Electric Power Generation Association

Remarks Before the PA House Republican Policy Committee

Regarding Coal Fired Power Plants And Current Regulations

Presented by

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September 6, 2012

Introductory Remarks

- Chairman Reed, members of the Committee, good morning. My name is Doug Biden, President of EPGA.
- Our Members include:

Edison Mission Group	Tenaska, Inc.
Exelon Generation	AES Beaver Valley, LLC
FirstEnergy Generation Corp.	Dynegy Inc.
PPL Generation, LLC	Sunbury Generation, LP
GenOn Energy, Inc.	UGI Power Generation

- These companies own and operate more than 150,000 MW of electric generating capacity of all kinds, including coal and waste coal plants, nuclear, gas, hydro, wind, biomass, solar and others.

- Our members are not "utilities." They are generators who sell power into very competitive wholesale power markets such as PJM.
- We were asked to speak about current EPA regulations and their impact on coal-fired power plants.
- EPGA is pleased to provide as much information as it can on this timely subject. However, there are other economic forces such as historically low natural gas prices, stubbornly slow growth in electricity demand, and state mandates for renewable energy, that, when combined with EPA regulations, are having a material effect on coal-fired power plants (and all generating plants).
- Thus, any discussion of the impact of EPA regulations on coal-fired power plants would be incomplete without consideration of these other compelling factors.

Most Significant EPA Regulations

- Proposed amendments to National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHAP) - Final rule expected 12/12
- Mercury and Air Toxics Standards (MATS) Rule, Formerly Utility MACT - Effective April 2012
  - Established national emission standards for hazardous air pollutants from new and existing fossil-fuel plants
- Cross State Air Pollution Rule (CSAPR)
  - Struck down by federal court on 8/21/12
  - Required 73% reduction in SO_2 , and 54% reduction in NO_x from 2005 levels.
  - Clean Air Interstate Rule (CAIR) in effect until replacement for CSAPR implemented. Second Phase of CAIR takes effect in 2015 requiring further reductions.

Most Significant EPA Regulations (cont.)

- Clean Water Act 316(b) - Cooling Water Intake Structures Rule
  - Final rule was expected 7/12 but could be delayed up to a year
- Coal Combustion Residuals (CCR) Regulations
  - Fly ash, bottom ash, and sulfur dioxide scrubber wastes
  - EPA considering whether to regulate CCRs as a hazardous or non-hazardous waste under RCRA
  - House passed industry supported legislation; Senate recently introduced a bipartisan industry supported bill (8/2).
  - Both bills establish non-hazardous waste regs subject to enforceable permit conditions

Impact of MATS Rule

- Summary of Requirements:
  - MACT: maximum achievable control technology – standards at least as stringent as top 12% of existing units.
  - Emission rate (lb/mmBTU) standards for new & existing units.
    - Mercury (approximately 90% reduction)
    - Non-mercury metallic toxics (measured as particulate matter – PM, total metals, or individual metals)
    - Acid gasses (measured as HCl or SO_2 surrogate standard)
  - Requires compliance by April 2015
    - State permitting agency may grant 4th year to allow for installation of emission controls (e.g., flue gas scrubber)
    - EPA Admin Order could allow 5th year (comply by 2017) for reliability critical units
    - Consent decrees possible on case-by-case basis
- EPA estimates the cost of compliance at $9.6 billion. Other estimates are higher.

Impacts of Proposed RICE NESHAP

- EPA is proposing to allow small diesel-fired behind-the-meter (BTM) "emergency" generators to run for up to 100 hours/yr. without pollution controls as part of wholesale market "emergency demand response" programs.
- While generators in front of the meter offer in their MATs compliance costs, some may fail to clear the market because they could be (and are) displaced by BTM diesel generators that do not have to account for their emissions.
- Environmental free ride for diesel generators suppresses capacity prices - results is market and environmental failure.
- Generators, PUCs (incl. Pa PUC), state environmental agencies (incl. Pa DEP), environmental groups, and others submitted comments opposing this 100 hour exemption.

At Risk Generation

- Many estimates of capacity retirements due to environmental proposals have been debated.
- PJM identified 18,417 MW of coal >40 years old and <400 MW without modern emission controls. As much as 20,000 MW at risk of retirement, 4,400 MW in mid-Atlantic region.
- Market test: 14,000 MW of capacity failed to clear in May 2012 PJM capacity market auction (for year 2015/16).
- Much of that capacity was coal-fired units offering their cost of environmental compliance which failed to clear. These are likely to retire. Not all retirements due to EPA rules.
- 9 Pa coal plants have announced deactivation or retirement so far totaling 2,711 MW. Another 460 MW is converting to gas.

Other Factors Affecting Coal Plants

- Slow growth in electricity demand coupled with government programs designed to encourage even slower growth, e.g. FERC subsidies for demand response programs, Pa's Act 129.
- State mandates for RPS (AEPS in Pa.) do not include coal. Of 13 states in PJM, 9 + DC have RPS statutes. It is estimated 50,000-52,000 MW of renewable capacity will be needed by 2026 to meet renewable mandates of states in PJM.
- Renewable energy credits plus federal production tax credits (PTC) and other subsidies enable wind and other generators to run profitably when wholesale prices are very low or negative (off peak) – forcing coal and other baseload generators to sit idle and lose money, many of which are well-controlled.
- State-Subsidized Generation (MD & NJ)—impacts all other market participants including coal plants.
- Last, but not least, low natural gas prices have hurt coal, and every other generation resource.

Recent Generation Statistics Tell the Story

- Coal has been steadily losing market share for some time.
- In last 10 years coal's share of generation mix in the region (PJM) and state has declined from more than 60% to less than 47% due mostly to increasingly stringent environmental standards and more recently to rapidly declining gas/coal price spread. Most of the new non-renewable capacity built in last 15 years has been gas-fired.
- As attached table shows, coal's share of PJM generation mix dropped by almost 10% in first 6 months of 2012 compared to same period last year, while natural gas increased by 58.3%. Most of change attributable to fuel cost differential. Gas prices declined by 47%. Fuel is most significant component of generation costs.
- Recent Pa statistics are not yet available but generally track PJM's.

PJM Generation Statistics

	Jan – Jun 2011		Jan – Jun 2012		
	GWhs	Percent	GWhs	Percent	Change in Output
Coal	171,384	47.4%	154,422	40.3%	-9.9%
Nuclear	125,257	34.6%	134,802	35.2%	7.6%
Natural Gas	46,204	12.8%	73,131	19.1%	58.3%
Wind	6,370	1.8%	7,729	2.0%	21.3%
Hydro	8,031	2.2%	6,816	1.8%	-15.1%
Solar	22	0.0%	120	0.0%	453.8%

Concluding Remarks

- EPA regulations are many and costly. Especially impactful is the quantity of new and pending regulations affecting coal plants, and uncertainty surrounding them.
- Much uncertainty remains on regulatory details particularly regarding CAIR/CSAPR, 316(b), CCR regulations and the Regional Haze Rule.
- Coal-fired plants will retire, particularly those >40 years and <400 MW. Many contributing factors.
- Fortunately, PJM has a forward looking capacity market (3 years ahead) that helps assure reliability. Stakeholders currently evaluating modifications to further improve this market and better allow for new investment.
- Even with 14,000 MW not clearing the last auction, PJM still projects a 20% reserve margin in 2015/16.
- Public policies which skew market risks and rewards to favor some market participants will generally harm others through higher costs and inefficient allocation of capital.