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National Association of Regulatory Utility Commissioners

OVERVIEW OF JURISDICTIONAL ENTITIES

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Maine's Restructuring Decision

For approximately the first 100 years of its existence Maine PUC regulated all aspects (generation, transmission, distribution) of electricity service.

One exception was interstate transmission of electricity and wholesale sales which were regulated by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act.

Maine's Restructuring Decision

- In 1997, the Maine Legislature enacted the Electric Industry Restructuring Act
- As a result as of March 1, 2000:

1) All consumers have the right to purchase electricity from Competitive Electricity Providers (CEPs);

2) Generation service deregulated;

3) Utilities required to divest their generation assets;

4) Utility ownership of generation prohibited.

Why Did Maine Restructure?

- Dissatisfaction with growth in regulated rates;
- High costs of generation when compared to market rates (Stranded Costs);
- Stranded costs driven in large part by long-term contracts which wound up being significantly above market rates;
- Success of other deregulatory efforts in U.S. (e.g. telecom, airlines);
- Global politics.

Ramifications Of The Restructuring Decision on Electric Service

- Electric service now split up (unbundled) into 4 separate elements:
  - Generation;
  - Transmission;
  - Distribution;
  - Stranded Costs.

Ramifications of Unbundling On Jurisdiction

- Independent System Operator-New England (ISO-NE) takes on role in ensuring reliability of generation supply
- MPUC retains role in distribution (rate-setting, cost recovery, reliability)
- Transmission becomes a battleground with roles of ISO-NE, FERC and MPUC not clearly defined

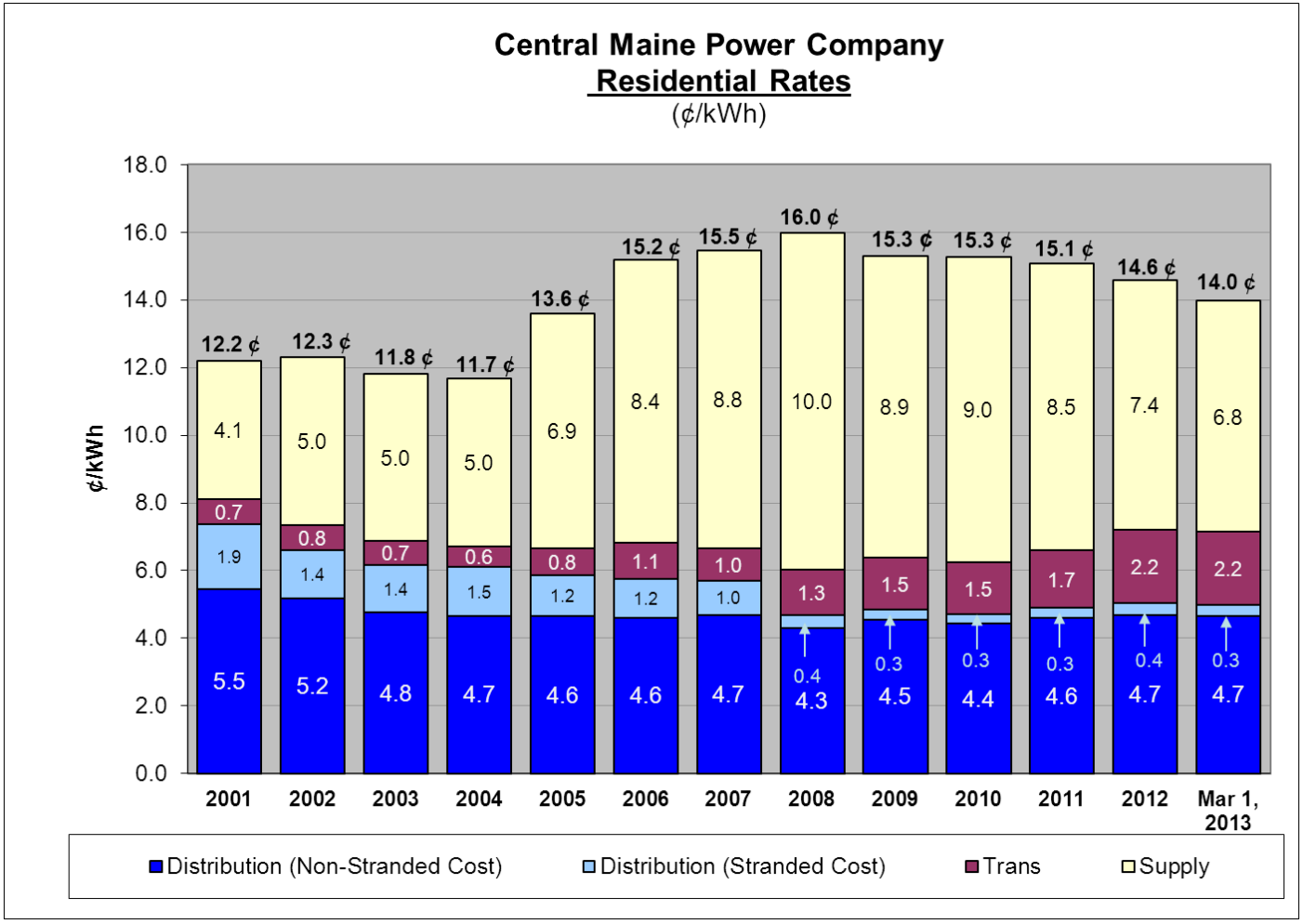
Ramifications of Restructuring

- Maine PUC no longer has role in approval of generation investments or recovery of costs associated with generation service;
- Electricity supply no longer planned on integrated resource basis
- As a result of unbundling of generation, FERC asserts jurisdiction over retail transmission service.
- New role for non-governmental entity, Independent System Operator-New England (ISO-NE).

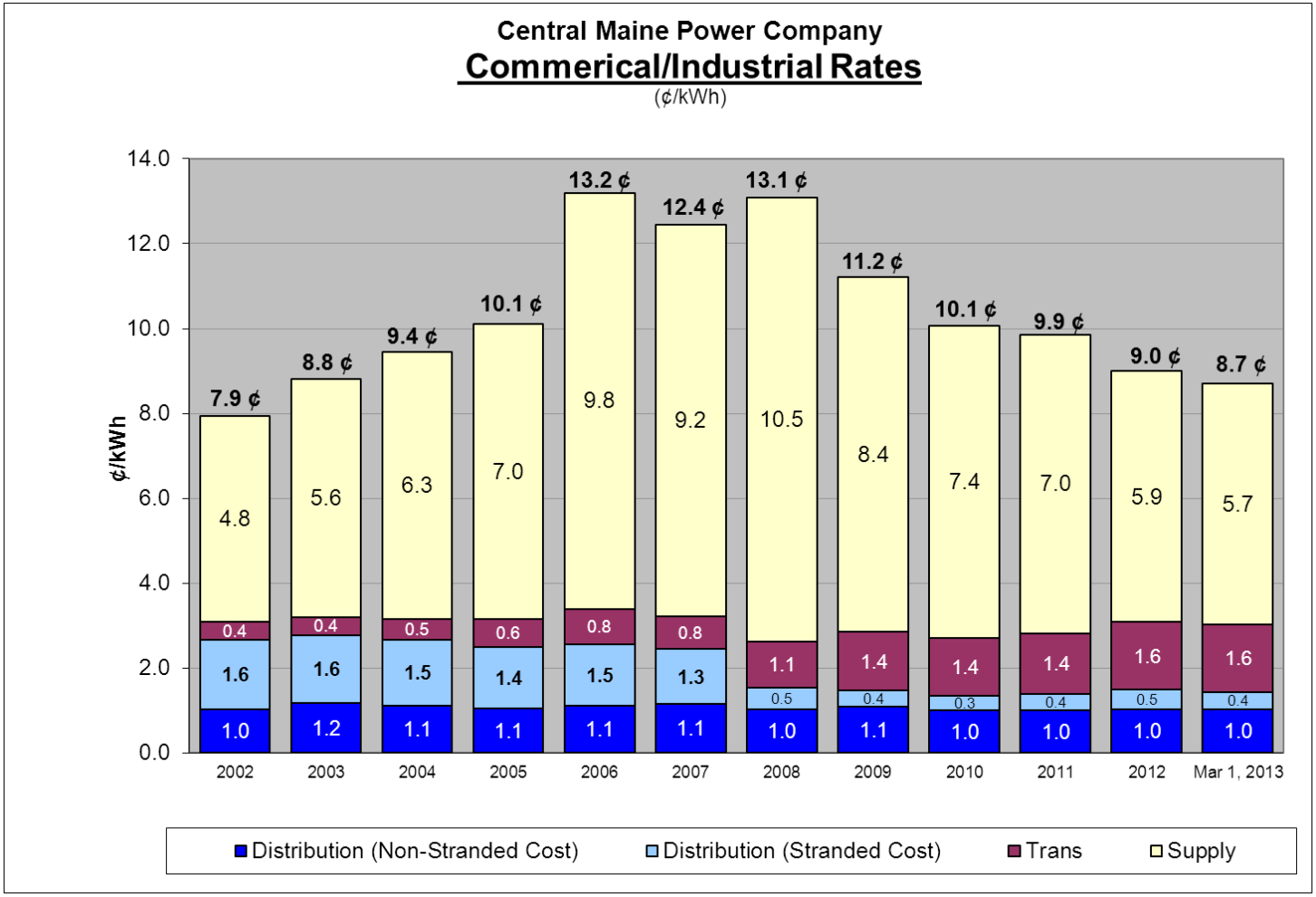
What has happened to rates since Restructuring

- Distribution fairly stable
- Generation somewhat volatile
- Transmission has grown significantly

CMP Residential Rates Since Restructuring



CMP Comm./Ind. Rates Since Restructuring



Questions to Think About Going Forward

- Has Restructuring had its desired impacts and benefitted consumers?
- How has Restructuring impacted investment decision-making?
- Is Maine truly out of the generation planning/stranded cost game?

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Overview of Generation in New England

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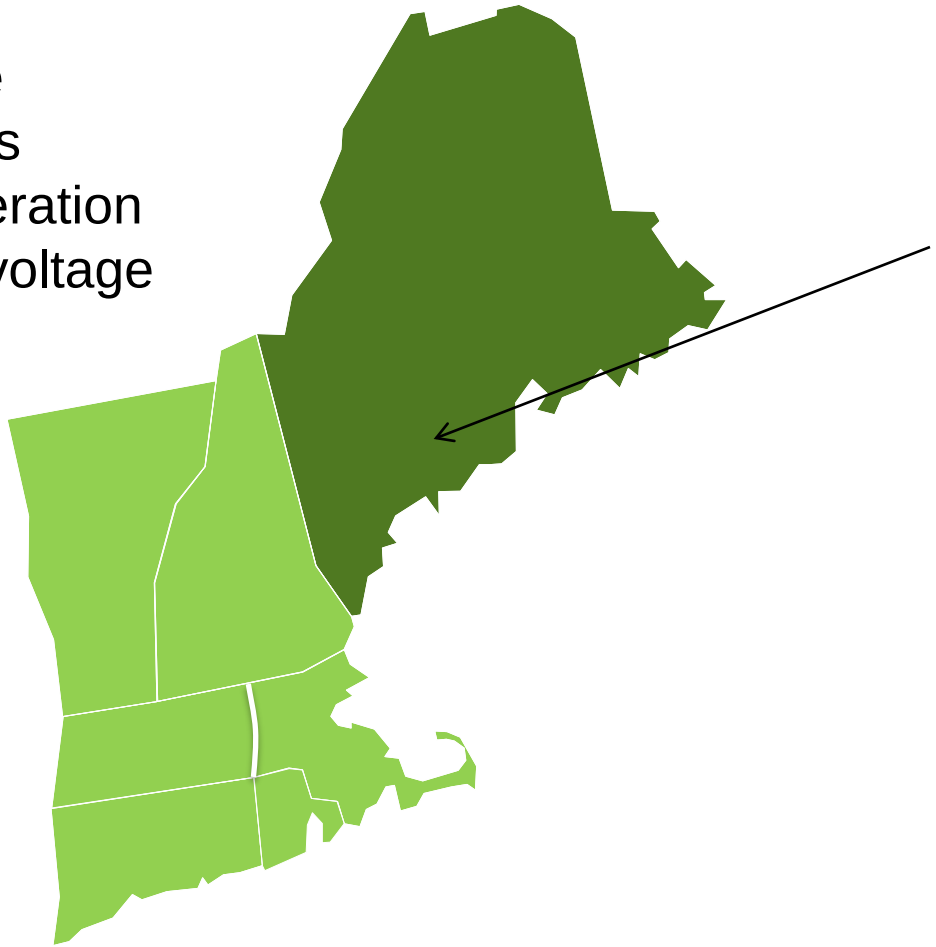
September XX, 2014

New England is a six state market region & balancing area

14 Million people
350 Power Plants
32,000 MW generation
12,830 kM high voltage transmission



Outline

- Effects of Restructuring on Power plants in New England
  - Generation service deregulated (5 of 6 states)
  - Power prices set by competition
  - Changes to Resource Planning
  - Siting Authority
- Energy Market
- Capacity Market
- Experience with Capacity Market in New England
- Conclusions

Effects of Restructuring on Power plants in New England – Generation Service Deregulated

- In 1996, in reaction to changes in the wholesale markets, 4 of 6 New England states restructured their electricity markets to permit retail customers to purchase from competitive electricity providers.
- In 1997, Maine's legislature directed the MPUC to begin development of market rules to restructure Maine's electric industry structure by March, 2000.
- Only one of the New England states, Vermont, with very little generation, has not restructured.
- Nearly all generation in our region competes in the competitive wholesale market

Effects of Restructuring on Power plants in New England – Changes to Resource Planning

- Before restructuring, states conducted integrated resource planning for vertically bundled utilities.
- There were multiple objectives to resource planning;
  - Reliability
    - Through development of transmission or strategic location of generation.
  - Cost
    - Life cycle cost of power plants along with projected fuel prices
    - Energy efficiency program development
  - Social Policy
    - Environmental objectives
    - Development of renewable resources

Effects of Restructuring on Power plants in New England – Changes to Resource Planning

- After restructuring, states have continued to impose policy objectives on an unbundled industry.
- Similar to the objectives of resource planning, states have;
  - Passed laws mandating DSOs to implement energy efficiency programs at very high levels.
  - Passed laws mandating a certain amount of energy sales derive from electricity produced by renewable resources.
  - Attempted to stabilize prices by authorizing regulatory commissions to enter into long term power purchase agreements.

Generation Deregulated – Effects on Generation Siting Approval

- Maine
  - Approval of power plant siting is now issued by the State Department of Environmental Protection. Market test for need.
- Other 5 New England states
  - Approval through “siting councils” that include utility regulator and environmental regulator. Changes to Resource Planning
  - Siting Authority
- Energy and Capacity Market prices were intended to provide financial incentives for where generation should locate

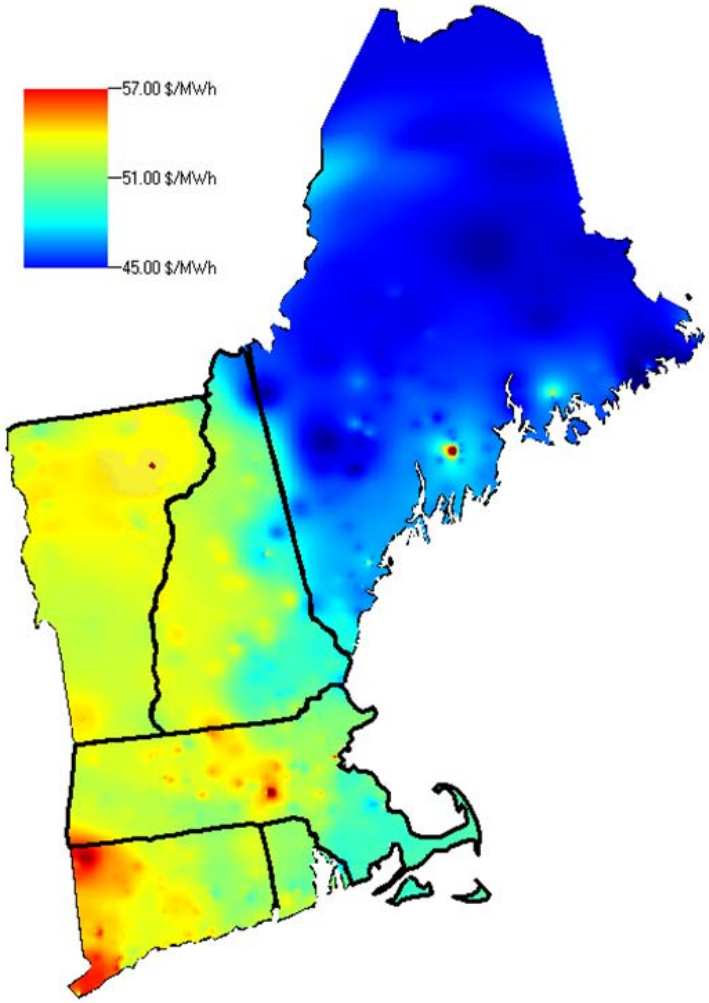
Generation Deregulated – Energy Market Pricing

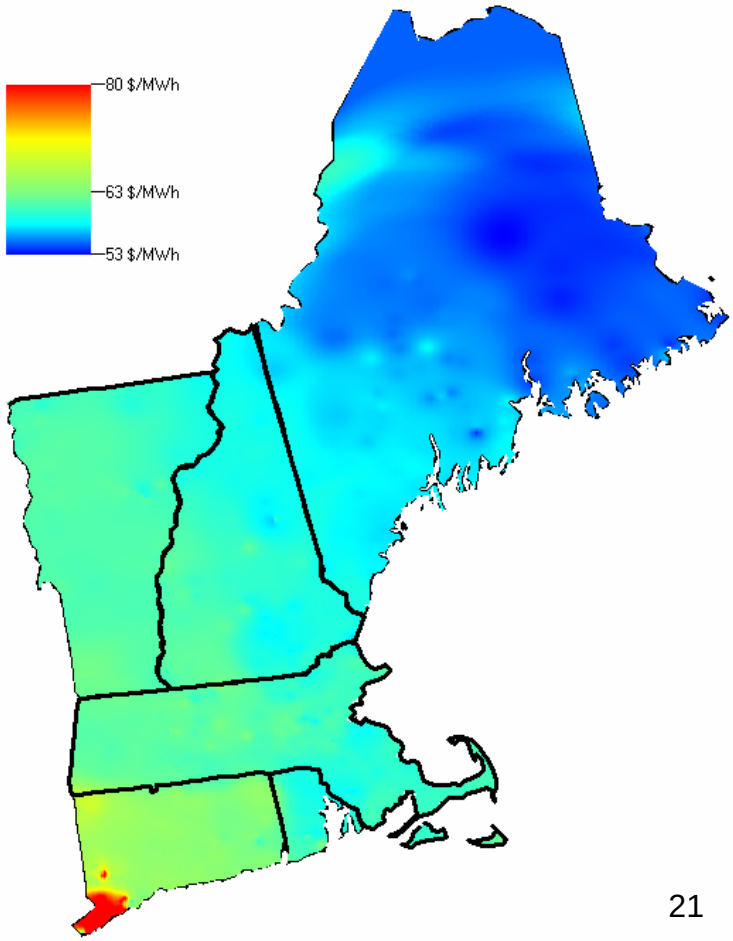
- ISO New England Senior Staff will give a detailed energy market explanation Wednesday.
- Intent was for the energy market to:
  - Provide efficient prices
  - Attract new entry
  - Provide price signals to signal appropriate areas of generation development.

Generation Deregulated – Energy Market Pricing

- The energy markets have worked fairly well – but not exactly as planned.
  - In the interest of reliability operators have on occasion interfered with economic dispatch. This severely affects the ability of the market to provide appropriate price signals.
  - The fuel delivery system has not kept pace with generation development.
  - Areas with high prices have also been viewed as reliability problems and addressed through transmission construction.
  - There is much less congestion on the transmission system, but this enables more generation to participate over a wider part of the system and market is very competitive.

2003 and 2006 congestion maps





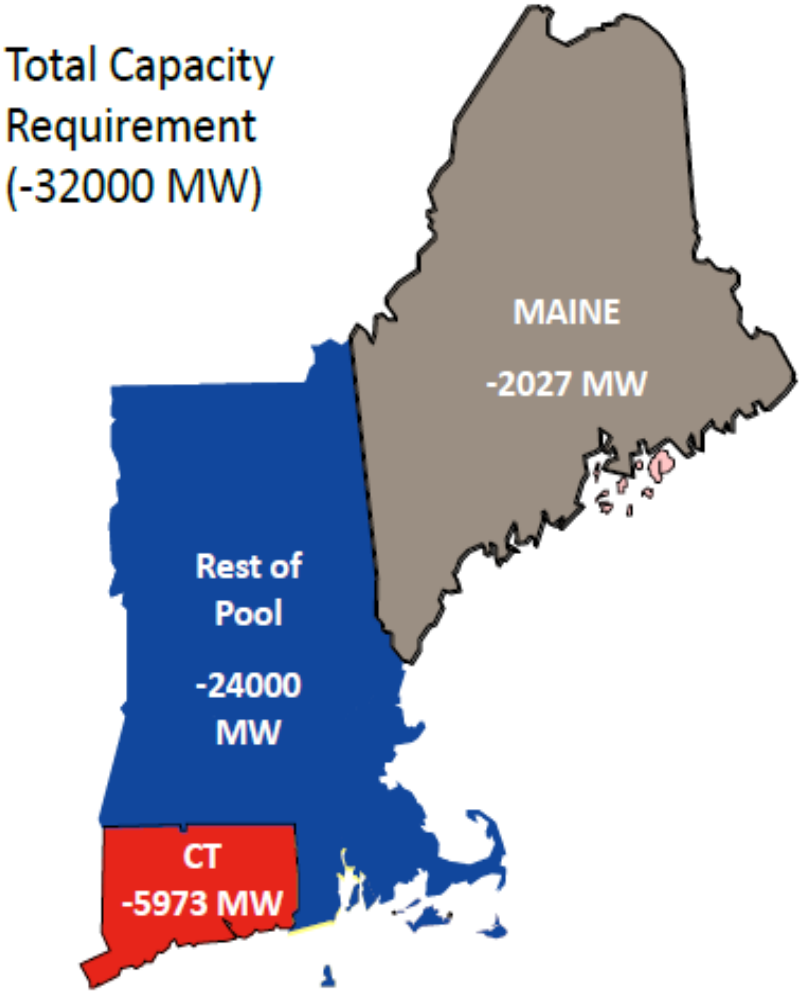
Generation Deregulated – Capacity Markets

- ISO New England Senior Staff will give a detailed capacity market explanation Wednesday
- New England market includes a “forward” capacity market because energy markets alone do not provide enough revenue to attract investment in new generation.
- A calculation is done to determine how much generation is needed in New England to maintain a reliability of .1 day of outage per year.

Generation Deregulated – Capacity Markets

- Appropriate amount of generation is selected through a “forward” auction – if selected in an auction, the project sponsor must be able to deliver the generation within 3 years.
- Analysis is done to ensure that generators are able to deliver power to other areas during time of need. The analysis establishes “capacity zones.”
- Capacity zones are also intended to be a market mechanism intended to incent appropriate location of generation resources

New England capacity zones



Objectives of the Energy and Capacity Markets – Competition Sets Price

- Generation is not economically regulated
  - Price discipline is enforced through a competitive marketplace
  - ISO New England Internal Market Monitor must continuously review the markets and certify market competitiveness to FERC
- Administrative pricing allowed if it appears there is insufficient competition to set a market price
- If a generator cannot compete, it can retire unless it is needed to retain reliability. It may receive an administrative price.

Experience with Energy and Capacity Markets (so far) in New England

- Initially promising
  - Prospect of a competitive market created new entry early in Maine 1998 - 2000
    - Land availability, simple siting requirements resulted in excess generation, Maine prices lower than rest of region
  - New entry experienced later in other parts of region
- Some problems
  - Administrative interference with market pricing
  - Tension between reliability need and economic need
  - Need more stability in market rules
  - Speculation about new entry w/o PPA

Conclusions

- Nothing is perfect
- Our views about how the markets are working are often colored by the prices we are paying.
- Concerns about whether the markets provide adequate price signals to preserve reliability seem to be driving the region back to more centralized planning.
- The only constant seems to be change as we continue to adapt the market rules to elicit what we think should be appropriate behavior

FERC'S ROLE

- Determines whether market rule changes proposed by RTOs such as ISO-NE are just and reasonable
- Sets rules for generator interconnection and approves interconnection agreements
- Jurisdiction over transmission rates
  - ❖ Formula rate filings
  - ❖ Incentives for joining RTOs and for some major transmission projects
- Approves reliability rules proposed by NERC

Transmission Planning at ISO-NE

ISO-NE is responsible for ensuring the development of a reliable and efficient power system to meet current and future electricity needs

ISO-NE develops a system needs plan based on a 10 year look ahead

- Deterministic snapshot
- Incorporates NERC reliability standards
- Incorporates assumptions about load growth and generation availability among others

Requirement for a CPCN

- Under Maine law a person may not construct a 69kV of greater transmission line unless the Commission has issued a Certificate of Public Convenience and Necessity (CPCN)
- Utilities are required to file a transmission construction plan which includes plans for rebuilds, relocations and minor transmission construction
- Commission may determine that a CPCN is required for such projects

CPCN Approval Process

- Approval process is initiated by a petition filed by requesting party
- The petition is considered in an adjudicatory case
- The public is provided an opportunity to intervene and participate in the case
- The petition is then subject to the Commission's full administrative process (discovery, opposing testimony, hearings, etc.)
- Petitioner separately required to get necessary environmental approvals

CPCN Approval Process (cont'd)

- The Commission must decide a CPCN petition case within 6 months unless extended by agreement of the parties (this is the usual case)
- The Commission may approve or disapprove all or portions of a proposed transmission line and shall make such orders regarding size, installation and maintenance as are necessary
- CPCN cases may be resolved by settlement agreements subject to Commission's stipulation approval criteria

OVERLAP BETWEEN ISO-NE AND MPUC PROCESS

- ISO-NE determines reliability need for regional transmission system based on its interpretation of federal reliability standards; the Commission determines reliability need in the CPCN proceeding.
  - While the modeling that occurs in the regional transmission planning process is extensive, the Commission may require additional modeling based on different assumptions than used by the ISO-NE planners.
  - Different load levels
  - Different generation outage assumptions

OVERLAPS (CONTINUED)

- Timing
  - The regional process for determining reliability need and developing a solution occurs first;
  - From the beginning of the regional process to the beginning of the CPCN process, sometimes ISO-NE has to reevaluate the need based on changing conditions such as flatter load growth than assumed in the ISO-NE analysis.
  - Cost estimates may change dramatically from when the transmission solution was originally proposed in the ISO-NE process and when the project goes through the state siting process.

OVERLAPS CONTINUED

- Cost determinations and allocation
  - ISO-NE determines whether the costs of the project are reasonable, i.e. did the utility spend additional funds to provide more reliability than needed or to meet requirements of state siting entity? If so those incremental costs are not regionalized and are allocated to the ratepayers of utility.
  - While costs of regional transmission projects are shared by New England ratepayers, the cost of non-transmission alternatives (NTAs) are not recovered through the New England transmission rates. NTA costs are recovered by state ratepayers.

MPUC Jurisdiction

- Post-restructuring the Maine Commission retains jurisdiction over Distribution rates and investments
- Question then becomes what is Distribution and what is Transmission
- MPUC also has jurisdiction over Stranded Cost rate-setting

Approval Requirements For Distribution Investments

- Distribution Investments Different than Transmission:
  - Smaller scale
  - Much more frequent
  - Lesser land-use impact
  - Lesser impact on land-owners
- No Pre-Approval Requirements (CPCN) for Distribution Investments

How are Distribution Investments Judged

- Utilities have statutory obligation to provide safe, adequate and reliable facilities and service
- Rates to be charged by utility must be just and reasonable
- As part of determining just and reasonable rates the Commission must:
  - Provide revenues sufficient for the utility to perform its public service;
  - Consider whether the utility is operating as efficiently as possible and utilizing sound management practices

How are Distribution Investments Judged

- These statutory standards and obligations have been translated into the prudence standard
- The prudence standard can be applied in either a rate case or Commission initiated investigation
- By its nature the prudence standard is retrospective in nature

Utility Requests for Pre-Approval

- Utility asks for Commission approval of making investment before investment before investment is actually made
- Can be done in rate case or through a petition
- Not statutorily required
- Recent trend usually involving large and novel investments (AMI, Customer Billing System, and Cast Iron Replacement)
- Provides utility with prudence protection and avoids potential cost disallowances