Update on EPA Rule Making

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EPA Actions since last SIPRAC update

- Climate Change - Regulatory Initiatives
  - PSD and Title V GHG Tailoring Rule – Final rule signed 5/13/10
  - GHG Reporting Rule for 4 categories (magnesium production, underground coal mines, industrial waste landfills and industrial wastewater treatment) – Final rule signed 6/28/10
  - Confidentiality Determinations for the Mandatory Greenhouse Gas Reporting Rule– Proposed rule signed 6/28/10

More info: www.epa.gov/climatechange/initiatives/

EPA Actions since last SIPRAC update (con't)

- Air Quality - Regulatory Initiatives
  - Revised SO_2 Standard - Final rule signed June 2, 2010
  - Emission Standards for Boilers, Process Heaters , and Solid Waste Incineration Units – Proposed rules signed April 29, 2010
  - Transport Rule – Proposed rule signed July 6, 2010

Proposed Regulations for Industrial, Commercial and Institutional Boilers

Background

- Clean Air Act (CAA) created 2 different requirements for boilers (sec. 112) and commercial and industrial solid waste incinerator (CISWI) units (sec. 129)
- When EPA set standards for waste combustors, it excluded units that burn solid waste for energy recovery, treating them instead as boilers
- In June 2007, the U.S. Court of Appeals rejected EPA's standards, citing CAA language that "any facility burning any solid waste" is to be regulated as a waste combustor, not a boiler
- EPA is now on a court-ordered schedule to adopt final rules by December 16, 2010

Proposed Rules Published on June 4, 2010

- EPA Proposed 4 Separate, but Related Rulemakings
  - National Emission Standard for Hazardous Air Pollutants (NESHAP) for Major Source Industrial, Commercial, Institutional Boilers and Process Heaters
  - NESHAP for Area Source Industrial, Commercial, and Institutional Boilers
  - Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incinerators
  - Definition of Non-hazardous Solid Waste

How are these Rules Related?

- Units that burn SOLID WASTE would be subject to requirements under CAA section 129

- Units that burn materials that are NOT A SOLID WASTE would be subject to requirements under CAA section 112

Differences Between the Boilers and CISWI Rules

- Boilers (sec. 112)
  - Major sources (10 tons of any one toxic/25 tons of all toxics annually)
    - Standards must be set for all emitted toxic air pollutants
    - Limits must be based on “maximum achievable control technology” (MACT)
  - Area sources
    - Smaller sources (not major) may be regulated based on less stringent “generally achievable control technology” (GACT)
    - Exception for certain pollutants (e.g., mercury, polycyclic organic matter)
- CISWI units (sec. 129)
  - Standards must be set for 9 specific pollutants, not all of which are “air toxics”
  - Additional siting and operator training requirements
  - No provision authorizing GACT for smaller sources

Major Source Boiler MACT - Proposed Subcategories

- Eleven subcategories based on design type
  - Pulverized coal units
  - Coal-fired stokers
  - Coal-fired fluidized bed combustion units
  - Biomass-fired stokers
  - Biomass-fired fluidized bed combustion units
  - Biomass-fired Dutch ovens/suspension burners
  - Biomass-fired fuel cells
  - Liquid fuel-fired units
  - Gas 1 (natural gas/refinery gas)
  - Gas 2 (other gases)
  - Metal process furnaces (natural gas-fired)

Major Source Boiler MACT - Proposed Standards for Existing Units

- Emissions limits for units ≥ 10 million Btu/hour
- Work practice standard (annual tune-up) for:
  - Units with heat input capacities less than 10 million Btu/hour
  - Units in Gas 1 and Metal Process Furnaces subcategories
- All existing major source facilities – conduct an energy assessment
- Proposed limits for nine of the eleven subcategories for:
  - Particulate Matter (PM) -as surrogate for non-mercury metals
  - Mercury (Hg)
  - Hydrogen Chloride (HCl) - as surrogate for acid gases
  - Carbon Monoxide (CO) - as surrogate for non-dioxin organic Hazardous Air Pollutant (HAP)
  - Dioxin/Furan
- Technology basis: Baghouse (metals/Hg); Carbon injection (Hg/dioxins); Scrubber (HCl); Good combustion practices (organic HAP)

Major Source Boiler MACT - Proposed Standards for New Units

- Emissions limits applicable to all units, regardless of size
- More stringent than limits for existing sources
- No work practice standards or beyond-the-floor standards proposed
- Proposed numeric emissions limits for nine of the eleven subcategories for:
  - PM (as surrogate for non-mercury metals)
  - Mercury
  - HCl (as surrogate for acid gases)
  - CO (as surrogate for non-dioxin organic HAP)
  - Dioxin/Furan
- Expected Technology
  - Baghouse (metals/Hg)
  - Carbon injection (Hg/dioxins)
  - Scrubber (HCl)
  - Good combustion practices (organic HAP)

Major Source Boiler MACT - Proposed Testing and Monitoring

- Testing
  - Initial compliance tests (PM, HCl, Mercury, THC, and Dioxins)
  - Annual performance tests
  - Allows emission averaging among existing units in same subcategory
- Monitoring
  - CO Continuous Emissions Monitors (CEMS) for units with heat input capacity of 100 million Btu/hour or greater
  - PM CEMS for units combusting coal, biomass, or residual oil and having a heat input capacity of 250 million Btu/hour or greater
  - Process parameters (opacity, pressure drop, sorbent injection rate, fuel, etc.)

Area Source Boiler Rule – Subcategories

- Three subcategories based on design type
  - Coal-fired units
  - Biomass-fired units
  - Liquid fuel-fired units
- Gas units not subject

Area Source Boiler Rule – Proposed Standards for Existing Units

- Emissions limits and energy assessment for boilers ≥ 10 million Btu/hour
- Work practice standard/management practice (biennial tuneup) for boilers < 10 million Btu/hour
- Proposed emission limits for units ≥ 10 million Btu/hour :
  - For coal-fired boilers:
    - Mercury – based on MACT
    - CO (as surrogate for Polycyclic Organic Matter (POM) and other urban organic HAP) – based on MACT
    - Technology basis - baghouse (metals/Hg)/good combustion practices (organic HAP)
  - For biomass–fired boilers and oil-fired boilers:
    - CO (as surrogate for POM) – based on MACT

Area Source Boiler Rule - Proposed Standards for New Units

- Emissions limits applicable to all units, regardless of size
- No work practice standards proposed
- Technology basis for emission limits- baghouse (metals/Hg)/good combustion practices (organic HAP)
- Proposed emission limits:
  - For coal-fired boilers:
    - PM (as surrogate for urban metals)
    - Mercury (only for coal-fired boilers)
    - CO (as surrogate for POM and other urban organic HAP)
  - For biomass-fired boilers and oil-fired boilers:
    - PM (as surrogate for urban metals)
    - CO (as surrogate for POM and other urban organic HAP)

Area Source Boiler Rule – Proposed Testing and Monitoring

- Testing
  - Initial compliance tests (PM, mercury, and CO)
  - Annual performance tests
  - Biennial tune-up for boilers less than 10 million Btu/hour in size
- Monitoring
  - Process parameters (opacity, pressure drop, sorbent injection rate, fuel, etc.)
  - CO CEMS for units with heat input capacity of 100 million Btu/hour or greater

Major Source and Area Source Rule Compliance Dates

- Existing Sources (commenced construction before June 4, 2010)
  - Must comply 3 years from publication of final rule
- New Boilers or Process Heaters (commenced construction on or after June 4, 2010)
  - Must comply upon publication of final rule, or upon startup, whichever is later

Schedule

- June 4, 2010 Proposed Rules
- Comments due by August 3, 2010
- Final Rules by December 16, 2010 (court ordered)

Appendix-Emission Limit Tables for Boiler Rules

Emission Limits for Existing Major Source Boilers and Process Heaters, lb/MMBtu

Subcategory	PM	HCl	Hg	CO (ppm @3% O_2)	D/F (TEQ)(ng/dscm)
Coal Stoker	0.02	0.02	0.000003	50	0.003
Coal Fluidized Bed	0.02	0.02	0.000003	30	0.002
Pulverized Coal	0.02	0.02	0.000003	90	0.004
Biomass Stoker	0.02	0.006	0.0000009	560	0.004
Biomass Fluidized Bed	0.02	0.006	0.0000009	250	0.02
Biomass Suspension Burner/Dutch Oven	0.02	0.006	0.0000009	1010	0.03
Biomass Fuel Cells	0.02	0.006	0.0000009	270	0.02
Liquid	0.004	0.0009	0.000004	1	0.002
Gas (Other Process Gases)	0.05	0.000003	0.0000002	1	0.009

Emission Limits for New Major Source Boilers and Process Heaters, lb/MMBtu

Subcategory	PM	HCl	Hg	CO (ppm @3% O_2)	D/F (TEQ)(ng/dscm)
Coal Stoker	0.001	0.00006	0.000002	7	0.003
Coal Fluidized Bed	0.001	0.00006	0.000002	30	0.00003
Pulverized Coal	0.001	0.00006	0.000002	90	0.002
Biomass Stoker	0.008	0.004	0.0000002	560	0.00005
Biomass Fluidized Bed	0.008	0.004	0.0000002	40	0.007
Biomass Suspension Burner/Dutch Oven	0.008	0.004	0.0000002	1010	0.03
Biomass Fuel Cells	0.008	0.004	0.0000002	270	0.0005
Liquid	0.002	0.0004	0.0000003	1	0.002
Gas (Other Process Gases)	0.003	0.000003	0.0000002	1	0.009

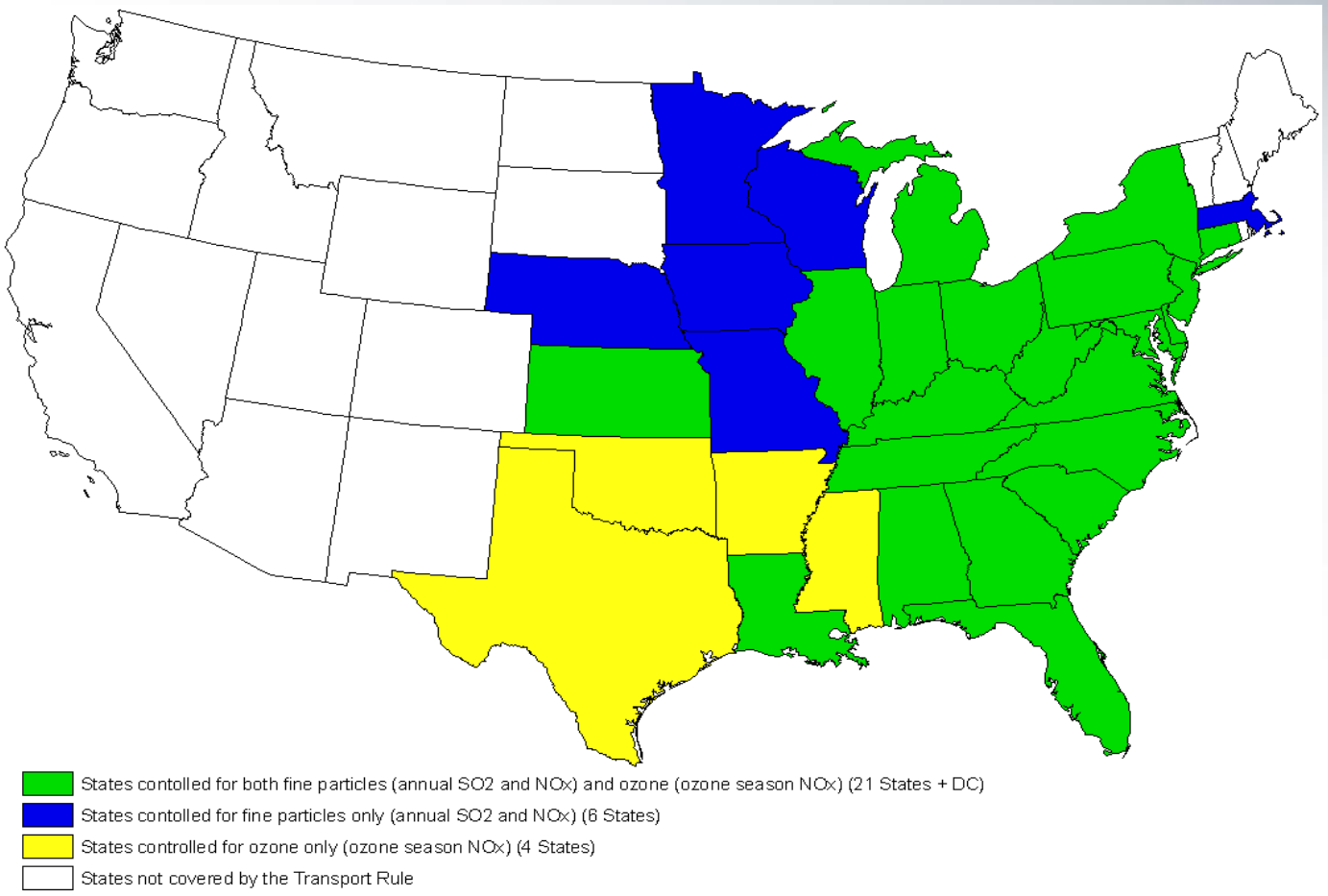
Emission Limits for Area Source Boilers, lb/MMBtu

Source	Subcategory	PM	Hg	CO, ppm
New Boiler	**Coal**	0.03	3.0E-06	310 (@ 7% O_2)
	Biomass	0.03		100 (@ 7% O_2)
	Oil	0.03		1 (@ 3% O_2)
Existing Boiler (≥ 10 mmBtu/ hr)	**Coal**		3.0E-06	310 (@ 7% O_2)
	Biomass			160 (@ 7% O_2)
	Oil			2 (@ 3% O_2)

Proposed Air Pollution Transport Rule –
Proposed rule signed July 6, 2010

- Proposal would require significant emission reductions in SO_2 and NOx from power plants that contribute to ozone and fine particle pollution in other states.
- This proposed rule would replace EPA's 2005 Clean Air Interstate Rule (CAIR). A December 2008 court decision kept the requirements of CAIR in place temporarily but directed EPA to issue a new rule to implement the Clean Air Act requirements concerning the transport of air pollution across state boundaries.

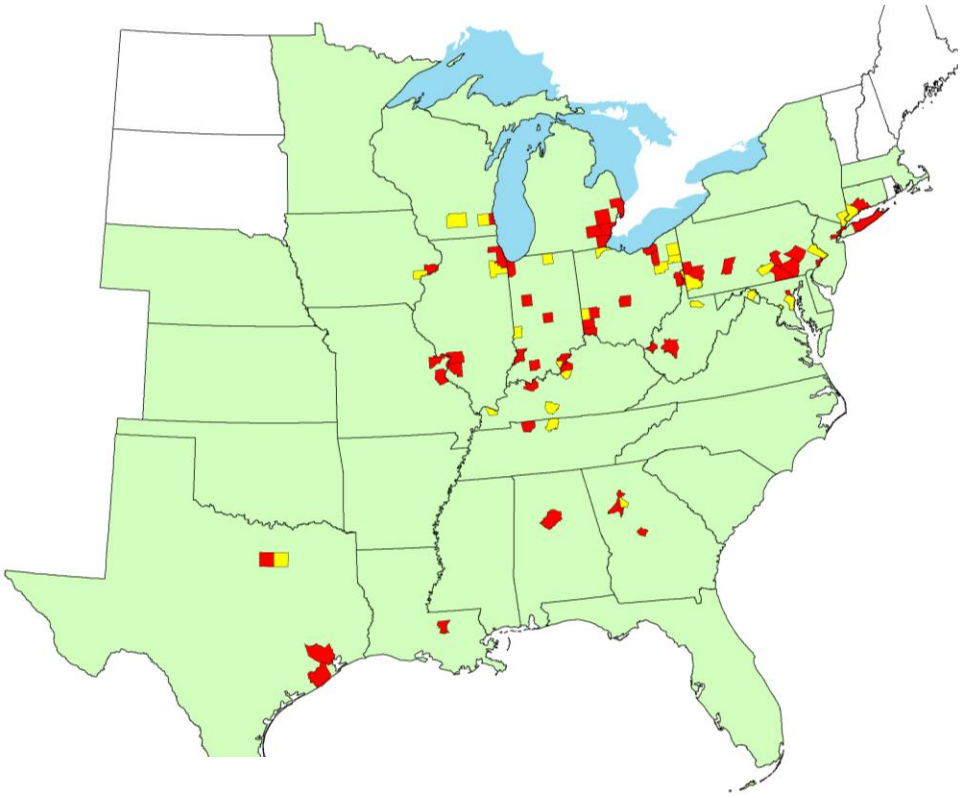
Proposal Would Reduce Emissions in 31 States and D.C.



- Proposal includes separate requirements for:
  - Annual SO_2 reductions
  - Annual NO_x reductions
  - Ozone-season NO_x reductions
- Sets emissions budgets for each state

Why Is EPA Doing this Rule?

Counties with Monitors Projected to Have Ozone and/or PM2.5 Air Quality Problems in 2012 Without the Proposed Transport Rule



Counties with Violating PM and/or Ozone Monitors (55)

Counties with PM and/or Ozone Maintenance Problems (28)

States covered by the Transport Rule (31 + DC)

- **In 2012, EPA projects that:**
  - Some communities will still not meet the air quality standards.
  - Many upwind states will still contribute significantly to downwind nonattainment areas.
- **This proposal affects power plants because their emission reductions are most cost-effective.**
- **Other actions by EPA and the states must be taken before all areas will attain the current and future National Ambient Air Quality Standards (NAAQS).**

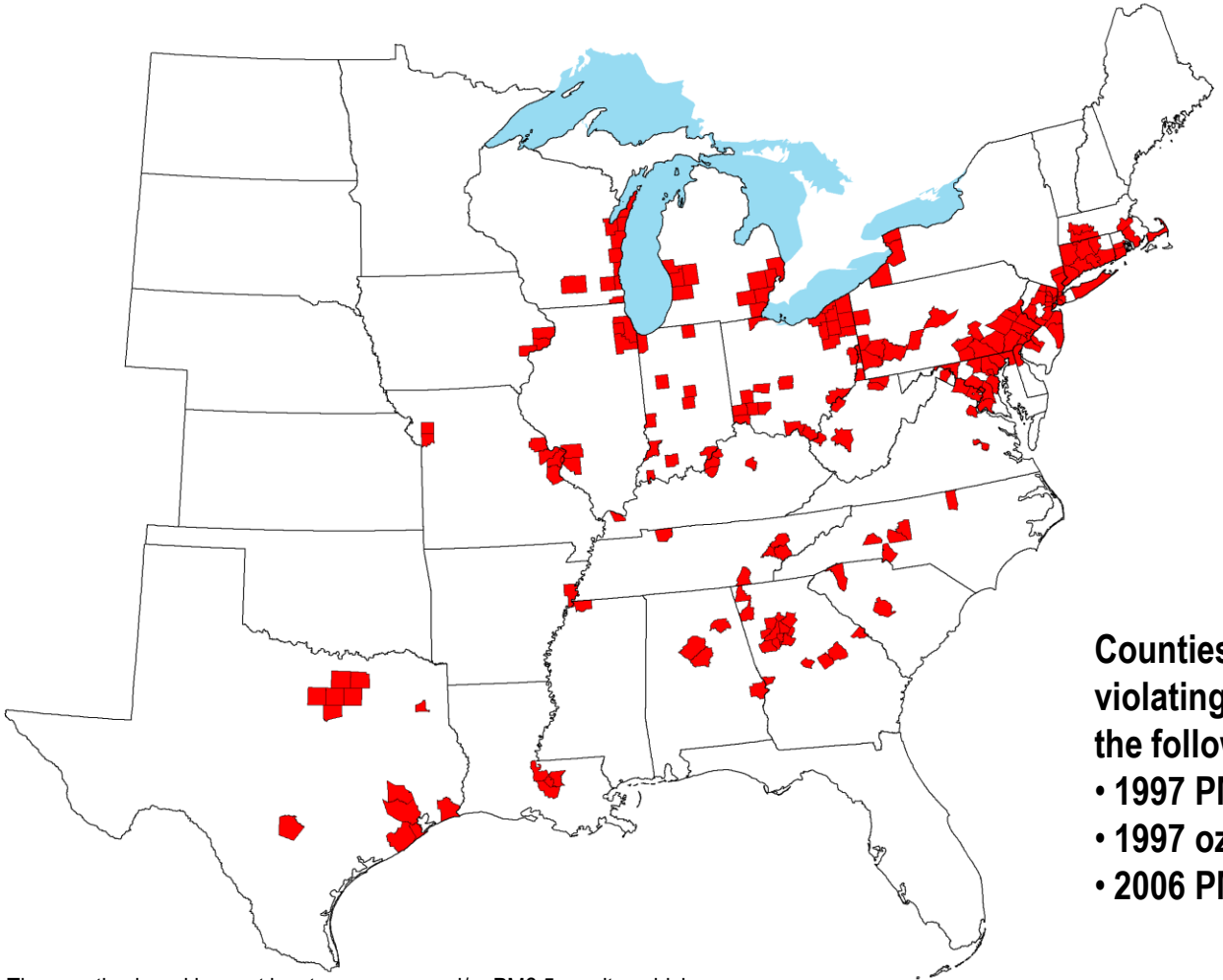
Significant NO_X and SO_2 Reductions from Transport Rule Proposal

- Limitations in 2014 for States and D.C. covered by the proposed Transport Rule:
  - Annual SO_2 emissions limited to 2.6 million tons
  - Annual NO_x emissions limited to 1.3 million tons
  - Ozone season NO_x emissions limited to 600,000 tons
- By 2014, emissions reductions from electric generating units represent a 71% reduction in SO_2 and a 52% reduction in NO_X emissions from 2005 levels in the covered states.
- Achieves emissions reductions beyond those originally required by CAIR from power plants beginning in 2012

Benefits Outweigh Costs

- EPA estimates the annual benefits from the proposed rule range between $120-$290 billion (2006 $) in 2014.
- EPA estimates annual compliance costs at $2.8 billion in 2014.
- Modest costs mean small effects on electricity generation. EPA estimates that in 2014:
  - Electricity prices increase less than 2 percent.
  - Natural gas prices increase less than 1 percent.
  - Coal use is reduced by less than 1 percent.

Counties Violating Air Quality Standards in the Proposed Transport Rule Region
(based on 2003-07 air quality monitoring data)



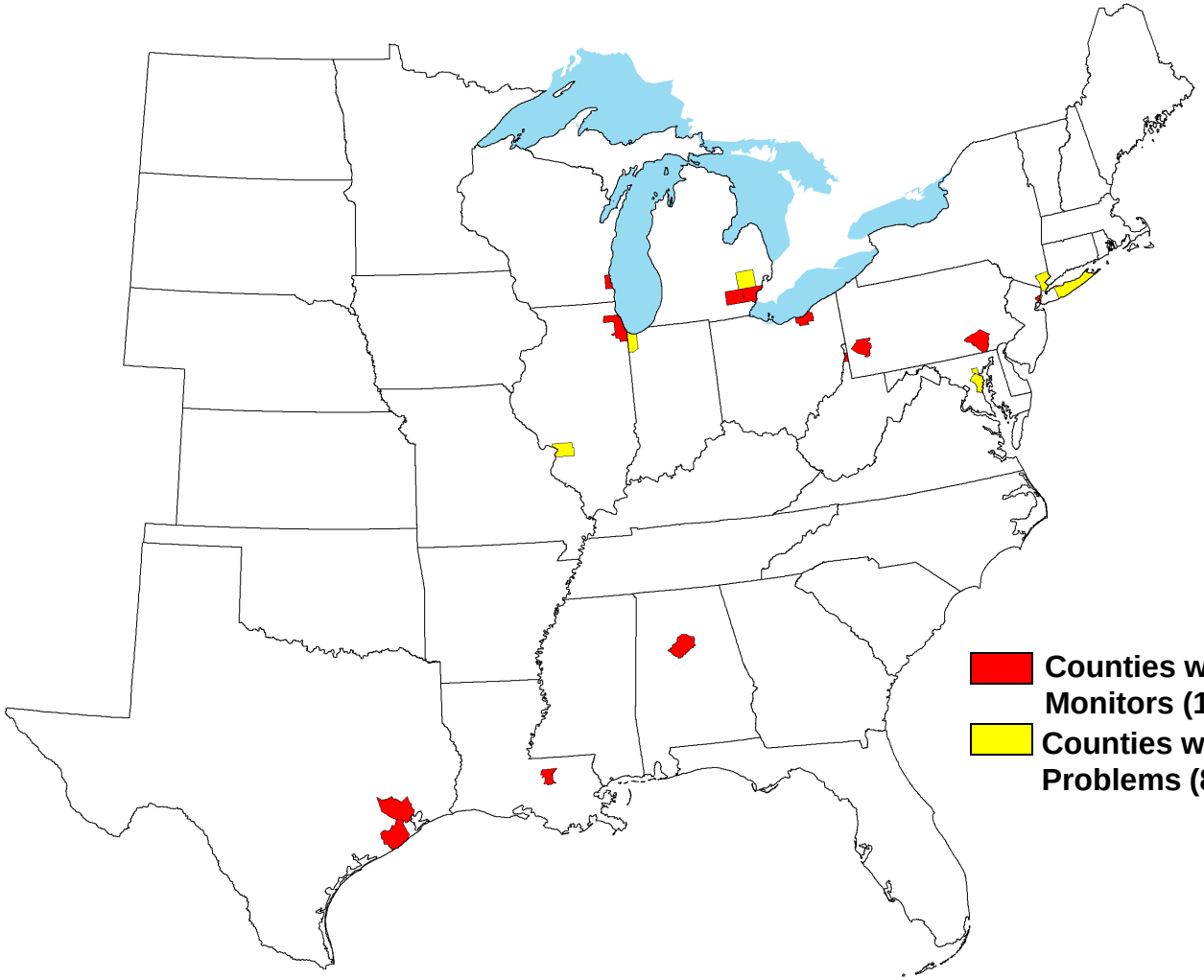
Counties in red are violating one or more of the following NAAQS:

- 1997 $PM_{2.5}$
- 1997 ozone
- 2006 $PM_{2.5}$

The counties in red have at least one ozone and/or PM2.5 monitor which violated the NAAQS in the periods 2003-2005, 2004-2006, and/or 2005-2007.

Counties with Violating Monitors (207)

Counties with Monitors Projected to Have Ozone and PM2.5 Air Quality Problems in 2014 With the Proposed Transport Rule



This analysis assumes that the Clean Air Interstate Rule is not in effect. It does reflect other federal and state requirements to reduce emissions contributing to ozone and fine particle pollution that were in place as of February 2009.

Ozone: More Needs to Be Done

- This proposal would achieve reductions in seasonal ozone levels.
- Additional emissions reductions will be needed for the nation to attain the existing ozone standard and any upcoming 2010 ozone standards.
- EPA has already started the required analyses to determine the responsibility of upwind states for ozone problems projected to remain after today's rule. We anticipate proposing a determination to address pollution transport for any upcoming ozone standard in 2011 and finalizing it in 2012.
- EPA plans to identify any needed emissions reductions from upwind states in time to help downwind states attain the reconsidered ozone standards.

EPA's Ongoing Commitment to Assist States

- This rule proposes a procedure for determining each upwind state's control responsibility that EPA can apply to any revised air quality standard. Each time air pollution standards (NAAQS) are changed, if interstate pollution transport contributes to the air quality problem, EPA will evaluate whether new emission reductions will be required from upwind states.

- The Clean Air Act requires states to submit plans to eliminate significant interstate pollution transport before they submit plans to meet ambient air quality standards. By determining the amount of emissions that upwind states must eliminate in advance of the time that state pollution transport plans are due, EPA will promote timely reductions in pollution transport. When downwind states design their plans to meet the air quality standards, they will know how much upwind state control is required.

Key Elements of Proposed Transport Rule

- **EPA is proposing one approach and taking comment on two alternatives. All three approaches would cover the same states – 31 states and the District of Columbia, set a pollution limit (or budget) for each state and obtain the reductions from power plants.**

  1. EPA's preferred approach -- allows intrastate trading and limited interstate trading among power plants but assures that each state will meet its pollution control obligations.
  2. In the first alternative, trading is allowed only among power plants within a state.
  3. In the second alternative, EPA specifies the allowable emission limit for each power plant and allows some averaging of emission rates.

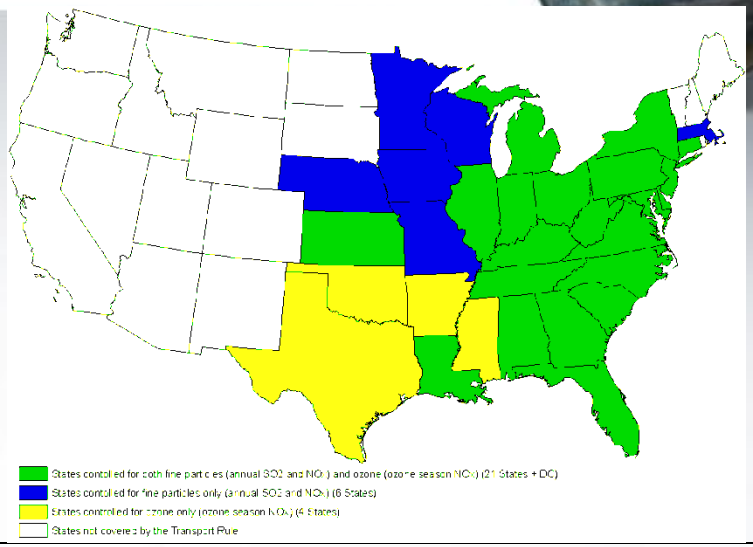
Key Elements of Proposed Transport Rule (con't)

- **To assure emissions reductions happen quickly, EPA is proposing federal implementation plans, or FIPs, for each of the states covered by this rule.**
  - A state may choose to develop a state plan to achieve the required reductions, replacing its federal plan, and may choose which types of sources to control.

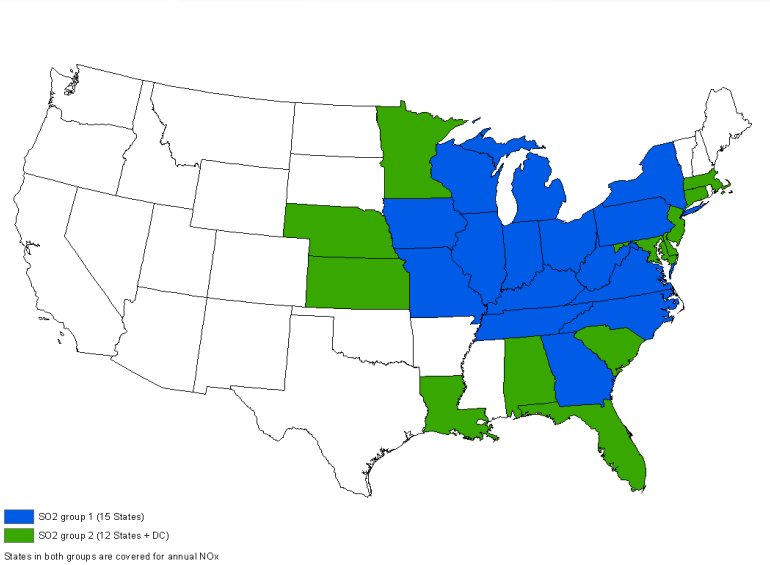
- **Proposal defines upwind state obligations to reduce pollution significantly contributing to downwind nonattainment areas based on:**
  - the magnitude of a state's contribution,
  - the cost of controlling pollution from various sources, and
  - the air quality impacts of reductions.

Four Separate Control Regions

- Proposal includes separate requirements for:
  - NO_x reductions (2012)
  - Ozone-season NO_x reductions (2012)
- Sets emissions budgets for each state



- Proposal includes separate requirements for:
  - Annual SO_2 reductions
    - Phase I (2012) and Phase II (2014)
    - Two Control Groups
      - Group 1 – 2012 cap lowers in 2014
      - Group 2 – 2012 cap only
- Sets emissions budgets for each state



Proposal Responds to Court Remand

- The methodology used to measure each state's significant contribution to another state:
  - emphasizes air quality (as well as cost considerations) and uses state-specific data and information, and
  - gives independent meaning to the phrase "interfere with maintenance" in section 110(a)(2)(D) of the Clean Air Act.
- The state budgets for SO_2, annual NO_X, and ozone season NO_X are directly linked to the measurement of each state's significant contribution and interference with maintenance.
- The proposed remedy includes provisions to assure that all necessary reductions occur in each individual state.
- The compliance deadlines are coordinated with the attainment deadlines for the relevant NAAQS.
- EPA proposes to allow within-state trading and limited interstate trading in 2014 to ensure that, in each state, the emissions that significantly contribute to downwind air quality problems will be eliminated.

Compliance

- **To meet this proposed rule, EPA anticipates power plants will:**
  - Operate already installed control equipment more frequently,
  - Use lower sulfur coal, or
  - Install pollution control equipment such as low NO_X burners, Selective Catalytic Reduction, or scrubbers (Flue Gas Desulfurization).

- **CAIR remains in place until this rule is finalized.**

Transport Rule provisions: Sources =< 25 MWe and Non-EGUs

- EPA requests comment on lowering 25 MWe applicability threshold for EGUs during ozone season
- Proposed rule would not include NOx SIP Call units and has no provisions for allowing states to expand applicability to include them
- However, proposal would allow non-EGUs to opt into trading programs

Transport Rule provisions: Non-EGU Opt-In

- Allowances to an opt-in unit would be in addition to the allowances issued from state budget
- Eligibility for opt-in similar to CAIR FIPs: i.e, stationary combustion device, vents through stack, meets Part 75 monitoring/reporting/records reqs
- Allowance allocation = product of lesser of baseline heat input and the opt-in unit's actual heat input during control period in immediately preceding year; lesser of baseline emissions rate multiplied by 70 percent & most stringent state/federal emissions limitation

Transport Rule provisions: Allowance banking

- SO_2 Allowance Bank - proposes that no SO_2 allowances be carried over into new Transport Rule
- NOx Allowance Bank – proposes to allow banking. For banked pre-2012 CAIR allowances, 4 alternatives:
  - Do not allow use of any banked CAIR allowances in Transport Rule NOx programs
  - Allow banked CAIR allowances to be used and make assurance provisions effective starting in 2012
  - Allow limited amount of CAIR banked allowances to be used and lower tonnage authorization level below one ton/allowance
  - Factor current banked CAIR allowances into calculation of state budgets and reduce state budget to account for banked allowances

Transport Rule: Proposed Annual Budgets

Annual budgets for EGUs (tons) before Accounting for Variability

State	ARP EGU SO_2 (2005 Actuals)	ARP EGU SO_2 (2009 Actuals)	Annual SO_2 Budget (2012-13)	Annual SO_2 Budget (2014 and later)	ARP EGU NOx (2005 Actuals)	ARP EGU NOx (2009 Actuals)	Annual Nox Budget (All years)
CT	7,522.7	1,754.4	3,059	3,059	5,859.3	1,604.3	2,775
DE	30,580.2	16,537.9	7,784	7,784	11,345.5	4,141.2	6,206
MA	81,864.4	35,182.3	7,902	7,902	21,216.0	7,640.4	5,960
MD	281,753.3	198,254.4	39,665	39,665	60,235.2	16,945.8	17,044
NJ	54,053.6	10,867.2	11,291	11,291	23,758.7	5,218.6	11,826
NY	177,349.0	43,615.2	66,542	42,041	56,856.0	22,473.2	23,341
PA	985,508.2	573,618.7	388,612	141,693	170,989.5	110,217.8	113,903

Transport Rule: Proposed Ozone Season Budgets

Ozone-season NOX State Emissions Budgets for Electric Generating Units Before Accounting for Variability (tons)

State	ARP EGU NOx (2005 Ozone Season Actuals)	ARP EGU NOx (2009 Ozone Season Actuals)	NOx Ozone Season Budget (All years)
CT	2,545.8	447.3	1,315
DE	5,106.8	1,296.5	2,450
MD	19,417.8	7,043.5	7,232
NJ	7,929.8	2,264.5	5,269
NY	25,544.6	9,427.2	11,090
PA	45,673.4	41,422.4	48,271

Transport Rule provisions: New Unit Set-Asides

- Transport Rule proposes new unit set-asides = 3 percent of state emissions budgets for SO_2 group 1, SO_2 group 2, NOx annual, and NOx ozone-season trading programs for each state
- For each control period, any allowances remaining in a state's new unit set-aside distributed to existing units in state in proportion to existing unit’s original allocations to ensure that total allocations to units in the state equal the state budget

Transport Rule provisions: New Unit Set-Asides (cont.)

SO_2 and Annual NOx State New Unit Set-Aside Budgets for EGUs (tons)

State	SO_2 (2012-13)	SO_2 (2014 on)	NOx (2012 on)
CT	92	92	83
MA	237	237	179

Ozone Season NOx State New Unit Set-Aside Budgets for EGUs (tons)

State	NOx Ozone Season (2012 on)
CT	39

Schedule for Final Transport Rule

- Proposal signed on July 6, 2010.
- EPA welcomes comment on the rule. Public comment period ends 60 days after publication in the Federal Register.
- Three public hearings will be held.
- EPA will continue to work with states, tribes, the public, environmental groups, and industry to address comments and to implement the rule when final.
- Final rule expected in late spring 2011.

Questions

Information Regarding Other Recent EPA Rulemakings

PSD and Title V GHG Tailoring Rule – Final rule signed 5/13/10

- PSD and Title V permitting programs under the Clean Air Act apply to major sources and modifications of “regulated NSR pollutants.”
- In May 2010, EPA raised the “major source” thresholds and PSD “significance levels”

PSD and Title V Tailoring Rule

Phase-In Steps: Step 1 (Applies 1/2/11 to 6/30/11)

- No new permitting actions due solely to GHG emissions during this time period; only sources undertaking permitting actions anyway for other pollutants will need to address GHG
  - PSD permitting applicability:
    - Anyway sources will be subject to the PSD requirements only if they increase GHG emissions by 75,000 tpy CO_2e or more
  - Title V permitting applicability:
    - Only those sources currently with title V permits will address GHGs, and only when applying for, renewing or revising their permits

PSD and Title V Tailoring Rule

Phase-In Steps: Step 2 (Applies 7/1/11 to 6/30/13)

- Sources subject to GHG permitting requirements under step 1 will continue to be subject to GHG permitting requirements
- In addition, sources that emit or have the potential to emit GHGs at or above 100,000 tpy CO_2e will also be subject to GHG permitting requirements as follows.
- PSD permitting applicability – triggered with construction that increases emissions
  - A newly constructed source (which is not major for another pollutant) will not be subject to PSD unless it emits 100,000 tpy or more on a CO_2e basis
  - A modification project at a major stationary source will not be subject to PSD unless it results in a net GHG emissions increase of 75,000 tpy or more on a CO_2e basis

PSD and Title V Tailoring Rule

Phase-In Steps: Step 2 (cont'd.)

- Title V permitting applicability
  - A GHG emission source (which is not already subject to title V) will not be subject to title V unless it emits 100,000 tpy or more on a CO_2e basis.
  - These newly subject sources must apply within 1 year after becoming subject to the program, unless the permitting authority sets an earlier deadline.
  - This means that newly subject sources must apply for a title V permit on or before July 1, 2012 (which is one year from July 1, 2011).

PSD and Title V Tailoring Rule

Phase-In Steps: Step 3

- The rule establishes an enforceable commitment to complete another rulemaking no later than July 1, 2012.
- We will propose or solicit comment on a possible step 3 of the phase-in plan
  - EPA will consider, during the implementation of step 2, whether it will be possible to administer GHG permitting programs for additional sources.
  - EPA will establish that step 3 would take effect on July 1, 2013 so that permitting authorities and sources can prepare for any additional GHG permitting action.
- Step 3, if different from step 2, will not require permitting of sources with GHG emissions below 50,000 tpy CO_2e
- We also commit to explore a wide range of streamlining options on which we plan to take comment in the step 3 proposal
- In addition, we plan to solicit comment on a permanent exclusion of certain sources from PSD, title V or both

PSD and Title V Tailoring Rule

Phase-in Steps: Further Action

- EPA will not require permits for smaller sources until April 30, 2016 or later
- The rule establishes an enforceable commitment for EPA to complete a study within 5 years projecting the administrative burdens that remain for small sources after EPA has had time to develop (and states have had time to adopt) streamlining measures to reduce the permitting burden for such sources
- We will use this study to serve as the basis for an additional rulemaking that would take further action to address small sources, as appropriate. We are making an enforceable commitment to complete this rulemaking by April 30, 2016
- We plan to solicit comment on a permanent exclusion of certain sources from PSD, title V or both.

Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation Date	Designations Effective (approximate date)	110(a) SIPs Due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
$PM_{2.5}$ (2006)	Sept 2006	Dec 2009	Sept 2009	Nov 2012	Nov 2014/2019
Pb	Oct 2008	Nov 2010/2011 (extra time for new monitors)	Oct 2011	June 2012/2013	Nov 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	Aug 2010	Aug 2011 (based on 2008-10 data)	Aug 2013	Dec 2013 (to be proposed)	Dec 2017 (Moderate)
CO	May 2011	June 2013	May 2014	Dec 2014	May 2018
$PM_{2.5}$ (2011)	Oct 2011	Dec 2013	Oct 2014	Dec 2016	Dec 2018/2023
NO_2/SO_2 Secondary	March 2012	April 2014	March 2015	Oct 2015	N/A

Revision to SO_2 Standard –
Revised June 2, 2010

- EPA replaced the existing annual and 24-hour primary SO2 standards with a new 1-hour SO2 standard set at 75 parts per billion (ppb).
- This final standard is consistent with the recommendations of the Clean Air Scientific Advisory Committee (CASAC).
- EPA also described our planned hybrid approach for implementing the new 1-hour SO2 standard. The approach would rely on air dispersion modeling of SO2 sources and ambient monitoring to determine compliance with the new standard.

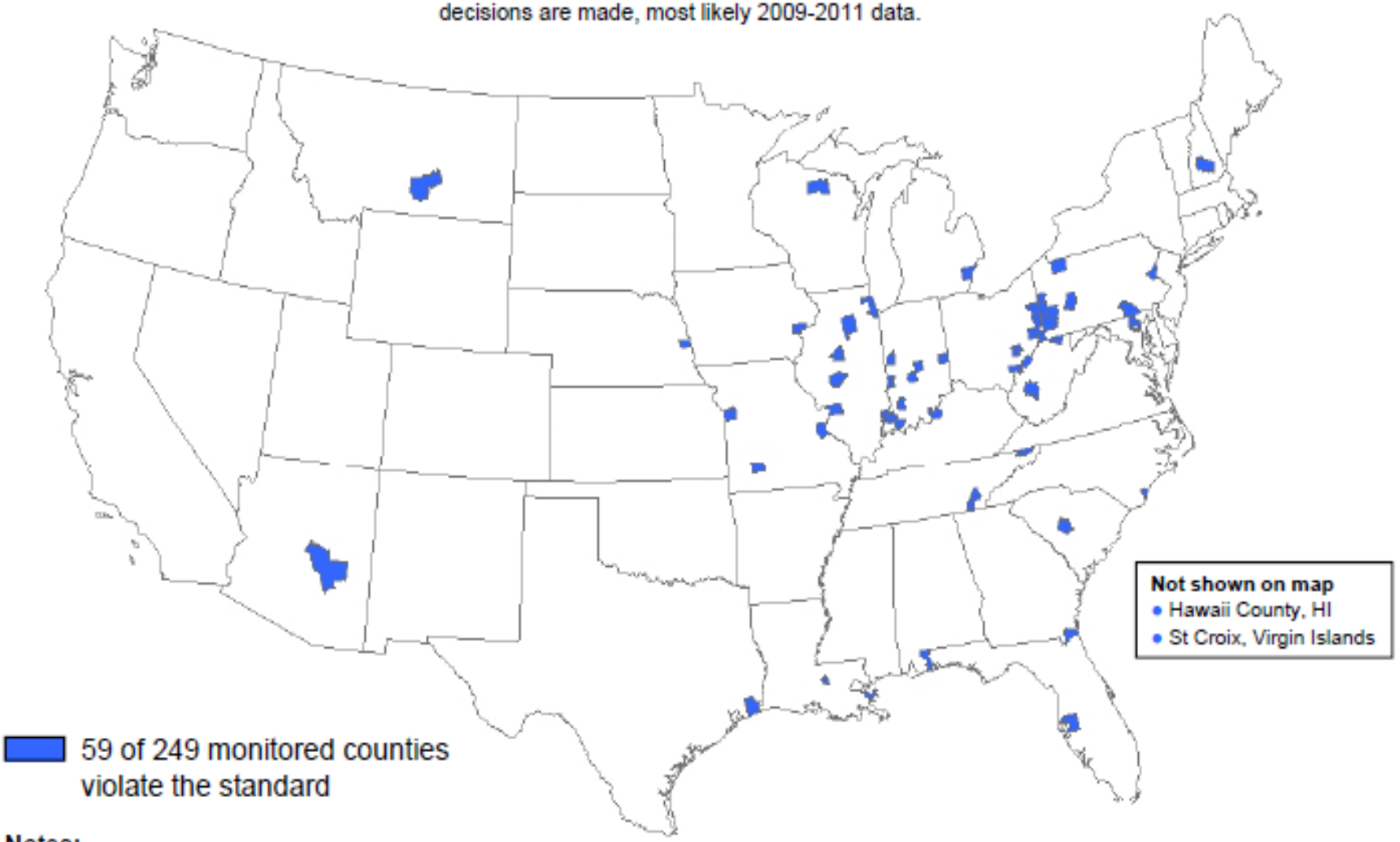
Hybrid Monitoring/Modeling Approach to Assess Compliance

- For sources or groups of sources that have the potential to cause or contribute to a violation of the standard, EPA anticipates using refined source-oriented dispersion modeling to:
  - identify violations, and
  - determine compliance.
- EPA plans to develop modeling and implementation guidance for the states addressing a variety of issues including how to:
  - Appropriately compare the model results to the new SO2 standard, and
  - Identify and appropriately assess the air quality impacts of smaller SO2 sources that may potentially cause or contribute to a violation of the new SO2 standard.
- EPA will provide an opportunity for public comment on the guidance before issuing it in final form

Counties With Monitors Currently Violating the Revised Primary 1-Hour Sulfur Dioxide (SO2) Standard of 75 ppb

(Based on 2007 – 2009 Air Quality Data)

EPA will not designate areas based on these data but will use the currently available air quality data at the time designations decisions are made, most likely 2009-2011 data.



Notes:

1. Data are shown for monitors that met the following criteria: 75% of the day has valid hourly values,75% of the days in a quarter are valid, and all 4 quarters for each of the three years are valid as well as other applicable data handling conventions included in 40CFR50 Appendix T.

SO_2 Implementation Schedule

Anticipated Approach & Timeline for Implementation

Deadline	Milestone
June 2010	EPA sets new primary SO_2 standard
June 2011	States submit designation recommendations, based on available monitoring data and any modeling they choose to perform in advance of submitting their state implementation plans
June 2012	EPA issues initial designations: ➢ "nonattainment" = monitored **or** modeled violations ➢ "attainment" = monitored **and** modeled evidence of no violations ➢ "unclassifiable" = all other areas
January 2013	New monitoring network operational
June 2013	State plans for basic requirements to implement the revised standards (including appropriate state regulations to carry out monitoring etc.) due to EPA Attainment and unclassifiable area state implementation plans, modeling attainment of the new standard by August 2017, due to EPA.
February 2014	Nonattainment area plans due to EPA
August 2017	All areas attain the standard