



Winter Reliability Program Updated

Restructuring Roundtable

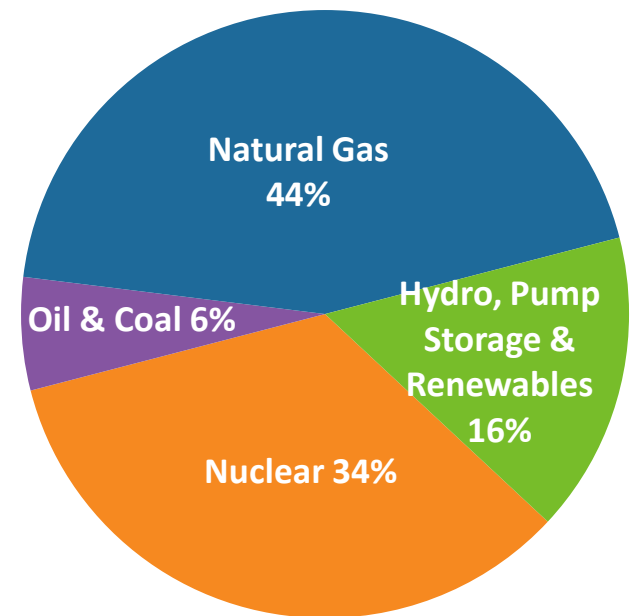
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PRINCIPAL, MARKET DEVELOPMENT



For More than a Decade, the ISO Has Identified Winter Reliability Challenges

- Region is increasingly reliant on resources with **uncertain performance and availability**
- Natural gas resources **lack firm gas transportation or fuel storage** and rely on “just-in-time” fuel
- More than 8,000 MW of non-gas-fired generation have been identified as being “**at risk**” for retirement
- From 2007-2012, region experienced **increased forced outages** (specifically fossil-steam units) and **poor fleet response** during stressed system conditions



Regional Electric Energy
Production by Fuel Type (2014)



Winter Programs Are Needed Until Long-term Market Solutions Are in Effect

- **Generator availability and performance during the winter of 2012/13** underscored shortcomings in the current capacity market design
- **Winter programs were created** for 2013/14 and 2014/15
- In early 2014, the ISO filed the **Pay-for-Performance (PFP)** capacity market design which ties capacity payments to resources' performance during stressed system conditions
- PFP is a **comprehensive, long-term, market-based solution** to improve resource availability and performance during stressed system conditions
- Additional **winter programs are needed** in the interim because PFP changes won't be in effect until June 2018



Past Two Winter Programs Provided a Stop-Gap Solution

- Programs **strengthen fuel adequacy** when pipelines are constrained and generators have difficulty replenishing oil supplies in the middle of winter
- Programs improved winter fuel assurance by creating **an incentive for generators to secure fuel arrangements** going into the winter while offsetting the risk of carrying unused fuel
 - 2013/14 program included a prepayment for oil procurement
 - 2014/15 program included a payment for unused inventory
- Resource **solutions expanded** over past two winters

Winter 2013/14	Winter 2014/15
Oil Demand Response	Oil LNG Demand Response

2013/14 Winter Reliability Program

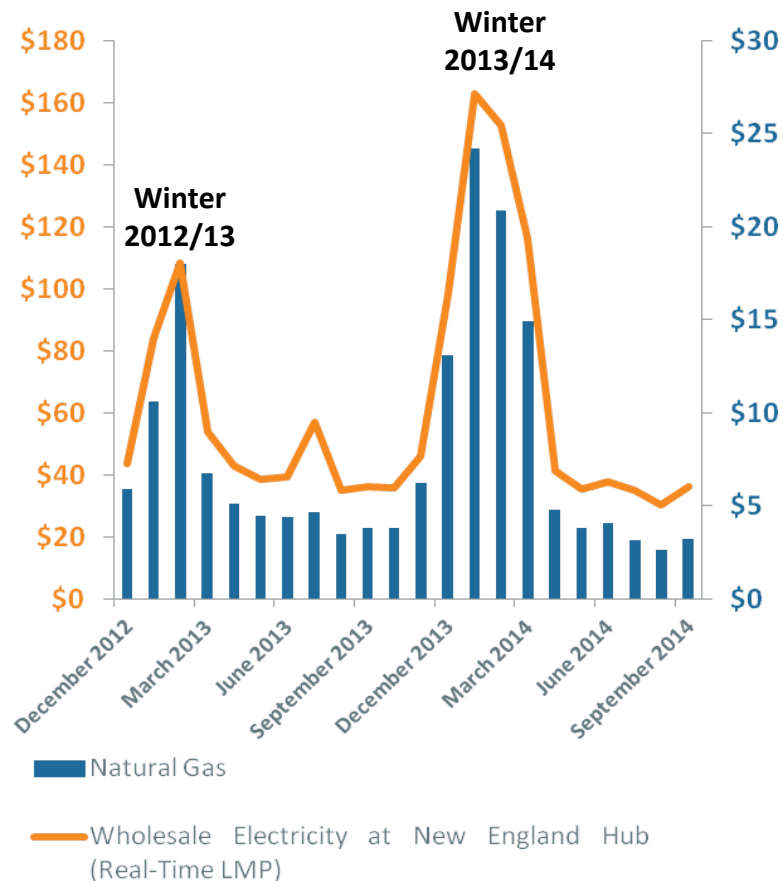
- Region experienced historically cold weather (**polar vortex**)
- High natural gas demand combined with pipeline constraints resulted in sustained high natural gas prices
- ISO frequently operated system with **little or no gas-fired generation** and in some cases oil-fired generators were economic
- **2.7 million barrels of oil** were burned
- Cost to the region was approximately **\$65 million** (<2% of wholesale costs)
- Program helped **ensure reliability**

*For winter 2013/14
the wholesale cost
of electricity totaled
about **\$5 billion** in
New England*



2014/15 Winter Reliability Program

Monthly Avg. Wholesale Electricity \$/MWh
and Natural Gas Prices \$/MMBtu



- High energy prices during the 2013/14 winter **attracted LNG** to the region this past winter
- Increased LNG injections (that were not part of the winter program) helped **supplement constrained pipeline supply from the west**
- **2.7 million barrels of oil** were burned
- Cost to the region was approximately **\$45 million**
- Program helped **ensure reliability**

FERC Has Articulated Market Design Objectives

- In early winter program orders, FERC highlighted objectives for overall market design as well as the various winter programs:
 - Market-based
 - Out-of-market only in limited circumstances
 - Fuel neutral
 - Long-term
 - Product of stakeholder participation



NEPOOL and ISO Developed Alternative Proposals for Future Winter Program

- FERC, in its order approving the 2014/15 winter program, stated future programs should be a **market-based solution**
- On **July 15, 2015**, the ISO and NEPOOL submitted two alternative sets of market rule changes to establish a winter reliability program for the next three winters
 - Procedurally, when NEPOOL achieves at least a 60% vote on an alternative to an ISO rule change, a **“jump-ball”** scenario occurs and FERC may choose to adopt either proposal or a combination of the proposals
- Both proposals were intended to address **regional winter reliability challenges** created by New England’s increased reliance on natural gas-fired generation



There Are Similarities Between the Proposals

- **NEPOOL's proposal** was based on the design of last winter's (2014/15) program, which provided compensation for:
 1. Carrying costs of fuel oil that was unused at the end of the winter;
 2. Unused liquefied natural gas contract volumes; and
 3. Supplemental demand response
- The **ISO's proposal** shared the first two design features of NEPOOL's proposal, but also provided compensation for any generator that is supplied by on-site fuel
 - Any assets that are **supplied by on-site fuel** could participate, including, for example, nuclear units (fueled by uranium), coal-fired units, biomass resources, and units fueled by water, including pumped storage facilities



ISO's Proposal Would Have Made More Resources Eligible to Participate than NEPOOL's Proposal

	ISO Proposal	NEPOOL Proposal
Oil		
LNG		
Demand Response		
Nuclear		
Hydro		
Biomass		
Coal		

Payment rate under both proposal is the same based on oil rate determined each July

Order and Implications

- FERC's September 11 Order conditionally accepted the NEPOOL proposal finding it “**just and reasonable and preferable**” to the ISO proposal
- The added cost of expanding last year's program and stakeholder support for continuing with a similar program were factors in FERC's decision
- Order directs ISO to submit a **compliance filing by October 26, 2015**, to include the same program compensation formula used in last year's program to calculate the annual payment rate for the next three winters



Deadline for Winter Program Resource Participation Request Forms is Coming Soon

- Request to Participate forms are available at:
www.iso-ne.com/participate/support/forms
- Forms must be submitted by October 1, 2015,
to ISO New England Customer Support at
custserv@iso-ne.com

