

Deregulation of the Electric Utilities: California Comparisons

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Why Deregulate?

❖ Societal perspective: Competition increases efficiency

- Under regulation, return on investment is set at a fixed rate no incentive to cut investment costs
- Under regulation, operating costs (supplies, fuel, labor) are passed through to the customer
no incentive to cut operating costs

Why Deregulate?

- ❖ Utility perspective: Opportunity to increase profits
 - If I can operate better than my competitors, I can make more money.
- ❖ Customer perspective: Opportunity to decrease costs
 - If I can shop around for my supplier, I can find a better deal.

What has Changed

- ❧ Recent advances in generator technology has made it possible for smaller natural gas fired generators to compete with larger coal fired generators.
- ❧ The federal government has required utilities to allow other companies to use their transmission lines.

Why not Deregulate?

- ❖ Increased opportunities for participants to abuse the market (i.e., price gouging)
- ❖ Exposes the customer to price volatility
 - Not storable
 - Long time for new construction
 - Essential service
 - Most customers cannot react to price increases by reducing their usage

What Happened in California?

☛ “Perfect Storm” / Murphy’s Law

- Just about everything that could go wrong, did go wrong.

☛ Demand

- High growth
- Customers did not see price increases

☛ Supply

- Little new capacity
 - Lack of incentives
 - Opposition
- Reduced hydro capacity

☛ Transmission

- Network less dense
- Wildfires destroyed some lines

More from California

☛ Operating costs increased dramatically

- Natural gas went from \$2 to over \$10 per million Btu.
- Pollution credits went from under \$4 to around \$50 per pound

☛ Local utility companies exposed to market

- Forced to sell generating units and buy from the market
- Not allowed to pass high costs to customers
- Lost billions of dollars

California - Winter/Spring 2001

- ❖ Price caps imposed to reduce prices, but they also reduce incentive for new supply.
- ❖ The state government attempts to keep the utilities solvent.
- ❖ The California Power Exchange closes shop.
- ❖ PG&E declares bankruptcy.

California - Summer 2001

- ❖ New generating capacity becomes operational
- ❖ Conservation efforts reduce demand
- ❖ Shortages disappear
- ❖ Natural gas prices return to normal
- ❖ Wholesale electricity prices are lower

California - Fall 2001

- ❖ State government locked into high priced, long-term contracts - attempting to renegotiate
- ❖ California Public Utility Commission suspends retail choice

Midwest - Summer of 1998

- ❧ June heat wave
- ❧ Large number of generators out of service
- ❧ Interruptible contracts exercised
- ❧ Calls for voluntary reductions
- ❧ Some utilities close to “rolling blackouts”
- ❧ Some marketers unable to meet commitments
- ❧ High spot market prices (\$7500 per MWh)

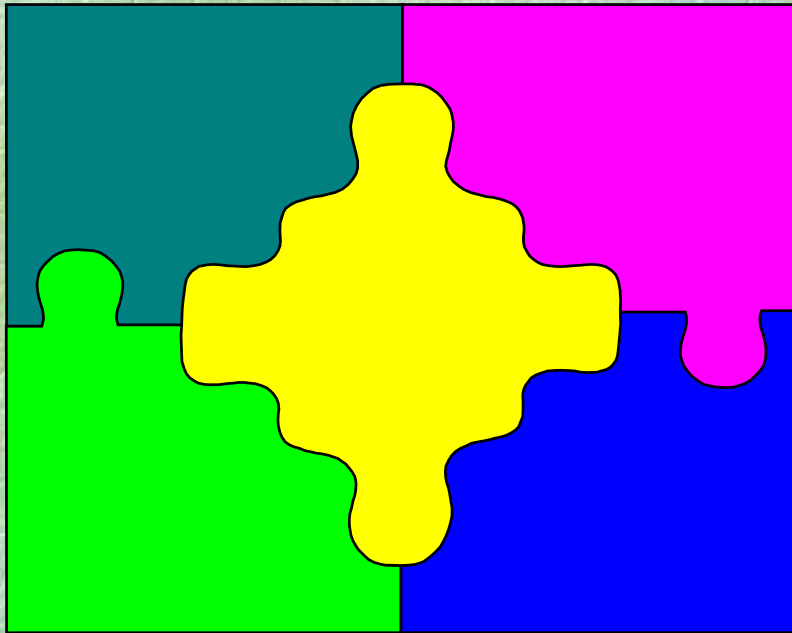
Midwest - Summer of 1999

- ❧ Extended heat wave (July/August)
- ❧ Interruptible contracts exercised
- ❧ Calls for voluntary reductions
- ❧ Close to rolling blackouts
- ❧ Cinergy unable to meet commitments
- ❧ High spot market prices (\$9000 per MWh reported)

Midwest - Summers of 2000 & 2001

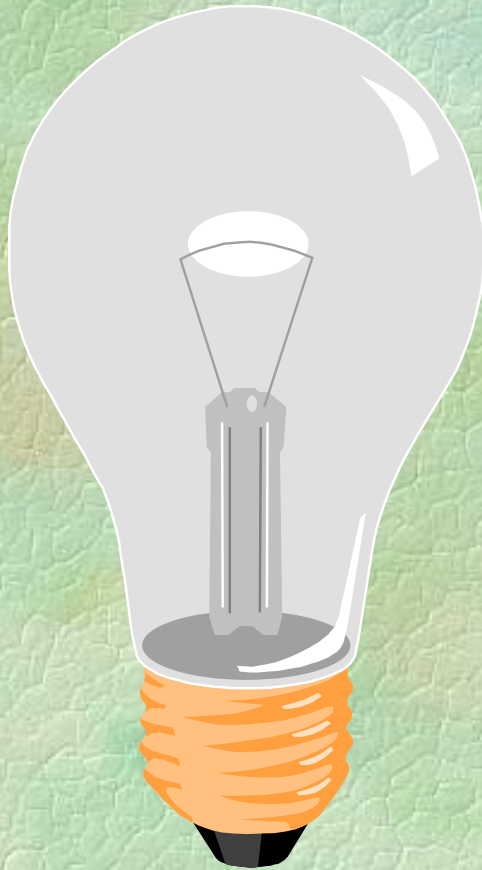
- ❖ No severe heat
- ❖ New merchant capacity operational
 - 1881 MW in Indiana
- ❖ Utilities negotiate more interruptible contracts
- ❖ Utilities reduce their exposure to the spot market
- ❖ No significant price spikes

What is Happening in the Midwest?



- Some states are in various stages of deregulation
 - IL, MI, OH
- Others are not
 - IN, KY, WI

Generation Characteristics



- Midwest relies heavily on coal
 - Lower price volatility than natural gas
 - Less drought sensitivity than hydro
 - Increased sensitivity to environmental regulations

New Generation in the Midwest

	New/Proposed	Existing (1998)	Increase
Illinois	11909	32493	37 %
Indiana	11859	21808	54 %
Kentucky	4815	16007	30 %
Michigan	14537	24634	59 %
Missouri	1915	16389	12 %
Ohio	18448	27095	68 %
West Virginia	7635	15065	51 %
Wisconsin	4771	12759	37 %
TOTAL	75889	166250	46 %

Sources New/Proposed: *SUFG database (November 2001)*
Existing (1998): *Energy Information Administration*

Indiana Peak Demand

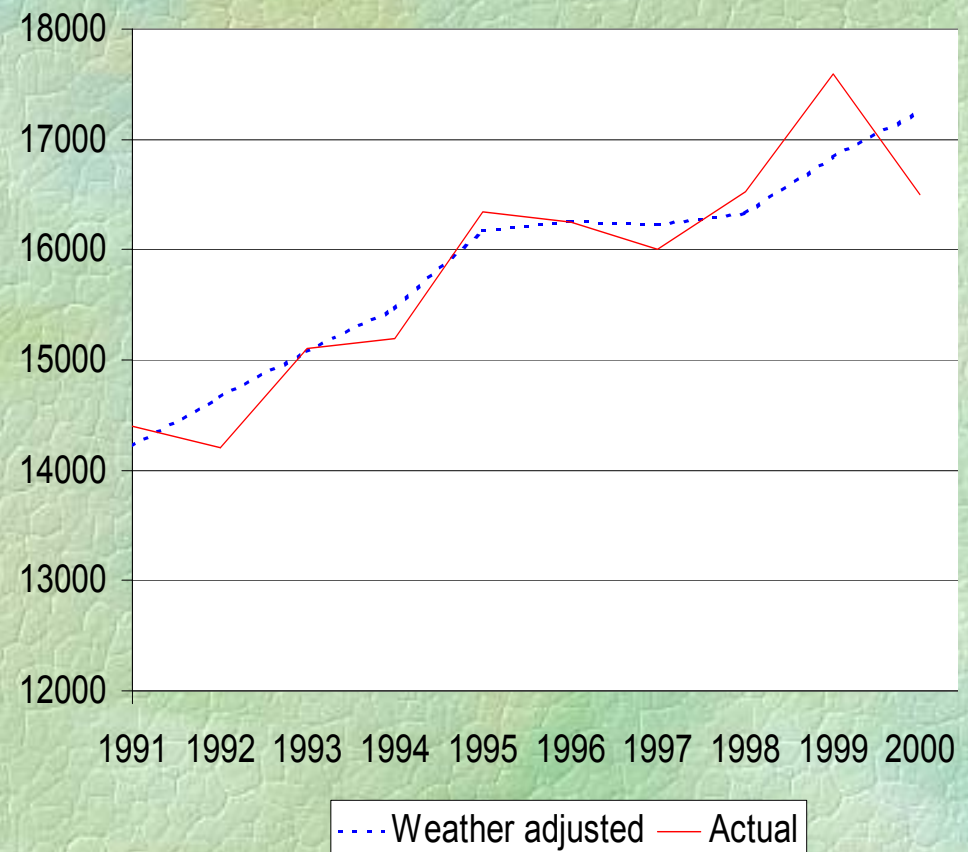
1997: 16004 MW

1998: 16521 MW

1999: 17591 MW

2000: 16505 MW

Interruptible loads
have doubled since
1998 to ≈ 1000 MW



California (a year ago) to Midwest Comparison

	<u>California</u>	<u>Midwest</u>
Fuel	Hydro/gas	Coal
Hedging	Low	High
New plants	Few	Many
Transmission constraints	Serious	Some
Price response	Little	Some
Price caps	Yes	No

Other States

- ❖ Fifteen states (plus DC) have some form of retail competition
- ❖ Three more start in January
 - MI, TX, VA
- ❖ Six states have chosen to delay implementation
 - AR, NV, NM, OK, OR, WV
- ❖ Several others no longer considering retail competition at this time