# Status of New Source Testing Regulations

The Avogadro Group, LLC

*Air Quality Consulting and Source Emissions Testing*

# ASTM D7036 Standard: Source Testing Accreditation

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# ASTM D7036-04

- Source Evaluation Society (SES)
- Qualified Source Test Individual (QSTI)/Qualified Individual (QI)
- Qualified Source Test Observer (QSTO)
- Air Emissions Testing Body (AETB)
- Stack Test Accreditation Council (STAC)

# Purpose of QSTI/QSTO

- Guarantee of thorough and practical knowledge of source testing methods
- Demonstrate an understanding of
  - elementary physical gas laws
  - Chemistry
  - The basics of safety and hazardous material handling
  - primary theories of source testing (e.g., isokinetic and proportional sampling).
- Exemplify and demonstrate professional and ethical conduct as a QSTI

# Main Components of QSTI/QSTO

- Qualifications
  - Experience must match ASTM D7036-04 standard
  - Pass at least one method group exam
- Application process
  - Document experience
  - Describe two projects per methods group
  - Include three letters of reference
- Four emissions measurements groups
  - Group 1 – Isokinetic test methods
  - Group 2 – Wet chemistry gaseous pollutant test methods
  - Group 3- Gaseous Pollutants Instrumental Methods + CEMS Performance Specifications CEMS RA requirements of part 75
  - Group 4 – Hazardous metals test methods

# Purpose of Accreditation

- Revisions to the Part 75 rule:
  - This rule became effective March 27, 2012
    - This means Part 75 RATAs must be conducted by an AETB or self-certified company
  - Any AETB or self-certified company conducting RATAs of CEMS or Hg sorbent trap monitoring systems, or Appendix E testing must conform to the requirements of ASTM D 7036-04

# Main Components of AETB

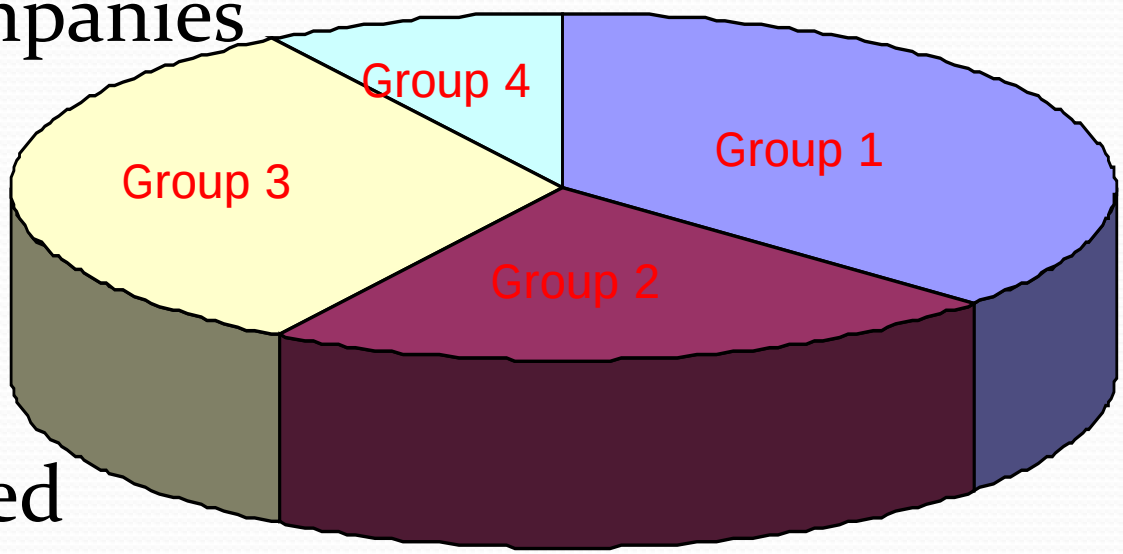
- Testing must be *overseen and supervised* by at least one on-site Qualified Individual
- At the time of testing, the AETB provides a certification for relevant test methods demonstrating compliance with ASTM D 7036-04, this includes:
  - Certificate of accreditation or interim accreditation; or
  - Letter of certification signed by the AETB senior management and name, telephone number and e-mail of the AETB;
  - Name of the on-site QI and the date that the QI took and passed the relevant qualification exam(s)
  - The name and e-mail of the qualification exam provider

# Main Components of AETB Continued

- To ensure compliance with the Standard a Part 75 source (& CAPCOA) should request that the AETB produce:
  - AETB's quality manual;
  - Results of external audits or internal audits performed by AETB within the last 12 months
  - Performance data
  - Training records

# Status Today

- There are 20 companies with STAC interim accreditation, probably a few more self-certified




- There are less than 500 QSTI's
- There are 8 QSTO's

# Protocol Gas Verification Program

# Updated EPA Green Book "Assay"

TABLE 2-1. Summary of Compressed Gas SRMs, NTRMs, and RGMs that are available from NIST and their Concentration Ranges[a]

| Certified component | Balance gas | SRM[b] range | NTRM[c] range | RGM[d] range | Certification period (years) |
|---|---|---|---|---|---|
| Ammonia | Nitrogen | Not available | Not available | 5 to 50 ppm | 1 |
| Carbon dioxide | Air | 345 to 390 ppm | 340 to 400 ppm | 350 to 420 ppm | 8 |
| Carbon dioxide | Nitrogen | 500 ppm to 16 % | 2 ppm to 20 % | Contact NIST | 8 |
| Carbon monoxide | Air | 100 to 500 ppb | 100 to 500 ppb | 40 to 400 ppb | TBD[e] |
| Carbon monoxide | Air | 10 to 45 ppm | 10 to 45 ppm | Contact NIST | 8 |
| Carbon monoxide | Nitrogen | 10ppm to 13% | 0.1 ppm to 15% | Contact NIST | 8 |
| Formaldehyde | Nitrogen | Not available | Not available | 0.5 to 10 ppm | 1 |
| Hydrogen chloride | Nitrogen | Not available | Not available | Contact NIST | TBD |
| Hydrogen sulfide | Nitrogen | 5 to 20 ppm | 1 to 400 ppm | Contact NIST | 3 |
| Methane | Air | 1 to 100 ppm | 1 to 1000 ppm | 1.7 to 2.2 ppm | 8 |
| Methane | Nitrogen | Not available | 0.5 ppm to 4% | Contact NIST | 8 |
| Methanol or ethanol | Nitrogen or Air | Not available | Not available | 75 to 500 ppm | 4 |
| Natural gas components[f] | Natural gas | Not Available | Contact NIST | Contact NIST | 4 |
| Nitric oxide | Nitrogen | 0.5 to 50 ppm | 0.5 to 50 ppm | Contact NIST | 3 |
| Nitric oxide | Nitrogen | 50 to 3,000 ppm | 50 to 3,000 ppm | Contact NIST | 8 |
| Nitrous oxide | Air | TBD | 300 ppb to 5% | 300 to 350 ppb | 6 |
| Total oxides of nitrogen ($NO_x$)[g] | Air | 100 ppm | 10 to 100 ppm | 5 to 100 ppm | 6 |
| Oxygen | Nitrogen | 2 to 21 % | 0.4 to 25 % | Contact NIST | 8 |
| Propane | Air | 0.1 to 500 ppm | 0.1 to 500 ppm | Contact NIST | 8 |
| Propane | Nitrogen | 100 ppm to 2 % | 5 ppb to 2% | Contact NIST | 8 |
| Sulfur dioxide | Nitrogen | 5 ppm | 5 to 50 ppm | Contact NIST | 4 |
| Sulfur dioxide | Nitrogen | 50 to 3,500 ppm | 50 to 5,000 ppm | Contact NIST | 8 |
| Volatile organics | Nitrogen | 5 ppb | Contact NIST | Contact NIST | 4 |
| Zero air material[h] | Air | Not available | Not available | Contact NIST | TBD |

# Stationary Source Audit program

# Stationary Source Audit Program (SSAP)

- SSAP is a way for the EPA to privatize audit samples
- An audit sample is collected by the source tester
- The samples are send to The NELAC Institute for analysis.
- This ensures the source testing lab meets the requirements set in the Stationary Source Audit Sample Table located here:

http://www.nelac-institute.org/docs/comm/ptair/SSAS%20Table%20Rev.%201%2012-15-2010.pdf

- The program was approved May 17th, 2011, at this time there are not scheduled audits

# Stationary Source Audit Program (SSAP)

- Method 6 ($SO_2$),
- Method 7 (NOx),
- Method 8 (Sulfuric Acid Mist),
- Method 13 A&B (Flouride),
- Method 23 (Dioxins and Furans),
- Method 24 (paints – VOCs),
- Method 25 (NMOC),
- Method 26 (HCl, HF),
- Method 29 (Multiple Metals)
- Method 315 (Organic Extractables on Glas Fiber Filters)

# More method changes to come

# Does this apply to me?

- Applies to several industries already subject to the current Provisions of Parts 51, 60, 61, and 63.
- Changes include: M2, M5, M6c, M7, stratification, cyclonic flow, Performance Specs, M320, Subparts (including GG) and many more
- For more info go to:
  - A fact sheet is available at

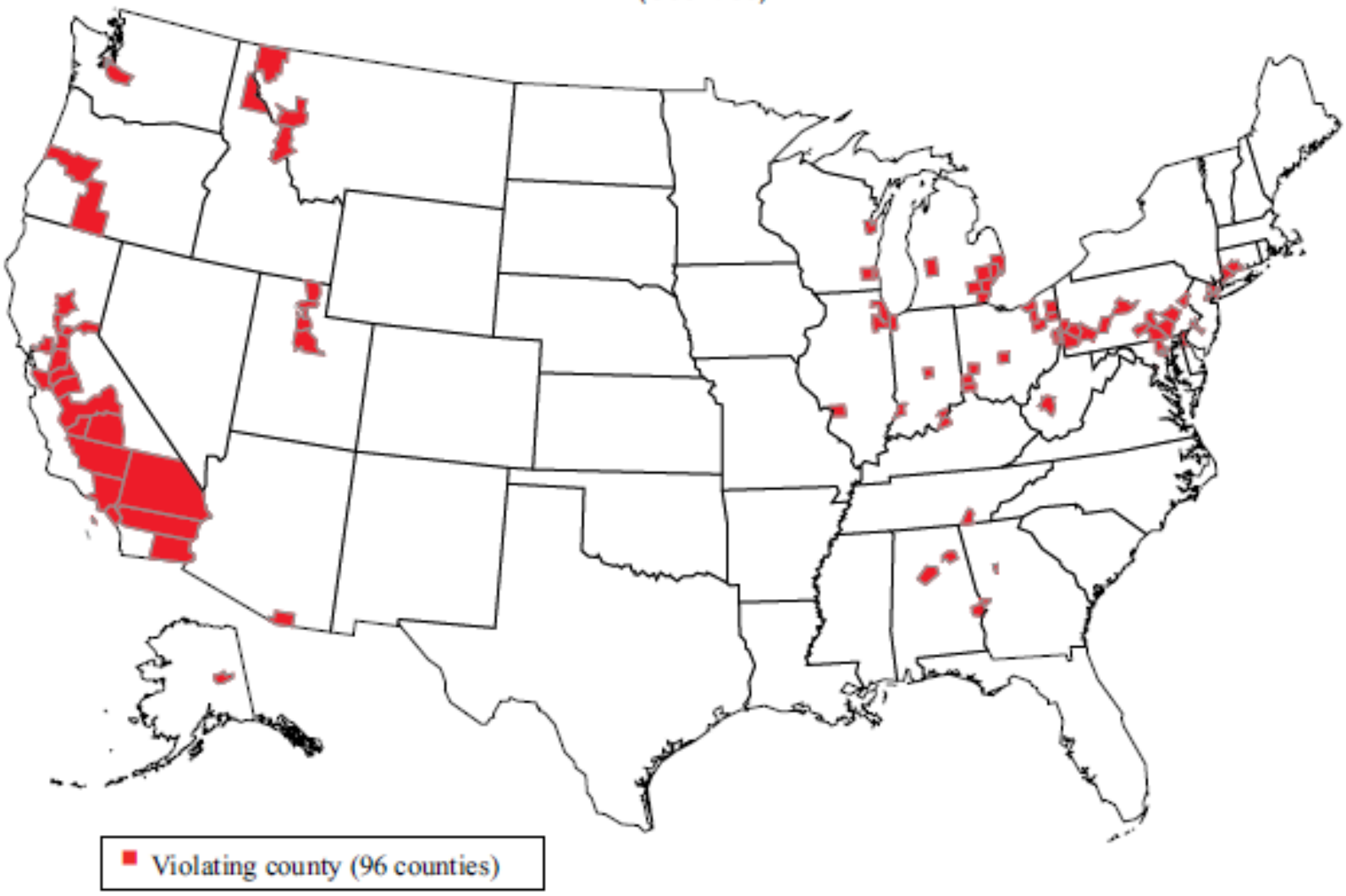
http://www.epa.gov/ttn/caaa/t3/fact_sheets/testmethodspropfs.pdf

  - or you can view the entire proposal at:

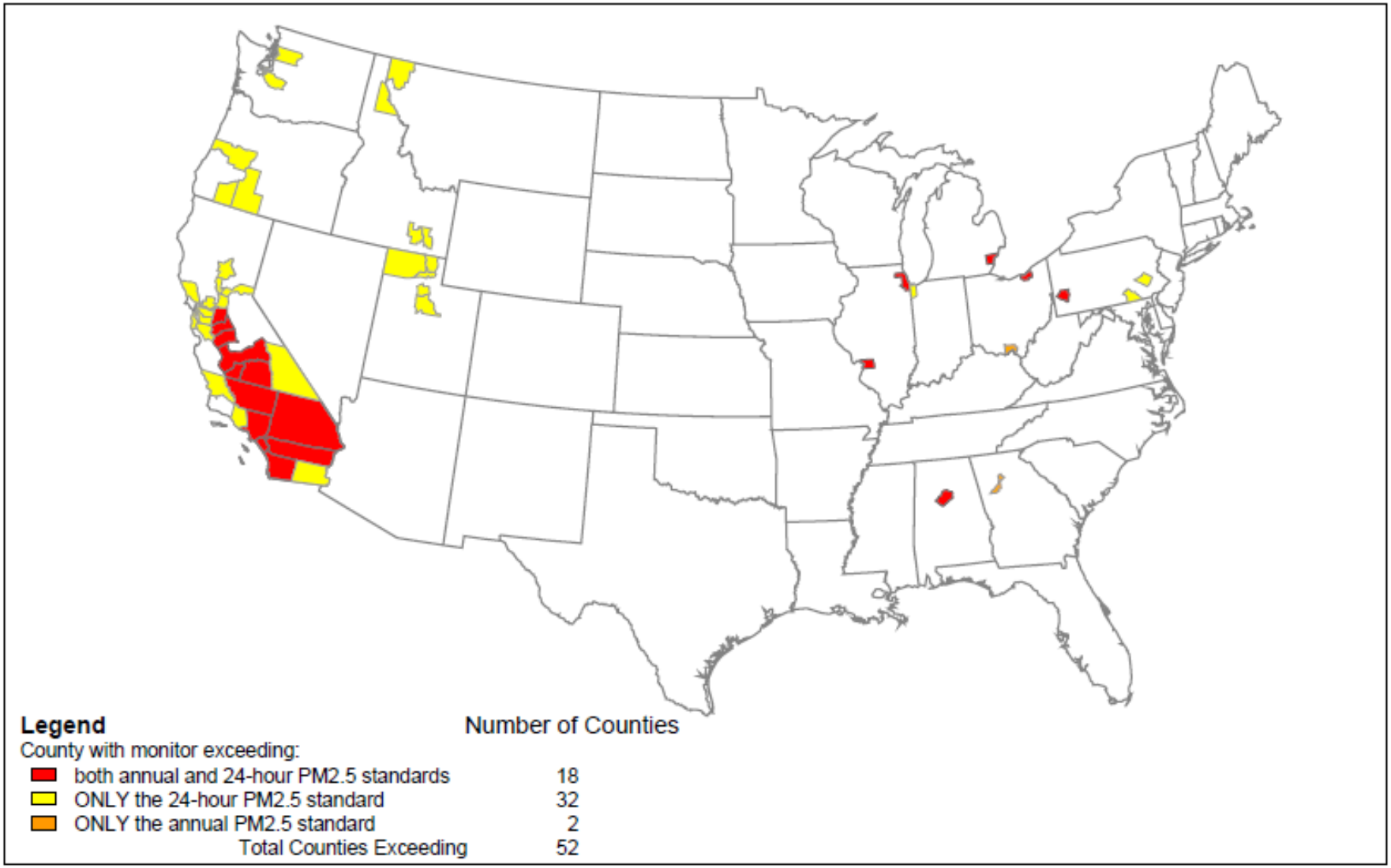
www.gpo.gov/fdsys/pkg/FR-2012-01-09/pdf/2011-31234.pdf

# PM 2.5 Update

**2004-2006** $PM_{2.5}$ 24-hour Standard Violators:
(Counties)

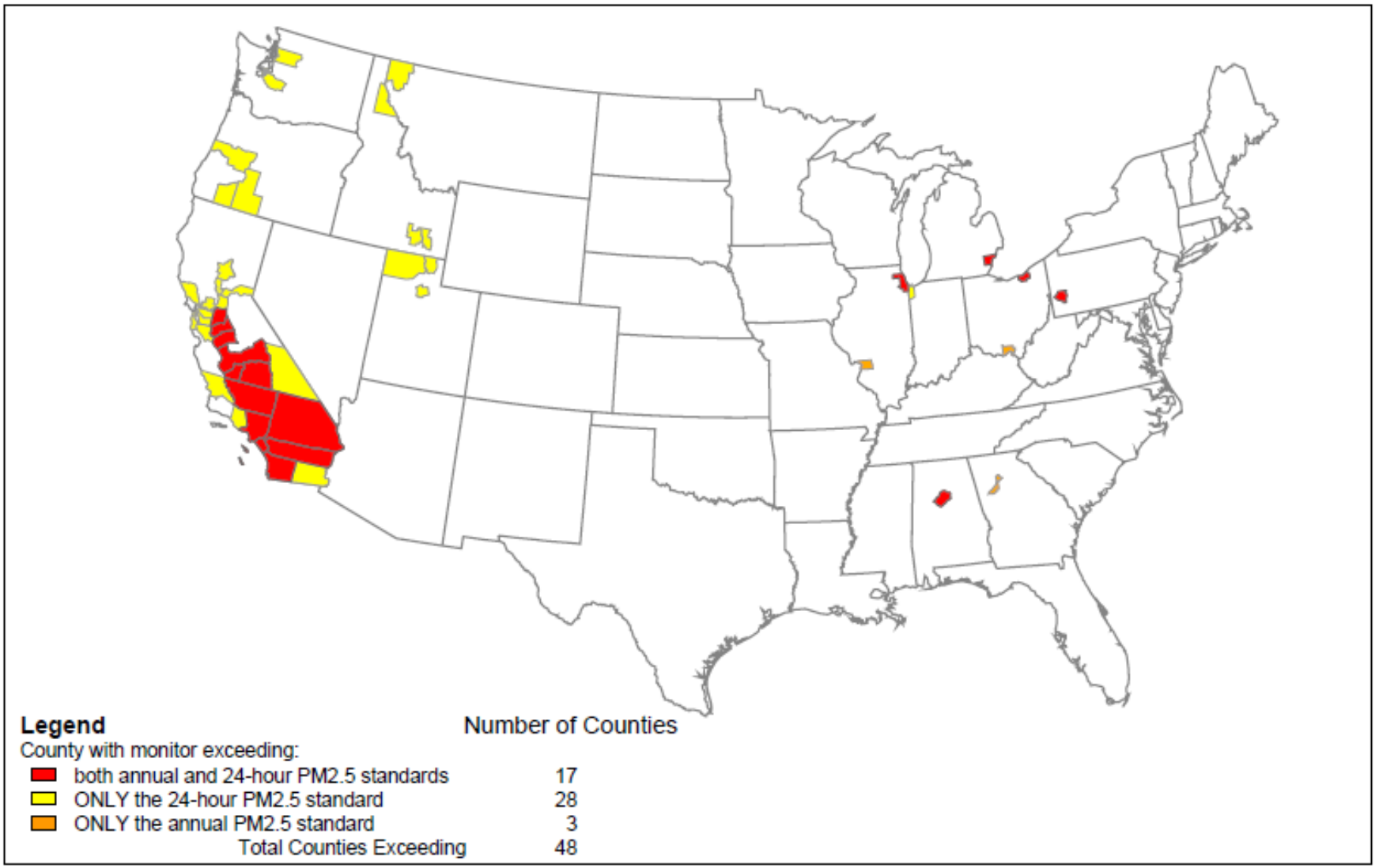


# Counties Projected to Exceed the PM2.5 NAAQS in 2015
## Based on EPA Modeling*
## Annual **15 ug/m3** and 24-Hour **35 ug/m3**




*Projections as of September 2006. EPA models assume implementation of CAIR/CAMR/CAVR, Title IV of the Clean Air Act, the NOx SIP Call, and some existing state programs. This approach does not forecast actions states will take to meet current PM standards.

# Counties Projected to Exceed the PM2.5 NAAQS in 2020
## Based on EPA Modeling*
## Annual **15 ug/m3** and 24-Hour **35 ug/m3**




*Projections as of September 2006. EPA models assume implementation of CAIR/CAMR/CAVR, Title IV of the Clean Air Act, the NOx SIP Call, and some existing state programs. This approach does not forecast actions states will take to meet current PM standards.

# Proposal Standards

- For fine particles PM 2.5:
  - Strengthen the annual health standard within the range of 12 micrograms per cubic meter (µg/$m_3$) to 13 µg/$m_3$.
  - Retain the existing 24-hour standard, at 35 µg/$m_3$.
  - Set a separate 24-hour standard to improve visibility, primarily in urban areas. The EPA is proposing two options:
    - 30 deciviews or 28 deciviews.
  - Retain the existing secondary standards for $PM_{2.5}$ and $PM_{10}$
- For coarse particles PM 10:
  - Retain the existing 24-hour standard at 150 µg/$m_3$

# Implementation Details

- The EPA is proposing to:
  - Grandfather preconstruction permitting applications that have made substantial progress through the review process when the final standards are issued
  - Update and improve the nation's PM2.5 monitoring network. This will include relocating a small number of monitors to measure fine particles near heavily traveled roads.
  - In addition, the proposal would update the Air Quality Index (AQI) for particle pollution.

# Implementation Dates

- EPA will take final action on the standards by Dec. 14, 2012
- EPA anticipates making attainment/nonattainment designations by December 2014, becoming effective early 2015.
- States would have until 2020 to meet the proposed health standards.
- A state may request an extension to 2025, depending on:
  - Severity of an area's fine particle pollution problems
  - Availability of pollution controls.
- The Clean Air Act does not specify a date for states to meet secondary PM2.5 standards

# Boiler MACT

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| BOILER MACT HISTORY | | |
|---|---|---|
| **DATE** | **ACTION** | **CITE** |
| July 16, 2001 | Sierra Club sues EPA in DC District Court to set deadlines for issuing air toxics standards under Clean Air Act §112. | *Sierra Club v. Johnson* No. 01-1537 (D.D.C.) |
| Sept 13, 2004 | Final Boiler MACT I rule | 69 FR 55218 |
| Nov 12, 2004 | Environmental petitioners challenge 2004 BMACT I and CISWI I rules. Industry intervened in support of BMACT I and CISWI I. | *NRDC v. EPA* No. 04-1385 (DC Cir.) |
| Sept 22, 2005 | Final Reconsidered CISWI I | 70 FR 55568 |
| Oct 31, 2005 | Proposed Reconsidered BMACT I | 70 FR 62264 |
| Dec 28, 2005 | Final Reconsidered BMACT I | 70 FR 76918 |
| June 8, 2007 | Court Decision : BMACT I and CISWI I vacated | *NRDC v. EPA* 489 F.3d 1250 (D.C. Cir. 2007) |
| June 4, 2010 | Proposed BMACT II/Area Source/CISWI II/NHSM rules (Boiler MACT II Rules)* | 75 FR 32005/ 75 FR 31895/ 75 FR 31938/ 75 31843 |
| Sept 20, 2010 | Court Order: granting extension to finalize Boiler MACT II rules by Jan 21, 2011 | *Sierra Club v. Jackson* No. 01-1537 |
| Dec 7, 2010 | EPA request to extend date to finalize Boiler MACT II rules by 15 months to April 13, 2012 | *Sierra Club v. Jackson* No. 01-1537, Motion to Amend Order of Mar 31, 2006 |
| Jan 20, 2011 | Court Order: one month extension granted to finalize Boiler MACT II rules | *Sierra Club v. Jackson* No. 01-1537, Order |

| BOILER MACT HISTORY | | |
|---|---|---|
| **DATE** | **ACTION** | **CITE** |
| Mar 21, 2011 | Final Boiler MACT II rules and Notice of Reconsideration | 76 FR 15608/ 76 FR 15554/ 76 FR 15704/ 75 FR 15456/ 76 FR 15266 |
| April 13, 2011 | Judicial Review of final BMACT II filed (case in abeyance pending further court order) | *U.S. Sugar Corp. v. EPA,* No. 11-1108 (DC Cir.) |
| April 29, 2011 | Judicial Review of final CISWI II filed (case in abeyance during agency reconsideration, but no later than July 21, 2012) | *AF&PA v. EPA* No. 11-1125 (DC Cir.) |
| May 17, 2011 | Judicial Review of final Area Source filed (case in abeyance pending further court order) | *ACC v. EPA* No. 11-1141 (DC Cir.) |
| May 18, 2011 | EPA Delay Notice: effective dates for BMACT II and CISWI II suspended pending administrative reconsideration | 76 FR 28662 |
| May 19, 2011 | Judicial Review of final NHSM filed (case in abeyance pending further court order) | *Waste Mgm't, v. EPA,* No. 11-1148 (DC Cir.) |
| June 21, 2011 | HR 2250 "EPA Regulatory Relief Act of 2011" introduced | |
| July 20, 2011 | S 1392 "EPA Regulatory Relief Act of 2011" introduced | |
| Oct 13, 2011 | HR 2250 Adopted by House (vote 275-142) | |
| Dec 23, 2011 | Proposed Reconsidered/Amended Boiler MACT II rules | 76 FR 80598/ 76 FR 80532/ 76 FR 80452 |
| Jan 9, 2012 | Court Order: EPA Delay Notice vacated, putting into effect BMACT II and CISWI II | Sierra Club v. EPA, No. 11-1278 (D.D.C) |

# Questions ???

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