



Some MW Are More Equal Than Others

The Threat of Performance Initiatives in the ISO-NE Capacity Market

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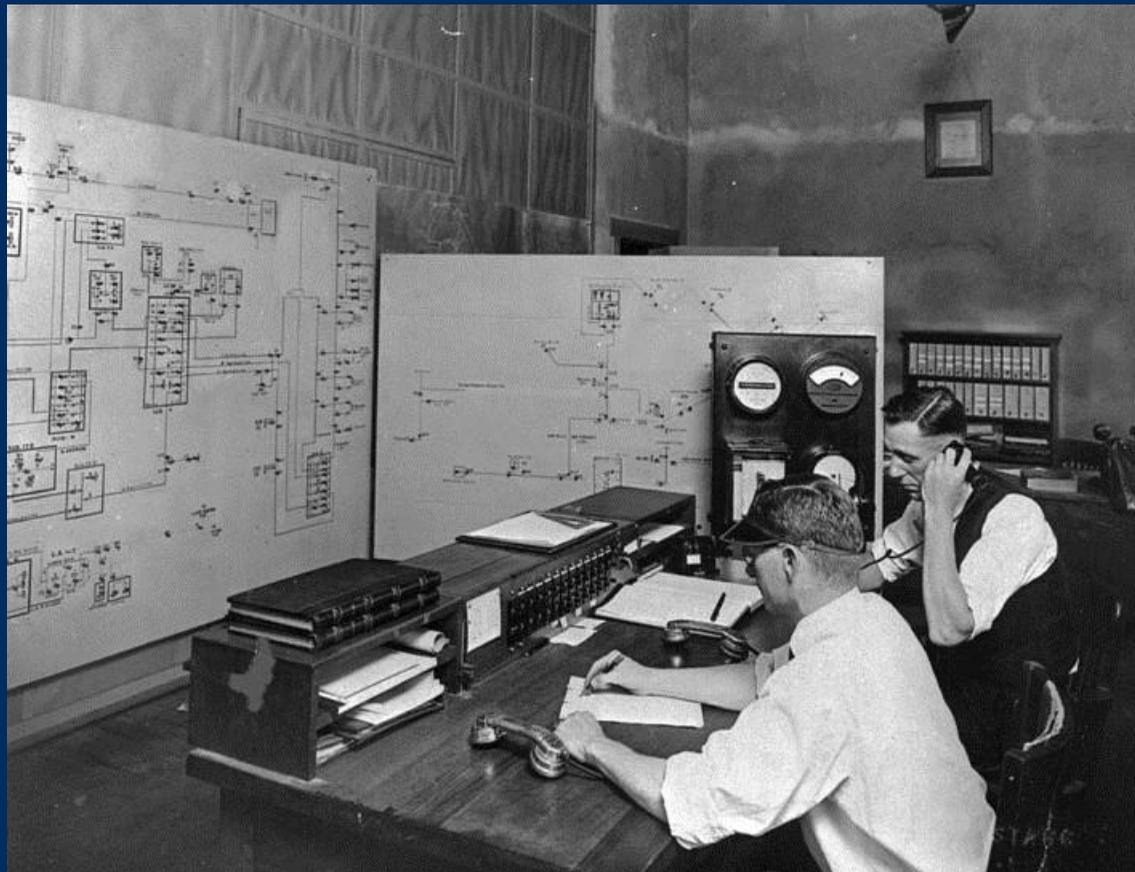
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A PseudoMarxist PseudoHegelian PseudoHistorical History of Electricity



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- Stage 1 -- Feudalism: Geographically distinct nearly self-sufficient contained electric system: 1882-1988



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- Stage 2 – Capitalism: Markets, prices determined by intersection of supply and demand, new for-profit market players and the old feudal lords running the show: 1989-2008



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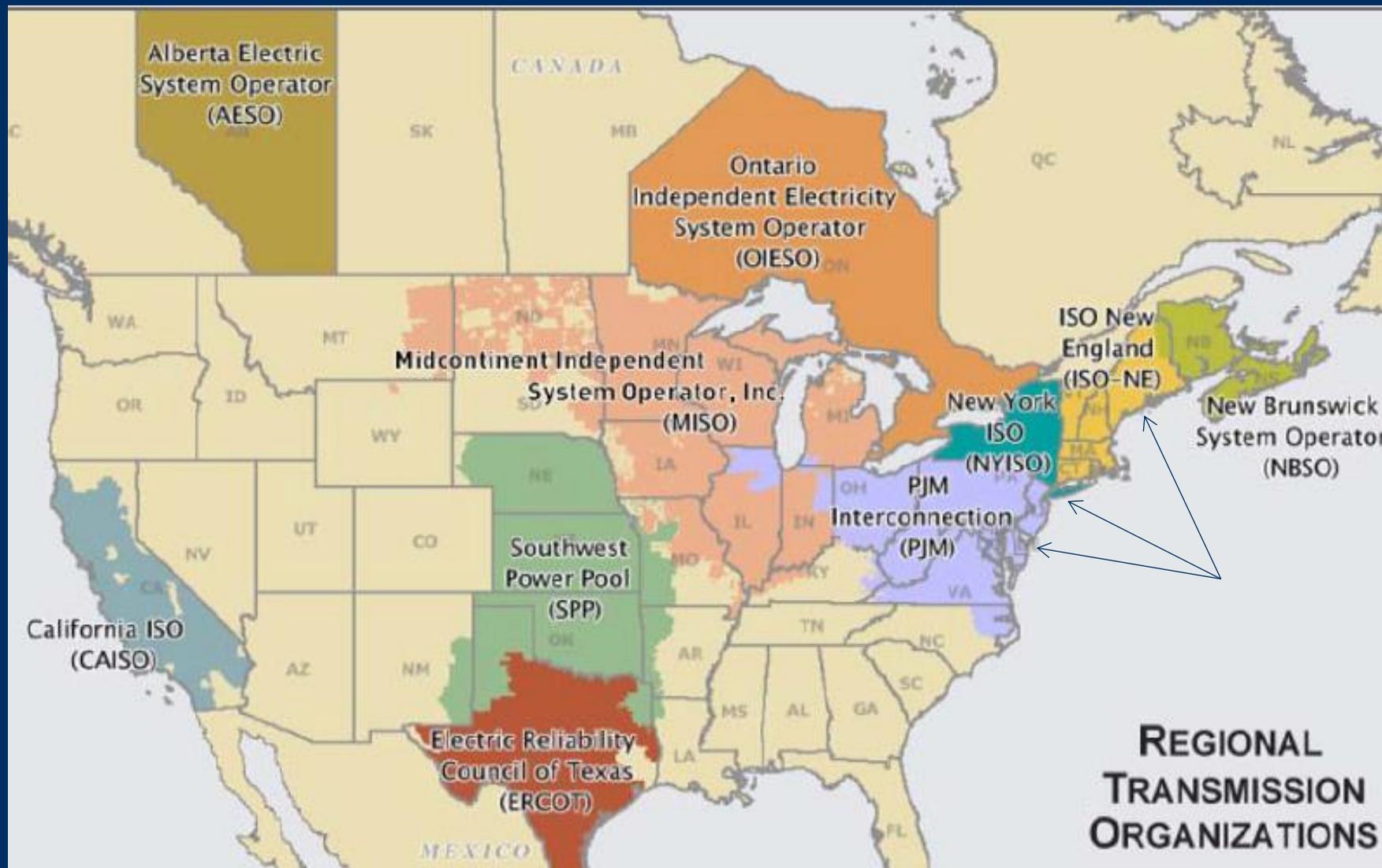
- Stage 3 – Socialism: Socialised costs, socialised benefits, administrative markets: 2009-????



Three US Jurisdictions Have Instituted Auction-Based Capacity Markets



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The Basic Arguments for Auction-Based Capacity Markets



- “Missing Money:” For some reason, markets are not remunerative enough to incentivise entry
 - Price Caps
 - Mandated Reserve Margins
- Replacement of patchwork scheme of local requirements with a centralized efficient source of supply
- A unified process to co-ordinate entry and exit
- Distrust of the market

Commonalities in the Three Auctions



- Decide how much capacity should be built according to some set of reliability standards
- Administratively pick demand curves for a set of zones determined by transmission constraints
- Take bids from existing market participants and potential new entrants, forming supply curves
- Clear the auction where the supply and demand curves cross, paying all winning bids the market clearing price

Who Can Bid?



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- Generators
 - Dispatchable
 - Intermittent
 - Energy Limited
- Demand Response
- Importers
- Energy Efficiency

Some method is needed to auction these very different ways of achieving capacity adequacy into a common metric or they can't be auctioned

“Solving” the Problem



- Everyone bids something called “MW.” How many of these things you can bid to supply is an administrative question.
- How we judge whether or not you supplied these things is an administrative question.
- How many of these things we need is an administrative question. We have programs which calculate reliability of a given system, but not of systems dynamically calculated as the auction begins to clear

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Is the Solution a Solution?



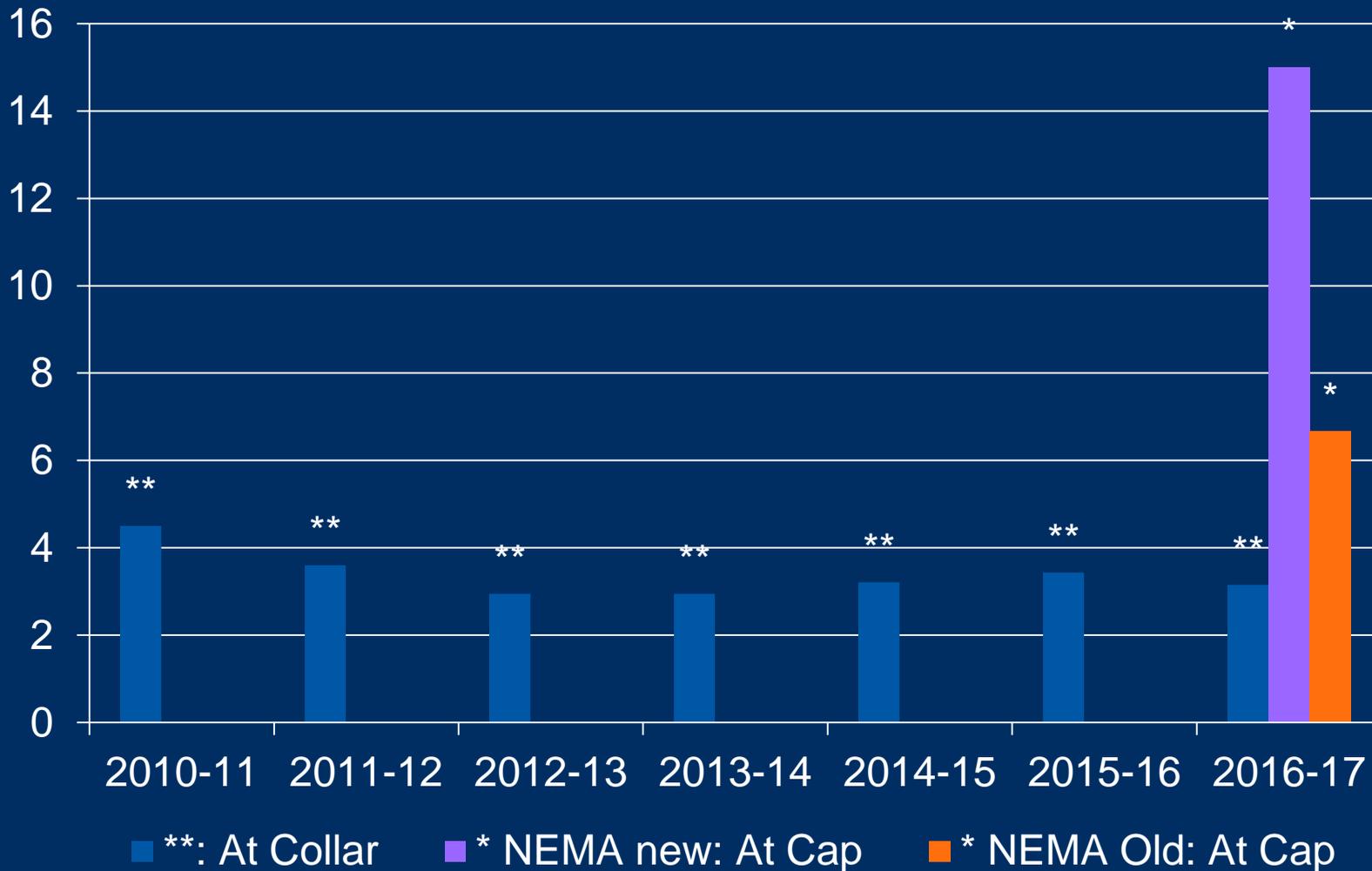
- System reliability is more difficult to match to actual reliability, largely because of the administrative rules above
- In real life:
 - MW are not a constant quantity, even in principle
 - Contributions to *ex ante* reliability are difficult to measure with current software.
 - “Performance” is a system quantity
 - It is not clear that the one-day-in-ten-year criterion is anything other than lip service

Unique Attributes of the ISO-NE Auction



- The administratively determined demand curve has an infinite slope. Thus, unlike the other ISOs in which an administratively estimated estimate of entry price at the equilibrium point anchors the demand curve, there is no process to estimate the cost of new entry in New England
- The market began with caps and collars to ensure prices did not move too far from expectation in the initial auctions
- Different prices for new and existing units based on a market sufficiency criterion

The Caps and Collars Mattered A Lot: This Hasn't Been Much of An Auction



The Performance Initiative



- Charge all generators \$5,000/MWh x %-of-Peak if they aren't running during "system stress events" (Currently about 20 per year, averaging 10-15 minutes)
- Pay the penalties to those that are running, proportional to excess above %-of-Peak
- Allow all generators to gross up bids in capacity market for expected net penalties and "risk."
- Expected to transfer about \$1 billion/year from loads to generators

Why?



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- Gas availability issues
- Generalized “lack of performance”
- “Zombie units”
- Hidden agenda?

Capacity Markets Are Markets for Capacity, Not Operational Reliability



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- Fundamental disconnect between the engineers who run the system and the economists who design markets
- This isn't the first time it has happened
- Administrative overrides and economic principles rarely mix well, and the administrative process is a potent lure for rent-seeking

Tentative Implications for UK Market



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To be provided verbally only



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