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***Admitted in DC**

March 5, 2010

Mark G. Lauby
Director, Reliability Assessments and Performance Analysis
North American Electric Reliability Corporation
116-390 Village Blvd.
Princeton, NJ 08540

Re: Proposed NERC Reliability Assessment of
Four U.S. EPA Regulations

By Express Mail/E-Mail

Dear Mr. Lauby:

I am writing on behalf of Unions for Jobs and the Environment (UJAE), a §501(c)(4) organization of twelve national and international labor unions,¹ regarding NERC's proposed assessment of four pending U.S. EPA regulations. We encourage NERC's analysis of the reliability impacts of these proposed regulations, and want to share the preliminary results of our own independent assessment of the potential for early retirement of coal-based generation under pending EPA regulations.

¹ Member unions of UJAE are: Brotherhood of Locomotive Engineers; International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers; International Brotherhood of Electrical Workers; International Brotherhood of Teamsters; Marine Engineers Beneficial Association; Sheet Metal Workers International Association; Transportation • Communications International Union; United Association of Journeymen and Apprentices in the Plumbing and Pipefitting Industry; United Food and Commercial Workers International Union; United Mine Workers of America; United Transportation Union; and Utility Workers of America. For further information about UJAE, *see*, www.ujae.org.

Background

UJAE's member unions represent more than 3.2 million workers in electric power, transportation, coal mining, construction and many other basic industries. UJAE members' jobs and economic wellbeing will be vitally affected by U.S. EPA's decisions on the regulation of criteria and hazardous air pollutants (HAPS) from fossil-fueled electric generators, as well as the potential classification of coal combustion byproducts (CCBs) as hazardous wastes.

UJAE members actively supported enactment of climate legislation in the 110th Congress, and currently are engaged in and support the legislative processes underway in the 111th Congress aimed at enacting national energy and climate legislation. We have become concerned, however, that aggressive EPA regulation of utility air toxics and CCBs could have unintended consequences through the premature retirement of many older and smaller generating units that may not offer economic retrofit opportunities.

While Congress continues to develop comprehensive climate and energy legislation, U.S. EPA is pursuing a gamut of regulatory initiatives that could have adverse impacts on jobs at coal generating plants, mines and railroads. Some of these impacts may be positive, through the construction of more pollution control equipment than required by previous EPA rules such as the Clean Air Interstate Rule (CAIR). Others may be negative for large numbers of plants, their direct and indirect workers, and communities, due to the risk that utilities would choose to retire older power plants rather than invest in scrubbers and other new environmental controls.

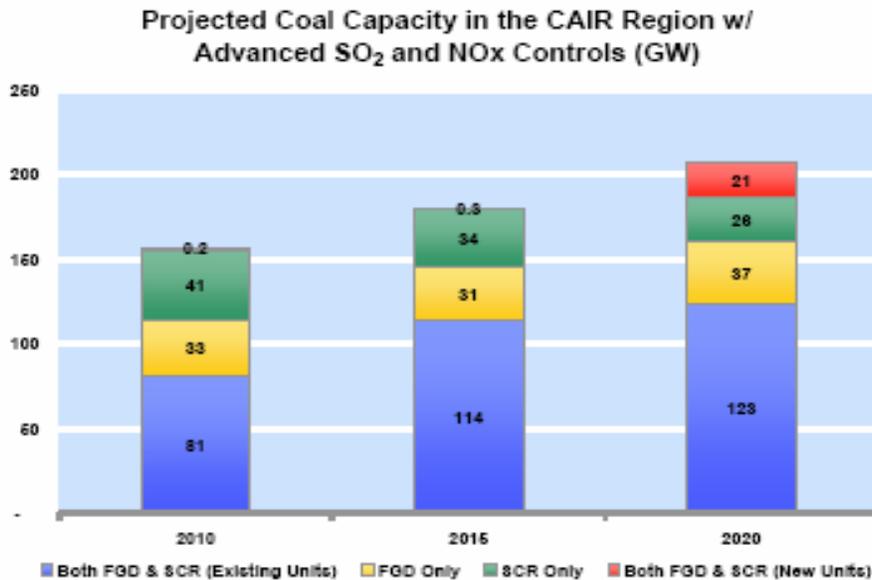
Preliminary Assessment of "Units at Risk"

The enclosed work-in-progress presentation summarizes a preliminary assessment of the potential consequences of current and pending EPA regulatory proposals, including the replacement CAIR rule, the revised 8-hour ozone standards, hazardous waste classification of CCBs, and regulation of non-mercury HAPS.

Of these programs, we are most concerned about the potential regulation of non-mercury HAPS through multiple Maximum Achievable Technology Standards under Section 112 of the Clean Air Act. MACT is determined based on the performance of the top-12% performing units.

The ability of the electric generation industry to comply with a multiple-MACT rule within a 3-5 year timeframe is very doubtful, due to labor, contractor and financial limitations. The industry also knows that it likely will need to address carbon issues in a significant manner by 2020, so its incentives to invest in all but the most efficient plants may be limited.

It is difficult to assess the potential impacts of this rule before it is proposed, but a multiple-emission rule with tight emission standards could force the closure of many smaller and older plants that are not already equipped with wet scrubbers and SCRs. For example, EPA’s projections for control technology installations under the 2005 CAIR rule show that only 114 Gigawatts (47%) of the 244 Gigawatts of coal capacity in the CAIR region (states east of and bordering the Mississippi) are expected to be equipped with FGDs and SCRs by 2015. That leaves roughly 130 Gigawatts of coal capacity (about 40% of total U.S. coal generation capacity) that would need additional scrubbers, baghouses or other controls to meet new HAP requirements:



Source: U.S. EPA (CAIR Presentation to LADCO, 2005).

The coal units that may be most vulnerable to premature retirement due to stringent HAP (or other) rules are older (e.g., >40 years) and smaller (e.g., <400 MW) units that are cycling or “load-following” units. The additional capital and O&M costs associated with scrubbers, baghouses,

SCRs and other potential retrofits would tend to knock many of these units off the dispatch curve. On the other hand, this screening approach does not consider plant-specific factors that could make many of these units cost-effective retrofit candidates.

We likewise are concerned by the potential classification of CCBs as hazardous wastes under RCRA. The risks posed by coal combustion byproducts have been assessed twice by U.S. EPA over the past two decades, and in each instance existing management practices and state and federal laws were found to be sufficient to address risks to public health and welfare. The Clinton Administration's 1999 Report to Congress recommended:

1. The Agency has tentatively concluded that disposal of these wastes should remain exempt from RCRA Subtitle C.

The Agency has tentatively concluded that the comanaged wastes generated at coal-fired utilities, including petroleum coke combustion wastes as well as wastes from other fuels co-fired with coal, generally present a low inherent toxicity, are seldom characteristically hazardous, and generally do not present a risk to human health and the environment. Current management practices and trends and existing state and federal authorities appear adequate for protection of human health and the environment. State programs increasingly require more sophisticated environmental controls, and tend to focus on utility waste management due to the high waste volumes. For example, the frequency of environmental inspections at utilities is among the highest of all the major industry sectors in the United States. Most of the landfills and 40 percent of the impoundments implement ground-water monitoring, reflecting the states' focus on this industry sector. In addition, the Agency has identified relatively few damages cases. Although one damage case identified arsenic as a constituent of concern, none of the damage cases affected human receptors. These types of facilities are typically located in areas of low population and thus present infrequent opportunity for human exposure. The industry trend, as detailed in this chapter, is to line waste disposal units and to use dry ash handling techniques at new facilities; dry ash handling eliminates the use of impoundments for waste management. Currently, more than one-half of the active landfills are lined. Although one-quarter of all existing active impoundments are lined, about 45 percent of the impoundments constructed since 1975 have been lined. If these wastes were listed as hazardous, and therefore regulated under Subtitle C, coal combustion units would be required to obtain a Subtitle C permit, which would unnecessarily duplicate existing State requirements, and would establish a series of waste unit design and operating requirements for these wastes that would most often be in excess of requirements to protect human health and the environment. The estimated total annual cost to mitigate the potential arsenic risk identified in this

study exceeds \$800 million. This cost does not represent implementation of full Subtitle C controls, but rather Subtitle C requirements modified by RCRA 3004(x) factors to target the identified risks. The Agency estimates that the total cost of full Subtitle C controls would be several times this amount. Full Subtitle C controls include location restrictions, manifesting, liners, leachate collection, ground-water monitoring, covers, dust control, closure controls, financial assurance, and corrective action.²

The attached preliminary summary of coal “units at risk” does not assign risks to specific EPA proposals, but is based on the cumulative impacts of the agency’s major regulatory initiatives. The assessment is based on data sorted from the 2007 DOE/NETL Coal Plant Data Base, updated with information on recent and planned scrubber retrofits and unit retirements. The units included in the summary are more than 40 years old and between 25 MW and 400 MW, without installed or planned scrubbers. A total of 433 units with 56 Gigawatts of capacity are included. The average unit size is 135 MW, with an average age of 52 years. The coal consumed by these facilities, 133 million tons in 2005, represented 13% of U.S. utility coal consumption in that year.

The 2005 electric generation from these units provided a substantial share of total electric generation in several regions (using a 2009 state generation baseline): 18% in the East North Central region, 14% in the West North Central, and 12% in the South Atlantic. In many states, these units supplied 20% to 30% or more of total electric generation. The closure of a substantial number of these plants in a short timeframe such as 2014-15 could pose risks for electric supply reliability. We are in the process of estimating the direct and indirect job losses in the utility, coal and rail sectors associated with such retirements, and are hopeful that NERC’s assessment will provide a more solid analytical foundation for these estimates.

Comments on Proposed NERC Reliability Assessment

NERC’s February 13, 2010, outline for a study of “Early Fossil-Fired Unit Retirements – Potential Impacts of Environmental Regulations” is both timely and appropriate. We note the parallel coverage of CAIR, MACT and CCB regulations addressed in our preliminary assessment, and the addition

² US EPA, Report to Congress on Wastes from the Combustion of Fossil Fuels, Vol. 2 at 3-73 (1999, emphasis added). The report may be viewed at <http://www.earthjustice.org/library/references/coal-ash-report-to-congress.pdf>

of future cooling water intake regulation under Section 316b of the Clean Water Act.

Study Design Issues

We agree with the overall study design as summarized in the February 13th outline, and have a few suggestions on sensitivity analyses and additional regulatory considerations.

First, natural gas price assumptions are likely to be critical to the overall findings. Assuming a forecasted gas price that does not change in response to increased utility demand is not realistic given the potential magnitude of incremental gas demand. We thus suggest a sensitivity analysis that incorporates changes in the gas demand curve. To avoid undue reliance on a single price forecast such as EVA, NERC also might consider using a second price forecast such as from DOE/EIA.

Second, the study's assumption that there will be no future risk of CO₂ regulation appears at odds with conventional beliefs within the utility industry, and may be inconsistent with the decision-making framework that utilities employ to make compliance decisions. This is another area for potential sensitivity analyses, which could be addressed by varying the capital recovery period for installed controls.

Third, we believe that the proposed new 8-hour ozone standard in a range of 60-70 ppb also deserves consideration as a factor influencing SCR retrofits beyond those potentially required by the replacement CAIR rule. As shown in the attached presentation, EPA projects substantial residual ozone nonattainment throughout the eastern U.S. in 2020 under all levels of the proposed primary standard assuming implementation of all current federal air regulations. This may affect SCR requirements for both EGUs and the industrial sector, with implications for the amount of power now supplied by industrial cogeneration facilities. This consideration may be less relevant, however, once the requirements of the new CAIR rule are known.

Fourth, we agree with the importance of cost of capital and regulatory environment as factors influencing retrofit feasibility. The study should consider using differentiated costs of capital for regulated and restructured states, as well as for different ownership structures (IOUs, coops, munis, etc.)

Fifth, for the assumptions regarding the use of banked CAIR allowances, we suggest that limits on banked allowances might be imposed short of a “worst-case” plant-specific control mandate, such as a scenario that provides for intrastate trading without banked allowances. Limiting prohibitions on the use of banked allowances to a worst-case scenario could detract from the robustness of the study’s findings.

We hope that these comments will be useful to you and your colleagues as you consider refinements to the study proposal.

Sincerely,

Eugene M. Trisko
General Counsel
Unions for Jobs and
the Environment

Attachment: “Work-in-Progress” Presentation

Implications of U.S. EPA Clean Air & Climate Initiatives for Coal- Related Jobs and Electric Reliability in the Eastern United States

Draft Work-in-Progress
White Paper
March 2010

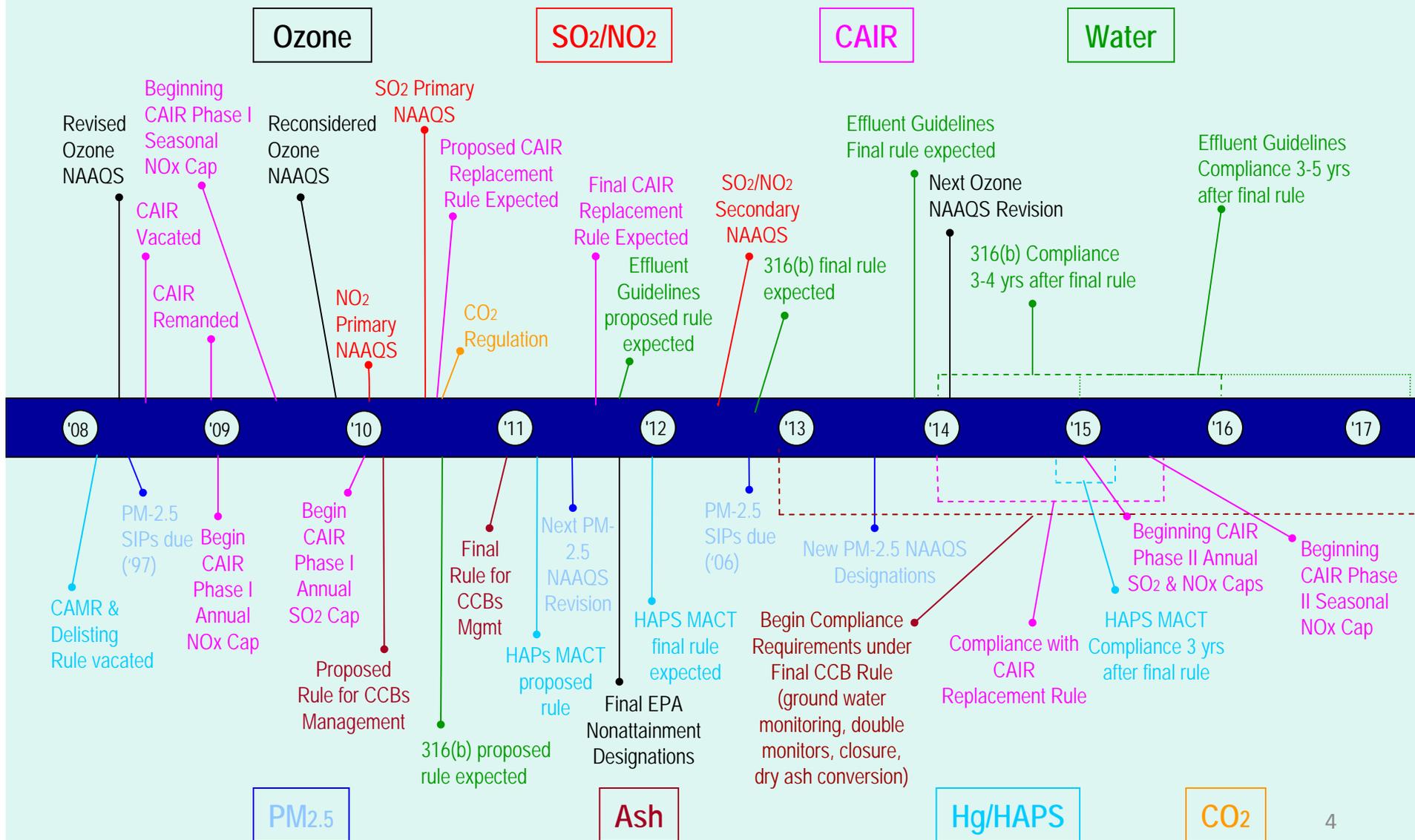
Topics

- Key EPA Clean Air Act initiatives affecting coal generation and coal-related labor (mines, rails, generating plants) in the near-term
- Preliminary assessment of “units at risk” of premature retirement circa 2013-2015
- EPA climate initiatives in brief

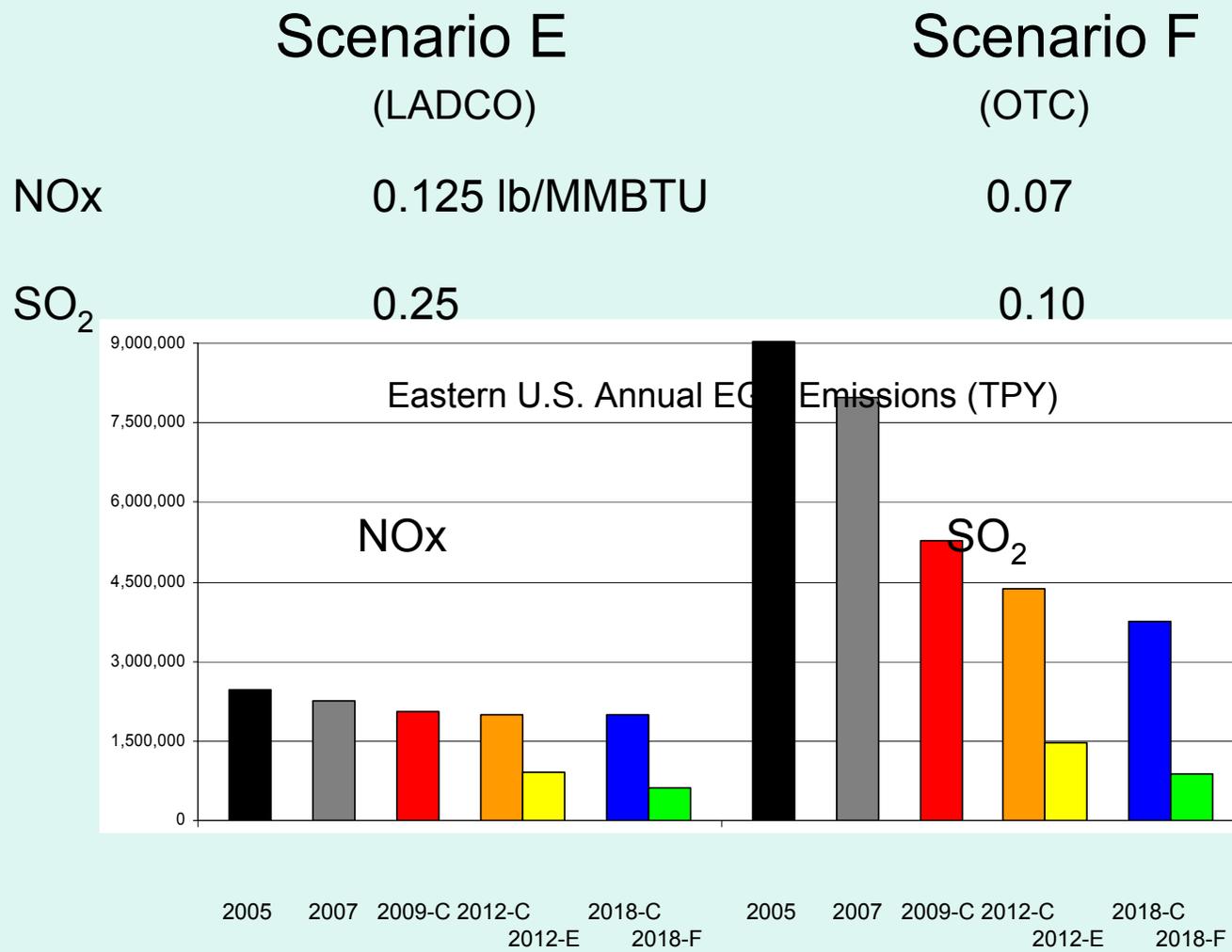
EPA CAA Agenda Highlights

- 63 air rules in pipeline over next 6 months
- Every national ambient air quality standard is under review/revision
- CAIR replacement rule proposal May 2010 (SO₂/NO_x)
- Multiple MACT mercury plus other hazardous air pollutants proposal early 2011, final rule late 2011
- Revised ozone standards proposed January 7, 2010 (60-70 ppb), compliance 2014-2031
- New PM standards imminent
- Proposed 1-hour SO₂ standard very restrictive, may independently require scrubbers at many units.

Environmental Regulatory Timeline for Coal Units



Revised CAIR emission reductions: Initial state-proposed options for SO₂ and NO_x



Reference: Modified from "Options for EGU Controls in the Eastern U.S.: White Paper", October 3, 2008, State Collaborative Technical Workgroup

OTC & LADCO Joint Recommendation (September 2, 2009)

- EGU point source strategy (applicable to units > 25 MW)
- In adopting a CAIR replacement rule EPA should ...
- (d) **establish statewide emission caps by no later than 2017 for all fossil fuel-fired units ≥ 25 MW.** The caps should reflect an analysis of NO_x and SO₂ controls on coal-fired units ≥ 100 MW which, in combination with the three measures above, will achieve rates that are not expected to exceed **0.25 lb/MMBTU for SO₂ (annual average for all units ≥ 25 MW)** and **0.11 lb/MMBTU for NO_x (ozone seasonal and annual average for all units ≥ 25 MW)** and which will result in lower rates in some states. **Previously banked emissions under the Title IV or CAIR programs shall not be used to comply with the state-wide emission caps;** and
- (e) to the fullest extent allowed under the Clean Air Act, EPA should work with the states to **establish regional emissions caps with full emissions trading to replace the caps currently applicable under CAIR.**

Revised CAIR Outlook

- Geographic limits on trading
- Restrictions/elimination of banking
- More restrictive SO₂/NO_x caps
- Unit or plant-specific control option
- Industrial controls added?
- May-June 2010 proposal, 2011 final rule
- Phase II implementation circa 2015-2017
(2015 if linked to MACTs)

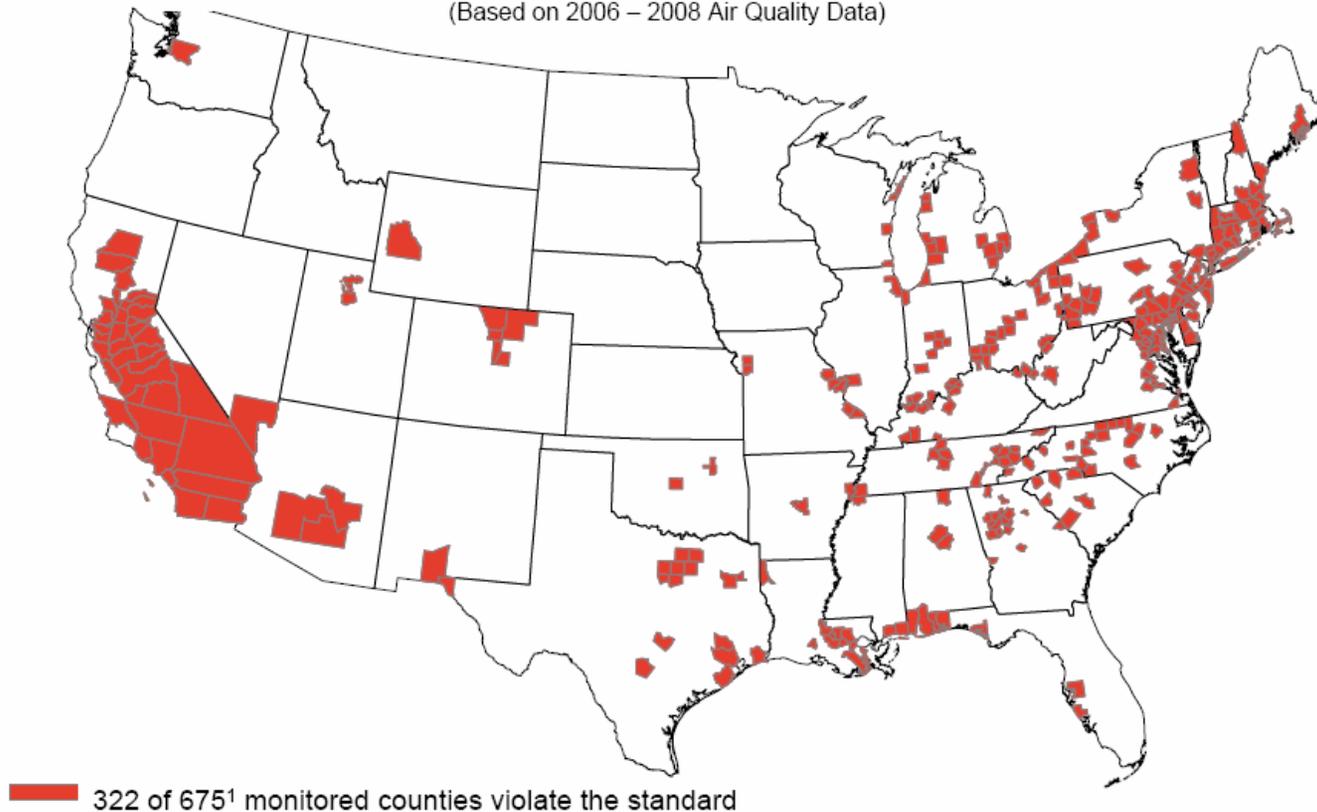
Further revised ozone standard

- EPA announced reconsideration and stay of 2008 75 ppb 8-hour ozone standard on September 16, 2009.
- New primary standard of 60-70 ppb and secondary standard proposed January 15, 2010.
- CASAC recommended a primary standard of 60-70 ppb.

Current ozone nonattainment @ 75 ppb

Counties With Monitors Violating the March 2008 Ground-Level Ozone Standards
0.075 parts per million

(Based on 2006 – 2008 Air Quality Data)



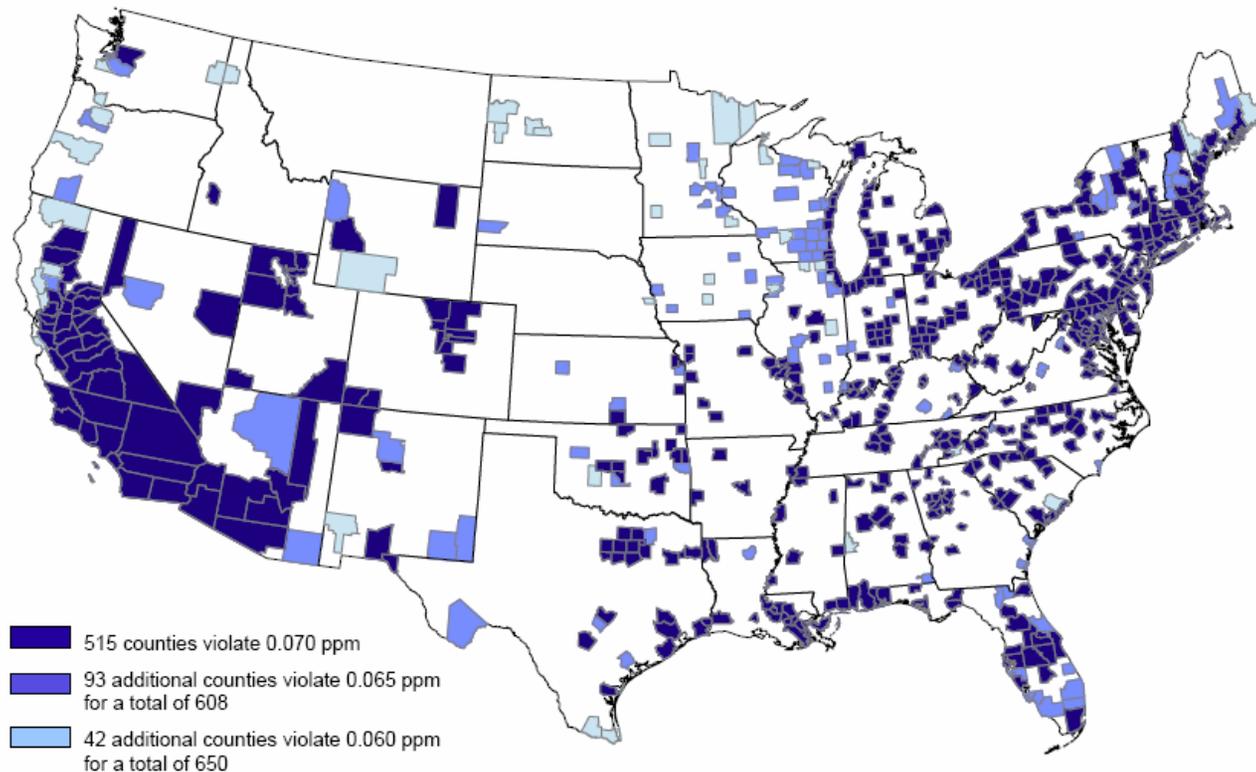
Source: US EPA.

Prospective ozone nonattainment @ 60-70 ppb, circa 2011

Counties With Monitors Violating Primary 8-hour Ground-level Ozone Standards 0.060 - 0.070 parts per million

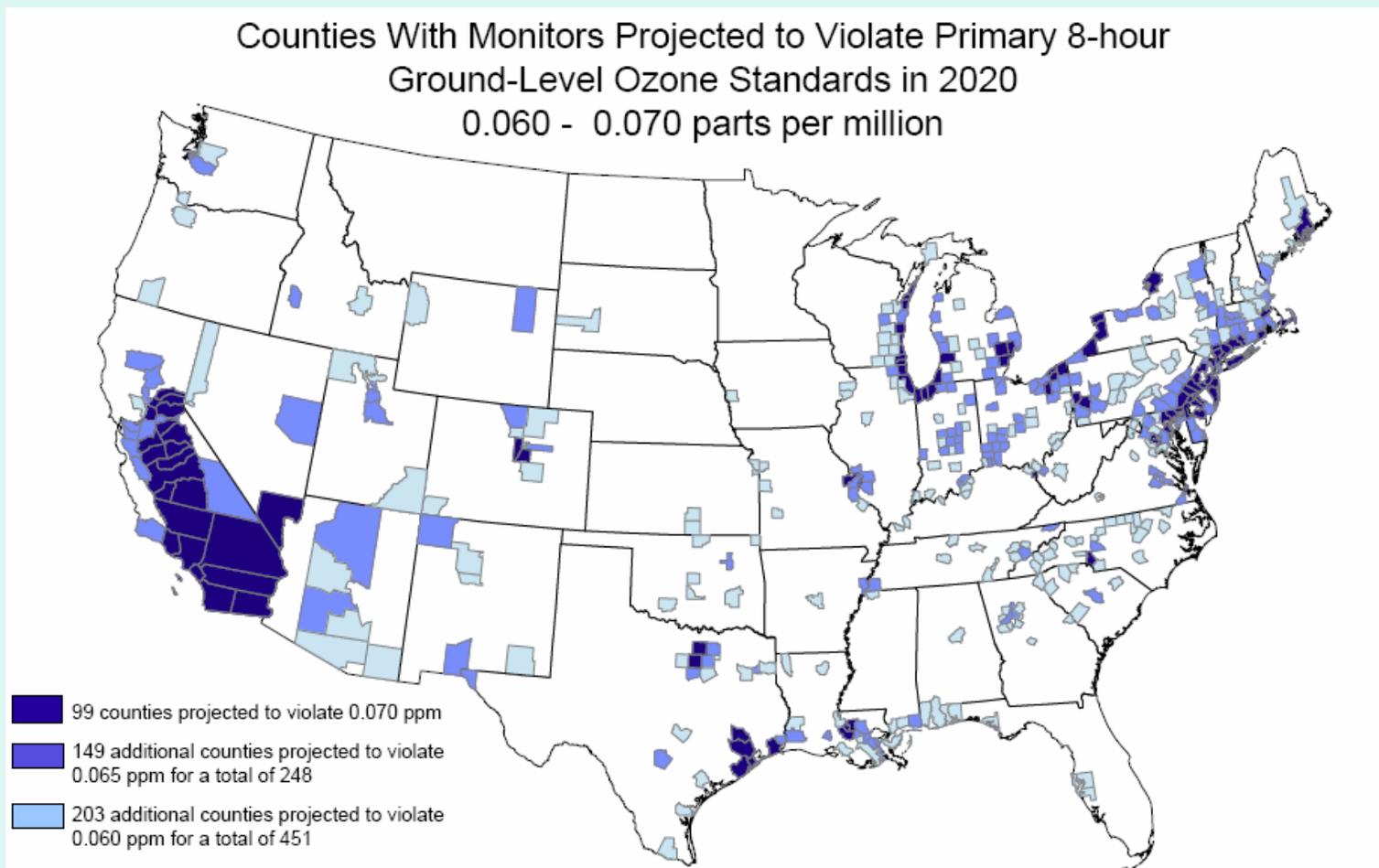
(Based on 2006 - 2008 Air Quality Data)

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



Source: US EPA.

Prospective ozone nonattainment @ 60-70 ppb with all CAA programs in place, 2020



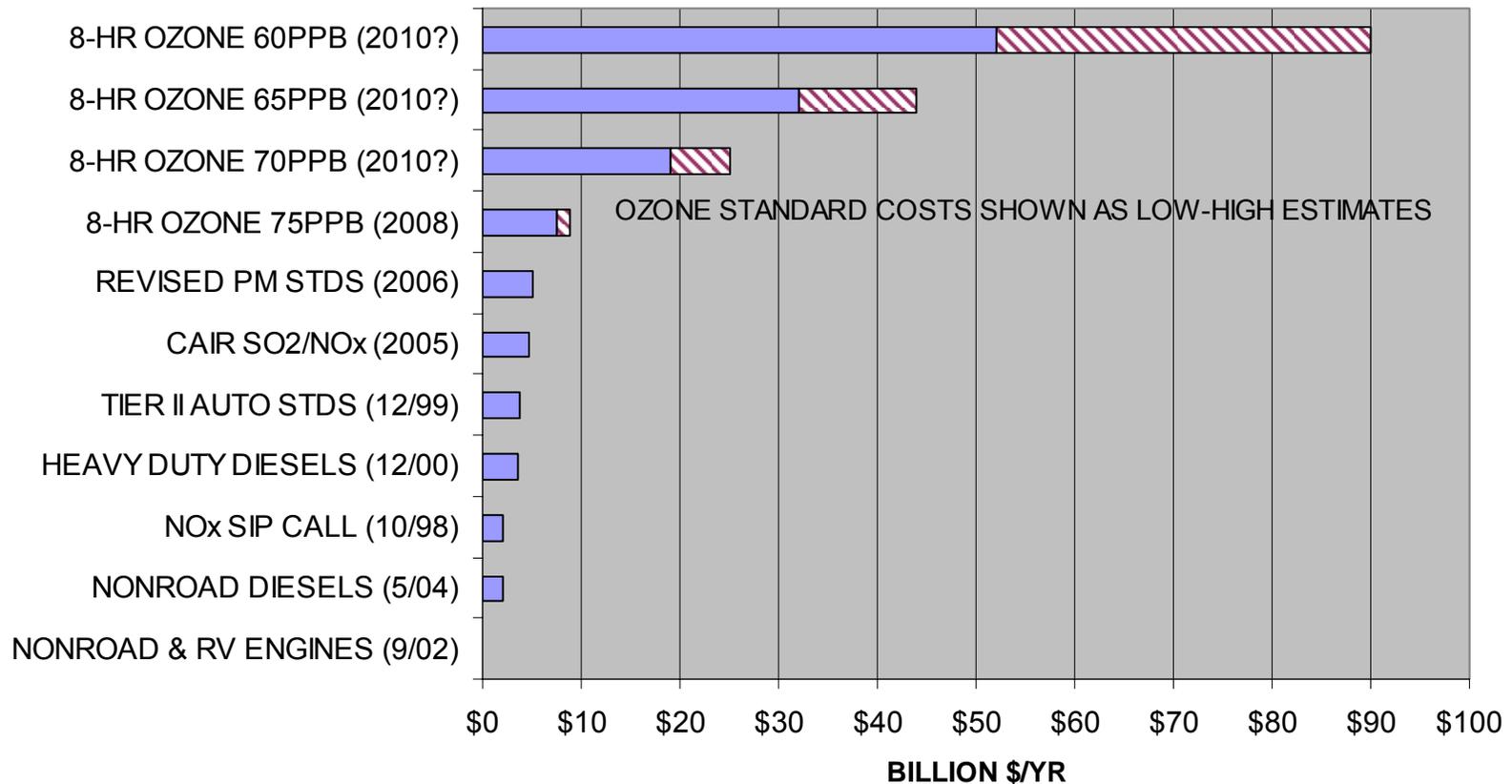
Source: US EPA.

Implications of ozone nonattainment

- At lower levels of the proposed standard, much of the eastern U.S., including the traditional “rust belt” industrial states, face indefinite nonattainment status even with all Clean Air Act programs in place.
- Controls on existing utility and industrial plants (SCRs) inevitable, increasing production costs.
- Nonattainment areas require emission offsets (1.3:1) and Lowest Achievable Emission Rate limits for new or modified industrial sources.
- Probable recipe for further downsizing/offshoring of U.S. industrial capacity and jobs – impacts not measured by EPA.

Ozone standard costs relative to other EPA rules

ANNUAL COST OF US EPA CLEAN AIR REGULATIONS



SOURCE: U.S. EPA REGULATORY IMPACT ANALYSES

Multiple MACT Standards

- Replacement for EPA mercury rule will cover other air toxics and acid gases (HCL) due to recent legal decision by DC Court of Appeals.
- 63 air toxics emitted by coal EGUs per EPA
- EPA believes controls for 3-4 toxics will cover all toxic emissions (e.g., dioxin, acid gases, trace metals)
- Rule promulgated late 2011 would require compliance by late 2014-early 2015 (36 month statutory compliance, with 1-year extension possible.)
- Rule could *de facto* require wet FGD/SCR, baghouses and some mercury-specific controls on all coal units >25 MW.
- Litigation is certain.

Classification of coal combustion byproducts as hazardous waste

- Two previous EPA reviews of coal ash and CCBs declined to classify CCBs as hazardous waste under CERCLA or RCRA.
- Obama Administration appears inclined to propose hazardous waste classification, citing (inter alia) TVA impoundment collapse, arsenic contamination of well water, etc.
- Beneficial uses likely will be allowed.
- Proposed rule expected soon.
- Costs potentially ~\$2-10 Bil./yr depending on stringency

“Units at risk” preliminary assessment

- Many older/smaller coal units not already scrubbed may be uneconomic to retrofit.
- Sorted DOE/NETL 2007 coal plant data base for units 25MW-400 MW, more than 40 years old, without scrubbers (or planned scrubbers) removing at least 50% SO₂; incorporated up-to-date information on CAIR scrubber plans and recent installations and retirements.
- Magnitude of affected generation in several states raises issues about adequacy (reserve margins) and reliability.

“Units at risk” preliminary findings

- 433 coal units in U.S. (56 GW, 18% of total coal capacity) are >25 MW and <400 MW and older than 40 years (as of 2010), without existing or planned scrubbers removing >50% SO₂.
- Average unit is 52 years old, 135 MW.
- Total generation “at risk” 318 million MWh, 15% of US coal generation (2005).
- Total coal burn “at risk” 134 million tons, 13% of US coal burn (2005).
- Many listed units may be good retrofit candidates, based on site-specific factors not considered here.
- Other newer/larger units may have space or other technical constraints.

Summary of NE coal “units at risk”

**Northeast/Mid-Atlantic Coal-Based Units 25-400 MW
and >40 Years of Age, w/o installed or planned scrubbers**

State	No. of units	GWH generation (2005)	Pct. of total state GWH generation (2009)
DE	4	2,068	45%
MD	6	5,497	13%
NJ	3	561	1%
NY	10	2,687	2%
PA*	21	11,834	6%
Total	44	22,647	5%

*Excludes Exelon announced retirements.

Summary of MW coal “units at risk”

**Midwest/Great Lakes Coal-Based Units 25-400 MW
and >40 Years of Age, w/o installed or planned scrubbers**

State	No. of units	GWH generation (2005)	Pct. of total state GWH generation (2009)
WV	16	29,873	45%
OH	38	22,192	17%
KY	19	13,416	16%
IN	24	14,106	13%
MI*	32	23,503	25%
IL	31	31,715	18%
WI	21	12,040	21%
Total	181	146,845	20%

*Includes Consumers Energy announced retirements.

Summary of SE coal “units at risk”

**Southeast Coal-Based Units 25-400 MW
and >40 Years of Age, w/o installed or planned scrubbers**

State	No. of units	GWH generation (2005)	Pct. of total state GWH generation (2009)
VA	21	14,322	21%
NC*	22	9,798	9%
SC	14	10,266	11%
TN	17	20,251	27%
GA	10	7,891	6%
AL	19	20,105	15%
Total	103	82,633	14%

*Includes Progress Energy announced retirements.

Key precedent of concern: NC Clean Smoke Stacks Act (w/cost recovery)

- RALEIGH, N.C. (Dec. 1, 2009) □ Progress Energy Carolinas, a wholly owned subsidiary of Progress Energy (NYSE: PGN), today announced that by the end of 2017, **the company intends to permanently shut down all of its remaining N.C. coal-fired power plants that do not have flue-gas desulfurization controls (scrubbers).**

In a report filed with the N.C. Utilities Commission today, the utility outlined its plan to close a total of 11 coal-fired units, totaling nearly 1,500 megawatts (MW) at four sites in the state:

- The 600-MW L.V. Sutton Plant nearr Wilmington.
- The 316-MW Cape Fear Plant near Mooncure.
- The 172-MW W.H. Weatherspoon Plantt near Lumberton.
- And the 397-MW H.F. Lee Plant nearr Goldsboro (retirement announced in August).

Potential labor impacts

- Stringency of rules and standards will determine extent of unit retirements.
- Gas/renewables likely replacement fuels with smaller labor inputs per MWh.
- Work-in-progress to develop estimates of potential direct and indirect job losses.

EPA climate rules moving quickly

- GHG inventory rule completed
- Endangerment finding issued Dec. 7, 2009
- Reconsideration of “Johnson memo” on CO₂ as a pollutant
- Car emission rule in March triggers PSD review for new sources and modifications, unless extended or delayed; CO₂ becomes a “regulated pollutant” for all source categories
- Tailoring rule (25,000 tons CO₂ vs CAA 100/250 ton thresholds) for PSD and Title V permits (new sources/modifications) likely to be revised.
- CAAAC BACT working group draft report approved January 2010; states want more time to prepare for PSD and BACT regulation.

Next steps on climate

- NSPS for new fossil-fuel generating plants
- Trigger for CCS based on commercial demonstrations?
- Emissions caps with trading and/or CO₂ efficiency/intensity rules for existing stationary sources based on CAA section 111(d)? (E.g., 1000 lbs. MWh state average in 2020, 800 lbs. in 2030, etc.)

Questions?

