RPM—Is There a Path Forward?

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Déjà vu all Over Again

- Appeared at this meeting in 2009 to discuss APPA's Competitive Market Plan (CMP)
- One of the big drivers for APPA's development of the CMP was the advent of locational capacity markets (like the Reliability Pricing Model or RPM) and our members' concerns with them
- Have asked that my 2009 slides be posted on the website with this presentation; will only quickly recap relevant highlights of the CMP here

APPA's Competitive Market Plan

- Issued 2/20/2009 and revised in June 2011
- APPA's attempt to address the most pressing problems it had identified with RTO markets while preserving vital features of the market (and the all-important software!)
- NOT what APPA would have recommended were it starting from scratch (and NOT recommending this approach for non-RTO regions)

APPA's CMP in One Slide

- Trim back the role of day ahead/real time market to an "optimization" market; reduce market power exercise by making it a single clearing price (SCP) market based on actual short-run marginal costs
- Phase out locational capacity markets over time in favor of Load Serving Entity (LSE) resource portfolio requirements, including both owned and contracted-for supply and demand resources

Resource Adequacy Requirement

- LSEs (of all stripes) would have to develop resource portfolios that support overall RTO supply adequacy for series of out years
- RTO would set overall requirements; states would determine how investor-owned LSEs meet those requirements—mix of fuels, demand/supply, owned v. contracted for, LSE by LSE or jointly
- Generators could use their market-based rate authority to enter into bilateral agreements

A Separate Peace

- While public power systems were not RPM fans, they thought they had been able to negotiate through the RPM settlement tariff provisions that at least allowed them to pursue their own business model within the RPM framework
- Public power systems (and co-ops) continued to move forward with additional generation, including Fremont (685 MW, Ohio), Beasley upgrade (50 MW, Delaware), Down No. 11 (57 MW, NJ), generally bidding this generation into the Base Residual Auctions (BRAs) as price takers (resources were developed to hedge against RPM price volatility)

Or Not….

- But FERC's April 2011 Order re the Minimum Offer Price Rule (MOPR) has now undermined their continued ability to develop new generation and bid it in at a price that will assure they clear:
  - "It would be unrealistic to expect market participants to be able to forecast uncertain annual capacity prices precisely enough to ensure clearing at MOPR-mitigated threshold prices and to avoid *having to pay twice for capacity:--once for the bilaterally-contracted for (but uncleared) resource and again for RPM capacity to replace the uncleared mitigated resource.*"

The Brattle Group, "Second Performance Assessment of PJM's Reliability Pricing Model," August 26, 2011 at 150 (emphasis added).

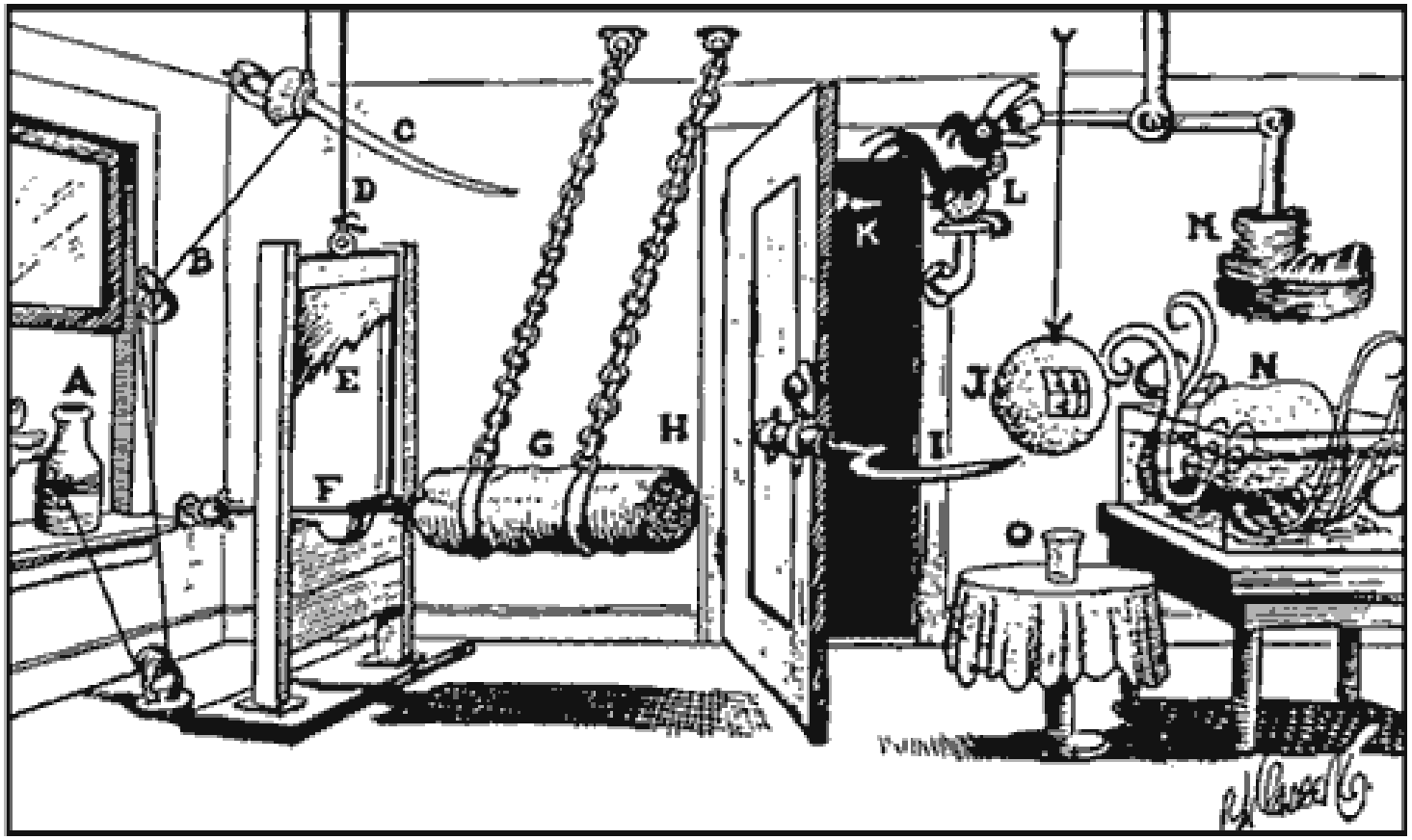
Can RPM Be Fixed?

- Remainder of my remarks are my own and my own only; **not to be attributed to APPA**
- To try and answer this question, I read the August 2011 Brattle report cover to cover
- I also discussed this question informally with a number of public power systems in PJM; their responses varied widely, and included:
  - I cannot suggest any changes to improve it, because it is just too flawed
  - I am putting my efforts into the new generation we did manage to clear in the auction
  - And my personal favorite: I can't talk about this because I have to attend an all-day PJM meeting to discuss RPM (!)

The Hard Truth: RPM is Not A Market, But An Administrative Construct

- RPM is simply too complex and has too many moving parts to operate well under a wide variety of market conditions; reading the Brattle Report reminded me of a centrally-developed Soviet Five-Year Plan
- FERC Commissioner Cheryl LaFleur wasn't kidding when she said that virtually every capacity market FERC regulates has been in the shop for repairs
- The many interconnected elements that make up RPM require *constant tinkering*

RPM At Work (with Apologies to Rube Goldberg....)



Where:

- A=Shape/slope of the Variable Resource Demand curve
- B=Estimation of gross and net Cost of New Entry, including choice of generation technologies
- C=Energy and Ancillary Services Revenue Offset
- D=Changes in Capacity Emergency Transfer Limits
- E=Modeling of Locational Delivery Areas (LDAs)
- F=2.5% Short Term Resource Procurement Target
- G=Reliability Assumptions (1 day in 10 years Loss of Load Expectation, 1 day in 25 years in constrained LDAs)
- H=Accuracy of Load Forecasts
- I=Seller and Buyer Side Mitigation
  - And so on and so on and so on, until you get to O, the **actual new capacity produced by the RPM construct** (and wasn't this supposed to be the object of the exercise?)

Some Possible Micro-Tinkering

- Give public power systems and co-ops back our settlement self-supply rights. (We specifically negotiated for the right to develop our own generation/long-term supplies and bid in as price takers, which is the only reason we agreed to a mandatory market. We have been deprived of the benefits of our settlement bargain.)
- If we prove our actual costs, we should be able to bid in our new units/contracts using those costs—no mitigation or negotiation, period. Our business model is long-term and based on local ownership and local decision-making, not PJM micro-management of our resource choices as the anointed "central planner."

Some Possible Macro-Tinkering

- Add a long-term forward auction (as Brattle suggests), **but the precondition to this would be to make both the current and long-term auctions voluntary**
- Revise the Fixed Resource Requirement (FRR) provisions to allow for shorter term and partial requirements use of FRR option
- Reform state default supply procurement to support longer term arrangements/new capacity

Just One Reason To Get This Right

- Even before the eruption of the current controversy about the EPA's new Cross-State Air Pollution Rule (CSAPR), new EPA rules were storm clouds on the horizon
- From the Brattle Report Synopsis of Generator Owner Sector Comments (Table A3):
  - "The HAP [Hazardous Air Pollutant] regulation and mid-year implementation create big retirement and upgrade problems."
- From the Brattle Report Synopsis of Transmission Owners' Sector Comments on RPM (Table A5):
  - "Meeting the EPA HAP regulation will be a big challenge, potentially creating a backlog of retirement requests."

Additional Resources

- Rose, Kenneth. "An Examination of RTO Capacity Markets," IPU Working Paper No. 2011-4, Institute of Public Utilities, Michigan State University, September 1, 2011, available at http://ipu.msu.edu/research/pdfs/Working-Paper-Rose-Capacity-Markets.pdf
- APPA's Updated Revised Competitive Market Plan, issued June 2011, available at http://www.publicpower.org/files/PDFs/2011CompetitiveMarketPlanUpdate.pdf
- "Synapse Energy Economics, Inc., "Incenting the Old, Preventing the New: Flaws in Capacity Market Design and Recommendations for Improvement," Matthew Wittenstein and Ezra Hausman, June 14, 2011 http://www.publicpower.org/files/PDFs/2011APPACapacityMarketsReport.pdf
- Public Utilities Fortnightly, "Capacity Contest: Raising the Stakes in RTO Markets," Michael T. Burr, February 2011, Volume 149, No. 2, available at http://www.fortnightly.com/archive/puf_archive_0211.cfm (subscription required)

APPA's Competitive Market Plan: A Reform Proposal

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OPSI Annual Meeting
October 1, 2009

American Public Power Association

APPA's Competitive Market Plan

- Issued February 20, 2009; available at http://www.appanet.org/files/PDFs/EMRICompetitiveMarket.pdf
- Our attempt to address the most pressing problems with RTO markets identified by the EMRI studies, while preserving vital features of the market (and the software!)
- NOT what we would have recommended were we starting from scratch (and NOT recommending this approach for non-RTO regions)

The Plan in One Slide

- Trim back role of day ahead/real time market to an “optimization” market; reduce market power exercise by making it a single clearing price (SCP) market based on actual short-run marginal costs
- Phase out locational capacity markets over time in favor of LSE resource portfolio requirements, including both owned and contracted-for supply and demand resources

The Optimization Market

- Offers to sell both energy and ancillary services, including demand response
- Generator bids limited to short-run marginal costs, with information supplied to MMU to support the bids; demand response is a price taker; SCP retained
- Must offer requirement (limited run exception)
- Bids made public the next day, including identities of bidders

Resource Adequacy Requirement

- LSEs would have to develop resource portfolios that support overall RTO supply adequacy for series of out years
- RTO would set overall requirements; states would determine how regulated LSEs meet those requirements—mix of fuels, demand/supply, owned v. contracted for, LSE by LSE or jointly
- Generators could use their market-based rate authority to enter into bilaterals

Transmission Planning and Construction

- Allocations of Financial Transmission Rights (FTRs) should accord with approved LSE supply resource plans, with preference for long-term FTRs to support long-term power supply arrangements (owned or bilateral)
- Transmission should be planned and constructed to support long-term power supply arrangements

What We Included for Generators

- Kept the SCP market (but relook after 3 years to make sure it is working as anticipated)
- Kept market-based rate authority for bilateral market (again, a 3-year relook)
- More support for longer-term bilaterals that could support new generation resources
- State supervision of LSE resource procurement to ensure fair competition

What We Included for Customers

- Eliminate more egregious bidding practices seen in day ahead/real time markets (hockey stick bidding, etc.)
- Phase out expensive locational capacity markets
- Increase competition by requiring suppliers to bid directly against each other for the opportunity to serve load

What We Included for States

- Opportunity to work collaboratively with RTO to set regional adequacy requirements
- Opportunity to help determine how state-regulated LSEs will meet those requirements (more state input/control)
- Will require “morning after” relook at retail access and whether it is working, especially for residential customers/default service provision

Our Goal—A More Balanced Market Regime

- APPA has believed for some time that a regime that better supports bilaterals is required to foster new supply resources
- Financial meltdown seems to have given us more company in this view
- Market structure must balance incentives and obligations for generators and loads; if one side is unduly disadvantaged, there will be no peace and therefore no stability