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# **Electric Generation Reliability**

**Remarks Before the  
Pennsylvania Public Utility Commission  
And  
Energy Agency of the Republic of Serbia**

**March 31, 2008**

**Presented by:**

*Douglas L. Biden*

*President*

*Electric Power Generation Association*

- **Current EPGA Member Companies:**

- AES Beaver Valley, LLC
- Allegheny Energy Supply
- Cogentrix Energy, Inc.
- Constellation Energy
- Dynegy Inc.
- Edison Mission Group
- Exelon Generation Company

- FirstEnergy Generation
- LS Power Associates, L.P.
- Mirant Corporation
- PPL Generation, LLC
- Reliant Energy
- Sunbury Generation
- UGI Development

- **Members own & operate more than 149,000 MW of generating capacity**
- **Half in mid-Atlantic region**

## Physical Generation Supply – PJM

- **2007 Installed Capacity Generation** **163,498 MW**
- **2007 Forecast Load** **136,961 MW**
- **2007 Actual Load** **139,428 MW**
- **2006 All-Time Record Peak Load** **144,644 MW**
- **Reserve Margin 2007** **24,070 MW**
- **Reserve Percent** **17.3%**
- **Net Capacity additions for 2007** **658 MW**

## PJM Supply Mix for 2006– 2007

	<u>2007</u> <u>Capacity</u>	<u>2006</u> <u>Generation</u>	<u>2007</u> <u>Generation</u>
Coal	41%	57%	55%
Nuclear	19%	34%	34%
Natural Gas	29%	6%	8%
Hydro , Wind & Other	5%	3%	3%
Oil	6%	0%	0%

## Fuel Supply & Delivery – Short-term

- These percentages very similar for Pennsylvania.
- No significant coal delivery problems expected.
- Available wind power capacity is 20% of nameplate rating to reflect intermittency.
- All nuclear units expected to be at full capacity at time of peak.
- As of March 21 gas inventories were 240 Bcf less than last year, but still 2-3% above the five-year average of 1,255 Bcf.
- Biggest uncertainties: prolonged heat and hurricanes in the GOM.

## **Fuel Supply & Delivery – Mid & Longer-term**

- **Serious concerns about adequate gas supply over next several years.**
- **Environmental policy forces greater reliance on gas as power plant fuel while national and local politics impede expansion of supply.**
- **Conventional domestic wells and imports from Canada declining.**
- **The supply/demand imbalance didn't end with Katrina and Rita.**
- **Rockies Express pipeline and Dominion Cove Point LNG will help, but we need more supply.**
- **AES Sparrows Point LNG and BP Crown Landing would have daily send out capacities of 1.5 and 1.2 billion cubic feet.**
- **Both face stiff local opposition.**
- **Dept. of Interior trying to open up parts of the Outer Continental Shelf to exploration, 85% of which currently remains off limits.**
- **Policy makers need to understand link between ample gas supplies, electricity prices and reliability.**

## Environmental Issues

- Environmental regs impact generators' choice of fuel, O&M and capital costs, as well as unit retirements.
- Clean Air Interstate Rule (CAIR) and mercury regs (fed and state), pose significant challenges and uncertainties for existing plants.
- Estimates of capital costs of CAIR alone have been \$50-\$80 billion, with total annualized costs in the range of \$15 billion.
- EPA estimates 5,000 MW will retire because of CAIR and the federal Mercury Rule. Consultant estimates are more than double that amount.
- Before we know impact on costs and unit retirements of CAIR and mercury regs Congress is expected to pass legislation capping and reducing carbon emissions from power plants.
- Absence of carbon capture technology and uncertainty regarding parameters of expected climate change legislation has stalled investment in coal generation.

## Regulatory Uncertainty

- Generating capacity increased by more than 9,000 MW in Pennsylvania since electric restructuring began.
- Recently investment in capacity has greatly slowed due to regulatory uncertainty and the costs of new entry exceeding market revenues.
- For example, the cost of new power plant construction has increased by 130% since 2000. That means a \$1 billion project in 2000 would cost \$2.3 billion today.
- PJM net revenue analysis: new CTs, combined cycle and pulverized coal plants have covered only 43%, 61% and 71%, respectively, of their annualized fixed cost over last 9 years, underscoring need for market improvements to support new entry.
- Investors must expect wholesale prices will be high enough over time to recover not only operating costs, but also capital invested in building new power plants before new plants will be built.

## **Regulatory Uncertainty (Continued)**

- **Investment in new capacity dried up in the early to mid 1990s when we were deciding whether or not to “deregulate” generation.**
- **Now, investors are again extremely wary of the multitude of state initiatives to “re-regulate,” alter wholesale market design, extend electricity price caps, mandate long-term contracts for some generators, and “de-couple” from wholesale market.**
- **EIA estimates we will need to invest over \$400 billion in new generation by 2030.**
- **Investors must be assured that market rules will not be materially altered by legislation or regulation if we are going to attract the investment and innovation on the scale needed to meet our energy security and environmental challenges.**



## Concluding Remarks

- **Calls for “re-regulation,” and altering wholesale market design can have a chilling effect on future investment in generation – particularly large baseload plants.**
- **Policymakers must reaffirm their commitment to competition in electric generation as the policy of this Commonwealth and Nation.**
- **Over the long-term, generating units must have a stable and adequate opportunity to recover sufficient revenues in the marketplace to cover their costs over their useful lives.**
- **Reaffirmation of these principles will help promote the major investment that will be needed to assure generation adequacy in the long run.**