

Too Little Money

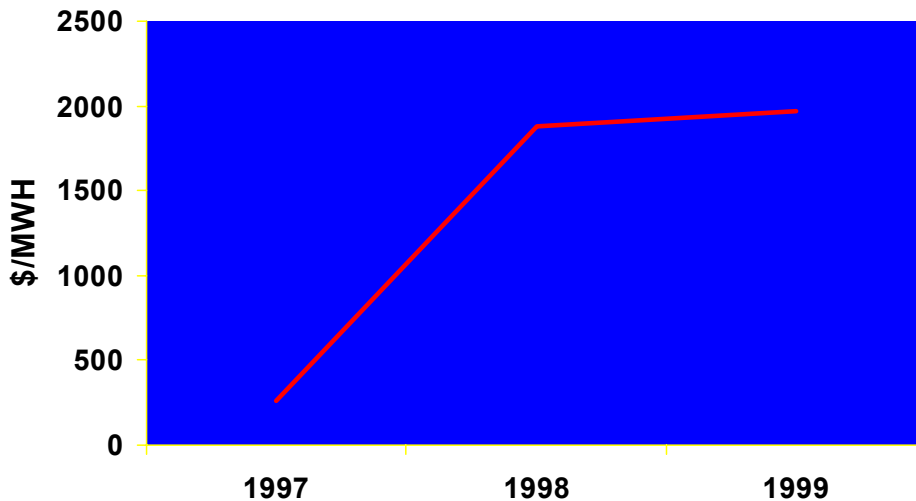
**Harvard Electricity Policy Group
May 21, 2003**

Steven T. Naumann - Exelon

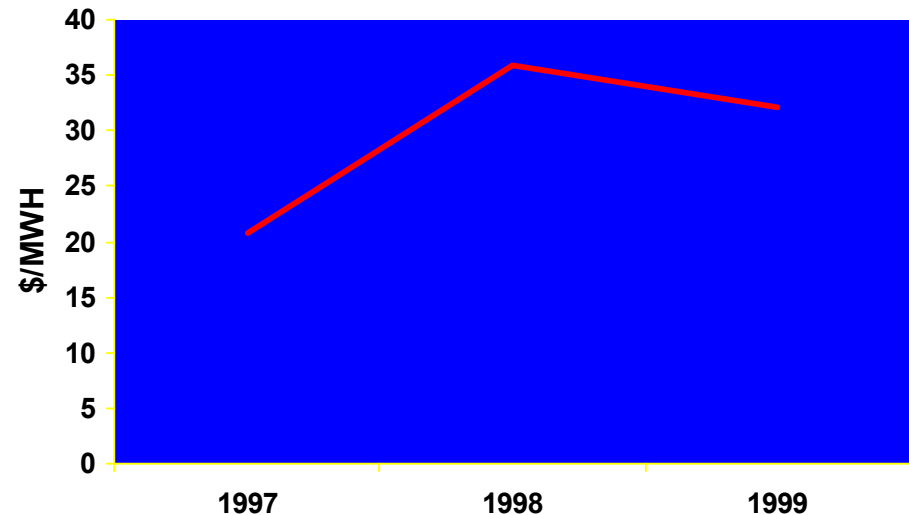
Price Spikes

- **Prices in the Midwest and many other regions spiked in the late 1990s:**

Into Cinergy Peak Day Prices



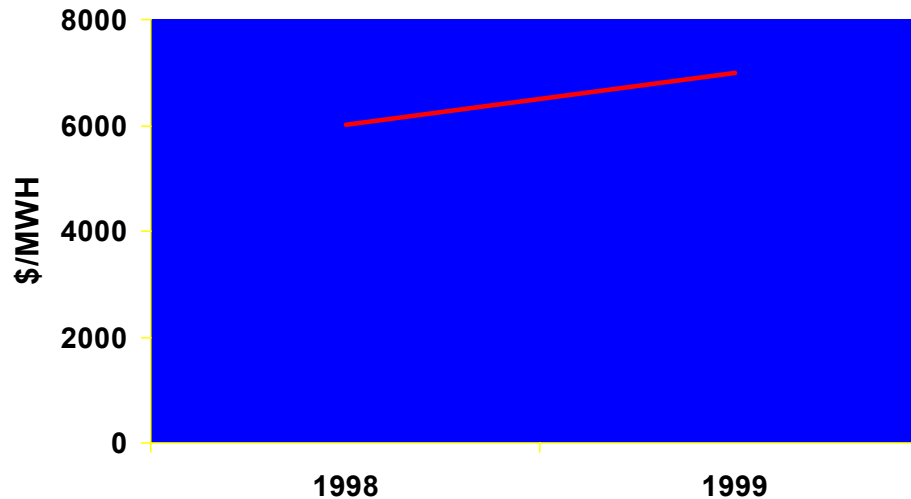
Into Cinergy ATC Prices



Price Spikes

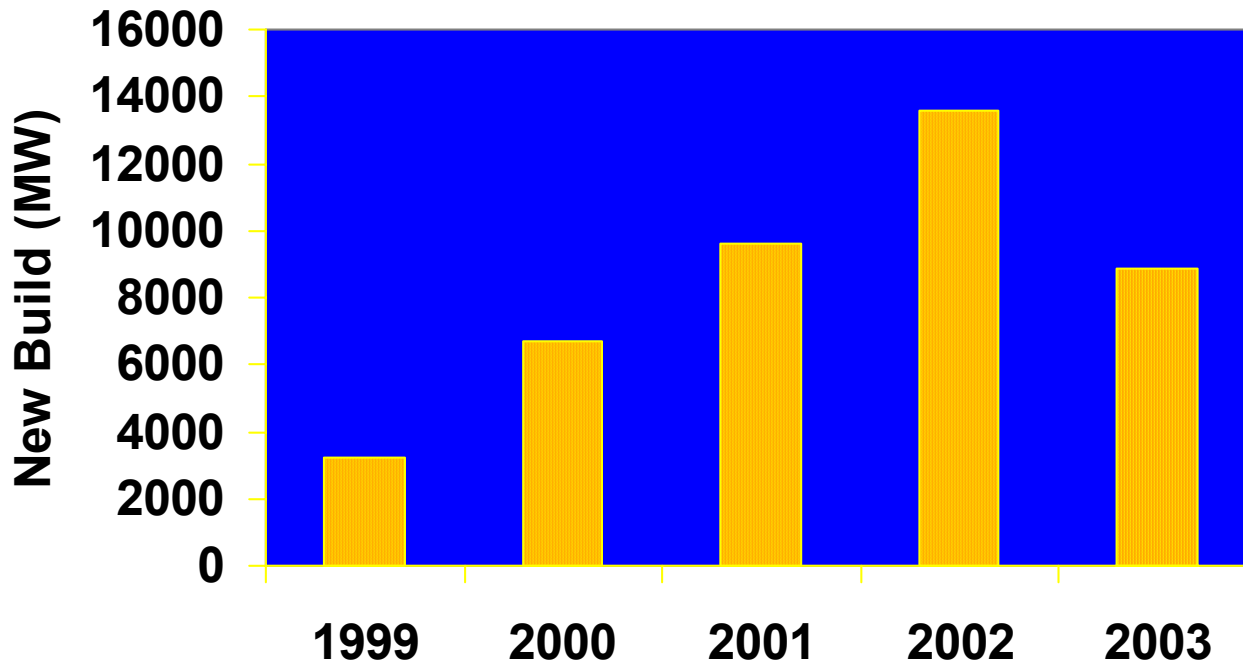
- **Prices in the Midwest and many other regions spiked in the late 1990s:**

ComEd Peak Hour Prices



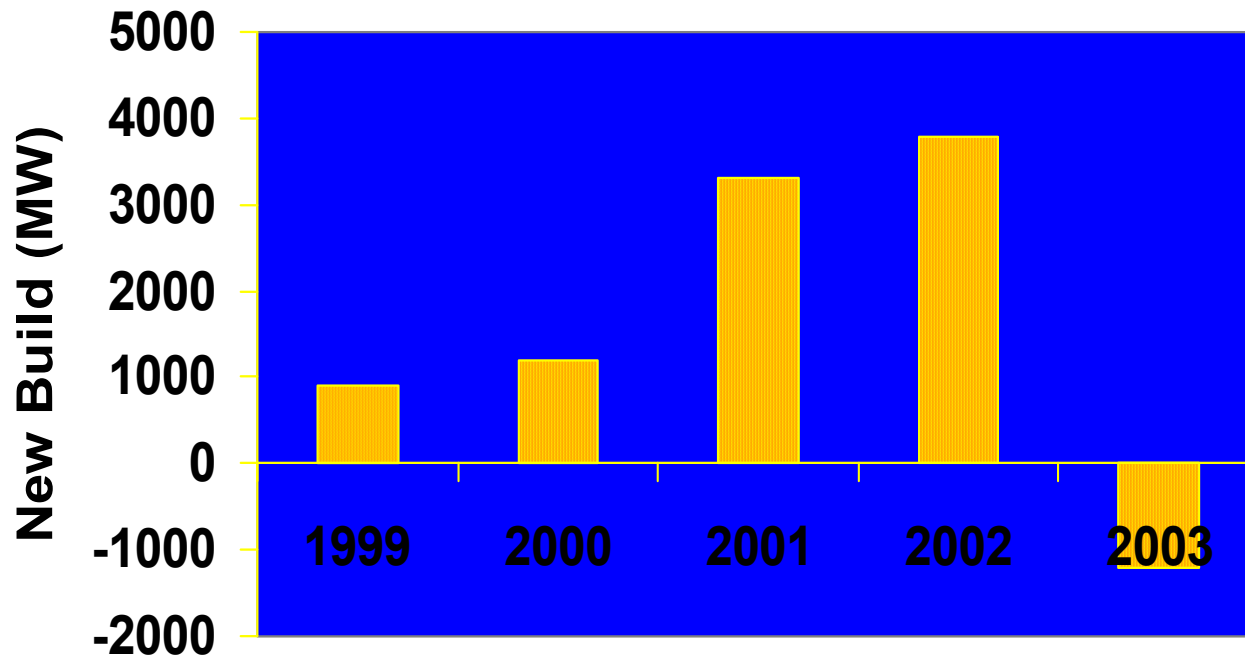
Merchant Generation Boom

- **These spikes combined with deregulation led to a generation boom in the early 2000s:**
Midwest Regional New Builds



Merchant Generation Boom

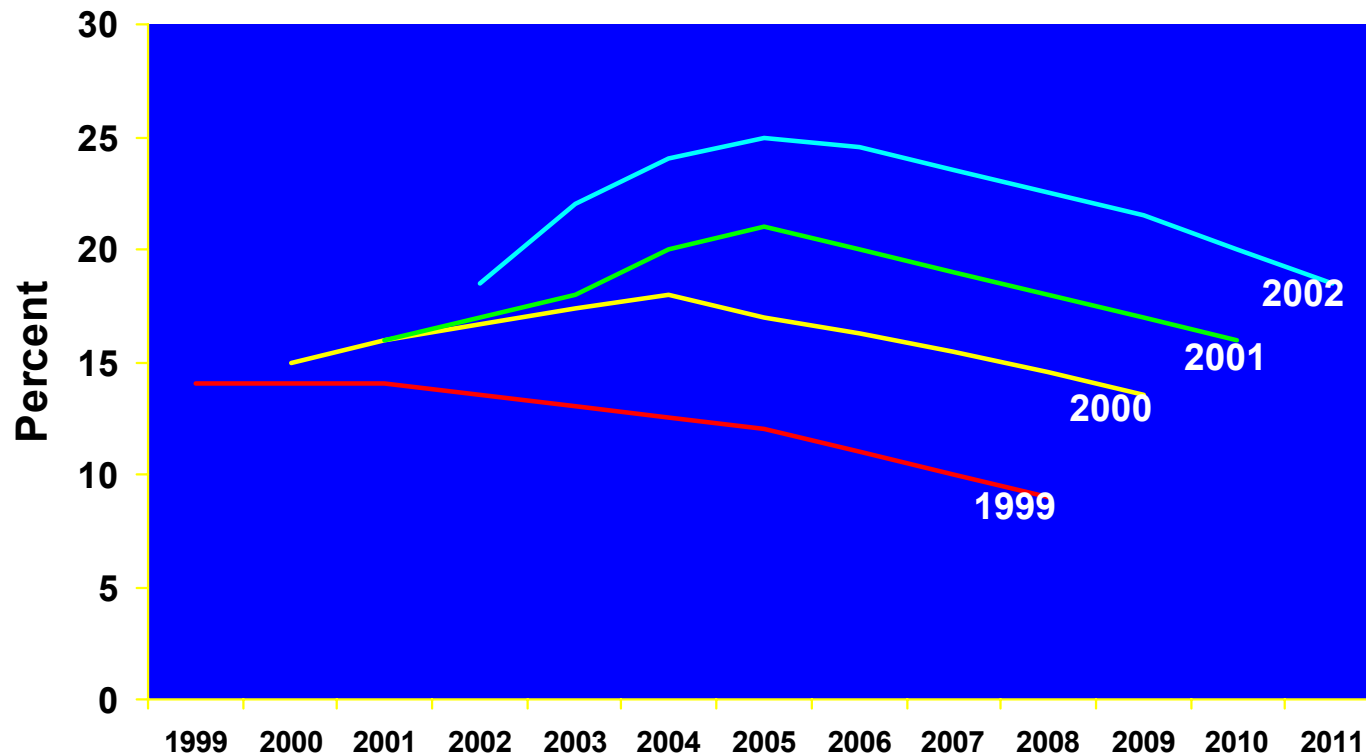
ComEd New Builds & Upgrades Net of Retirements



Industry-Wide Reserve Margins

- The generation boom resulted in dramatically higher reserve margins

NERC Capacity Margin Projections by Year



Looking Forward

Projected Capacity/Load Balance

PJM	2009 – 2010
ECAR/MAIN	2010 – 2012
ISO-NE	2012 – 2013
Texas	2012 – 2013

Load Reaction

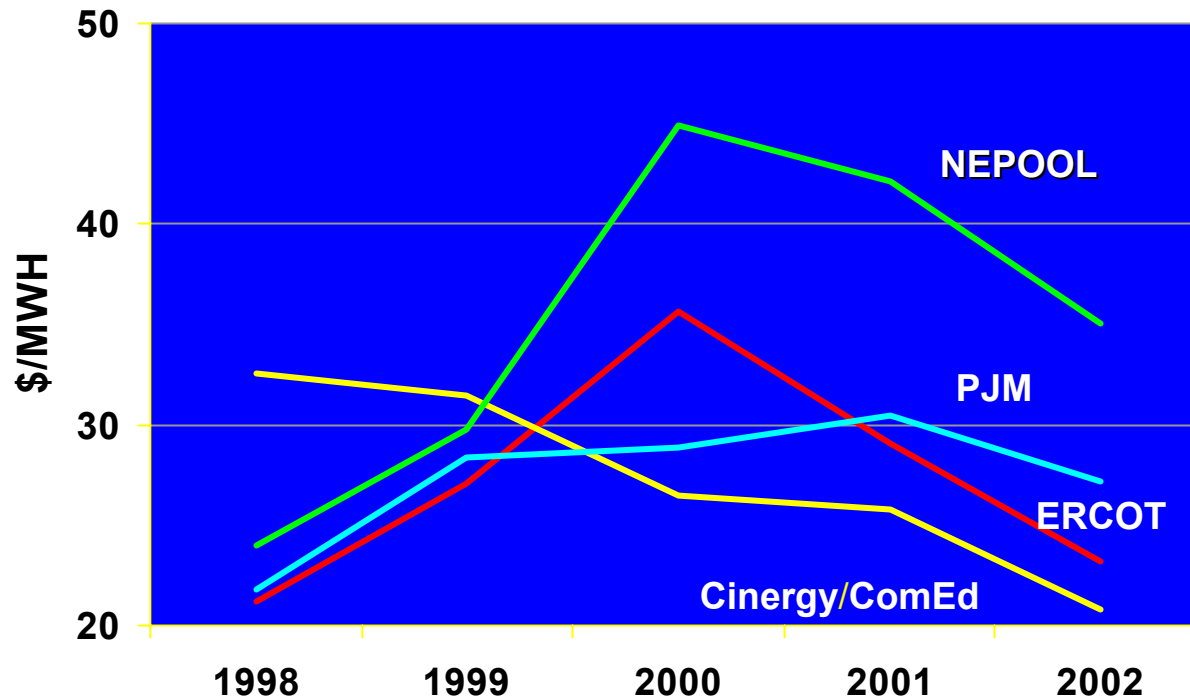
Load in MAIN Not Meeting Recommended Level of Reserves

2001	1329 MW
2002	2413 MW

Price Bust

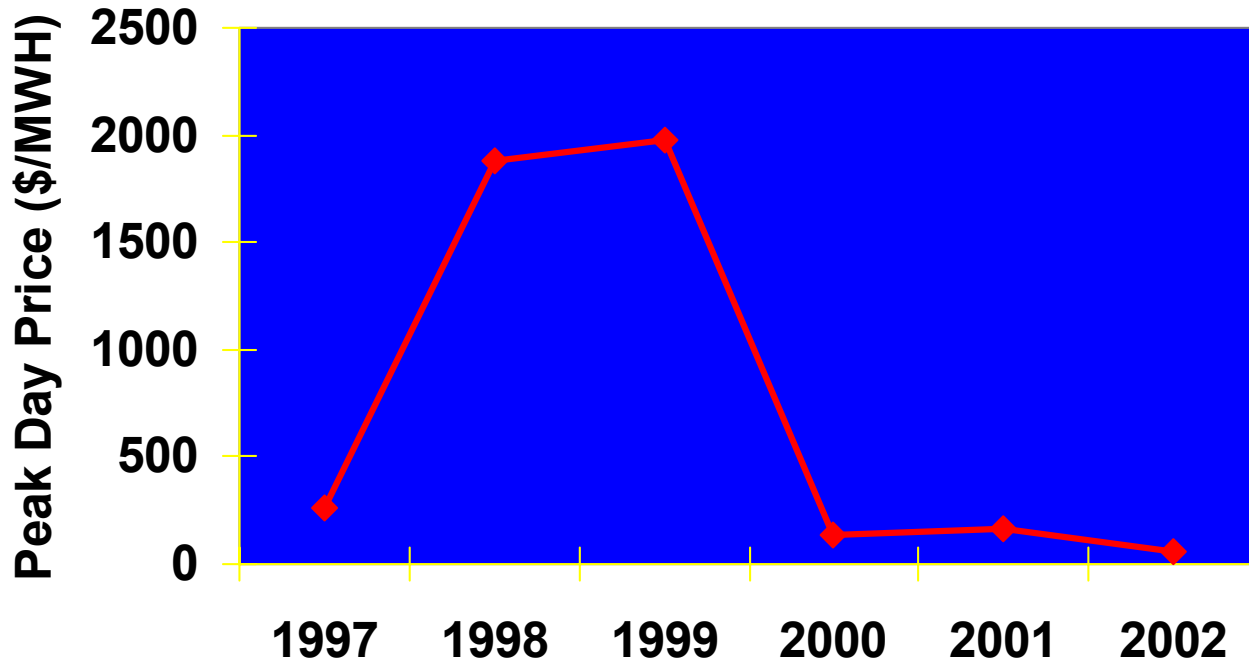
➤ Dramatically lower prices

Average ATC Electric Prices



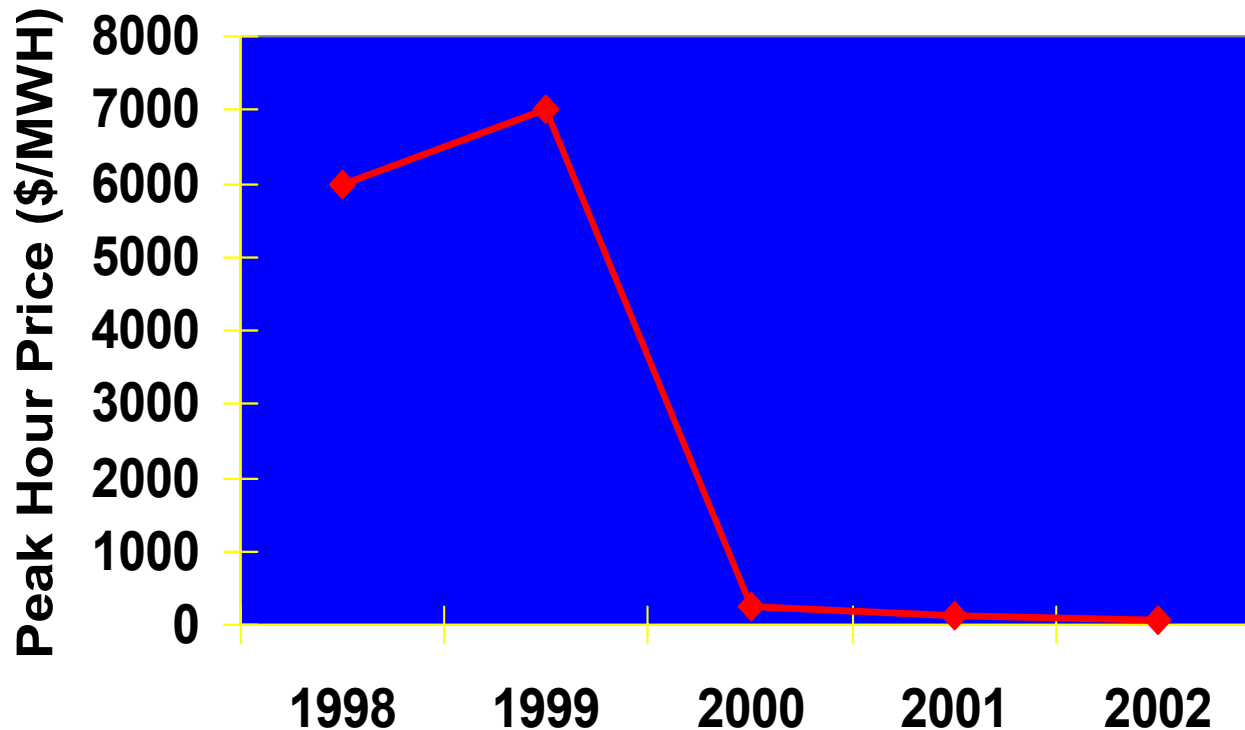
Price Response

Into Cinergy Peak Day Prices



Price Response - ComEd

ComEd Peak Hour Prices



Credit Crunch

- **And highly leveraged generation companies have been unable to maintain their debt ratings**

	<u>Nov. 2001</u>		<u>Nov. 2002</u>		<u>May 2003</u>	
Dynegy	BBB+	Baa2	B-	B3	CCC+	Caa2
Williams	BBB+	Baa2	B+	B1	B	B3
Reliant	BBB+	Baa3	BB+	Ba3	CCC	*
AES	BB	Ba1	B+	B3	B	B3
Calpine	BB+	Baa3	BB	B1	B+	B1
Mirant	BBB-	Baa2	BB	B1	B	Caa2
Aquila	BBB	Baa3	BBB-	Ba2	B	Caa1
Allegheny	A	Baa1	BB	B1	CCC+	B1
El Paso	BBB+	Baa2	BBB	Baa3	B	Caa1

Capacity Requirement

- **Stabilize Boom/Bust Cycle**
 - **But not a bailout of prior decisions**
- **Market Immature - Insufficient Load Response**
- **Bid Caps limit ability to recover costs during hours of scarcity**
- **Need to ensure adequacy of supply – “iron in the ground” and deliverability**
- **Will developers be able to raise money? Will banks require PPA in hand?**
- **Midwest is wrong model – FERC did not impose price caps (see Sept. 22, 1998 Staff Report)**

Capacity Requirement

- **How to accomplish this?**
- **State Requirement**
 - How does RTO deal with different (or even no) requirements?
 - Can RTO operate energy market with some areas not having generators bidding into the day-ahead market?
- **RTO Requirement**
- **White Paper relies on regional state committees**
- **Obligation on load serving entities is the key**