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Electric Generation Reliability

**Remarks Before the
Pennsylvania Public Utility Commission
2010
Summer Reliability Assessment Meeting**

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Presented by:

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President

Electric Power Generation Association

- **Current EPGA Member Companies:**
 - AES Beaver Valley, LLC
 - Allegheny Energy Supply
 - Cogentrix Energy, Inc.
 - Dynegy Inc.
 - Edison Mission Group
 - Exelon Generation
 - FirstEnergy Corp.
 - LS Power Associates, L.P.
 - PPL Generation, LLC
 - RRI Energy, Inc.
 - Sunbury Generation
 - Tenaska, Inc.
 - UGI Development
- **Members own and operate 140,000 MW of generating capacity**
- **Approximately half in PA and surrounding states.**

PA and PJM Supply Mix for 2008–2009

PA 2008

PJM 2009

	<u>Capacity</u>	<u>Generation</u>	<u>Capacity</u>	<u>Generation</u>
Coal	41.0%	52.9%	40.7%	50.5%
Nuclear	20.7%	35.4%	18.4%	36.0%
Natural Gas	21.1%	8.4%	29.2%	9.5%
Oil	10.1%	0.4%	6.4%	0.2%
Hydro, Wind	7.1%	2.9%	5.3%	3.8%

& Other

- **PJM capacity 3/31/10 – 167,795 MW. Net increase of 2,900 MW since 1/1/09.**
- **5,945 MW retired as part of PJM retirement process started in 2003. No significant generator retirements in 2009.**
- **Reflective of economic downturn, more than adequate generating capacity available to serve load for this summer.**

Fuel Supply & Delivery

- **Coal inventories almost 50 million tons less than last year, but adequate to meet peak demand and accommodate short-term supply disruptions.**
- **Nuclear units expected to be at full capacity at time of peak.**
- **Natural gas storage levels (1,995 BCF) nearly 14% above 5-year average.**
- **Among all RTOs, PJM had largest increase in natural gas deliveries to power plants from 2004 to 2009, at 149%.**
- **PA had largest 5-year increase in gas deliveries to power plants among all states at 167%.**
- **Once considered a growing threat to electric reliability, many now consider natural gas to be one of the game-changing energy resources of the decade.**
- **Marcellus Shale projected to become largest U.S. source of gas.**

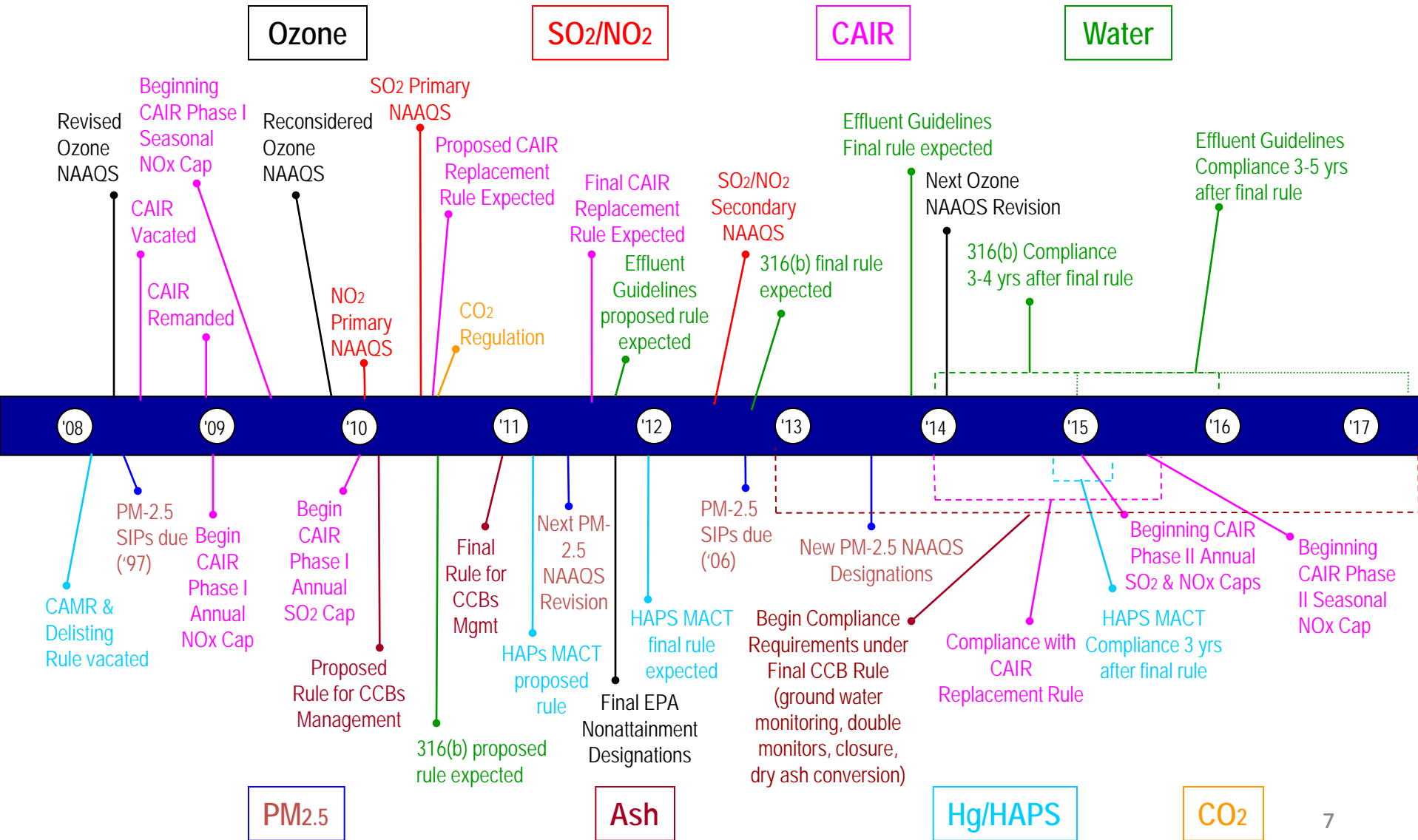
Generation Retirements

- **As of 3/16/10 about 2,900 MW scheduled to retire in PJM between 2010 and 2012, including Hunlock, Cromby and Eddystone.**
- **Cromby 2 and Eddystone 2 needed for reliability purposes. Consent Decree obtained from DEP. Seeking Reliability Must Run agreement from FERC.**
- **In 2009 PJM State of the Market Report the Independent Market Monitor found 11,250 MW of coal units not covering “avoidable costs” and that “retirement of these plants would be an economically rational decision.”**
- **PJM estimates coal-fired generation at risk of retirement at 12,000 to 19,000 MW (28%).**
- **Many units less than 200 MW and run less than 3,000 hrs/yr.**

Environmental Challenges

- **Air:**
 - Revised Ozone
 - Revised PM 2.5 (particulates)
 - Mercury MACT Rule (all HAPS)
 - Regional Haze
 - CAIR Replacement Rule
 - High Electric Demand Days (HEDD)
 - EPA Direct GHG Regulation (tailoring rule)
 - Federal GHG Legislation
- **Water:**
 - State Wastewater Regulations (TDS)
 - Federal Effluent Guidelines
 - Federal/State 316 (b) Implementation
- **Solid Waste:** Federal Regulations of Coal Combustion Residuals

Environmental Regulatory Timeline for Coal Units (“Train Wreck”)



Environmental Risks and Capacity

- **Capacity owners evaluate whether capital and O&M costs can reasonably be expected to be recovered in RPM and energy market.**
- **Will higher offers clear in RPM market?**
- **Can unit with higher costs be dispatched enough to recover capital and O&M in energy market?**
- **For many small to medium sized generating units the answer will be no and they will be retired.**
- **Not just coal units. HEDD threatens many peakers. 316(b) threatens viability of even large nuclear plants.**

PJM Revenue – Price Analysis and Future Capacity

- **PJM IMM net revenue analysis: new peaking, midmerit and baseload coal plants have covered only 43%, 59% and 59%, respectively, of their fixed cost over last 11 years, indicating that prices have not been high enough to support new entry.**
- **Now we see many scheduled retirements and many more predicted retirements as existing plants fail to recover avoidable costs.**
- **Last year average LMP declined by more than 45% and average generator markup was – 6.1%.**
- **Yet some market participants and policymakers continue to claim that market prices are “too high”.**
- **Public policy based on the mistaken notion that electricity prices have been “too high” is a reliability train wreck waiting to happen.**