

USEPA REGULATORY INITIATIVES AND IMPLICATIONS OF RECENT AIR TRENDS RESULTS

Presented by:

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Panel Title: State's Clean Air Success Story and
Implications for Overregulation

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Remarkable Times

- Broad based attack by USEPA on all fossil fuels
- Particular attention being directed at coal burning power plants (CSAPR; MATS; GHG-NSPS)
- Significant judicial challenges are being directed at finalized rules: CSAPR and MATS
- New Source CO₂ rule is not yet final
- USEPA erroneously claims that the cost of its rules can be justified by air quality benefits

... but hold on ...

Current Air Programs Are Working

- Already dramatic reductions in air emissions
- Already dramatic improvement in air quality
- Additional improvements in air quality will occur without new regulations
- In those few areas where problems remain, additional controls are the responsibility of local sources

This presentation will review ...

- The threat that CSAPR, MATS and CO₂-NSPS present to electric power generation
- The status of litigation related to CSAPR and MATS
- Historical emission reductions and air quality trends
- Projected air quality improvements related to existing regulations

CSAPR Litigation

- Imposed additional NO_x and SO₂ controls on power plants at a cost of \$800 million per year.
- 08/21/12 – D.C. Circuit decision
 - Vacates and remands CSAPR and the CSAPR FIPs
 - Directs EPA to continue administering CAIR pending completion of a remand rulemaking to replace CSAPR with a valid rule.
 - CSAPR “exceeds [EPA’s] statutory authority in two independent respects” by
 - a. Requiring upwind states “to reduce emissions by more than their own significant contributions to a downwind State’s nonattainment,” and
 - b. Failing to allow States the “initial opportunity” to implement, through SIPs, the emission reductions required by EPA in CSAPR

CSAPR Decision “Red Lines”

- Guidance by Court to be applied to the development of an alternative rule:
 - 1% Floor: Once EPA determines what is an insignificant contribution, “it may not force any upwind State to reduce more than its own contribution to that downwind State minus the insignificant amount.”
 - Proportionality Requirement: “EPA ... must factor in the downwind State's own contribution, alongside those of the various upwind States.”
 - Unnecessary Over-Control: “EPA may not require upwind States to do more than necessary for the downwind States to achieve the NAAQS.”

CSAPR: What's next?

- Possible rehearing *en banc*.
- Possible petitions for *writ of certiorari* in the U.S. Supreme Court?
- Additional transport rule to address the 2006 24-hour PM_{2.5} NAAQS and the 2008 ozone NAAQS, both of which post-dated CAIR and CSAPR.

MATS: Background

- 1990 – Clean Air Act Amendments to study whether to issue air toxics standards for power plants.
- 1998 – EPA submits Utility Toxics Study Report to Congress.
- 2000 – Listing Determination.
- 2005 – De-listing rule.
- 2008 – D.C. Circuit vacates de-listing rule and CAMR.
- 2011 – EPA is obligated under consent decree to propose air toxics standards for power plants by March 16, 2011, and promulgate final standards by December 16, 2011.
- 02/16/12 – Final MATS rule is published. 77 FR 9304.
- 04/16/12 – MATS took effect (annual cost \$9.6 billion)
- 04/08/13 – Final briefing on appeal

Petitioners

- White Stallion Energy Center, LLC
- Utility Air Regulatory Group
- Midwest Ozone Group
- Peabody Energy Corporation
- West Virginia Chamber of Commerce (plus 13 others)
- United Mine Workers of America
- States: Alabama, Alaska, Arizona, Florida, Idaho, Indiana, Iowa, Kansas, Kentucky, Michigan, Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Virginia, West Virginia and Wyoming
- Others

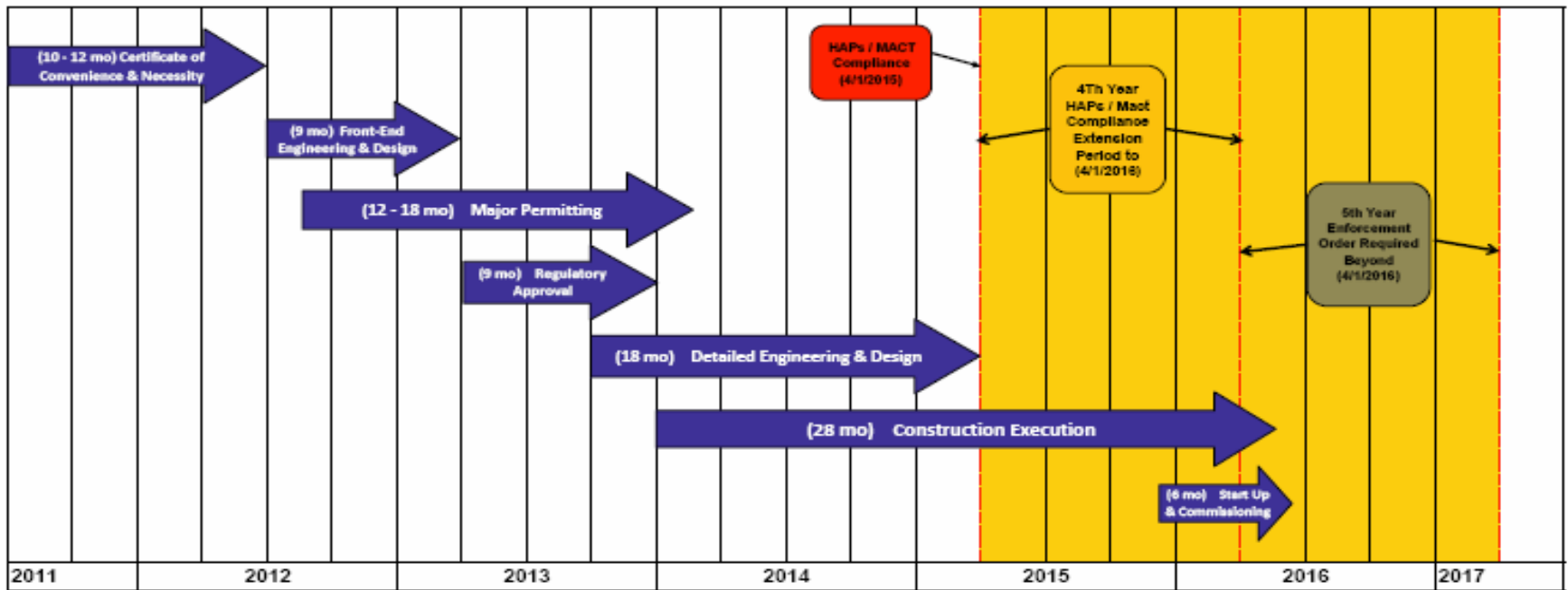
MATS Appeal Issues

- EPA failed to consider the impact of the MATS rule on the reliability of the electricity supply;
- EPA failed to consider the costs and economic impact of the MATS rule;
- EPA ignored conditions affecting individual sources and instead based emission limits on a combination of different HAP pollutant emission levels achieved at different sources in different states
- EPA's compliance deadline for existing EGUs cannot be achieved by some plants
- EPA's limit for new sources is not achievable
- Others

MATS Timelines

- Inadequate flue-gas desulfurization (FGD) retrofit time even with 4th year
- Non-reliability-critical units need not apply for 5th year

Typical FGD System Construction Timeline

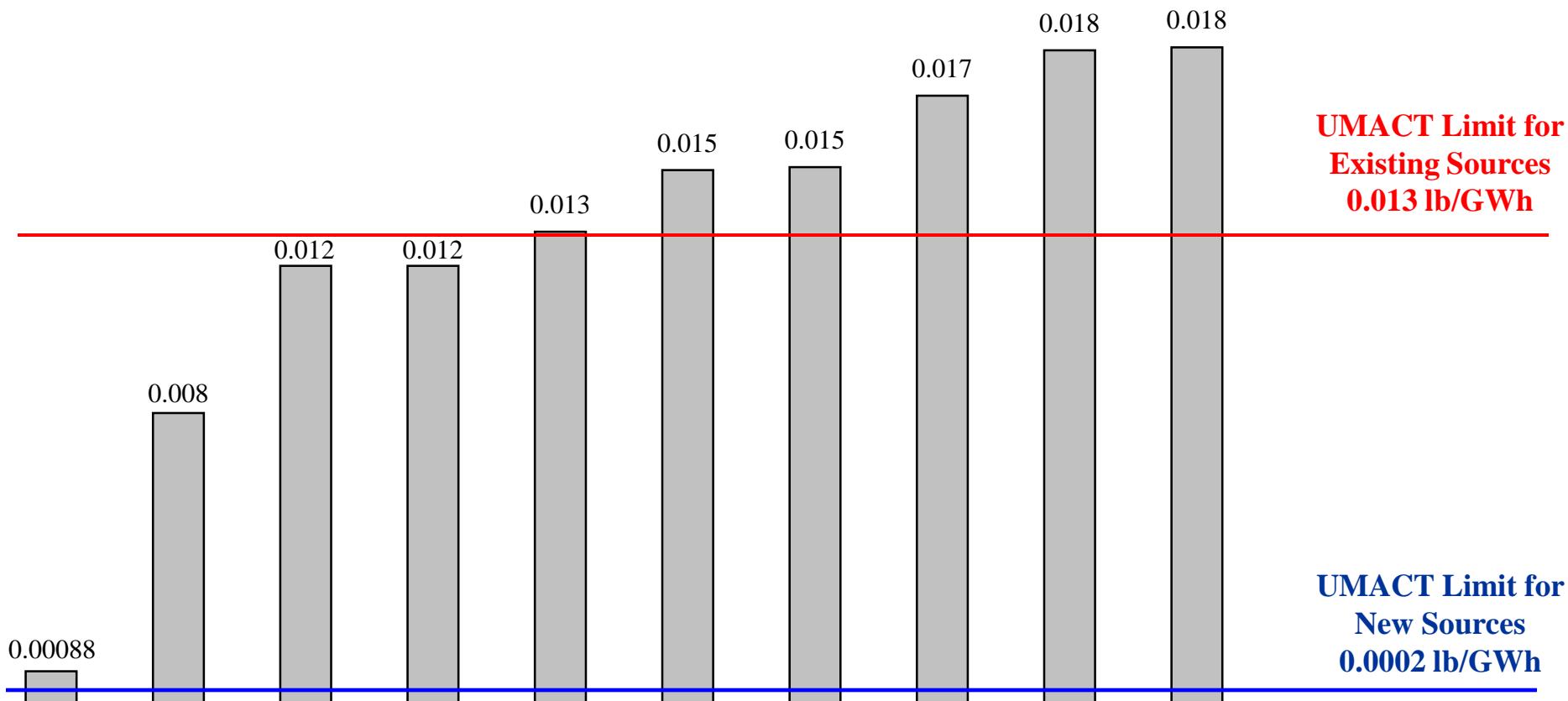


The 4th Year Extension Period provides some relief to the construction schedule. However, units with compliance projects that extend beyond the 4th Year Extension Period that have no transmission reliability consequences will be forced to come off line.

New Source Mercury UMACT

Mercury UMACT vs. Current Air Permit Limits*

(*most stringent permit limits identified by analysis of new coal units build since 2001)



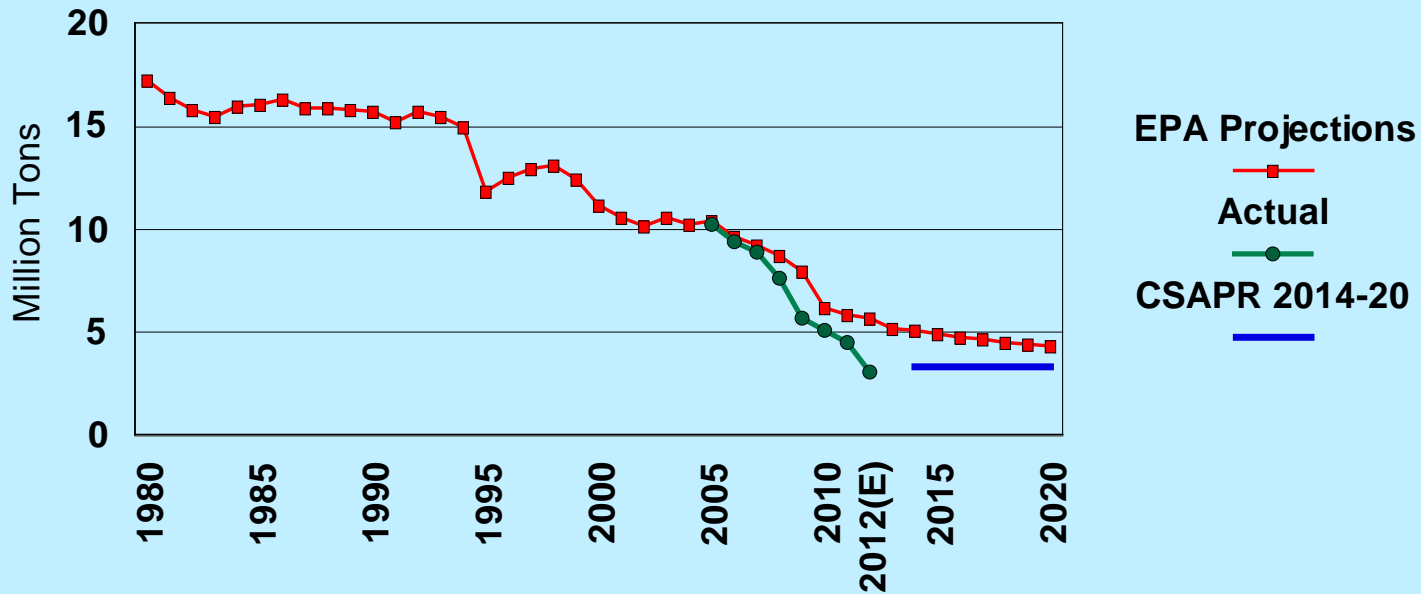
Source: Derived from AEP UMACT Comments to U.S. EPA (2011).

CO₂ - NSPS

- Proposed rule: March 27, 2012
- Exempts application to existing sources
- Output based standard (1,000 lbs CO₂ / MWh)
- Achievable by:
 1. natural gas combined cycle
 2. coal fired united with CCS
- CCS not commercially viable
- 30 year compliance period
- Effectively prohibit new coal power plants

EPA CAIR Projections Compared to Actual and CSAPR

EPA 2005-20 CAIR SO₂ Projections vs. Actual 2005-2012 Emissions and 2014 CSAPR SO₂ Cap



Source: EPA Presentation to LADCO April 2005, EPA CAMD Data Base, CSAPR RIA. 2012 emissions annualized based on 1st half.

Areas Designated Nonattainment for the 2008 8-Hour Ozone NAAQS

Designated Area ¹	EPA Region(s)	Designation Status ¹	Classification ¹	2009-2011 Design Value (ppm) ^{2,3}
Los Angeles South Coast Air Basin, CA	9	Nonattainment	Extreme	0.107
Morongo Indian Reservation, CA	9	Nonattainment	Serious	0.101
San Joaquin Valley, CA	9	Nonattainment	Extreme	0.099
Los Angeles & San Bernardino Counties (W Mojave), Sacramento Metro, CA	9	Nonattainment	Severe	0.097
Riverside County (Coachella Valley), CA	9	Nonattainment	Severe	0.093
Baltimore, MD	3	Nonattainment	Moderate	0.092
Pechanga Indian Reservation, CA	9	Nonattainment	Moderate	0.091
Dallas-Fort Worth, TX	6	Nonattainment	Moderate	0.090
Houston-Galveston-Brazoria, TX	6	Nonattainment	Marginal	0.089
New York-N. New Jersey-Long Island, NY-NJ-CT	1,2	Nonattainment	Marginal	0.084
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE	2,3	Nonattainment	Marginal	0.083
Ventura County, CA	9	Nonattainment	Serious	0.083
Baton Rouge, LA	6	Nonattainment	Marginal	0.082
San Diego County, CA	9	Nonattainment	Marginal	0.082
Washington, DC-MD-VA	3	Nonattainment	Marginal	0.082
Sheboygan, WI	5	Nonattainment	Marginal	0.081

Areas Previously Designated Nonattainment for the PM_{2.5} 1997 Annual NAAQS

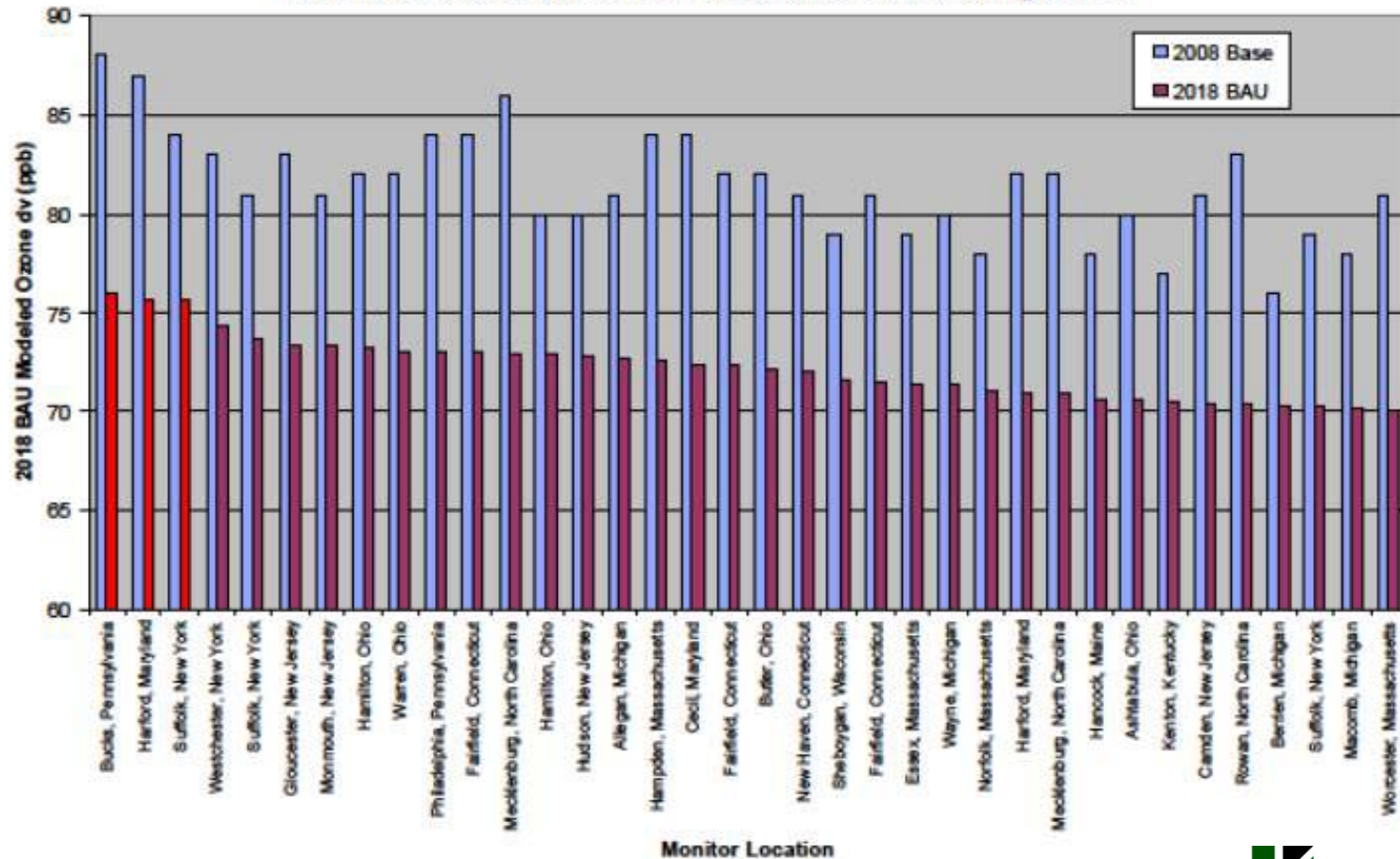
Designated Area	States	EPA Regions	Designation Status ¹	Classification	2009-2011 Annual Design Value ($\mu\text{g}/\text{m}^3$) ^{2, 3}
Libby	MT	8	nonattainment	not applicable	incomplete
Rome	GA	4	nonattainment	not applicable	incomplete
San Joaquin Valley	CA	9	nonattainment	not applicable	18.2
Los Angeles-South Coast Air Basin	CA	9	nonattainment	not applicable	16.2
Liberty-Clairton	PA	3	nonattainment	not applicable	15.0
Cincinnati-Hamilton	OH-KY-IN	4, 5	maintenance	not applicable	13.8
Philadelphia-Wilmington	PA-NJ-DE	2, 3	nonattainment	not applicable	13.7
Louisville	KY-IN	4, 5	nonattainment	not applicable	13.5
St. Louis	MO-IL	5, 7	nonattainment	not applicable	13.5
Canton-Massillon	OH	5	nonattainment	not applicable	13.4
Macon	GA	4	nonattainment	not applicable	13.4
Cleveland-Akron-Lorain	OH	5	nonattainment	not applicable	13.1
Indianapolis	IN	5	nonattainment	not applicable	13.1
Steubenville-Weirton	OH-WV	3, 5	nonattainment	not applicable	13.0
Wheeling	WV-OH	3, 5	nonattainment	not applicable	13.0
Birmingham	AL	4	nonattainment	not applicable	12.9
Dayton-Springfield	OH	5	nonattainment	not applicable	12.9
Evansville	IN	5	maintenance	not applicable	12.9
Chicago-Gary-Lake County	IL-IN	5	maintenance	not applicable	12.7
Pittsburgh-Beaver Valley	PA	3	nonattainment	not applicable	12.7
Charleston	WV	3	nonattainment	not applicable	12.5
Johnstown	PA	3	nonattainment	not applicable	12.4
Knoxville	TN	4	nonattainment	not applicable	12.3
Parkersburg-Marietta	WV-OH	3, 5	nonattainment	not applicable	12.3
Columbus	OH	5	nonattainment	not applicable	12.2
Harrisburg-Lebanon-Carlisle	PA	3	nonattainment	not applicable	12.1
Huntington-Ashland	WV-KY-OH	3, 4, 5	nonattainment	not applicable	12.1

Areas Previously Designated Nonattainment for the PM_{2.5} 2006 24-hour NAAQS

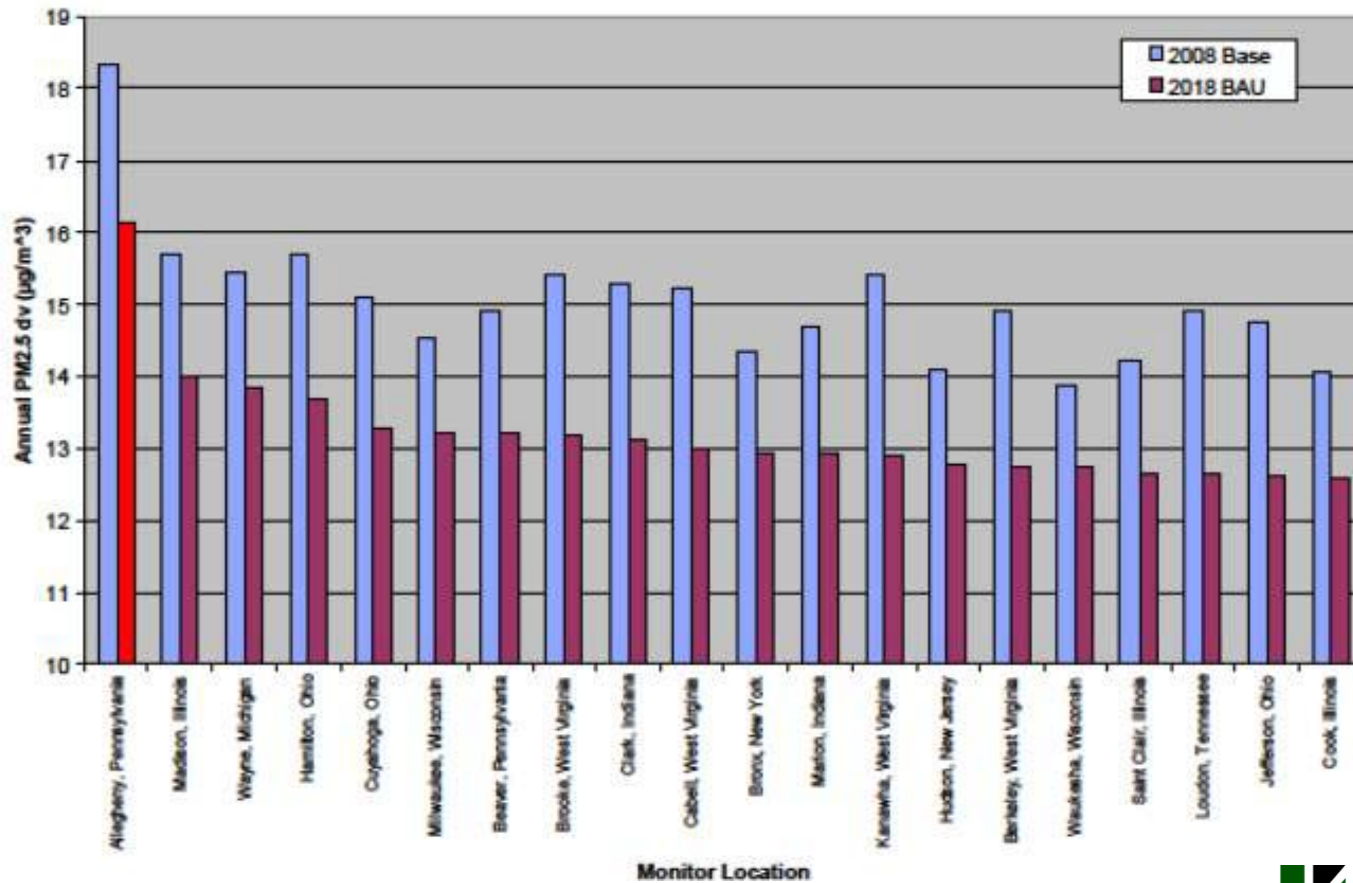
Designated Area	States	EPA Regions	Designation Status ¹	Classification	2009-2011 24- hour Design Value (µg/m ³) ^{2, 3}
San Joaquin Valley	CA	9	Nonattainment	not applicable	62
Fairbanks	AK	10	Nonattainment	not applicable	60
Logan	UT-ID	8, 10	Nonattainment	not applicable	50
Salt Lake City	UT	8	Nonattainment	not applicable	50
Liberty-Clairton	PA	3	Nonattainment	not applicable	44
Provo	UT	8	Nonattainment	not applicable	42
Klamath Falls	OR	10	Nonattainment	not applicable	39
Los Angeles-South Coast Air Basin	CA	9	Nonattainment	not applicable	39
Oakridge	OR	10	Nonattainment	not applicable	39
Imperial County	CA	9	Nonattainment	not applicable	38

MOG Modeled Results

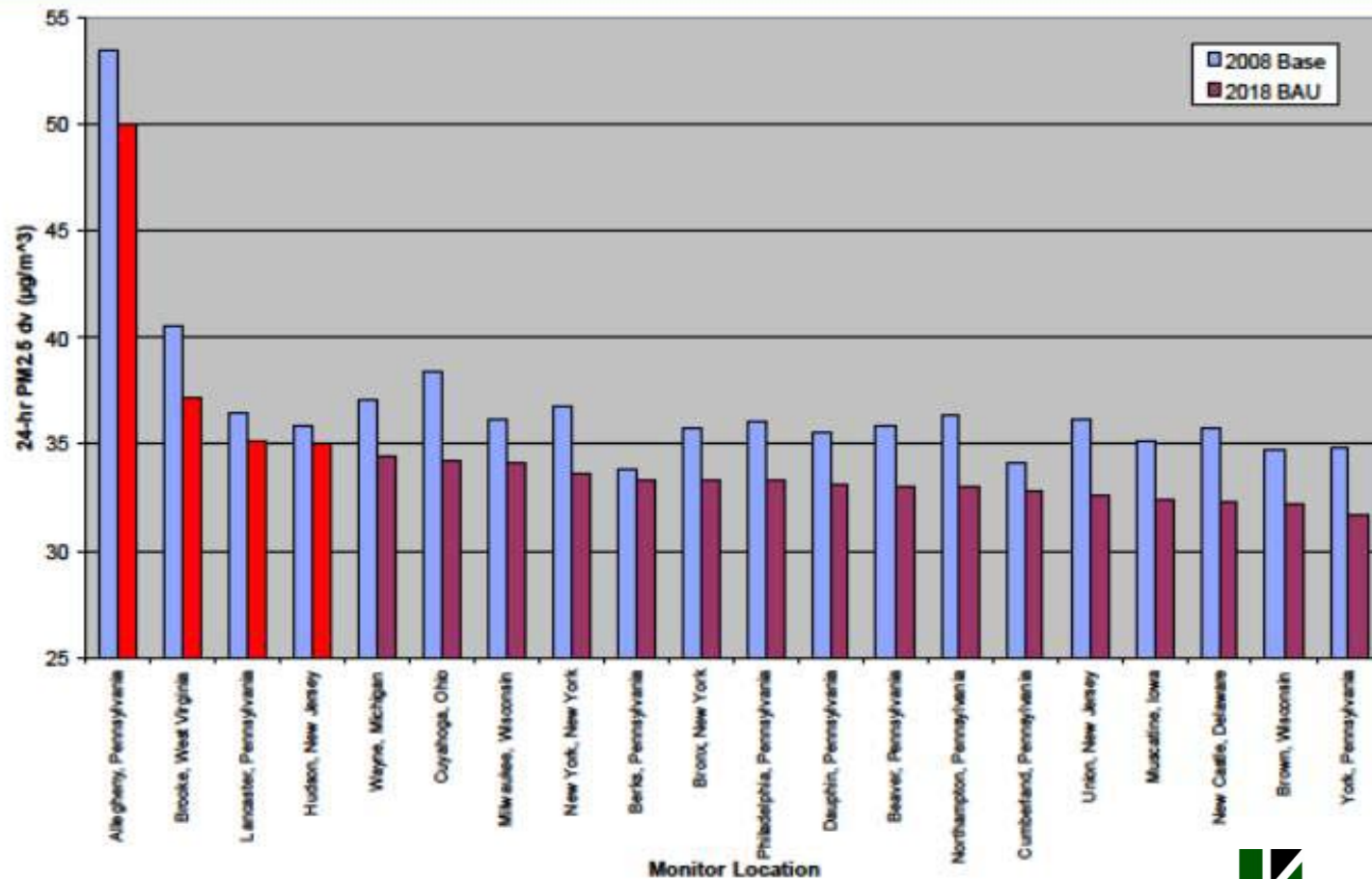
MOG 2018 Business as Usual Ozone Nonattainment Modeling Results



MOG Modeled Results (Annual PM2.5)



MOG Modeled Results (24-hr PM2.5)



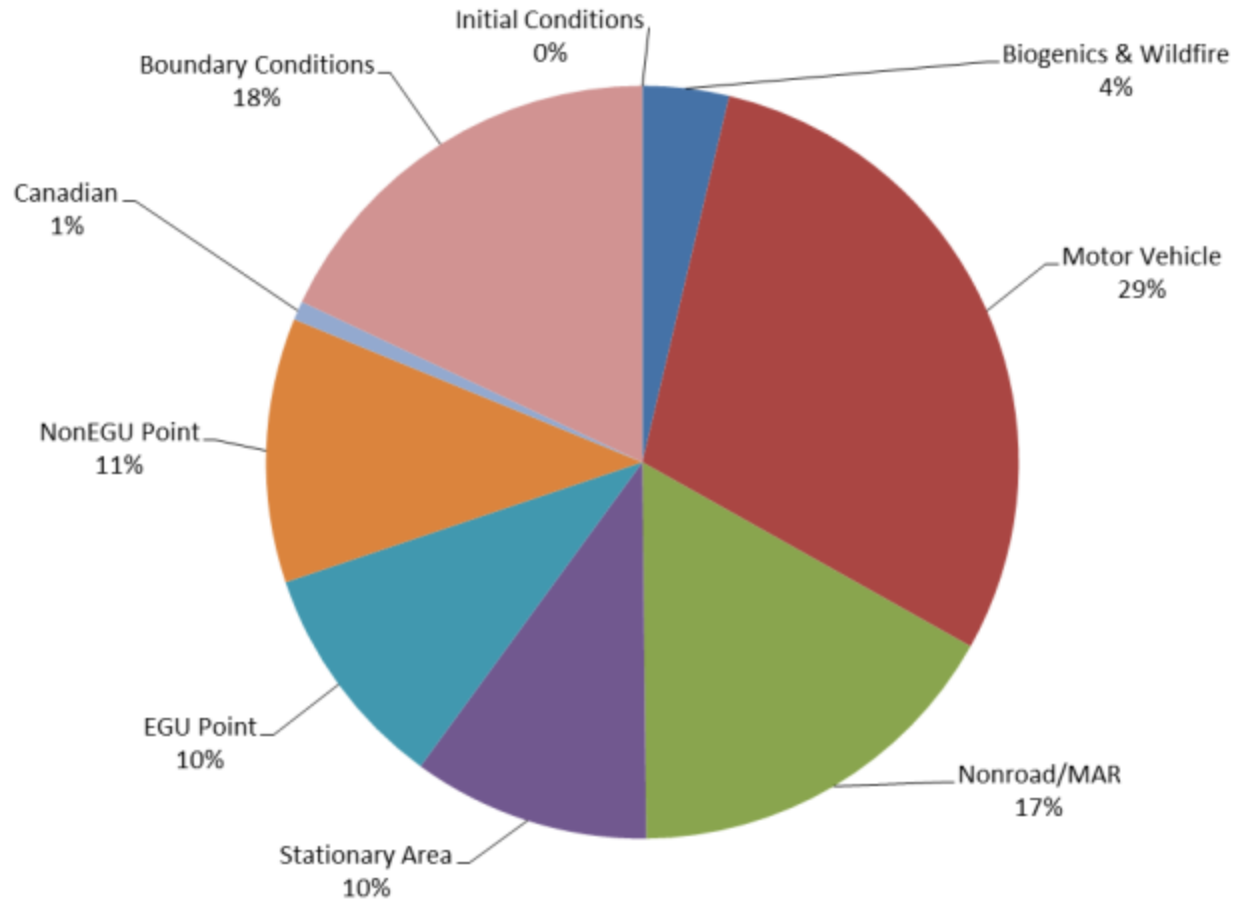
Residual Non-Attainment in East

- PM2.5 Annual – none
- PM2.5 24-hour – Liberty-Clairton, PA
 - It is well-established that the Liberty-Clairton area is significantly affected by local emissions from a sizable coke production facility and other nearby sources. See http://www.epa.gov/pmdesignations/2006standards/final/TSD/tsd_4.0_4.3_4.3.3_r03_PA_2.pdf. (“High concentrations of organic carbon indicate the unique local problem for this location.”)
- Ozone (85 ppb) – Harford, MD*

240251001

Harford Co, Maryland

2008 OSAT Results - 75 ppb Threshold Day Average



*<http://midwestozonegroup.com/files/AlpineGeophysicsOSATAnalysis.pdf>

Conclusion

- EPA must develop an alternative to CSAPR using “red lines” guidance
- MATS rule is subject to judicial challenge with many sources needing additional compliance time
- Proposed CO₂-NSPS would preclude new coal fired power plants
- Overall significant decreases in emissions of ozone/PM forming pollutants
- Air quality concentration continue to improve in response to emission reductions
- Residual non-attainment is mostly related to local sources

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