CIBO NAAQS & GHG Update

Maxine Dewbury

September 12, 2012

NAAQS Update

TOPICS:

- NAAQS Review/Implementation Schedule
- Recent Changes
  - Ozone NAAQS
  - SO2 NAAQS
  - NO2 NAAQS
- Current Review of PM2.5 Standard & Comments

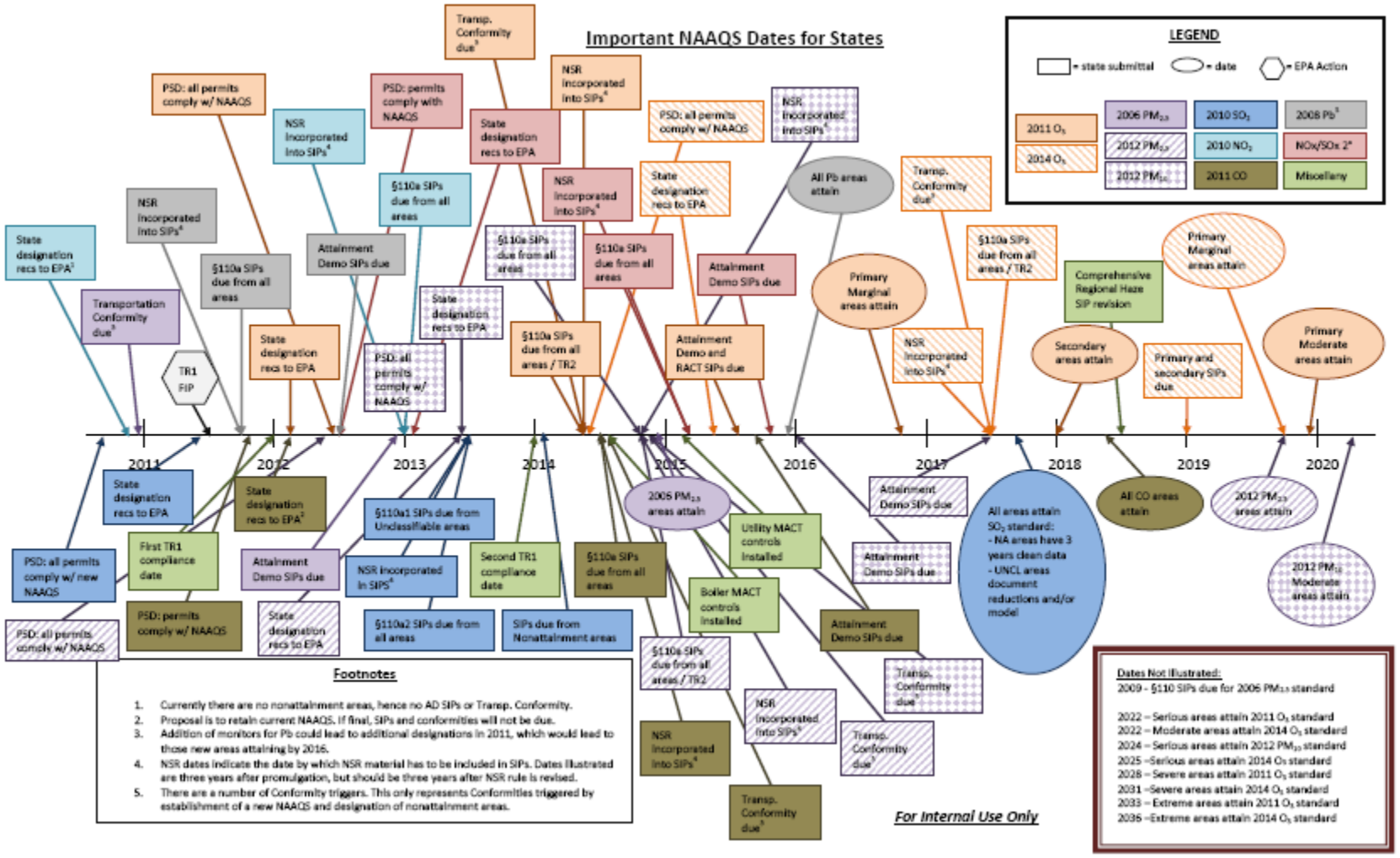
Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation Date	Designations Effective	110(a) SIPs due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
$PM_{2.5}$ (2006)	Sept 2006	Dec 2009	Sept 2009	Dec 2012	Dec 2014/2019
Lead	Oct 2008	Jan 2012	Oct 2011	June 2013	Jan 2017
NO_2 (primary)	Jan 2010	Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO_2 (primary)	June 2010	~~July~~ Dec 2012	~~June~~ 2013	~~Jan~~ 2014	~~July~~ 2017
Ozone (2008)	Mar 2008	2012	Mar 2011	2015	2015-2035
Ozone (current review)	July 2014	2016	July 2017	2019/2020	2019-2039
$PM_{2.5}$ (current review)	Dec 2012	Dec 2013 (?)	Dec 2015	Dec 2016(?)	Dec 2018/23 (?)
NO_2/SO_2 Secondary	Mar 2012	TBD	Mar 2015	TBD	TBD

Current NAAQS

Pollutant	Primary/Secondary	Averaging Time	Level	Form
$PM_{2.5}$	Primary & secondary	Annual	15 µg/m³	Annual mean, averaged over 3 years
$PM_{2.5}$	Primary & secondary	24-hour	35 µg/m³	98th % of daily average, averaged over 3 years
PM_{10}	Primary & secondary	24-hour	150 µg/m³	Not to be exceeded more than once per year on average over 3 years
Lead	Primary & secondary	Rolling 3-month avg.	0.15 µg/m³	Not to be exceeded
NO_2	Primary	1-hour	100 ppb	98th % of 1-hour daily max, averaged over 3 years
NO_2	Primary & secondary	Annual	53 ppb	Annual mean
SO_2	Primary	1-hour	75 ppb	99% of 1-hour daily max, averaged over 3 years
SO_2	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year
Ozone (2008)	Primary & secondary	8-hour	75 ppb	Annual 4th-highest daily max, averaged over 3 years

NAAQS Milestones

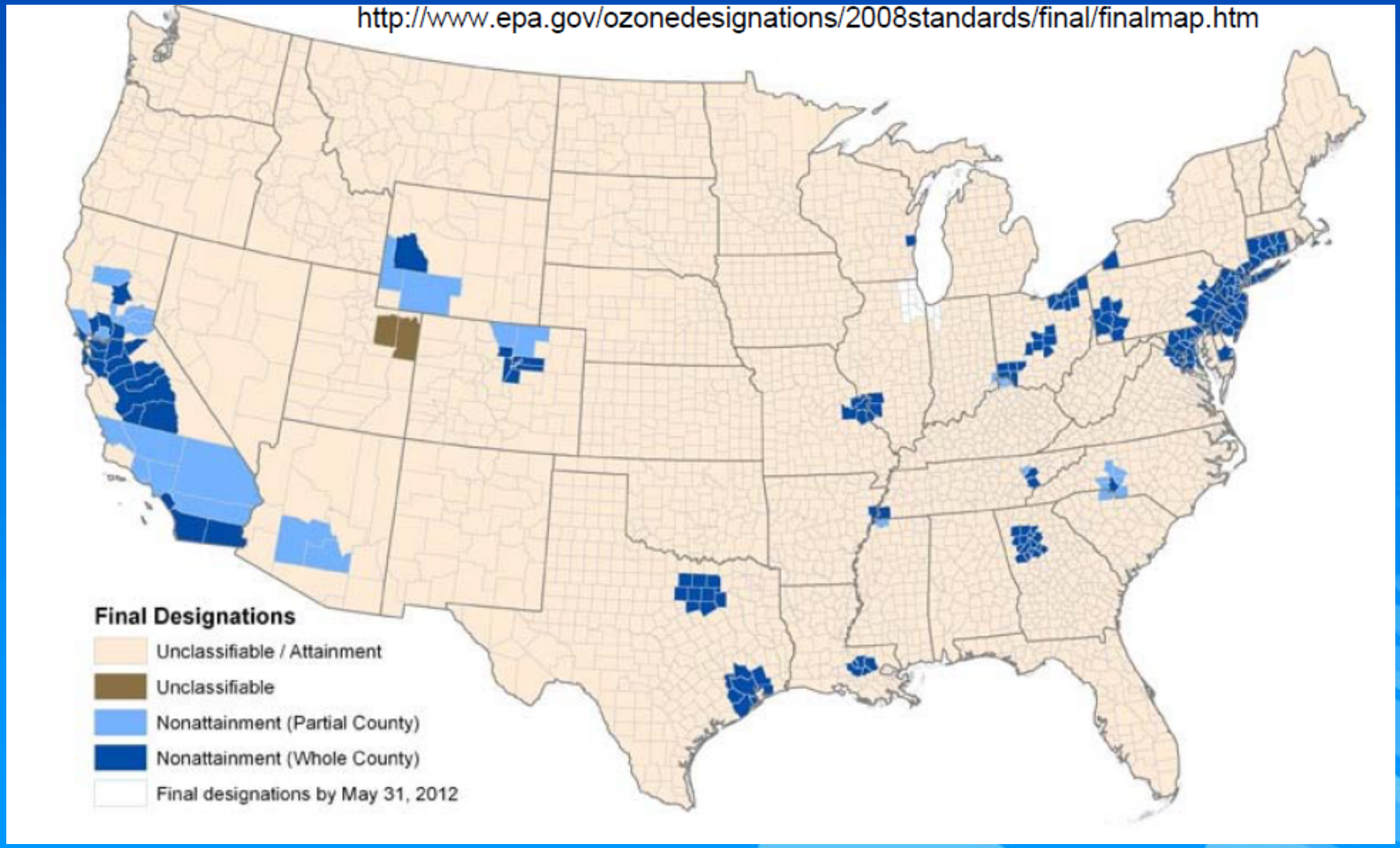


Recent NAAQS Highlights
Ozone Standard

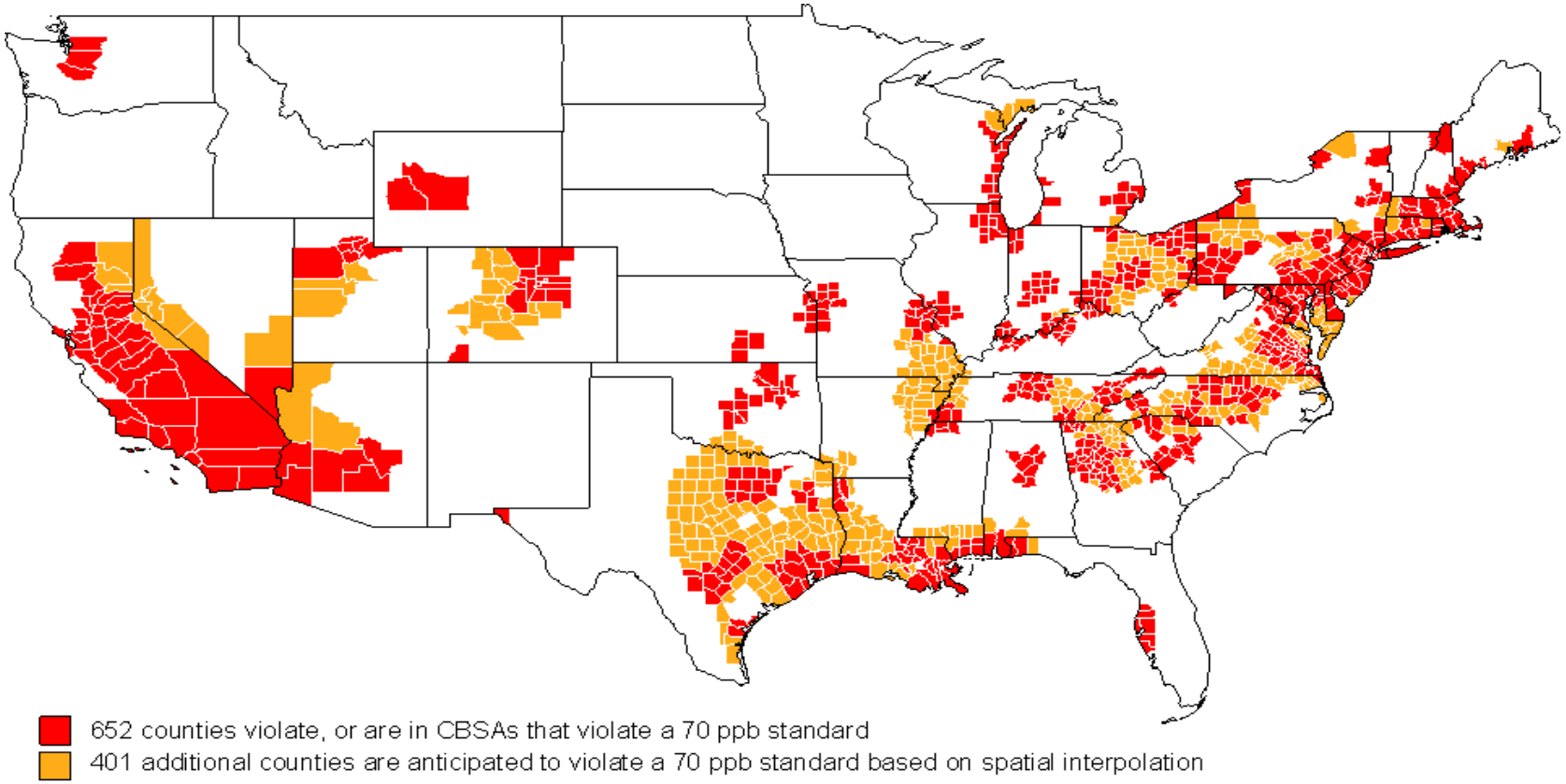
- 1979 1-hr ozone standard of 0.125 ppmv
- 1997 8-hr ozone standard of 0.08 ppmv
- 2008 8-hr ozone standard of 0.075 ppmv
  - Standard was being reconsidered by Obama
    - Obama considering 0.060 to 0.070 ppm range – huge impact
    - Obama decided not to tighten the standard.
    - Back to current review timeline – new standard by July 2014
  - 2008 Non-Attainment Designations 4/2012 (vs. 8 31 2010)
  - SIPs & Attainment are due 12/2015

2008 Ozone Standard Projection

(0.08 ppmv 8-hr standard)

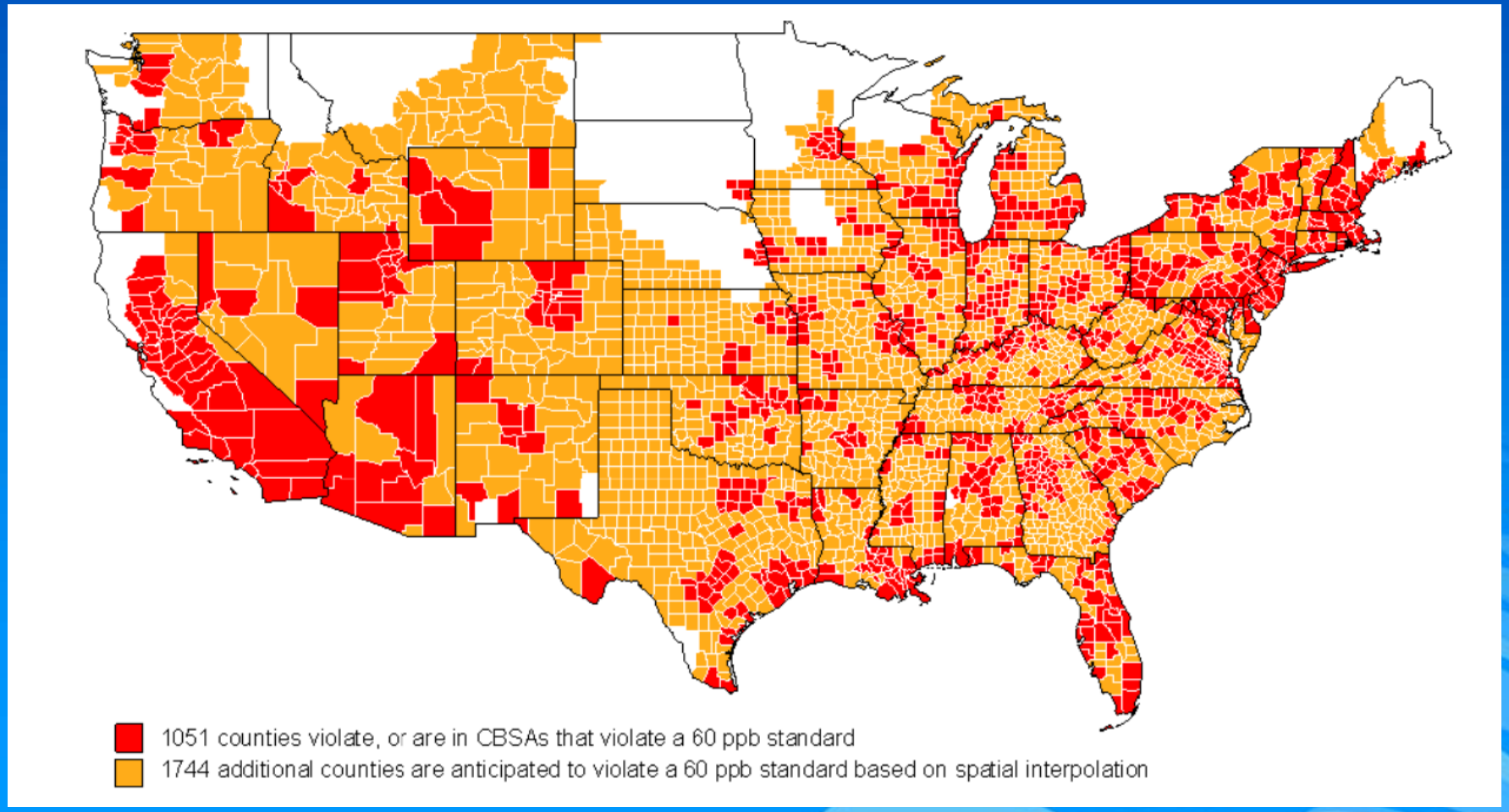


CBSA[1] and Rural Counties that Violate an Ozone Standard of 70 ppb based on 2008-2010 Data[2]



1 Core Based Statistical Area (CBSA) refers collectively to both metropolitan statistical areas (MSA) and metropolitan areas
2 1053 counties violate a 70 ppb standard (three times the number of counties that violate the 2008 (75 ppb) standard)

Implications of Ozone Standard at 60 ppm



Sulfur Dioxide

Old Standard (1971)

- 30 ppb – annual standard
- 140 ppb – 24 hour avg.
- no measured violations for almost 30 years

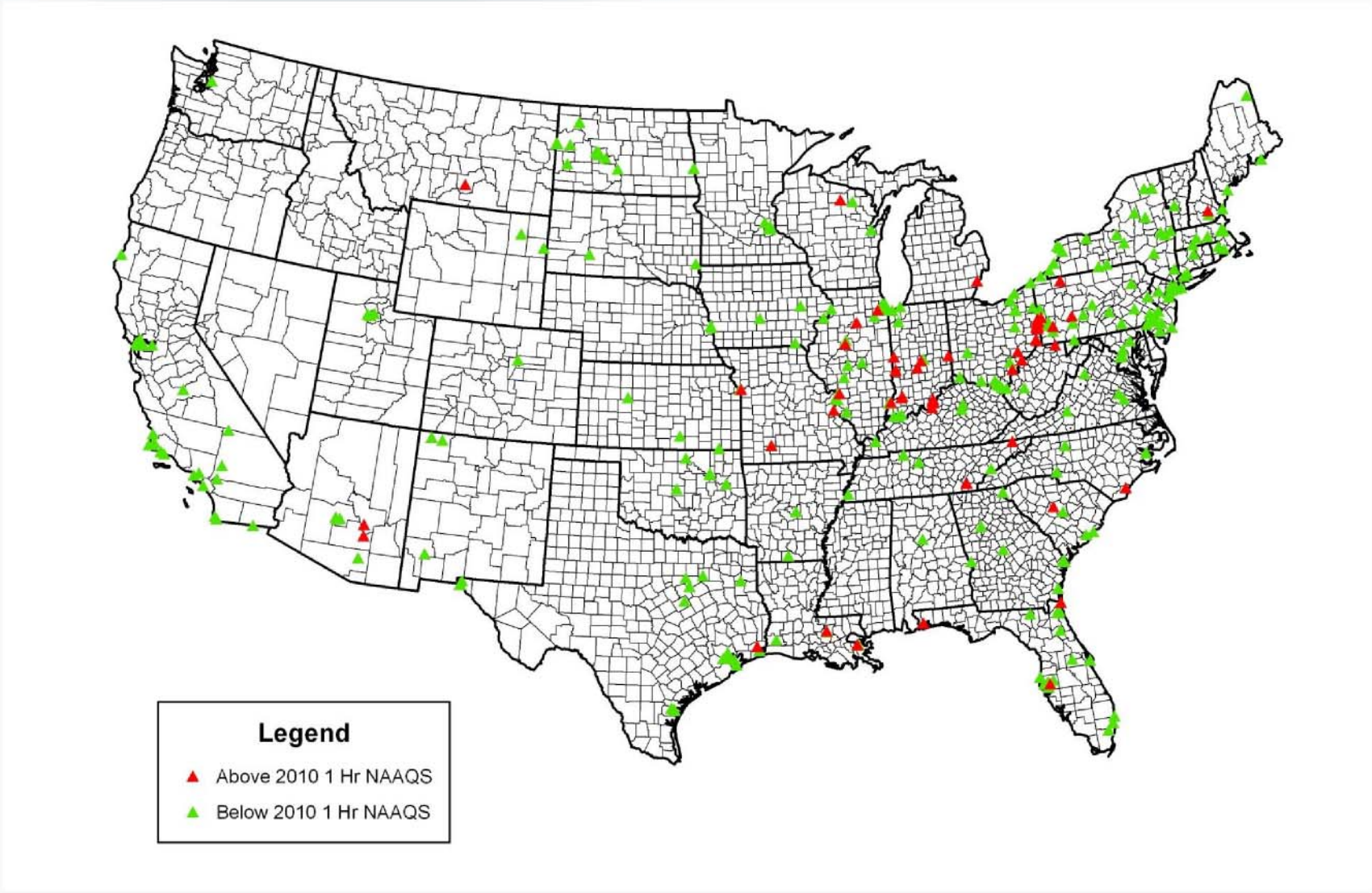
New Standard (adopted June, 2010)

- 75 ppb – 1 hour avg.

Status/Timeline:

- States Recommended SO2 N/A Areas
- EPA to finalize by June 2012 – delayed.
  - EPA to issue120 day recommendation letters by 9 2012?
  - Final by 12/2012?

SO_2 Monitor Design Values 2008-2010



Nitrogen Dioxide

- Annual standard - 53 ppb (unchanged)
- New 1-Hour standard - 100 ppb, (three year avg of ann 98th percentile)
- Only One monitor showing N/A - Cook Co., Illinois (Chicago), monitor next to bus stop

But ...

- EPA is requiring additional monitors
  - On roadside of major highways
  - Within 50 meters of major highway
- If violations, what does it mean?

1-hour NO_2 NAAQS

New 1-hour standard - 100 ppb

- signed January 22, 2010;
- became effective on April 12, 2010

Permit Implications:

- No specific transition provision for implementation
- Permits issued on or after April 12, 2010 (in SIP-approved states) must contain compliance demonstration for 1-hour NO_2 NAAQS
- Modeling shows emergency generators exceed standard – EPA allows us not to include emergency generators
- New large sources of NOx - potential NAAQS violations

The Increasing Stringency of the PM 2.5 Standard

PM-10 standards

- 24-hr standard is 150 ug/m3 (retained)
- Annual standard is 50 ug/m3 (no longer in place)

PM 2.5 standard (1997):

- 24-hr Standard is 65 ug/m3
- Annual Standard is 15 ug/m3
  - 2005 – Designations finalized and effective
  - 2010 – Attainment Required

PM 2.5 NAAQS Standard (2006)

- Annual Standard maintained at 15 ug/m3
- 24-hr standard reduced - 65 to 35ug/m3

The New 2006 PM2.5 NAAQS

2006 PM 2.5 NAAQS Standard

- Annual Standard maintained at 15 ug/m3
- 24-hr standard reduced - 65 to 35ug/m3

Implementation of lower 24-hr PM2.5 NAAQS

- 12/07 State non-attainment recommendations to EPA
- 8/08 – EPA non-attainment recommendations
- 12/18/09 – Final Non-attainment designations made by EPA
  - Delayed by Obama Admin – Finalized 10 8 09
- +60 days FR – State Designations effective
- +3 yrs - State Implementation Plans due
- +5 yrs – Attainment Required

Recent NAAQS Highlights
PM 2.5

Feb 2009 DC Circuit remand to EPA on 2006 NAAQS

Final EPA Policy Assessment:

- Revise annual standard - 11 to 13 ug/m3 range
- With 13ug/m3 annual std, limited support to revise 24-hr standard below 35 ug/m3 (such as 30 ug/m3)

Court required revisions

- to be proposed June 14, 2012
- to be final by December 14, 2012

Recent NAAQS Highlights
Proposed PM2.5 Revisions

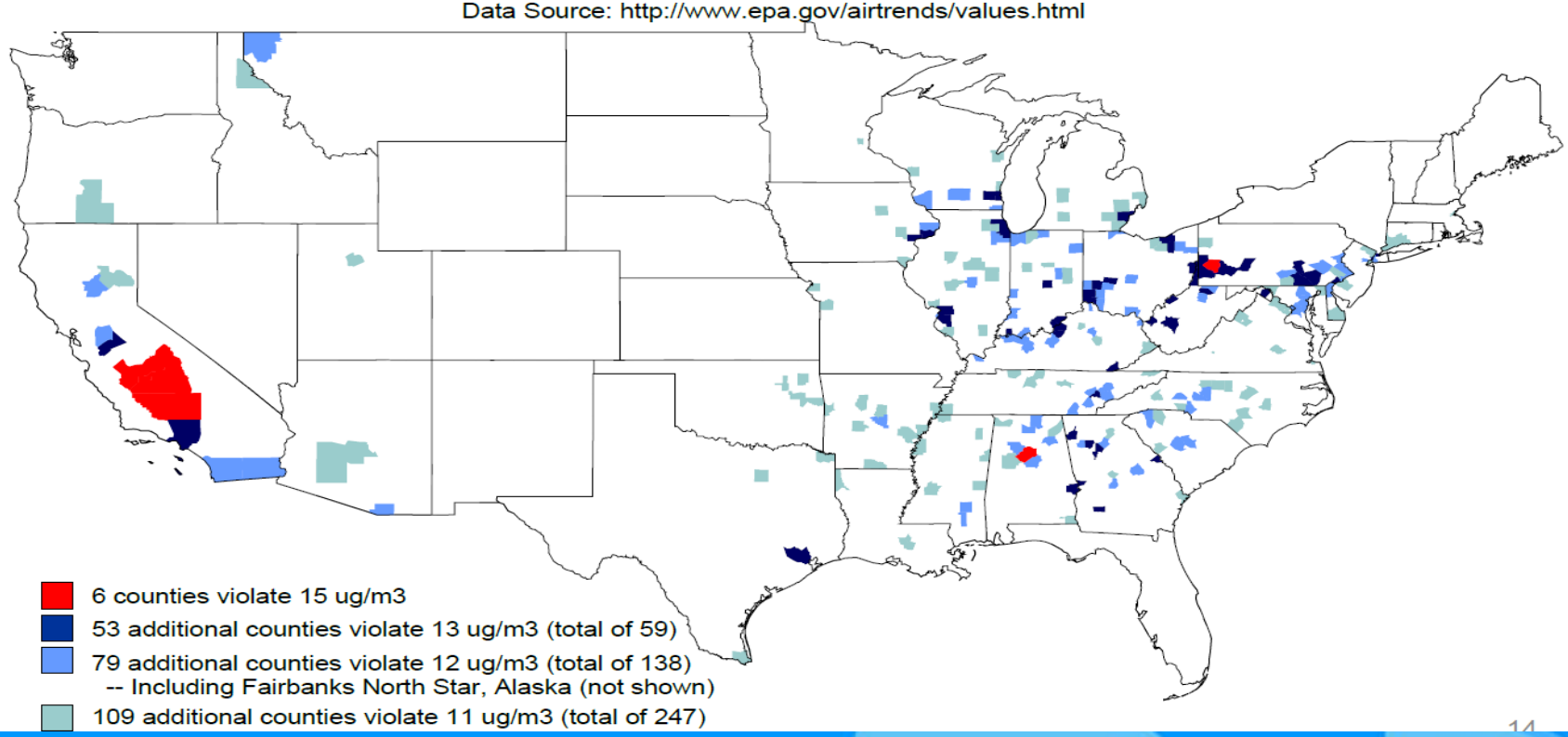
- EPA proposed to increase the stringency of annual standard from 15 ug/m3 to a range of 12-13 ug/m3
- EPA proposed to retain the current 24-hr standard
- EPA proposed to establish a new 24-hr secondary PM2.5 visibility index standard of 28 – 30 dv
- Final rule must be signed by 12 14 12

Recent NAAQS Highlights
Proposed PM2.5 Revision

$PM_{2.5}$

Counties Violating Existing PM2.5 15 ug/m3 Annual Standard
And Hypothetical Lower Standards of 13, 12, and 11 ug/m3

Data Source: http://www.epa.gov/airtrends/values.html



Recent NAAQS Highlights
Proposed PM2.5 Revision

Comments

- Secondary Standards aren't required
- If finalized, no analytical tools to implement
- If finalized must adopt secondary PM2.5 Surrogacy
  - If permit applicant demonstrates project doesn't cause or contribute to primary 24-hr PM2.5 std violation, it's OK
  - Failure to adopt construction ban for PSD & N/A NSR
- EPA must fix test method to measure PM2.5 in wet stacks

Recent NAAQS Highlights
Proposed PM2.5 Revision

Proposal & Comments, continued…

- Grandfathering Proposal:
  - 1997 PM2.5 policy: Application grandfathered if "complete" by effective date of NAAQS.
  - Permit applications & permits must be revised to address the new NAAQS UNLESS the Agency has already published the final draft permit.
- Monitoring Network:
  - EPA proposes to change the focus of monitoring from population centers to rural areas (energy production hotspots)
  - EPA proposes to establish new monitoring network that will use the recently installed new roadside NO2 monitors

GHG Regulatory Developments

CAAAC GHG Permit Streamlining Workgroup

- Subgroup of Permits, NSR and Toxics Subcommittee
- Established March, 2012
  - To identify and evaluate various potential approaches and options for streamlining PSD and Title V permit programs used for permitting GHG sources
  - To prepare a report to EPA by September 2012
  - Since formation of this group, EPA chose to keep GHG threshold (for now)
  - Interim Report Issued - did not evaluate options or develop recommendations

EPA will need to implement streamlining provisions before lowering GHG threshold!

GHG Permit Streamlining

Subgroups:

1. Streamlining PSD Permitting under the “Major for One, Major for All” Policy.
2. Streamlining PSD Permitting for GHG-Only Sources
3. Streamlining Title V Permitting for “Empty Permits” & “Hollow Permits”
4. Streamlining the Permitting PAL Issuance Process

General Comments

Streamlining Options well known and include:

- PTE restrictions (permanent or phased in)
- Permits by Rule
- General Permits
- Presumptive BACT (debated for years and would likely never receive consensus approval)
- Performance Standards with Annual Certifications
- Unit or source category specific exemptions
- Permits for equipment suppliers vs owners/operators

EPA Responses to Comments

Step 3 Tailoring Rule

EPA discusses the following options in the response to comments from Step 3 Rule

- Redefining Potential to Emit
- Presumptive BACT
- General Permits and Permit by Rule
- Electronic Permitting
- “Lean” Techniques for Permit Process Improvements

Major for One, Major For All

API Comments:

- Enhanced minor source permitting
- Presumptive BACT (esp – gas combustion)
- No BACT CCS evaluation except for largest sources
- Limitations on ESA, NHPA and EJ reviews
- A PTE transition Policy
- Redefinition of “construction activities”
- Expedited SIP approvals
- Expedited permit reviews

Major for One, Major for All

NEDA/CAP Suggestions:

"Pare back or eliminate PSD review of other pollutants for "GHG-Only Major Sources"

- Do not apply Major for One, Major for All to GHGs.
  - GHG-Only Major Sources (minor for conventional but major GHGs)
    - Would not trip PSD for conventional pollutants with significant GHG increase
    - Would not trip PSD for conventional pollutants if change in conventional pollutants is > significance level but < what would trigger PSD w/o GHGs.
    - This would prevent Federalization of State Permitting Programs, and help today's Minor Sources continue to get state permits without being subject to BACT, NAAQS modeling or gridlock.
- Strategy to minimize permitting for PCPs – especially CHP, and energy efficiency projects

Streamlining PSD for GHG-Only

Measures applicable to permitting GHG-emitting sources which are above GHG threshold and trigger PSD only for GHG but no other pollutant:

- New facilities with PTE >100,000 TPY CO2e
- Existing facilities with PTE >100,000 that makes modifications that increase GHG emissions >75,000
- For both of the above, there are no emission increases of any other non-GHG (attainment) pollutant above the significance thresholds for non-GHG pollutants

Streamlining PSD for GHG-Only

Suggestions:

SCAQMD

- Prohibitory PTE Rule to limit PTE (of GHGs)
  - Sources with actual emissions <50% Threshold would be considered minor sources regardless of their PTE and exempt from Title V if they have records to demonstrate this.
- Address GHG-Only Sources under Minor NSR only
  - Non-Title V sources handled under minor NSR until there is a major modification for non-GHG emissions.

Streamlining PSD for GHG-Only

Suggestions:

LACSD

- PTE calculations for landfills
- Do not apply Major for One, Major for All to GHG PSD permitting.
  - EPA should clarify that GHGs should not be regulated under PSD beyond BACT and public notice requirements
  - If EPA must develop NAAQS or PSD increments for GHGs, EPA should develop “minor PSD program” to trigger Beyond BACT requirements only for significant levels of GHGs.
- Permanently exclude biogenic CO2 emissions from permitting

Streamlining Title V Permitting

for Empty or Hollow Permits

Hollow Permit –

- No GHG requirements but other applicable requirements like recordkeeping, reporting
- Deferred permitting

Empty Permits –

- General Conditions only
- Permit by rule
  - Rules established with requirements and limits applicable to source or source category.
  - Affected sources identified through notification or registration system
- General Permits
  - Expedited permit process with pre-determined conditions for category
  - Sources apply to be assigned to the general permit through simple application process

Streamlining Title V Permitting

for Empty or Hollow Permits

Sources that Triggers Title V for GHG only but subject to requirements for criteria or toxic pollutants only

Simplified Conditions

- Permit includes requirements for non-major pollutants but lists GHG w/o monitoring

Syn Minor Permits

- Source gets FESOP to keep GHG below Title V threshold (already available)

Streamlining Title V Permitting

for Empty or Hollow Permits

Exemption by rules to address low actual emissions but PTE > GHG threshold:

- Seasonal Sources
- Specific equipment
  - E.g. energy-star rated equipment < a specific rating
- Naturally Low Emission Sources
  - Rule exempts sources with emissions below 50% of Title V threshold

Streamlining PAL Issuance Process

Specific issues for Landfill Gases

– how to establish baseline (variable emissions vs time)

- Monitoring Provisions

General PAL issues:

- Resetting the PAL at Renewal
- Establishing PAL at Greenfield Facilities
  - Greenfield sites cannot use PTE for baseline, yet PSD rule allows new units to use PTE for baseline actual emissions.