

# Regional Haze and NAAQS Implementation

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## Overview

- Regional Haze
- Ozone NAAQS
- Transport Rule 2
- SO<sub>2</sub> NAAQS
- NO<sub>2</sub> NAAQS
- PM<sub>2.5</sub> NSR and Surrogate Policy
- Mutipollutant Activities

# Regional Haze SIP and FIP Deadlines

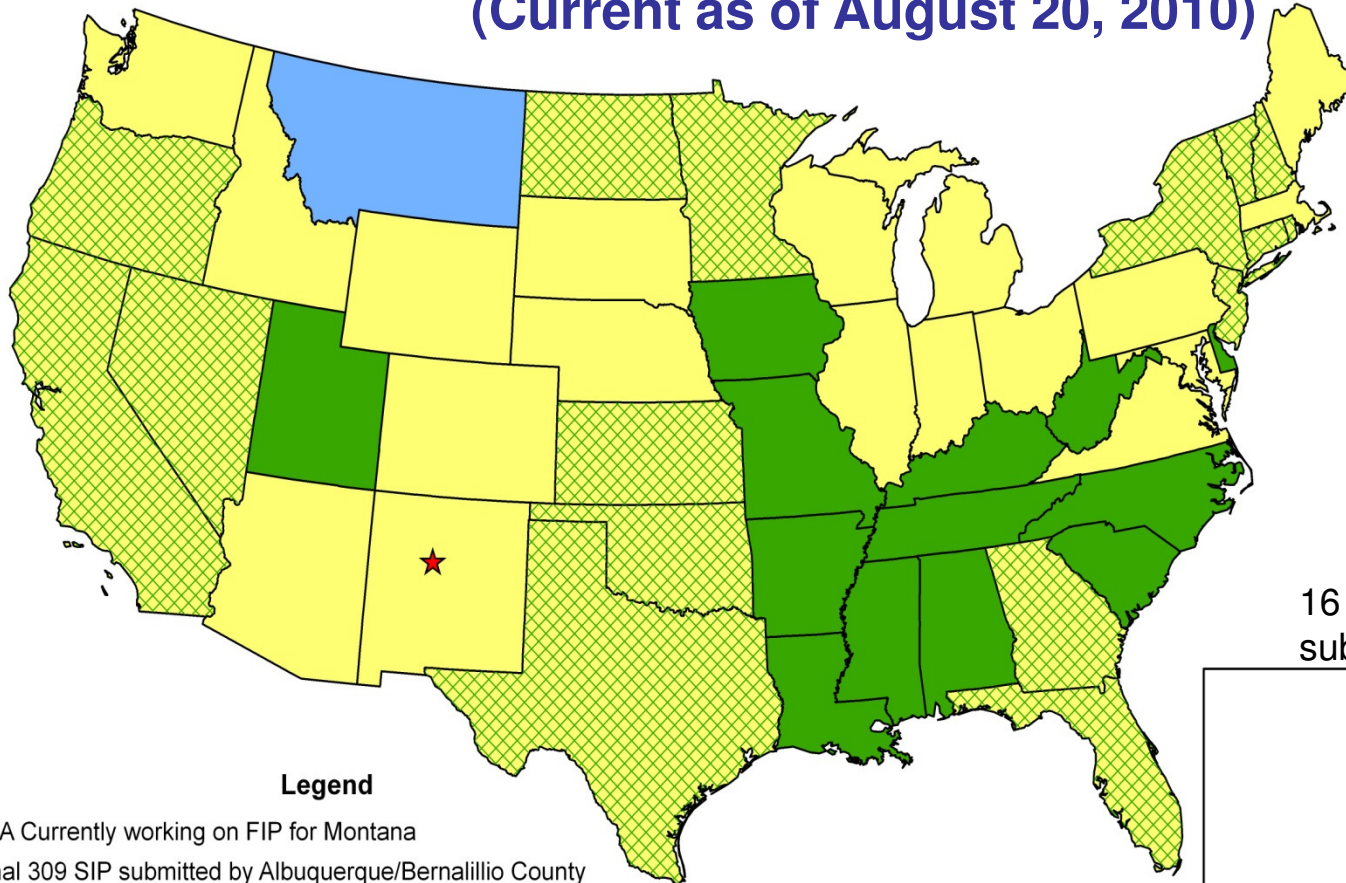
- SIPs were due December 17, 2007
- EPA made a finding of failure to submit in January 2009 for 37 states, DC, and the Virgin Islands
  - 14 states had submitted by then, so no findings for those
  - 16 states on the findings list have submitted since then – so we have 30 final SIPs now
  - 16 (out of 25) from CAIR States (AL, DE, FL, GA, IA, KY, LA, MS, MO, NC, NJ, NY, SC, TN, TX, WV)
  - 14 (out of 28) from non-CAIR States (AR, CA, CT, KS, MN, ND, NV, NH, OK, OR, RI, UT, VT; NM- Bernalillo County)
- FIPs or final approvals of SIPs for states on the findings list are due January 2011
  - We have not taken approval/disapproval action on any states to date
  - In the CAIR states, we are considering strategies for SIP action to harmonize with the final Transport Rule (e.g., limited approval)
  - EPA-Region 8 is preparing a FIP for Montana
  - Regions are working diligently with states to submit their SIPs by the deadline

# Regional Haze SIP and FIP Deadlines

- We have a consent decree with WildEarth Guardians for 7 states to approve the SIPs or promulgate FIPs by May 2011
  - Oklahoma, North Dakota, New Mexico, Colorado, Oregon, Idaho, and California
- EPA-Region 9 is also working on BART FIPs for Navajo Generating Station in AZ and Four Corners Power Plant in New Mexico
  - Four Corners FIP proposed Oct. 6, 2010 – 60 day public comment period

# Status of Final Regional Haze SIPs

(Current as of August 20, 2010)

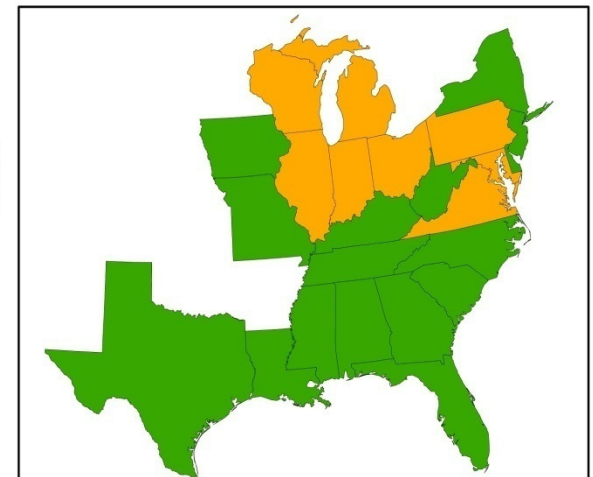


**Legend**

- EPA Currently working on FIP for Montana
- ★ Final 309 SIP submitted by Albuquerque/Bernalillo County
- States on the Findings List that have submitted Final SIPs (16)
- States that submitted Final SIPs prior to Findings (13)
- States on the Findings of Failure to Submit List (35 including AK, HI & VI)

Note: Alaska, Hawaii, and the Virgin Islands are also on the Findings List  
 - EPA is preparing a FIP for Hawaii and assisting the Virgin Islands with preparing SIP (possible FIP)

16 of 25 Final SIPs submitted from CAIR States



Pre-decisional material -- do not quote or cite

# Expected Control Technologies

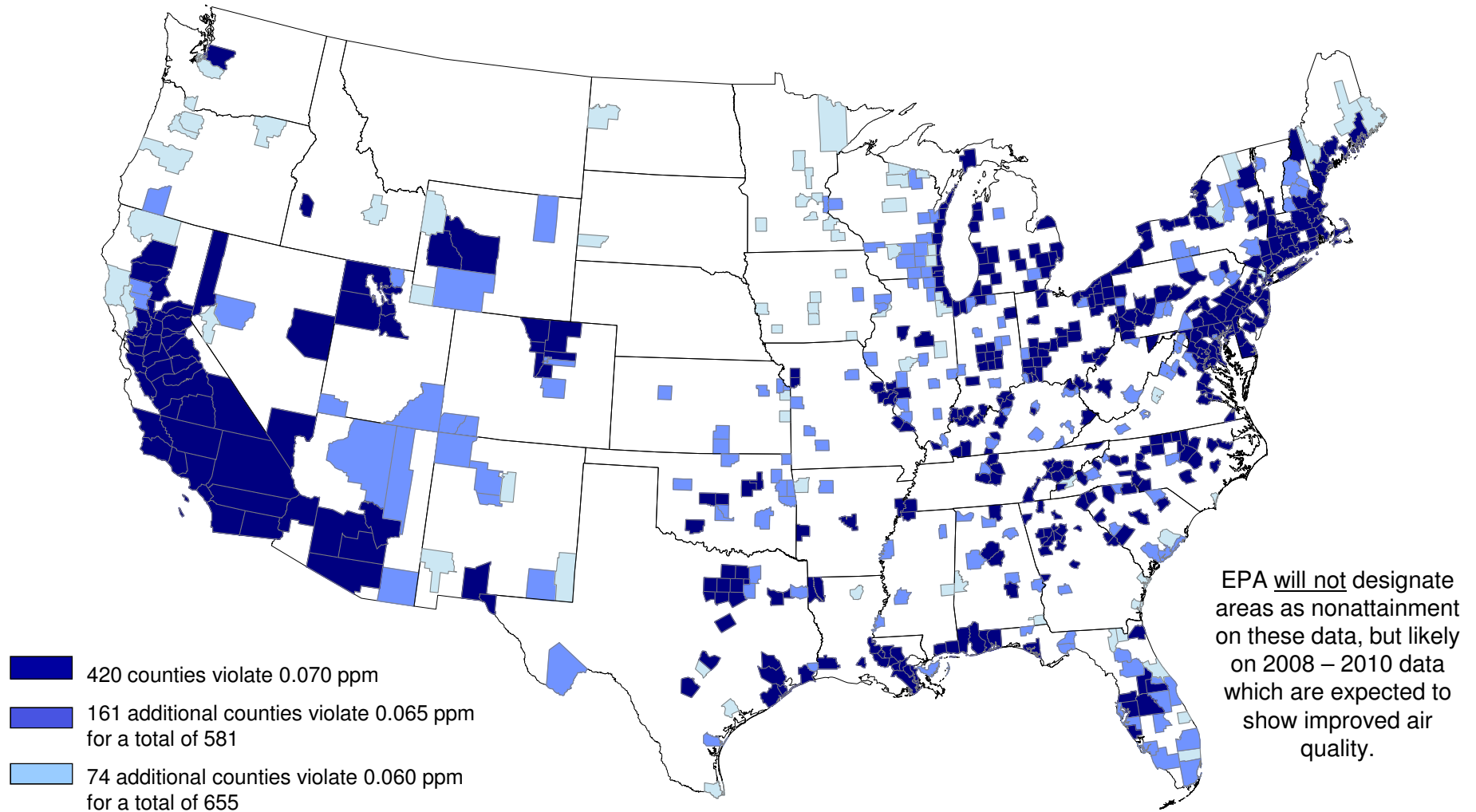
- Control Technologies
  - East - CAIR/Transport Rule
    - Scrubbers for SO<sub>2</sub> and various NO<sub>x</sub> controls will likely be installed to meet the caps/budgets
    - We expect almost all Class I areas in the East to meet or exceed the glidepath due to CAIR/TR
  - SO<sub>2</sub> for the rest of the U.S. outside of the Transport Rule region
    - EGUs and boilers in the northeast are considering a switch to lower sulfur oil which will yield significant SO<sub>2</sub> reductions
    - Industrial Boiler MACT and upcoming utility MACT will have tight mercury limits which are likely to lead to scrubbers on many units
  - NO<sub>x</sub> for the rest of the U.S. outside of the Transport Rule region
    - No upcoming regulatory requirements to assure additional NO<sub>x</sub> reductions in the West
    - Regional haze, in essence, becomes chiefly a NO<sub>x</sub> concern in the western US

# Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation	Designations Effective (approximate date)	110(a) SIPs Due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
PM <sub>2.5</sub> (2006)	Sept 2006	Dec 2009	Sept 2009	Dec 2012	Dec 2014/2019
Pb	Oct 2008	Nov 2010/2011 (extra time for new monitors)	Oct 2011	June 2012/2013	Nov 2015/2016
NO <sub>2</sub> (primary)	Jan 2010	Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO <sub>2</sub> (primary)	June 2010	July 2012	June 2013	Jan 2014	July 2017
Ozone (all dates tentative)	Oct/Nov 2010	Late 2011	Late 2013	Spring 2014 (to be proposed)	Late 2017 (Moderate)
CO	Aug 2011	Sept 2013	Aug 2014	Mar 2015	Sept 2018
PM <sub>2.5</sub> (2011)	Oct 2011	Dec 2013	Oct 2014	Dec 2016	Dec 2018/2023
NO <sub>2</sub> /SO <sub>2</sub> Secondary	Mar 2012	Apr 2014	Mar 2015	Oct 2015	N/A

## Counties With Monitors Violating Proposed Primary 8-hour Ground-level Ozone Standards

0.060 - 0.070 parts per million (Based on 2007 – 2009 Air Quality Data)



**Notes:**

1. No monitored counties outside the continental U.S. violate.
2. EPA is proposing to determine compliance with a revised primary ozone standard by rounding the 3-year average to three decimal places.



## Possible Number of “Areas” (as defined below) Violating Alternative Primary Standards (based on 2007-2009 data)

Larger geographic area →

	Number of Areas ( <b>County</b> is largest area)	Number of Areas ( <b>CBSA</b> is largest area)	Number of Areas ( <b>CSA</b> is largest area)
>0.060 ppm	655	413	349
>0.065 ppm	581	359	300
>0.070 ppm	420	241	196

# Ozone: Proposed Designation Schedules

- EPA proposed designation schedules in the January 2010 ozone NAAQS proposal
- Primary NAAQS: Proposed accelerated schedule
  - Final designations in less than 1 year vs. 2 years
  - States submit recommendations in 129 days vs. 1 year
- Seasonal secondary NAAQS: Took comment on 2 alternative schedules
  - Same accelerated schedule as for primary standard, or
  - Traditional 2-year schedule allowed under CAA; States submit recommendations in 1 year

# Ozone: Designations Assistance

- Plan to offer early interaction/assistance to facilitate development of states' recommendations
- Revised designations guidance with description of each factor and information that might be used to assess
  - 5-factors: air quality data, emissions-related data, meteorology, geography/topography, jurisdictional boundaries
  - Guidance on qualifying for “rural transport area” classification
  - Potential for partial counties in certain cases
- Plan to share information addressing designation factors shortly after NAAQS are final
  - Including ozone source apportionment modeling results which estimates the combined impact of multiple factors (emissions, meteorology, geography)
  - 5-factor TSD template

# Ozone: Implementation Rule

Timing: Anticipate coordinating with Final Ozone NAAQS

## Potential Classification Options

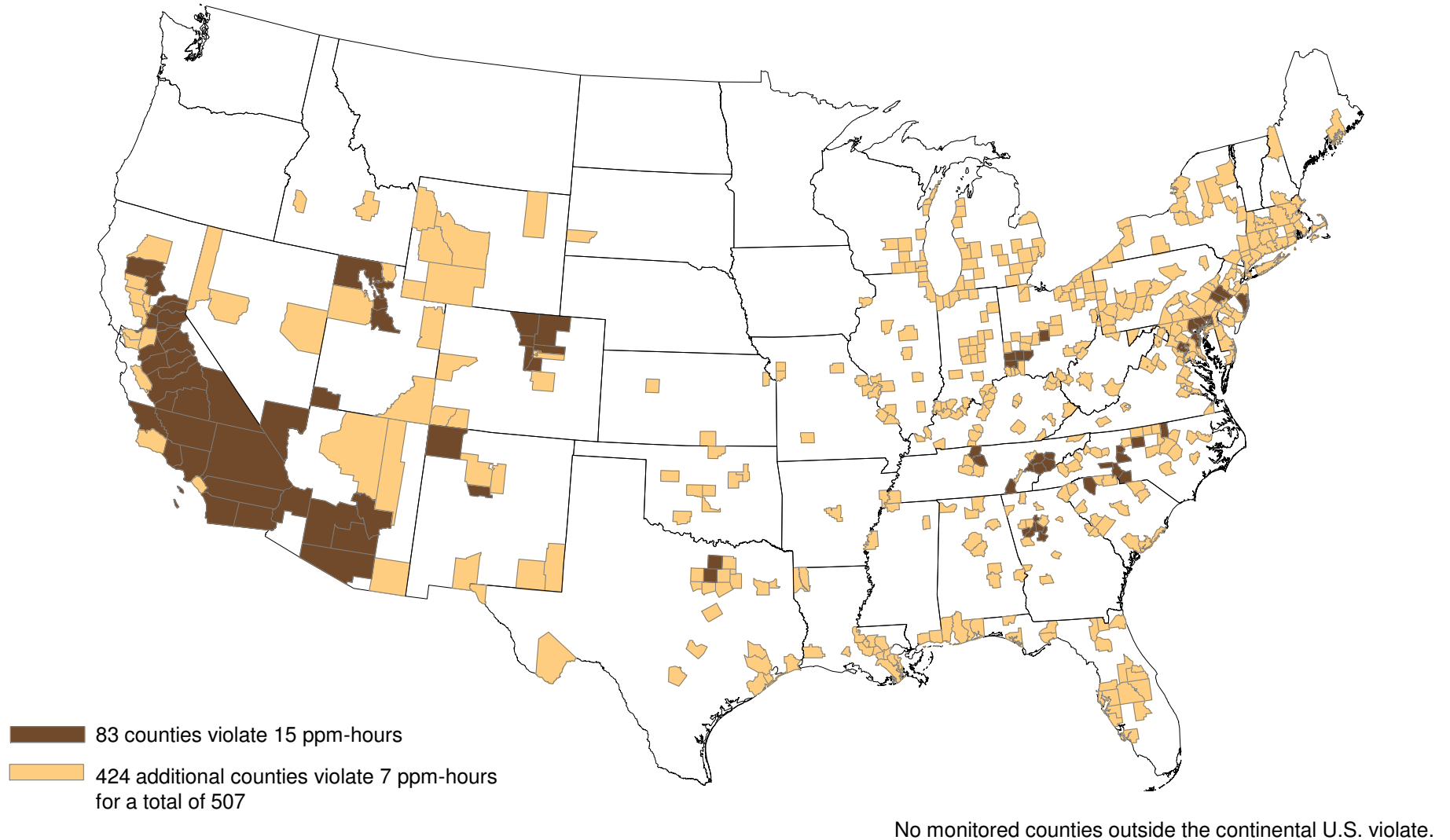
- Option 1 is consistent with the approach used for the 1997 standard
  - Results in largest number of “Marginal” areas (and moderate areas)
  - Fewer mandatory controls; shorter attainment deadlines with higher probability of “bump-up”
- Option 2 specifies the Extreme threshold as either the actual DV of the area with the highest DV at the time we designate, or a value approximately mid-way between the two highest DVs at the time we finalize the implementation rule
  - Results in more areas at higher classifications
  - More mandatory controls, but with more time to attain w/o “bump-up”
- Also considering proposing that where states submitted voluntary reclassification requests under the 1997 NAAQS we would treat those requests as applying to this standard unless the state says otherwise
  - Would avoid some reclassification work

## Counties With Monitors Violating Proposed Secondary Seasonal Ground-Level Ozone Standards

7 – 15 parts per million - hours

(Based on 2007 – 2009 Air Quality Data)

EPA will not designate areas as nonattainment on these data, but likely on 2008 – 2010 data which are expected to show improved air quality.



## Additional counties that would violate a W126 secondary standard compared to alternative primary standards (based on 2007-2009 data)

	7 ppm-hours	15 ppm-hours	21 ppm-hours
0.060 ppm	3	0	0
0.065 ppm	11	0	0
0.070 ppm	112	3	0

# Exploring Possible SIP Flexibility

- Deadline alignment of multiple SIP obligations:
  - e.g., emissions inventories, RACT, I/M, attainment demonstration
- Rural Transport Classification: marginal area requirements
- 15% VOC Plans – possible NO<sub>x</sub> substitution
- Attainment deadlines at the end of the calendar year 3, 6, 9, etc. years from designations

# Additional State Assistance

- State Implementation Plan Status and Information Website: <http://www.epa.gov/air/urbanair/sipstatus/>
  - SIP guidance materials database
  - Menu of NO<sub>x</sub>/VOC regulatory control measures
  - Local measures Web site: early implementation may result in suspension of planning requirements and redesignation before some CAA requirements are due
- Training materials (web modules, webinars, course materials)
- Transport Rules 1 & 2
- Possible National or presumptive RACT for selected source categories
- Possible National attainment modeling
  - Use of EPA existing national modeling to support attainment demonstrations for moderate areas



# Transport Rule 2

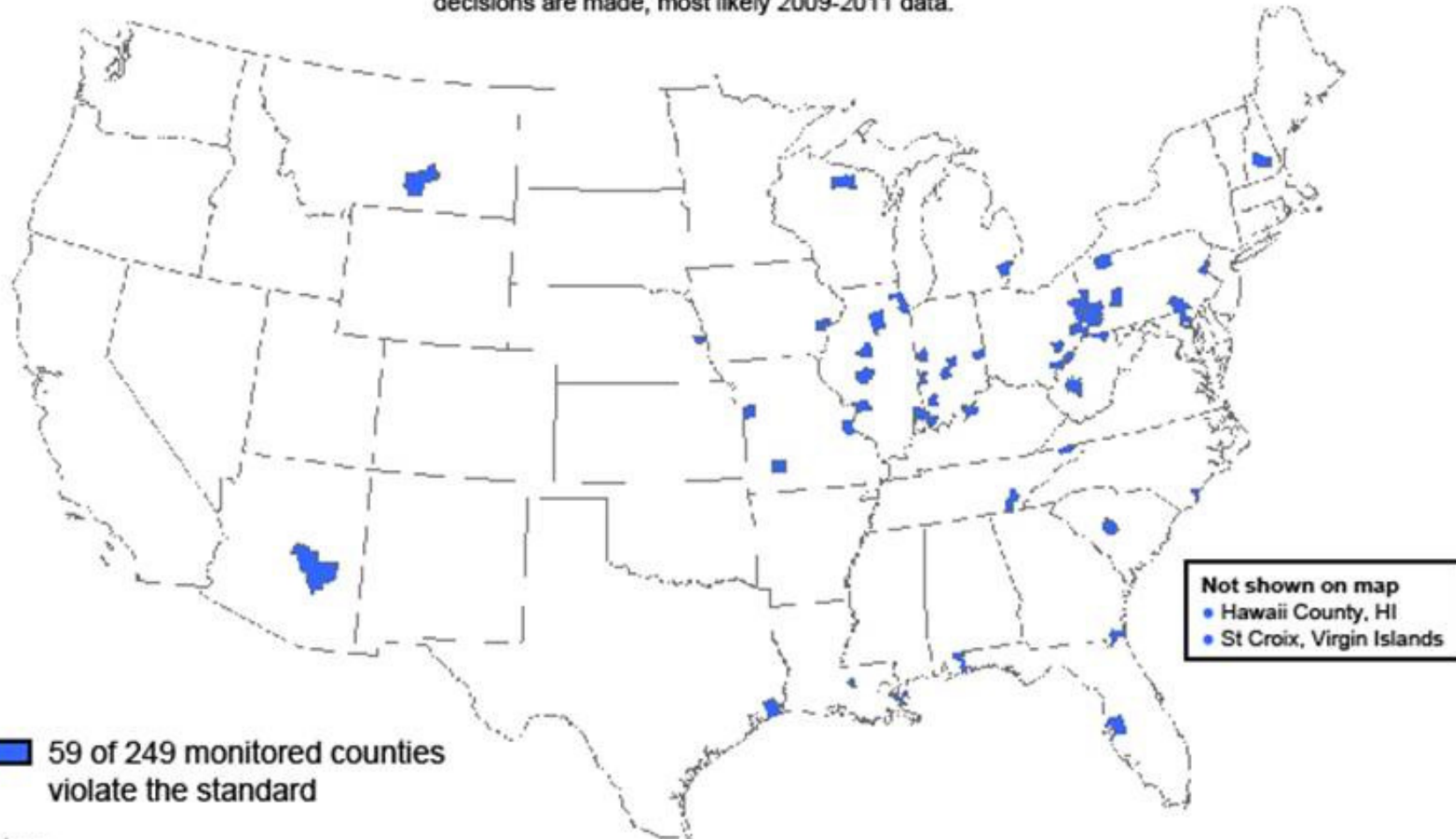
- Anticipated schedule for the rule:
  - Proposal: 2011
  - Final: 2012
- Will address CAA responsibility of upwind states to downwind state ozone problems
  - Emissions reductions needed for all states in the nation contributing to nonattainment/interfering with maintenance of upcoming 2010 ozone standards
  - Will look at upwind states and their emissions levels across not only the utility sector, but other sectors as well
    - Would appreciate NACAA input on priority categories

# SO<sub>2</sub> Designations Milestones

Action	Date
Final NAAQS signed	June 2, 2010
Governors' recommendations due to EPA	June 3, 2011
EPA sends out 120-day letter to all States/Tribes and notifies public via FR	Feb. 4, 2012
Deadline for States/Tribes to respond to EPA's modifications	April 4, 2012
Final designations	June 3, 2012

## Counties With Monitors Currently Violating the Revised Primary 1-Hour Sulfur Dioxide (SO<sub>2</sub>) 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<sub>2</sub> Designations/Implementation

- Designations strategy outlined in the final SO<sub>2</sub> NAAQS rule:
  - An area that has both monitoring data and appropriate modeling results showing no violations would be designated as “Attainment”
  - Those with monitored violations will be designated “Nonattainment” and must develop attainment plan in 18 months showing compliance in 5 years (approx. Aug 2017)
  - All others will be designated “Unclassifiable”
    - Attainment/maintenance under sec. 110(a)(1) plan due June 2013
    - Tentatively would include modeling of significant SO<sub>2</sub> sources and necessary emissions controls demonstrating attainment/maintenance by Aug. 2017
- SO<sub>2</sub> Implementation Guidance
  - Plan to provide additional guidance by January 2011. Proposal in the Federal Register by January 2011, to be finalized by summer of 2011
- Guidance for the implementation of the SO<sub>2</sub> NAAQS for PSD
  - Released: August 23, 2010, available at <http://www.epa.gov/nsr/guidance.html>
  - Guidance for the preparation and review of PSD permits
    - sets forth a recommended interim 1-hour SO<sub>2</sub> significant impact level (SIL) that states may consider for carrying out the required PSD air quality analysis for SO<sub>2</sub> until EPA promulgates a 1-hour SO<sub>2</sub> SIL via rulemaking
    - addresses the continued use of the existing SO<sub>2</sub> Significant Emissions Rate (SER) and Significant Monitoring Concentration (SMC) to implement the new 1-hour SO<sub>2</sub> standard
  - Modeling guidance for estimating ambient SO<sub>2</sub> concentrations and determining compliance with the new 1-hour SO<sub>2</sub> standard
- SO<sub>2</sub> Litigation
  - Petitions for Reconsideration have been filed
  - Oct 8, 2010 - EPA filed a motion for a 3-month hold on litigation
  - January 2010 - EPA plans to make its initial decisions regarding the reconsideration petitions

# NO<sub>2</sub> NAAQS

- Guidance for the implementation of the NO<sub>2</sub> NAAQS for PSD
  - Released: June 29, 2010, available at <http://www.epa.gov/nsr/guidance.html>
  - Guidance for the preparation and review of PSD permits
    - Sets forth a recommended interim 1-hour NO<sub>2</sub> significant impact level (SIL) that states may consider when carrying out the required PSD air quality analysis for NO<sub>2</sub>, until EPA promulgates a 1-hour NO<sub>2</sub> SIL via rulemaking
  - Modeling guidance for estimating ambient NO<sub>2</sub> concentrations and determining compliance with the new NO<sub>2</sub> standard
    - Provides a consistent approach for estimating NO<sub>2</sub> air quality impacts from proposed construction or modification of NO<sub>x</sub> emissions sources.
- NO<sub>2</sub> Litigation
  - Petition for review filed on 4/12/10
  - Court is holding it in abeyance to allow the parties to determine if they can resolve their issues
  - Status report due to the court in November

# PM<sub>2.5</sub> NSR & Surrogate Policy

- Use of PM<sub>10</sub> Surrogate Policy ended for Federal PSD programs July 2008, except for grandfathered applications
  - Applicability to grandfathered applications was stayed twice
    - Stays ended in March 2010 (but states expected to follow federal case law in applying surrogacy demonstration)
  - SIP-approved programs have until May 2011 to fully adopt PM<sub>2.5</sub> PSD program
- February 2010: EPA proposed to end PM<sub>10</sub> Surrogate Policy for all applications
  - Does not affect general ability to demonstrate surrogacy.
- Final rule scheduled for signature early 2011

# AQMP Pilot Project

- OAQPS initiated this effort in response to NAS report and partnered with 3 areas to develop an Air Quality Management Plan (AQMP)
  - New York, North Carolina, St. Louis (MO/IL)
- An AQMP is a set of pollution planning activities and reduction strategies for an area that:
  - Provide for attainment/maintenance of NAAQS
  - Reduce risk from HAPs
  - Integrate activities affecting/affected by air quality, e.g., transportation, energy, climate, land use, environmental justice, sustainability activities, ecosystem impacts
- Purpose of pilots was to observe how comprehensive air quality planning might work in the real world
  - We now have concrete experiences on developing these plans that we previously lacked
  - Previous “frameworks” were abstract concepts whereas we have dealt with challenges of making them work for these 3 distinct areas
- Pilots submitted final AQMPs in early 2010
  - Available online: <http://www.epa.gov/air/aqmp/pilot.html>

# Multi-pollutant Rulemaking

- **Common sense coordination**
  - OAR will take advantage of the natural overlap of certain air toxics, criteria pollutant, and GHG rules and coordinate the development and implementation of MACT and NSPS where it makes sense
  - Many air toxics are also particles or volatile organic compounds (VOC)
- **Coordinating MACT development for specific source categories with other rules can:**
  - reduce rulemaking costs
  - provide more certainty and lower costs for industry
  - simplify implementation for states, local, and tribal agencies
  - enhance cost-effective approaches

## Examples



### Utilities

Utility Strategy will allow a coordinated approach to MACT, NSPS and the Clean Air Transport Rule

### Cement

Coordinating development of the MACT and NSPS. Reducing toxic HCl emissions results in huge reductions in SO<sub>2</sub>, which will satisfy NSPS



### Refineries & Chemical Plants

OAR is pursuing a coordinated approach with OECA to reduce multi-pollutant emissions from flares and leaks



# Questions, Comments, or Feedback?

