

A ROMP THROUGH RESTRUCTURING... *LOOKING BACK TO LOOK FORWARD*



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At the Wholesale Level...

- Transmission access
 - Negotiation of “wheeling rights”
 - Discriminatory treatment
 - Lengthy litigation: “*Refunds to a Corpse*”
- Build-out costs
- “Reliability” and “native load” as code
- *TLRs, demand ratchets, price squeeze you name it...*

At the Retail Level---

- Rates significantly above the national average
- Industrial subsidies for public interest programs
- Investment stagnation
- Hit to global competitiveness

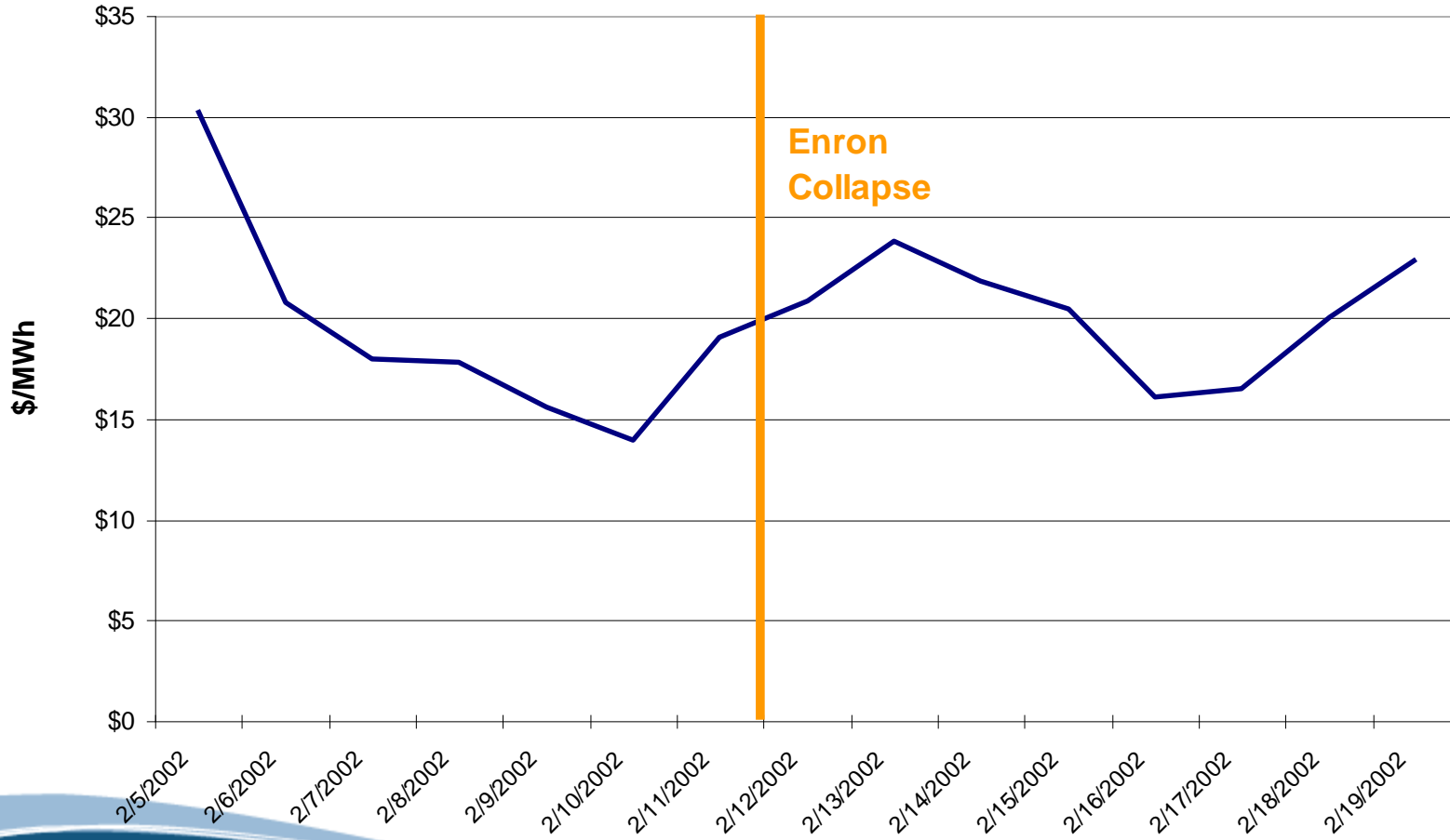
- Reminding Ourselves What We Got Right: *Taking credit for our accomplishments*
- Building on Past Experience: *Learning What Needs Further Work*
- Avoiding the Quagmire of Inaction

| Report Card | |
|-------------|---|
| _____ | A |
| _____ | B |
| _____ | I |
| _____ | A |
| _____ | C |

Accomplishment No. 1:

We moved the risk allocation formula:
aka “There was no Enron rate case!”

Mean PJM RTO LMP



Accomplishment No. 2:

We got the fundamentals right!



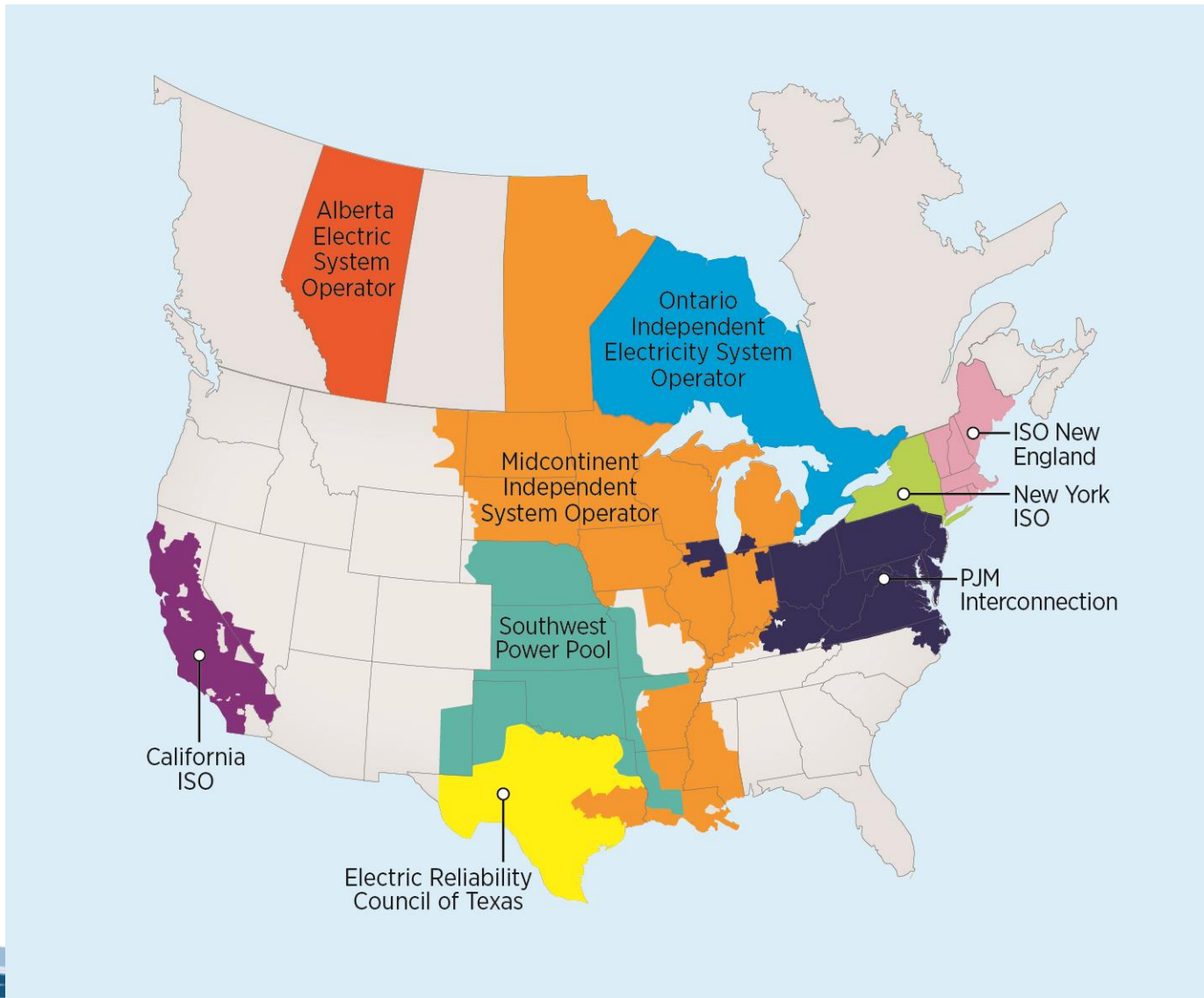
- Structural Solutions Have Worked
 - Eliminating multiple control areas
 - Regional planning
 - Redispatch in lieu of TLRs
 - Maximizing use of the Grid
 - Allowing customers to make economic decisions
 - Transparency

| Key Statistics | |
|---|---------|
| Member companies | 990+ |
| Millions of people served | 65 |
| Peak load in megawatts | 165,492 |
| MW of generating capacity | 176,569 |
| Miles of transmission lines | 82,546 |
| 2016 <u>GWh</u> of annual energy | 792,314 |
| Generation sources | 1,304 |
| Square miles of territory | 243,417 |
| States served | 13 + DC |
| <ul style="list-style-type: none"> • 27% of generation in Eastern Interconnection • 28% of load in Eastern Interconnection • 20% of transmission assets in Eastern Interconnection | |



21% of U.S. GDP produced in PJM

As of 2/2017



PJM eData Services - Microsoft Internet Explorer provided by PJM Interconnection
Min Dispa

Provided by

Elevated Significant Risk

Tuesday November 30, 2004 - 10:20 EST
Current PJM RTO Load: 71,689MW

Monitoring 65% of PJM plants
500MW or larger

My eData Preferences

leugh
2x1

My eData
Constraints

Energy Contracts
Activity Log

eSuite
Announcements

IRC Report
Emergency Msgs

PJM RTO Total Load 71,689Mw
Mid-Atlantic Region Load 33,756Mw
Western Region Load 37,934Mw

RT

DA

BOTH

Scale: 16 hr

LMPs

Time: 11/29/2004

| LMP | Cur | Avg | Min | Max |
|------------|-------|-------|------|-------|
| PJM (Zone) | 40.22 | 30.08 | 8.88 | 58.40 |

Select: LMP Chart

(+) Into PJM/NI

| | |
|------|--------|
| DLCO | -100 |
| FE | 479 |
| NYIS | -1,218 |

(-) Out of PJM/NI

Select: PJM Tie Flows

| | BB | A | W | C | E |
|----------------|-------|-------|-------|-------|-------|
| Transfer Level | 1,948 | 3,353 | 6,435 | 4,806 | 7,040 |
| Warning Limit | 1,850 | 3,185 | 6,113 | 4,566 | 6,688 |
| Actual Flow | 1,851 | 3,010 | 6,016 | 4,360 | 6,681 |

Select: PJM Transfer Interface

Done Trusted sites

Policy Headaches Looking Forward:

- Impact of State Legislative Support for Specific Resources
- Losing Our Way: Re-regulation by piece part
- Fuel Diversity vs. Fuel Security



State Legislative Actions:

Gradations of actions with different market impacts:

- Federal Subsidies
- State support for customer-focused programs (e.g. weatherization, energy efficiency)
- Generic RPS Goals
- State-ordered ratepayer \$\$\$ subsidies for a particular class of units or single units





Solution Options

- FERC Majority---
- Across the Board Minimum Offer Pricing Rule (“MOPR”) but units can be selectively removed from the market
- FERC Commissioner Glick---
 - No role for FERC to protect markets, matter solely within state authority
 - Issue: Accommodates individual states but does not immunize neighboring states as much as MOPR

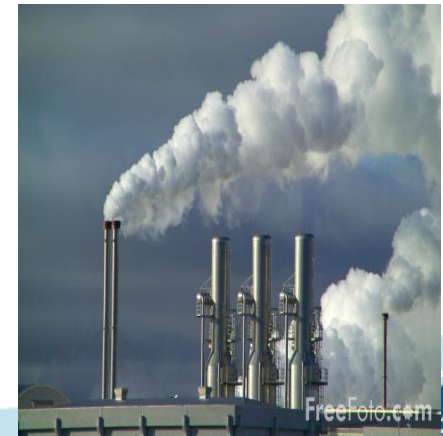
Re-regulation plant by plant:

- The “half slave/half free” problem
- Skewed investment signals
- Re-juggling the risk allocation formula once again
- Ignoring the lessons of the past—(stranded costs, technology risk etc.)



Looking Further:

- Monetizing the value of Distributed Resources thru a single market
- Fuel security vs. fuel diversity
- More transparent natural gas markets
- Being mindful of our past: Keep the 'risk/reward' decision on the investor side



An Added Complication:

Who Decides?



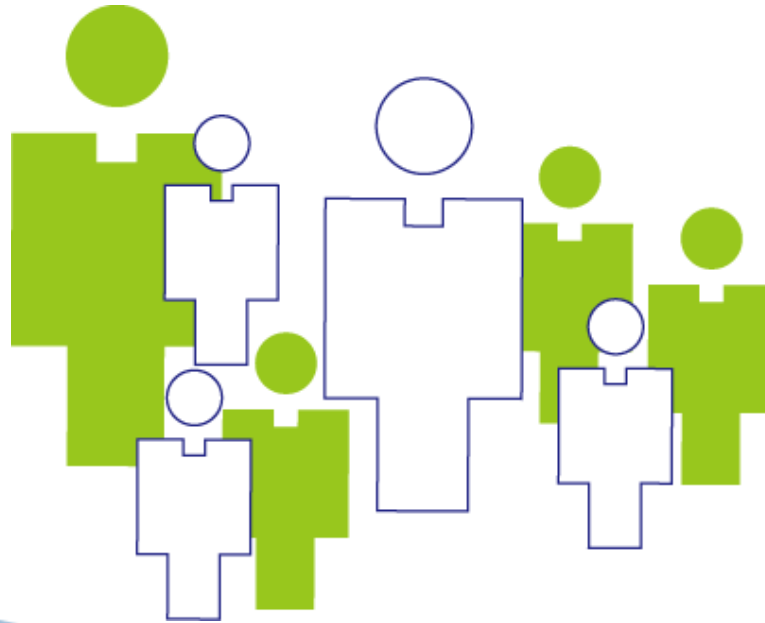
- States:
 - State Energy Policies:
Governors/legislators
 - State PUCs
- FERC
- Environmental Agencies
- Department of Energy
- Congress
- US Supreme Court
 - Demand Response Case
 - Hughes Case



“Hanging in mid-air”: a dangerous place



- A restructured industry or “Golden memories of yesteryear...”
 - The choice is ours



LET'S TALK...



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