

The 120th New England Electricity Restructuring Roundtable

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Outline

- PAST
 - Background & Timeline – Regional Capacity Market

- PRESENT
 - FERC Orders Paper Hearing and ISO Proposal

- FUTURE
 - Lessons Learned and Observations

Historical Background: A 40,000 Foot View

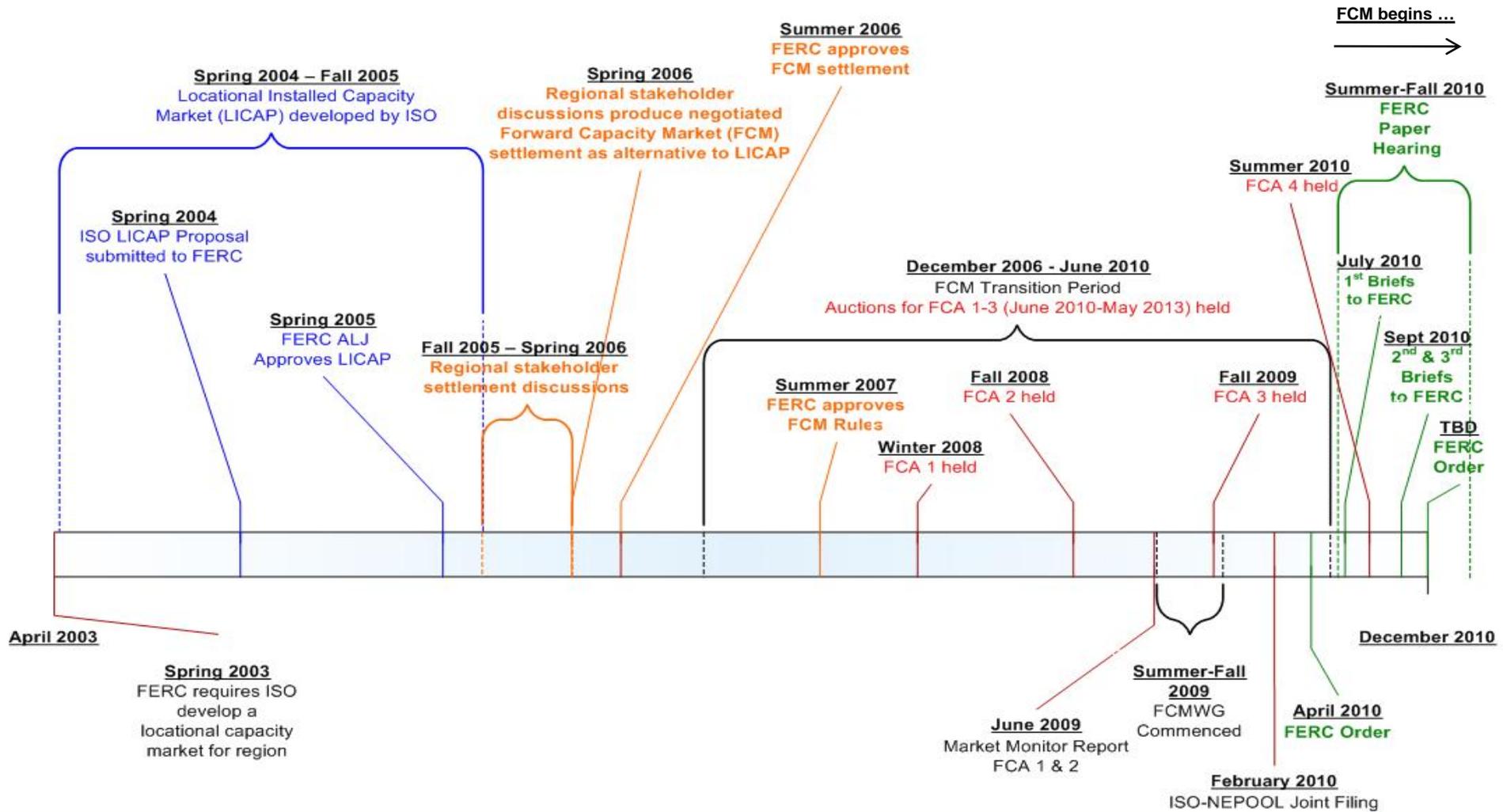
- FERC required development of regional location capacity market
- In response, ISO develops Locational Installed Capacity (LICAP)
 - LICAP – monthly, market-based solution
 - Utilized demand curve to determine price as capacity levels changed
 - Regional stakeholders wanted a less costly approach and assurance of new investment
- Regional stakeholder process developed to find alternative
 - Vast majority of regional stakeholders supported Forward Capacity Market (FCM) alternative
 - FERC approved FCM settlement in June 2006 & Rules in July 2007

Forward Capacity Market (FCM)

Payments for Future Capacity Availability

- Procure only capacity needed to meet requirements 3 years out
- Revenues for new and existing capacity resources
- Supply and Demand Resources compete through a competitive Forward Capacity Auction (FCA) process
 - Proposed resources must be pre-qualified to participate in auction
- New and existing resources eligible for FCA:
 - **Supply Resources**
 - Traditional generation (e.g. coal, natural gas)
 - Intermittent renewable generation (e.g., hydro, wind)
 - **Demand Resources**
 - Installed measures that result in verifiable reductions in demand (e.g., energy efficiency, load management, distributed generation)

Recent Regional Capacity Market Highlights



Forward Capacity Market Results

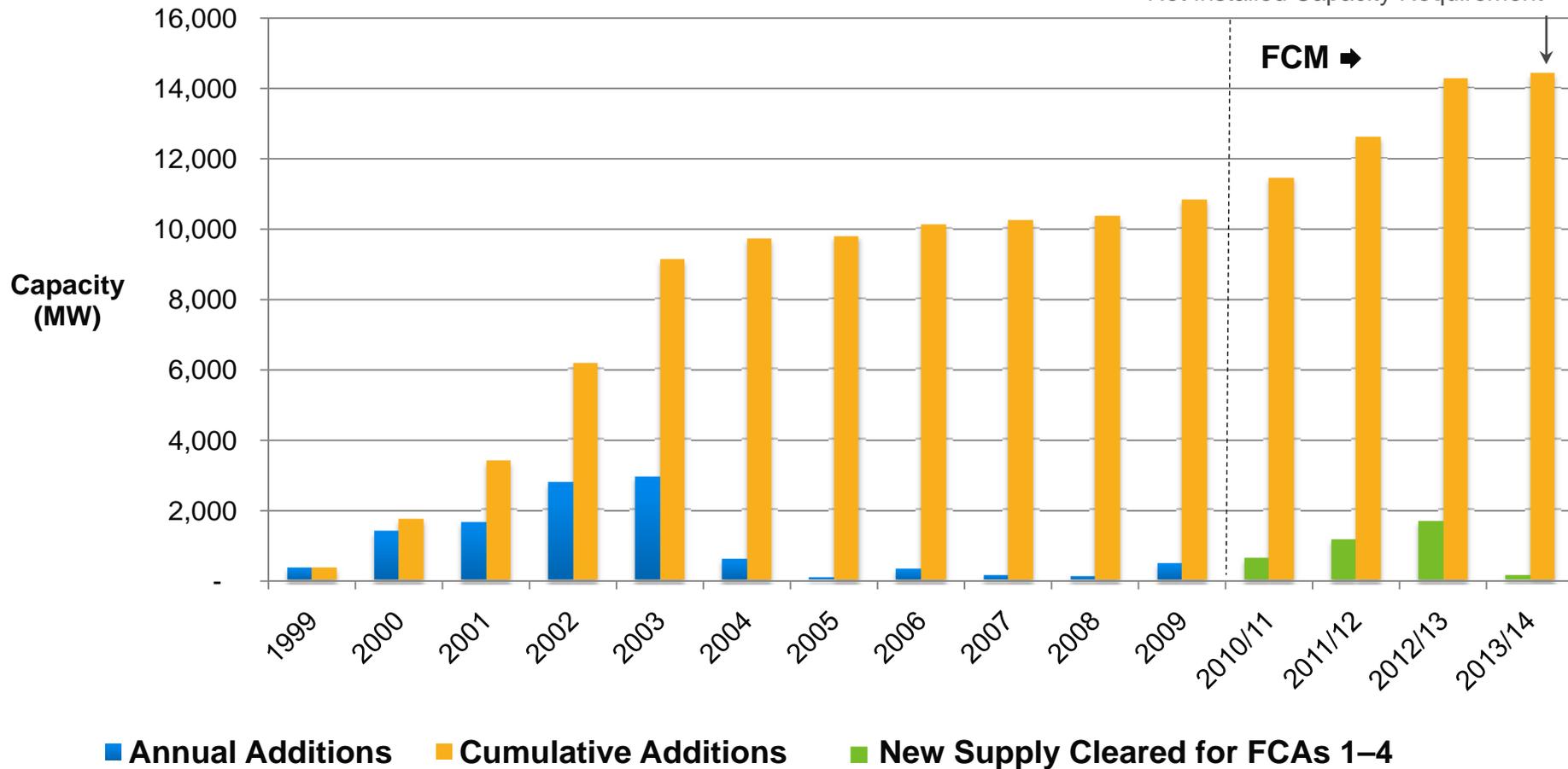
AUCTION <i>Commitment Period</i>	Total Capacity Acquired (MW)	Capacity Required (MW)	Excess Capacity (MW)	New Demand Resources (MW)	New Supply (MW)	Clearing Price (\$/kW-month)
FCA 1 <i>2010-2011</i>	34,077	32,305	1,772	1,188	626	\$4.50* <i>Floor price</i>
FCA 2 <i>2011-2012</i>	37,283	32,528	4,755	448	1,157	\$3.60* <i>Floor price</i>
FCA 3 <i>2012-2013</i>	36,996	31,965	5,031	309	1,670	\$2.95* <i>Floor price</i>
FCA 4 <i>2013-2014</i>	37,501	32,127	5,374	515	144	\$2.95* <i>Floor price</i>

* See ISO auction results filed with FERC for prorated values.

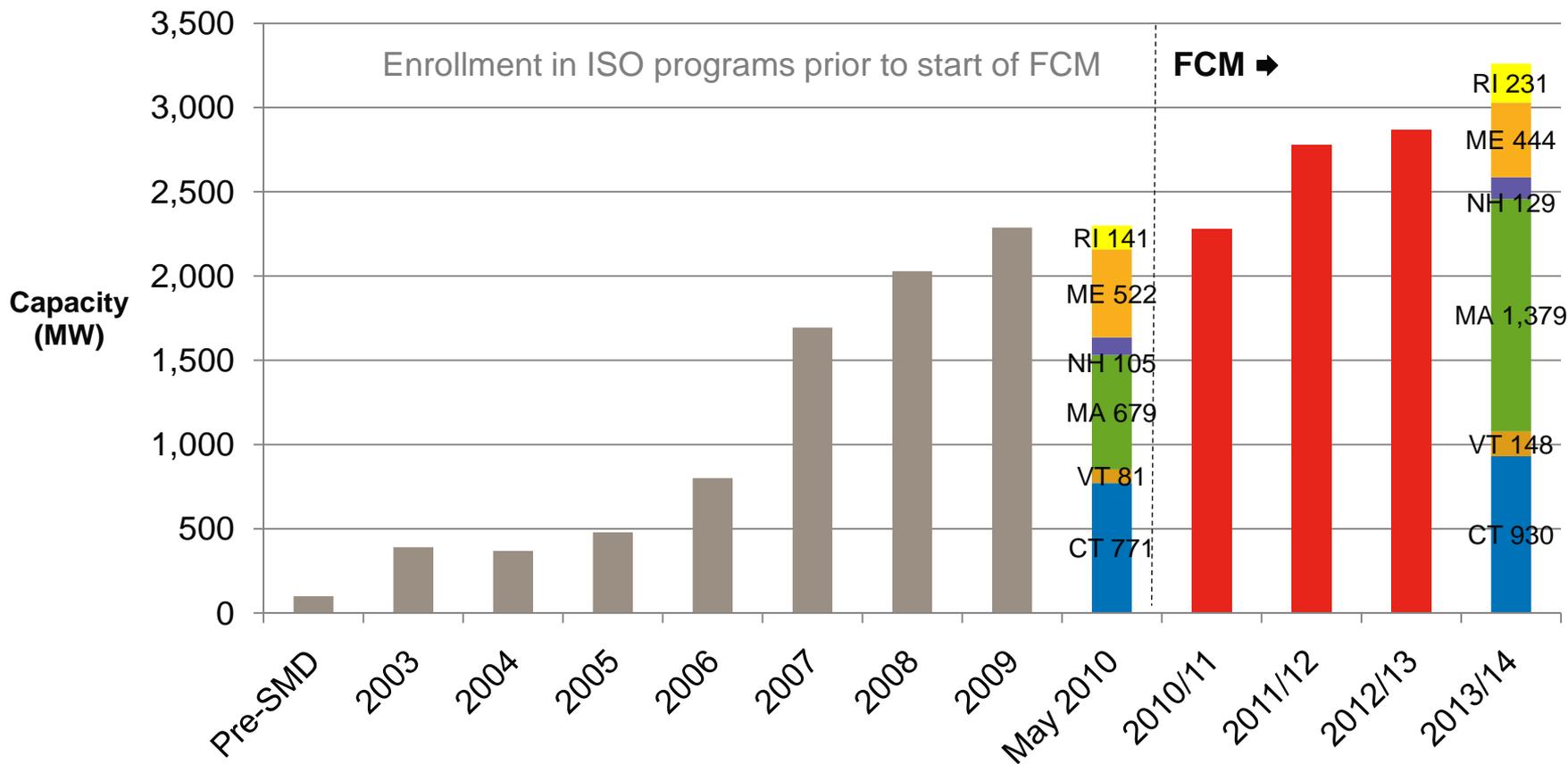
New Generation Additions in New England

10,800 MW added since 1999; plus 3,600 MW committed for 2010-2014

Represents ~45% of the region's
Net Installed Capacity Requirement



Demand Resources Growing in New England



2010/11–2013/14: Total DR cleared in FCAs 1–4 (New and Existing); Real-Time Emergency Generation capped at 600 MW.

Market Monitor Report, FCMWG, Feb '10 Filing

- June 2009 Internal Market Monitor FCM Assessment Report:
 - Concluded FCM met overall objective by procuring capacity for region
 - Provided recommendations for certain improvements to the FCM
- Fall 2009 Forward Capacity Market Working Group (FCMWG)
 - Created at request of state regulators
 - Forum for coordinated and comprehensive discussion of potential FCM changes
 - Produced a Design Basis Document with suggested reforms to FCM
- February 2010 – ISO & NEPOOL jointly filed FCM rule changes
 - This filing included enhancements to the Alternative Price Rule, the definition of OOM and capacity zone modeling
 - Filing emphasized commitment to future stakeholder discussions

April 23 FERC FCM Order

- FERC accepted ISO's February 2010 filing, but on a temporary basis because of concerns about certain provisions
- Ordered a paper hearing to resolve issues
- FERC provided significant guidance in April Order, including:
 - ISO and NEPOOL Joint February filing did not go far enough in enhancing the Alternative Price Rule and zonal modeling
 - The Alternative Price Rule should seek to fully correct for resources that enter the market due (in part) to out-of-market revenue
 - Capacity zones should be modeled whenever possible
- ISO's paper hearing proposal differs from original filing:
 - Crafted to address guidance provided by FERC in April Order

ISO Paper Hearing Proposal

- Alternative Price Rule and Out-of-Market Resources
 - Alternative Price Rule revised to fully correct for out-of-market entry
- Zonal Modeling
 - Model all zones all the time and allow all resources to set price
- Cost of New Entry (CONE)
 - Propose elimination of need for CONE in most circumstances

A Look to the Future: Areas to Improve

- Resource Comparability
 - More comparable treatment of generation, demand resources and imports
- Integrating Forward Capacity and Forward Reserve Markets
- Integrating Unit-Operating Characteristics into Market
 - Many new resources are not dispatchable (e.g. wind and solar)
 - Some resources have limited run hours (e.g. real-time demand resources)
 - Can't operate system with only these sorts of resources
- Making Market More User-Friendly
 - Less bureaucratic, fewer deadlines, easier transactions

Lessons Learned and Observations

- Over the past few years the debate over the capacity market in New England has evolved from why a market is necessary, to how to make incremental improvements to FCM
- Although regional stakeholders may disagree about potential FCM modifications, there is a general acceptance that the market can be improved as region gains greater experience
- ISO remains committed to working with the stakeholders and FERC to learn from our FCM experiences and make market rule improvements as necessary and appropriate