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Transition to FERC Order 1000 Planning in New England

2016 NECPUC Symposium

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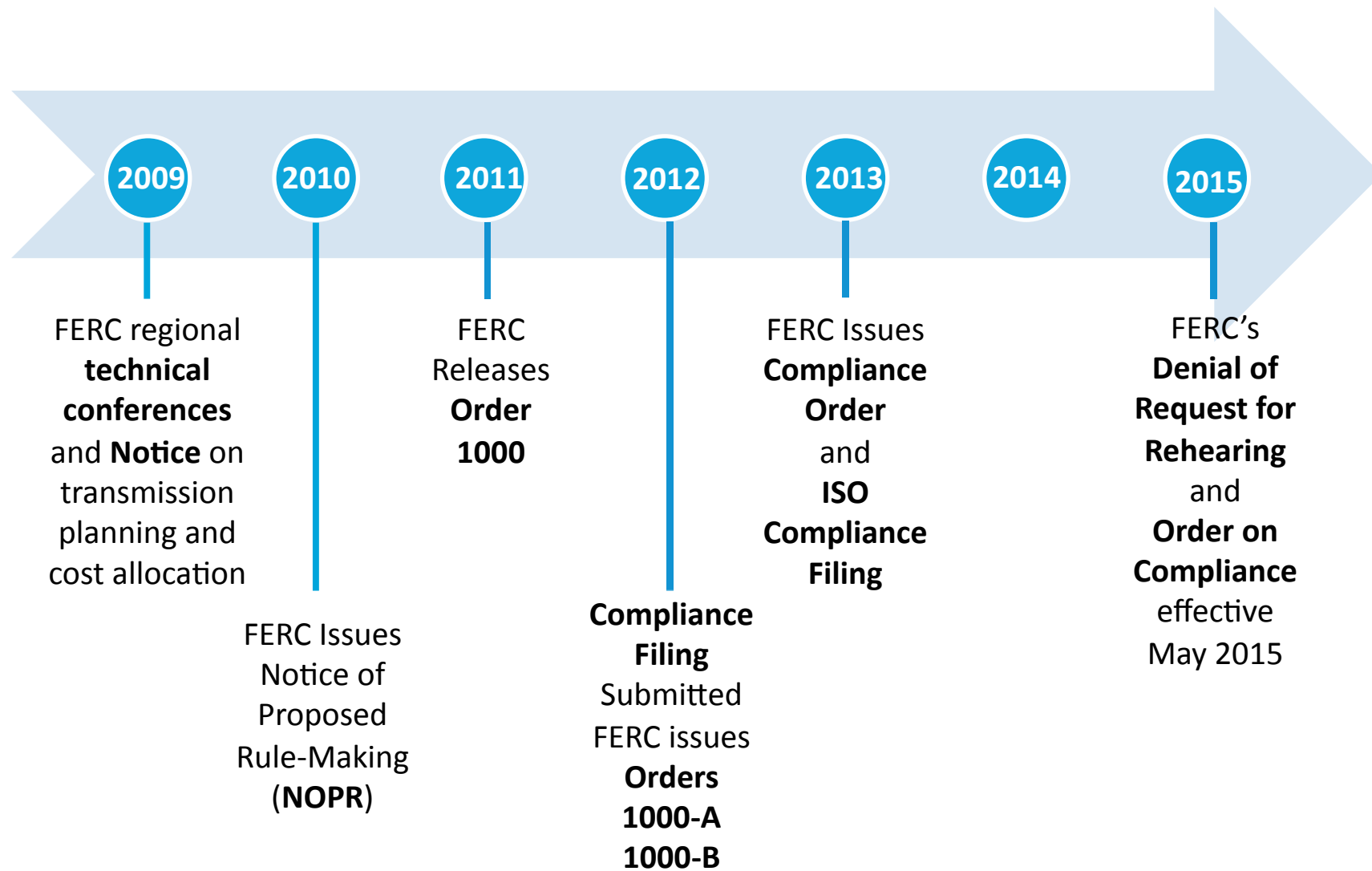


A Lengthy Process for the Policy to Emerge

- Policy development and approval under FERC Order 1000 took place over a six-year period: **2009 through 2015**
- Over that same time, the New England power system underwent significant change as we developed new long-term forecasts to reflect the impact of state policies

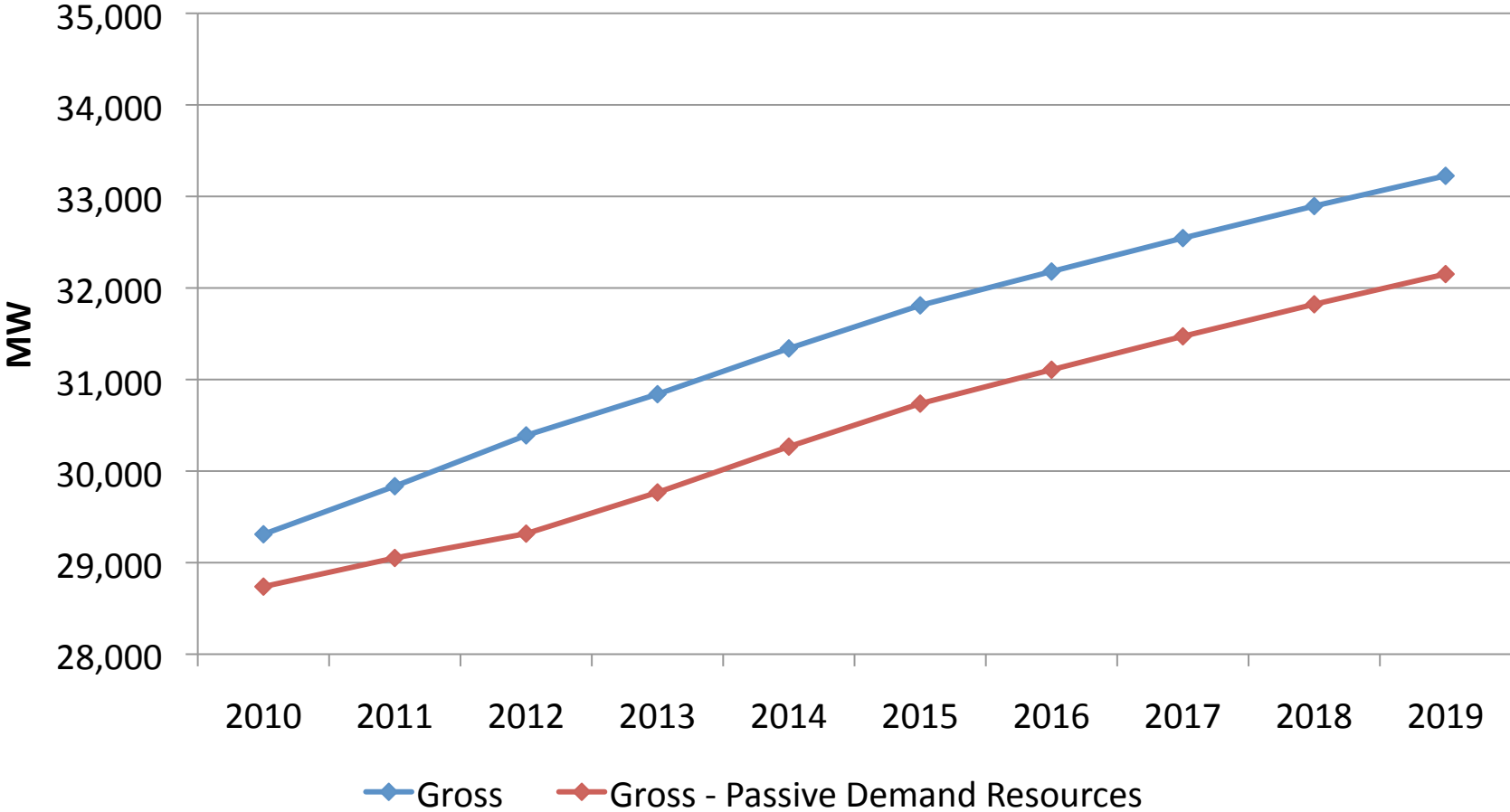


FERC Order 1000 Milestones Span Seven Years



In 2010, We Forecasted Steady Growth in Peak Demand

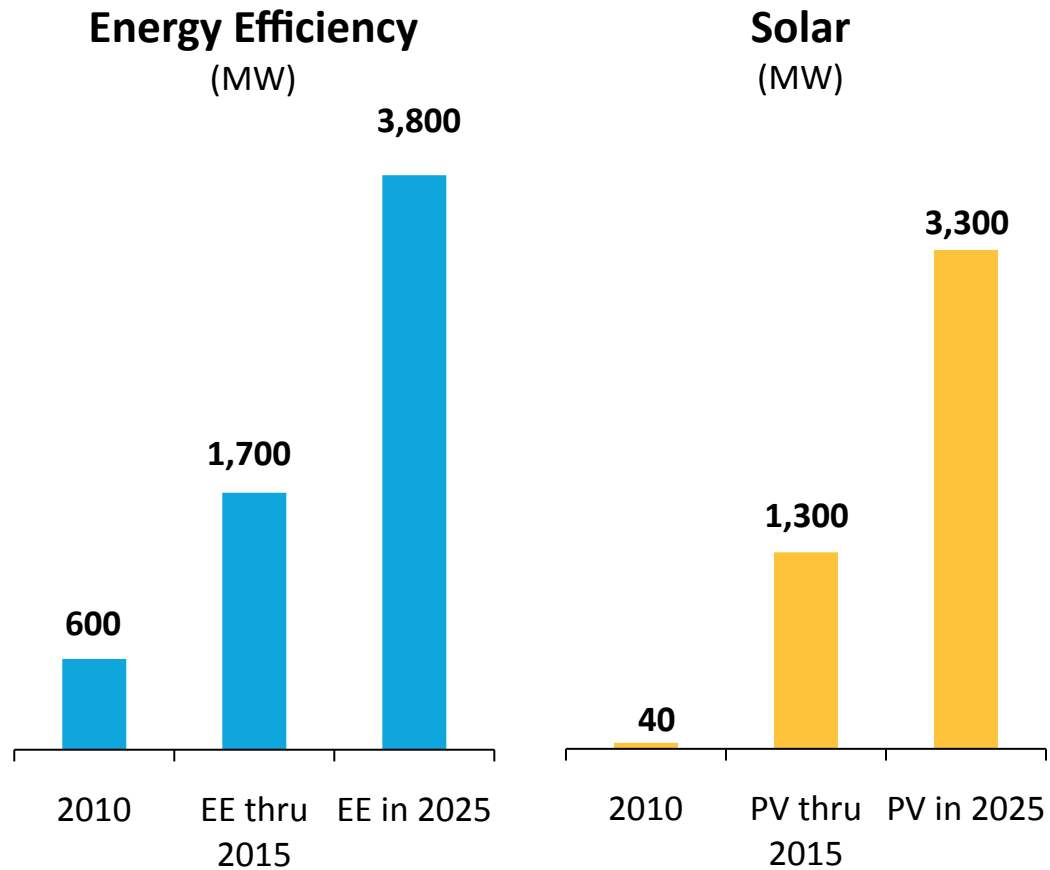
2010 CELT Summer Peak 90/10 Load Forecast



New England Has Been Planning with Public Policy

New England state Energy Efficiency (EE) programs are reducing both seasonal peak demand and annual energy requirements – *initial forecast published in 2012*

Behind-the-Meter solar PV resources are putting downward pressure on both seasonal peak demand and annual energy requirements – *initial forecast published in 2014*



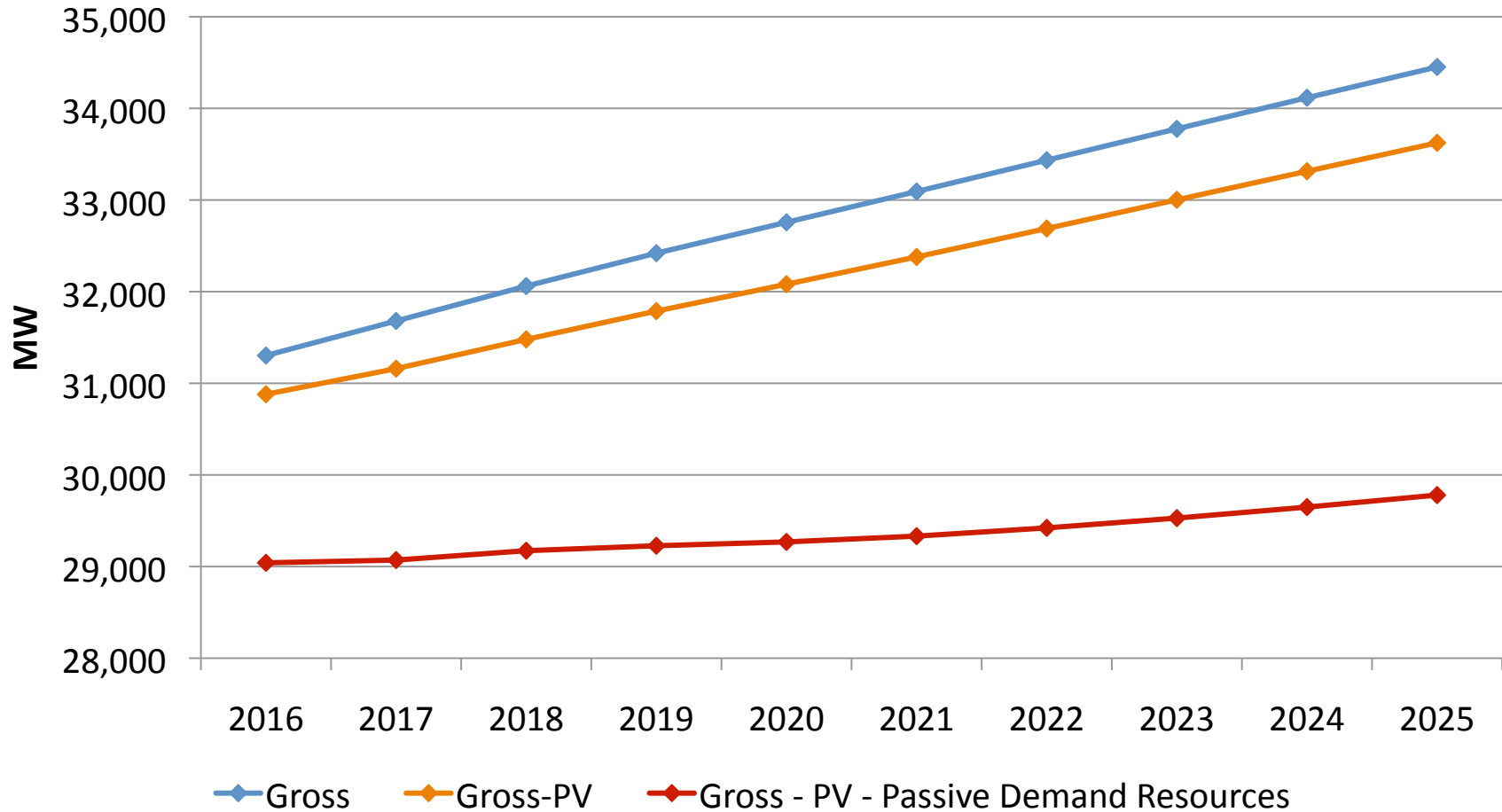
2016 CELT Report, EE through 2015 includes EE resources participating in the Forward Capacity Market (FCM). EE in 2025 includes an ISO-NE forecast of incremental EE beyond the FCM.

Final 2016 ISO-NE PV Forecast, AC nameplate capacity from PV resources participating in the region's wholesale electricity markets, as well as those connected "behind the meter."



Today, Energy Efficiency and Solar Are Key Factors in Reducing Forecasted Peak Demand Growth

2016 CELT Summer Peak 90/10 Load Forecast



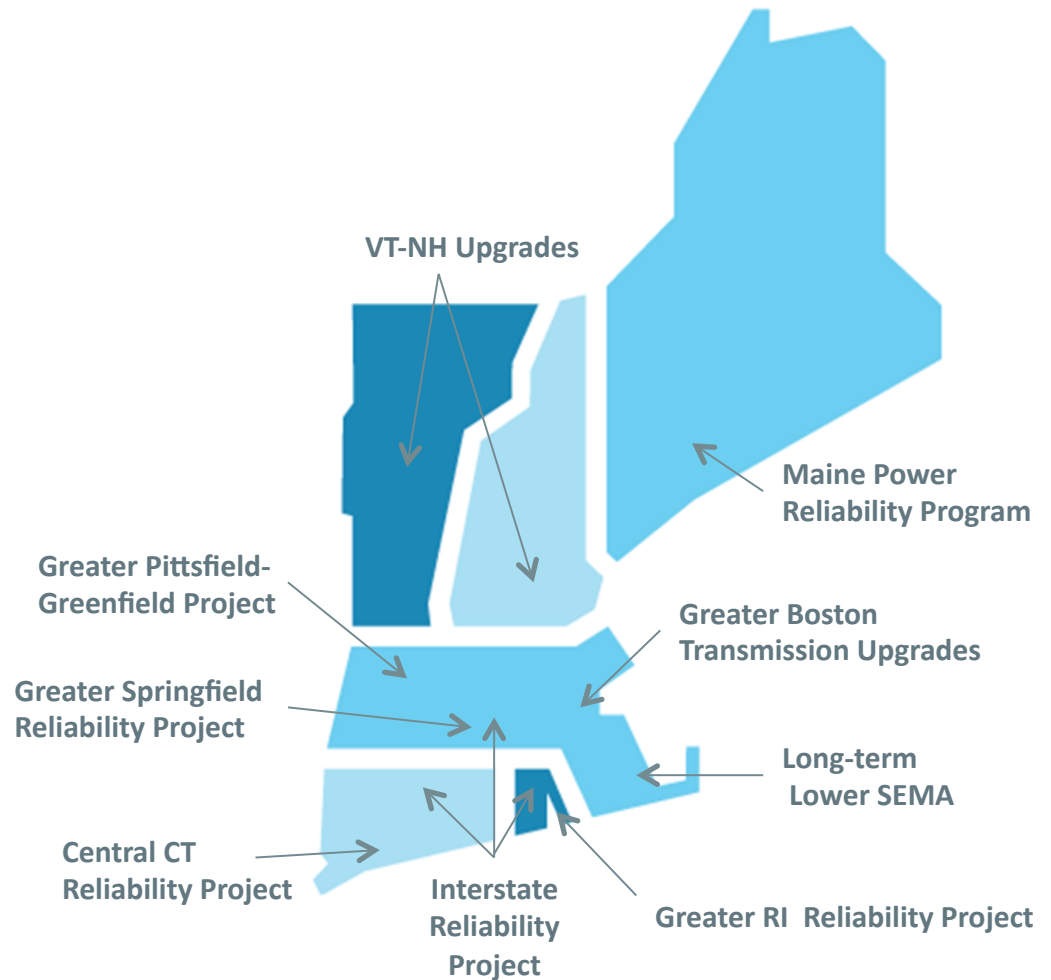
Several Factors Affect the Need for New Projects

- New England state investments in EE and solar PV have flattened the net peak demand load curve, leaving little difference between the seasonal peak for 2016 and 2025
- As a result, most identified reliability needs are either needed immediately or may not be needed across the ten-year planning horizon; the NE States and NEPOOL supported, and FERC has ordered, a process in which any reliability needs within a three-year horizon go to the incumbent Transmission Owner
- Major resource retirements or new, more stringent NERC standards can drive needs in the very short term; Brayton Point and Pilgrim retirements exacerbated system conditions in SEMA/RI
- Forward Capacity Market zonal construct attracts resources to resolve the system need



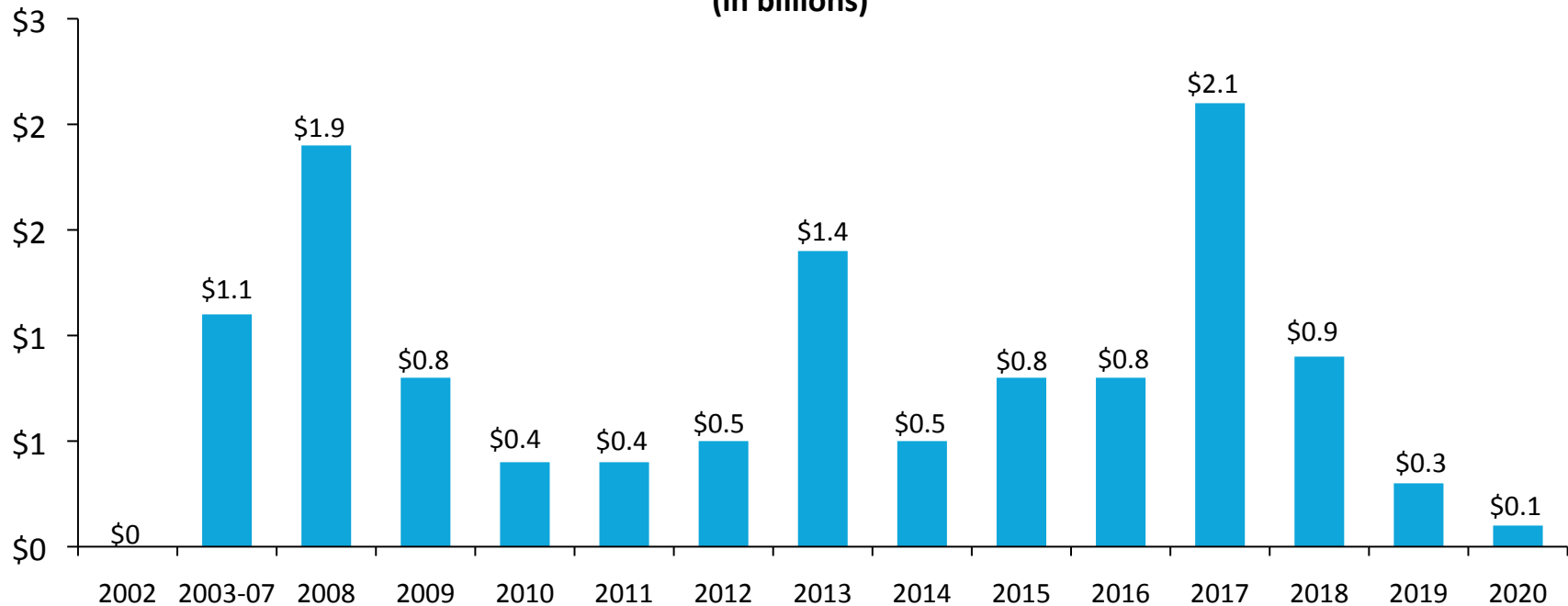
Planning Process Continued to Address Regional Reliability Needs While NERC “Raised the Bar”

- Several major transmission system studies and projects were completed between 2009 and 2015 and are part of the approved Regional System Plan
- NERC has designed standards that “raise the bar” for transmission planning performance by the end of 2016 (TPL-001-4)



Region Has Made Major Investments in Transmission Infrastructure to Ensure a Reliable Electric Grid

Annual Investment in Transmission to Maintain Reliability
(in billions)



Cumulative Investment through March 2016	\$7.86 billion
Estimated Future Investment through 2020	\$4.17 billion

Source: ISO New England RSP Transmission Project Listing, March 2016
Estimated future investment includes projects under construction, planned and proposed



Order 1000 Implementation Activities

- Several companies have applied to be Qualified Transmission Project Sponsors
- Updates to the ISO Planning Guides have been discussed with stakeholders and will continue to be updated, as necessary
- Software vendor has been selected to support receipt and processing of responses to RFPs
- Process for “Planning for Public Policy” to be initiated in 2017
- ISO staff continues to work with other ISO’s to share experiences with Order 1000 implementation
- ISO hopes to participate in the upcoming FERC Technical Conference on Order 1000

