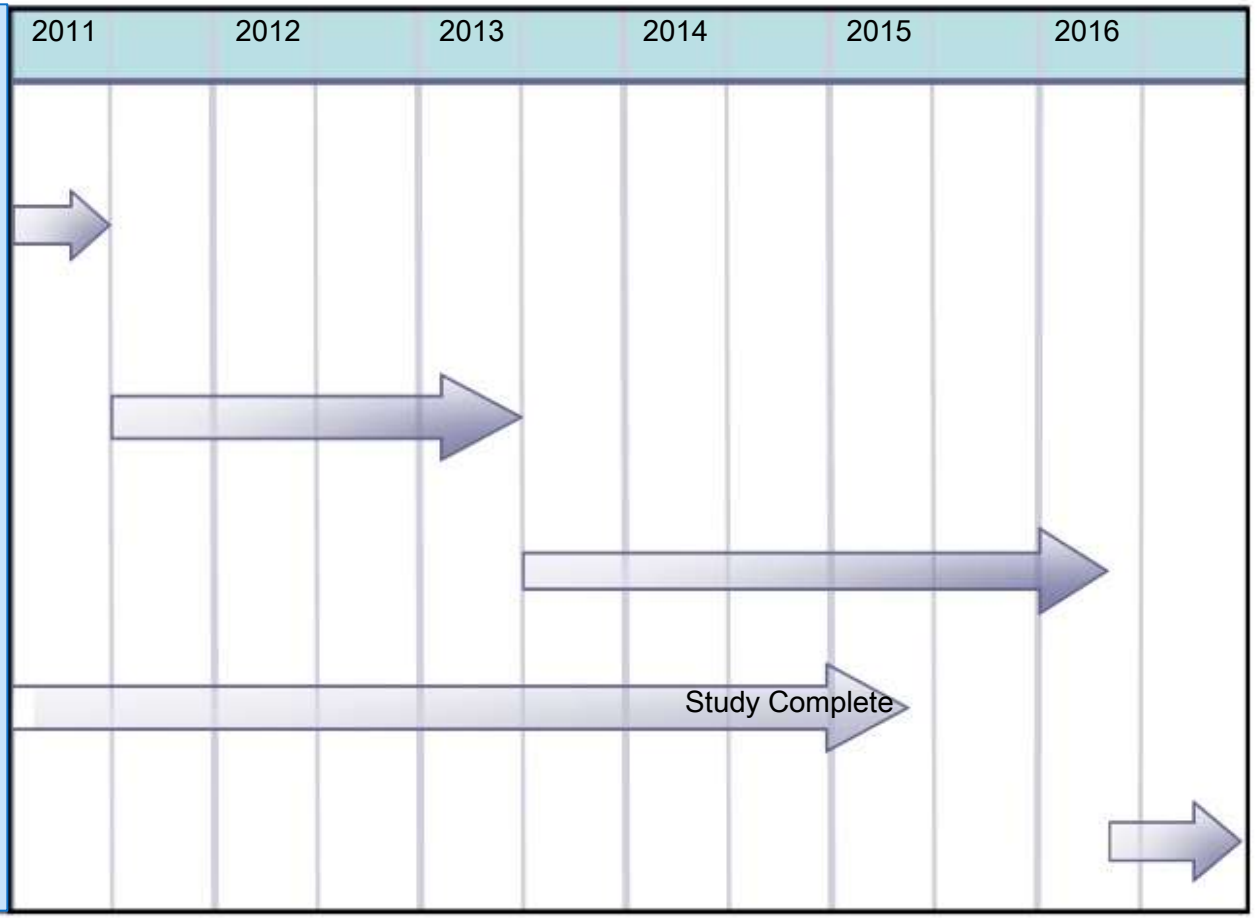
- **Step 1:** Source already subject to PSD "anyway" (tpy CO_2e)
  New source: NA
  Modification: 75,000

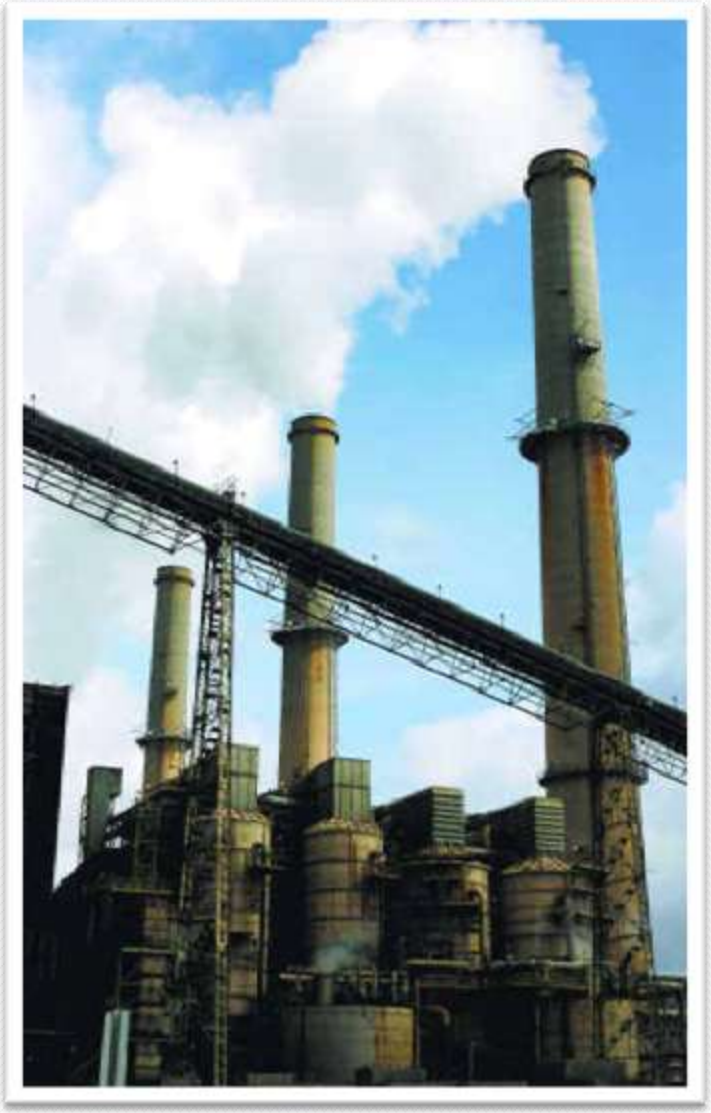
- **Step 2:** Sources already subject to PSD (tpy CO_2e)
  New source: 100,000
  Modification: 75,000

- **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





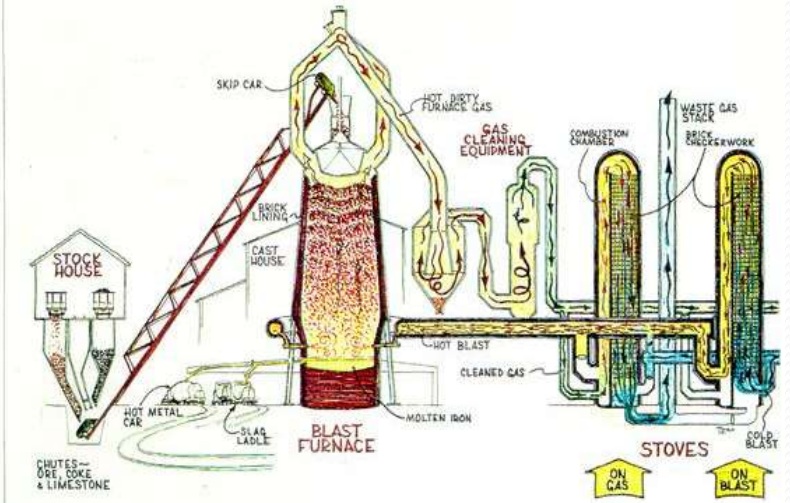
GHG Permits Status

- 100 applications pending
- 10 issued [Nucor Steel in January]
- Principle issues:
  - Documentation of BACT
  - Practical enforceability
  - CCS
  - Biomass

Pig Iron v. DRI Process

POLLUTANT	Pig Iron TV Permit 2560-00281-V0 (initial)	DRI TV Permit 3086-V0
PM	1,200	200
PM2.5	400	120
PM_{10}	680	140
SO_2	3,800	30
NO_X	3,800	120
CO	30,000	600
VOC	270	30
LEAD	0.4	0.003
MERCURY	0.3	+<0.01
TOXIC VOC's	110	40
PRODUCTION	6 M T/Y Pig Iron	5 M T/Y Sponge Iron
CO_2 ESTIMATE	5 M T/Y	3.4 M T/Y

Blast Furnace Pig Iron Process



DRI Sponge Iron Process