



NEPOOL is THE stakeholder voting
organization on all matters relating to
the competitive wholesale market
rules and transmission tariff
design in

New England.

NEPOOL is THE forum for exploring and balancing the needs

and desires of all stakeholders of the electric industry in the region.

### **OUR MISSION:**

NEPOOL's mission is to create and sustain open, non-discriminatory, competitive, unbundled markets for energy, capacity and ancillary services that are balanced between buyers and sellers.

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<sup>\*</sup>Statistical and other information relied upon or referenced in this report has been supplied by Participants and, except as referenced elsewhere in this report, derived from NEPOOL records and from ISO-NE web pages, reports and presentations.

<sup>\*</sup>For further information on photographs, and list of acronyms and abbreviations, that appear in this report, please see the NEPOOL website at http://www.nepool.com/annual\_reports.php.

# Chairman's Message



It has been my privilege for the past three years to lead the New England Power Pool - THE stakeholder organization to address all matters relating to New England's wholesale electricity markets. NEPOOL's success depends on every member having the opportunity to have their issues and concerns be heard and understood as part of our stakeholder process. The needs of our members must inform our agendas and our efforts. The NEPOOL stakeholder process succeeds as the forum to educate and to inform in an atmosphere of mutual respect. I promised when you elected me as your Chair to ensure NEPOOL fulfilled these critically important roles and hope you agree that we have succeeded together in realizing that promise over the last three years.

Among our successes, we instituted a new NEPOOL stakeholder effort to better coordinate and enhance the business planning of market design projects and to better complement the ISO-NE budgeting process. Through Sector-by-Sector outreach, our members raised with one another their highest priority concerns for enhancements to our markets, and in the best NEPOOL fashion, we came together and developed a common set of priorities that informed ISO-NE as it allocated resources in its subsequent budgets and work plans. Using NEPOOL, with its six governance sectors and broad industry perspectives, to determine and help create our path forward.

A component of those NEPOOL priorities was to better understand the impact of the New England States' public policy objectives on the industry across New England. This year, NEPOOL convened a working group with ISO-NE and NESCOE to create the modeling assumptions for a first ever request by NEPOOL to ISO-NE under an Attachment K economic analysis. And this effort was done in concert with NESCOE who commissioned its own independent study to model earlier work on Renewable and Clean Energy Scenarios and their Mechanisms 2.0 Study. The goal for NEPOOL and its industry stakeholders is to better understand the challenges we will face as we plan for and consider the future of our industry in New England. Using NEPOOL, with its proven time-tested process, to provide the forum for developing a common understanding of the political and policy impacts facing our industry.

Most recently, NEPOOL opened a regional conversation on how best to integrate and accommodate individual and joint state actions and mandates to meet their individual energy policies. Known as IMAPP, Integrating Markets and Public Policy, NEPOOL has led the discussion regionally and nationally on both the need and the mechanisms to evolve markets yet again. With the commitment of ISO-NE and the support of the New England States, we have developed a set of competitive wholesale market rules that are at the leading edge of fully functioning, highly efficient competitive electricity markets. But our markets were designed to be as fuel neutral as possible, and to find the most economically efficient set of resources to meet the reliability objectives of the region. They were not designed to drive renewable resource investments or transition the fleet to low carbon resources, which is the want of

### Chairman's Message

the New England States' energy policies. How best to support these new public policies while holding true to our mission is the challenge before us today. Using NEPOOL, the region seeks to find the balance among physics, economics and politics in order to solve New England's energy puzzle.

From the late 19th century debate of AC verses DC, to the cutthroat competition that lead to the Public Utility Holding Company Act of 1935, to the Public Utility Regulatory Policy Act of 1978, to the restructuring of the industry at the turn of the 21st century, our industry

has long been a puzzle to be solved. Although NEPOOL is now in its forty-fifth year, its functions and focus have evolved to meet the needs of its membership and the stakeholders it serves. The eleven vertically integrated utilities of 1971 focused on centralized transmission planning and economic dispatch of generation to drive efficiency of the fleet. Today, our more than 450 members rely on a suite of competitive wholesale electricity markets to serve the needs of the New England consumers even more efficiently. And now, public policy is driving yet another evolution of the industry. To be sure, there are many pieces to this puzzle and many players moving those pieces – NEPOOL members, FERC, ISO-NE, the six New England States acting both individually and by and through NESCOE and NECPUC, as well as other regional stakeholders.

NEPOOL's successes are because we all work together. NEPOOL successes depend on the incredible support of the team at Day Pitney, the advice and counsel of fellow NEPOOL Officers, the folks at ISO-NE who make running a power system and administering our markets seem routine, the active involvement of our friends at NESCOE and NECPUC, and in each of the six New England States who engage with us and provide their important perspectives, and of course the full engagement and support of the NEPOOL members. With NEPOOL, we have and will continue to accomplish great things working together.

Reflecting on my terms as the NEPOOL Chair, I come away more convinced than ever that our future will be better in the restructured electric industry in New England because of NEPOOL. With its unique stakeholder and governance process, NEPOOL provides THE forum to integrate and balance the needs of all stakeholders, working collaboratively with each other, with ISO-NE and with the States. NEPOOL is committed to competitive wholesale power markets that are balanced between buyers and sellers. NEPOOL understands the importance of addressing challenging issues head on, including the need to consider meaningful solutions to achieve state public policy that are compatible with competitive markets. Holding true to those principles, I am confident that NEPOOL, together with ISO-NE and the States and with the support of the FERC, can and will solve the New England energy puzzle.

Joel S. Gordon

Chairman, NEPOOL Participants Committee

# Integrating Markets and Public Policy (IMAPP) Initiative

Recognizing the evolving goals of state policymakers to move to an electric grid composed mainly of low-emitting carbon resources, NEPOOL is exploring further expansion of its objectives to include harmonizing and integrating the region's reliable and competitive power markets with the state-specific goals of reducing carbon emissions and adding renewable resources over both the short and long terms. With these efforts, NEPOOL is at the leading edge of exploring ways to integrate markets and public policy in New England.

Under the leadership of its Chairman, and with the encouragement of State Officials and ISO-NE, in August NEPOOL initiated a focused stakeholder process, called Integrating Markets and Public Policy (IMAPP), to identify and to explore potential changes to the wholesale power markets that could be implemented to advance state public policy objectives in New England. IMAPP was motivated by a growing concern that the actions of New England's legislatures and regulators to advance their policy objectives through mechanisms outside the competitive markets challenge the ability of those markets to ensure reliability and sustainable competition in the long run. Through IMAPP, NEPOOL has positioned itself nationally at the forefront of trying to work through particularly complex and thorny issues that arise when state public policies and federally regulated competitive wholesale power markets are not adequately aligned.

From the outset, NEPOOL adopted a very aggressive schedule for IMAPP to identify potentially promising market changes that the New England region's policymakers could consider and take into account in their ongoing efforts to advance their policy objectives. Beginning with a kickoff "Solution Ideas Day" in August of this year, six IMAPP meetings were held through November with high attendance and robust engagement at all of them by regional stakeholders and representatives from all six New England states, ISO-NE, and FERC.













(left to right): Robert Scott, Commissioner, NH PUC; Margaret Curran, Chairperson, RI PUC; Matthew Beaton, Secretary, MA OEE; Edward McNamara, Regional Policy Director, VT DPS; Katie Scharf Dykes, Chairperson, CT PURA (\*as of October 2016; former Deputy Commissioner for Energy, CT DEEP); and Patrick Woodcock, Director, ME Governor's Energy Office.

To date, those participating in the NEPOOL IMAPP process have considered and explored potential ways to accomplish state public policies related to clean energy and the environment through New England's wholesale electricity markets. Conceptual proposals have been developed and advanced by numerous stakeholders. Those potential solutions explored in the IMAPP process through November include:

- Carbon Pricing in the Energy Market: Proposal to establish a carbon adder in the energy
  market offers that would increase clearing prices received from resources that do not emit
  carbon and would have carbon-emitting resources returning to consumers the portion of the
  clearing price attributable to their emissions.
- Forward Clean Energy Market (FCEM): Proposal to establish a new forward market that would procure commitments to deliver clean energy in a future period, thereby creating an additional, separate revenue stream for "clean" resources.
- Carbon-Integrated Forward Capacity Market (FCM-C): Proposal to establish a new market in zero emission credits (ZECs) that would be integrated with the current Forward Capacity Market (FCM) so that zero carbon resources would realize a separate revenue stream from ZECs that can be taken into account in their FCM offers.
- **FCM Two-Tiered Pricing Construct:** Proposed pricing mechanism that would clear the FCM at one price for existing and new resources that are not subject to state-sponsored arrangements and a lower price for state-supported resources.
- Clean Power Plant Solicitation: Proposal to support desired financially struggling zerocarbon resources now participating in the competitive markets (primarily nuclear) through a clean power solicitation/RFP process that would provide targeted revenue additions just for those resources and just to support their demonstrated costs to continue operation.

NEPOOL has structured the IMAPP effort with the objective of deciding through an indicative vote which of the proposals it could support advancing to more detailed market design and study. As indicated in the initial proposed stakeholder schedule for IMAPP,

"[t]he form of vote would be formulated with the intent of providing sufficient guidance to the States and ISO-NE that could be used to set a clear path forward." NEPOOL had originally targeted by the end of 2016 to take that vote, but that schedule proved too aggressive and NEPOOL is now working to be in a position for an indicative vote late in the first quarter or in the second quarter of 2017, if possible.

For more information on the IMAPP efforts, including materials on the various conceptual proposals being discussed, please visit the NEPOOL IMAPP webpage at: http://www.nepool.com/IMAPP.php.

"Let me be clear: NEPOOL, not just certain individual members, but NEPOOL as an organization, understands the importance of addressing these issues head on, including the need to consider meaningful solutions to achieve state public policy that are compatible with the competitive markets."

- Joel Gordon (from June 2016 NECPUC Symposium Speech)

# 2016 NEPOOL Economic Study to Inform IMAPP Discussions

Reflecting early on the challenges now being addressed in IMAPP, NEPOOL had identified as one of its key business priorities for 2016-17 a study request for ISO-NE to pursue under its Tariff. The NEPOOL Economic Study request was made under the ISO-NE Tariff provisions for Economic Studies and was the first such request to be made by NEPOOL as an organization. Other requests have been made through individual members. NEPOOL developed consensus among its members for the Economic Study request through several special meetings and drafts of a scenario analysis proposal in the winter and early spring of 2016.

NEPOOL's Economic Study request commissioned ISO-NE to provide the region information, analyses and observations with consideration of the following:

- The potential effects on the ISO-NE markets of implementing public policies in the New England.
- Projected wholesale energy market revenues, and the contribution of those revenues to the fixed costs of generic new generation.
- The total wholesale cost of supplying load.
- Emissions from electric generation in New England.
- System operability.

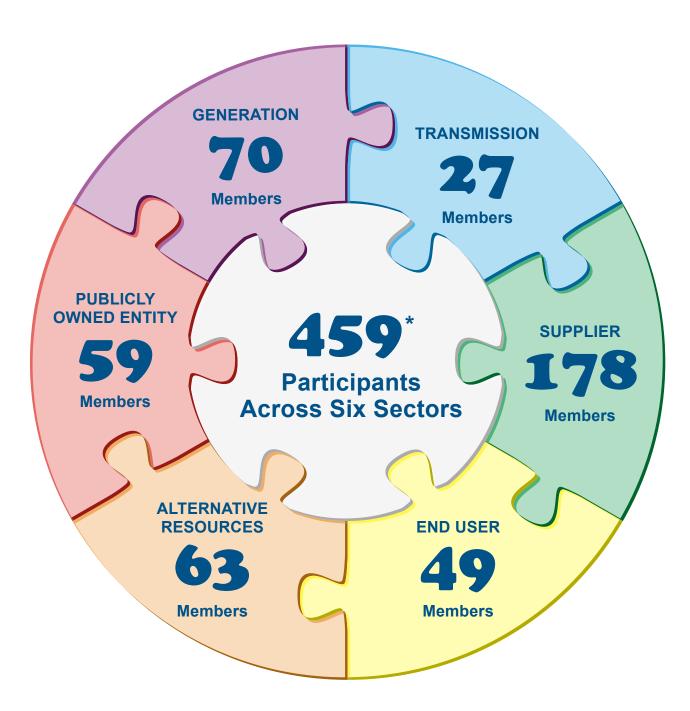
To provide this information, NEPOOL identified five scenarios that covered a range of potential systems, with varying degrees of penetration of renewable/clean energy resources, energy efficiency and energy storage as well as varying levels of conventional generation. Those scenarios included the following:

- Generation fleet meeting existing RPS and retired units replaced with natural gas combined cycle (NGCC) units.
- Generation fleet meeting existing RPS and all future needs, including retirements, met with new renewable/clean energy resources.
- Generation fleet Meeting existing RPS plus additional renewable/clean energy resources (with some modified base assumptions) (the "RPS-plus scenario").
- Generation fleet meeting existing RPS in part through Alternative Compliance Payments with NGCC additions, and with no retirements (the "no retirement scenario").
- Existing fleet meeting existing RPS in part through Alternative Compliance Payments and retirement replacement with NGCC additions.

Energy By Source 2030 (TWh) 180 160 ■Wind PV 140 Oil Generation (TWh) 120 NG 100 ■ Imports ■ Coal 80 ■ Misc 60 ■ Wood 40 Nuc 20 ■ EE/DR ■ Hvdro 2030\_S1 2030\_S2 2030\_S3 2030\_S4 2030\_S5

ISO-NE commenced the requested NEPOOL Economic Study in June and, in the Fall, presented to stakeholders preliminary results that provide useful insights into the effects on the wholesale electric system of implementing certain state public policies under different scenarios. In 2017, ISO-NE will continue and complete the study, with a focus on operability analysis, after further refinement of the study's scope with NEPOOL and the Planning Advisory Committee. NEPOOL intends that the study results will provide stakeholders another tool to use in shaping state public policies and exploring in IMAPP potential changes to the New England wholesale power markets.

# **NEPOOL Membership**



NEPOOL Participants bring a broad and diverse perspective that adds value within our NEPOOL stakeholder process.

<sup>\*</sup> Includes 13 Non-Sector Members. See page 30 of this Annual Report.

### **Generation Sector**



Thomas W. Kaslow Vice-Chair, Generation Sector

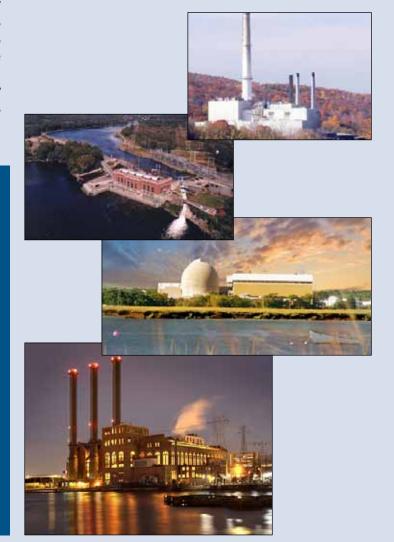
Thomas W. Kaslow serves as a representative of the Generation Sector, whose 70 Participant members own generation facilities operating, authorized to operate or having

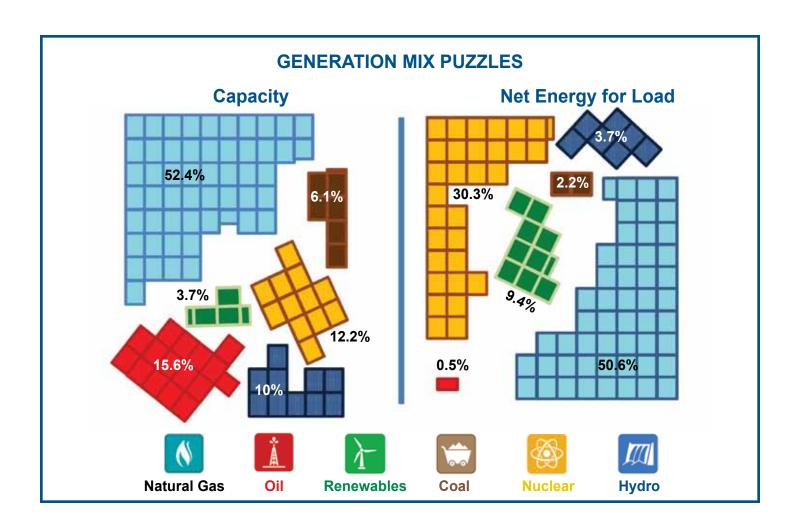
a Capacity Supply Obligation (CSO) in the New England Control Area. Tom is Director of Market Design and Policy for FirstLight Power Resources, Inc. and has previously worked for GDF SUEZ Energy North America, Inc., Sigma Consultants, Calpine Corporation, PG&E National Energy Group, and New England Power Company. Tom has actively participated in the NEPOOL stakeholder process since the late 1990s, serving as a NEPOOL witness for the original competitive markets filing before FERC, and in various leadership roles, including as 2004 Cold Snap Task Force Co-Chair, Review Board Liaison Committee Chairman and Markets Committee Vice-Chair (2010-2012).

- 350 Generators
- Over 31,000 MW in 2016 generating capacity
- Over 11,500 MW of new generation proposed for New England, including nearly 6,500 MW of natural gas fired generation and over 4,000 MW of wind
- 2016 System Weighted Equivalent Availability Factor (through Oct 31) – 89%

#### **ABOUT THE GENERATION SECTOR:**

Generation Sector members must own facilities that generate power, have been approved by ISO-NE to generate power, have environmental air or siting approvals, or have committed as a capacity resource in a New England Forward Capacity Auction. Generation Sector members include independent power producers, exempt wholesale generators, and qualifying cogeneration and small power production facilities. Generation owners with at least 15 MW of New England-based generation are entitled to designate an individual voting member for each of the Principal Committees. Other generators that have not designated an individual voting member are represented through a group seat.





### **GENERATION SECTOR**

Advanced Power Services (NA) Inc. Beacon Falls Energy Park, LLC Berkshire Power Company, LLC Berlin Station, LLC Blackstone Hydro, Inc. Boston Energy Trading and Marketing LLC Bridgewater Power Company, LP Brown Bear II Hydro, Inc.

**Bucksport Generation LLC** Connecticut Jet Power LLC CPV Towantic, LLC

Cricket Valley Energy Center, LLC Dartmouth Power Associates, LP

Devon Power LLC

Dominion Energy Marketing, Inc.

Dominion Nuclear Connecticut, Inc.

EMI Power Systems, LLC EmpireCo Limited Partnership

Energy Management Inc.

Energy Plus Holdings LLC **ENGIE Resources LLC** 

**Entergy Nuclear Power** Marketing LLC

ESI Northeast Energy GP, Inc.

Essential Power Massachusetts. LLC

Essential Power Newington, LLC

Essential Power, LLC

FirstLight Power Resources Management, LLC

Footprint Power Salem Harbor Development LP

FPL Energy Mason LLC

FPL Energy Wyman IV LLC

FPL Energy Wyman LLC

GDF SUEZ Energy Marketing NA, Inc.

GenConn Energy LLC

**Generation Group Member** 

GenOn Energy Management, LLC Green Mountain Energy Company

Indeck Energy-Alexandria, LLC

Independence Energy Group LLC

Invenergy Energy Management LLC Kendall Green Energy LLC

Kleen Energy Systems, LLC Middletown Power LLC

Montville Power LLC

NEPM II, LLC

**New England Confectionery** Company, Inc.

NextEra Energy Maine, Inc.

New Hampshire Transmission, LLC

NextEra Energy Power Marketing, LLC

NextEra Energy Resources, LLC

NextEra Energy Seabrook LLC

Norwalk Power LLC

NRG Canal LLC

NRG Curtailment Solutions, Inc.

NRG Power Marketing, LLC

Pawtucket Power Holding Company LLC

Plainfield Renewable Energy, LLC

Record Hill Wind LLC

ReEnergy Stratton LLC

Reliant Energy Northeast LLC

Rhode Island State Energy Center LP

Somerset Power LLC Springfield Power LLC

Spruce Mountain Wind, LLC

TCPL Power Ltd.

TrailStone Power, LLC

TransCanada Energy Ltd.

TransCanada Power Marketing Ltd.

Verso Maine Energy LLC

Waterbury Generation LLC

Waterside Power, LLC

### **Transmission Sector**



Timothy J. Brennan Vice-Chair, Transmission Sector

Timothy J. Brennan serves as a representative of the Transmission Sector, whose 27 Participant members own PTF and Local Networks in the New England Control

Area. Tim is director of market policy and strategy for National Grid. He has worked for National Grid companies for more than 28 years since graduating from Tufts University with a degree in mechanical engineering. His career has included responsibilities in the areas of power plant engineering, wholesale market trading, energy supply procurement and transmission strategy. For more than 17 years, he has represented National Grid and its customers in the New England stakeholder process, promoting the development and enhancement of competitive wholesale electricity markets and a cost-effective and reliable grid for New England.

- Over 9,000 miles of high voltage transmission lines
- 13 interconnections to New York and Canadian electricity systems
- Over \$8.0 billion in transmission investments since 2002 with over \$4.0 billion of planned future investments
- Over 6 million Transmission Sector customers
- Over 680 project components placed in service since 2002; with over 165 planned, proposed or under construction through 2024

#### **ABOUT THE TRANSMISSION SECTOR:**

A Transmission Sector member must own transmission facilities that are Pool Transmission Facilities (PTF). PTF are transmission facilities rated at 69 kV or above, over which ISO-NE exercises operational control, and that are required to allow energy from significant power sources to move freely on the New England Transmission System. Transmission Sector members cast individual votes if they own PTF with an original capital investment of at least \$30 million.



# Transmission Sector Members and **Service Territories**

AVANGRID

Emera

#### **AVANGRID (UI/CMP):**

Service Territory: Parts of Connecticut, Central and Southern Maine

Customers: 950,000

Transmission Lines: 2,983 miles Distribution Lines: 26,938 miles

#### **EMERA Maine**

Service Territory: Northern Maine

Customers: 158,000

Transmission Lines: 1,265 miles Distribution Lines: 6.068 miles

#### **Eversource Energy**

EVERS=URCE

Service Territory: Parts of Connecticut, Massachusetts and New Hampshire

Customers: 3.1 million electric; 500,000 gas Transmission Lines: 4,339 circuit and cable miles of overhead and underground electric

Distribution Lines: 57,036 pole miles and

conduit bank miles

#### **National Grid**

nationalgrid

Service Territory: Rhode Island and parts of

Massachusetts

Customers: 1.79 million

Transmission Lines: 2,903 Miles Distribution Lines: 24,023 Miles

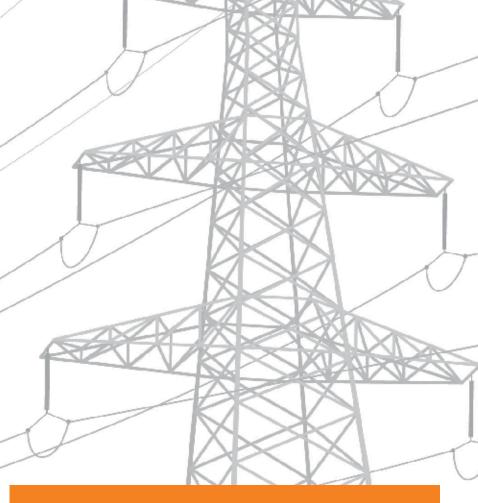
#### **VELCO/VT-Transco**

Service Territory: Vermont

Customers: 362,988

Transmission Lines: 724 miles Distribution Lines: not applicable





### TRANSMISSION SECTOR

Algonquin Energy Services Inc. Avangrid Renewables, LLC

Central Maine Power Company (CMP)

Connecticut Light and Power Company

Emera Energy Services Subsidiary No. 1 LLC New England Power Company

Emera Energy Services Subsidiary No. 3 LLC NSTAR Electric Company

Emera Energy Services Subsidiary No. 4 LLC Public Service Company of New Hampshire

Emera Energy Services Subsidiary No. 8 LLC Vermont Transco LLC

Emera Maine, Inc.

**Eversource Energy Transmission** Ventures, Inc.

Green Mountain Power

Liberty Utilities (Granite State Electric) Corp.

Massachusetts Electric Company

Narragansett Electric Company

Emera Energy Services Subsidiary No. 2 LLC New York State Electric & Gas Corporation

Emera Energy Services Subsidiary No. 5 LLC UIL Distributed Resources, LLC

Emera Energy Services Subsidiary No. 6 LLC United Illuminating Company (UI)

Emera Energy Services Subsidiary No. 7 LLC Vermont Electric Power Company, Inc.

Western Massachusetts Electric Company

## Supplier Sector



Joel S. Gordon Chair, Supplier Sector

Joel S. Gordon is the 2016 Chairman of the Participants Committee and has served as the representative of the Supplier Sector since 2011. Joel is the representative for the

PSEG companies within the NEPOOL stakeholder process and has held similar positions over the past 17 years with other NEPOOL Participants. Before that, Joel was Financial Vice President for independent energy development firms Eco-Gen Technologies and Bio Development Corporation. He began in the industry as a commercial banker with State Street Bank in Boston. As Vice President in the bank's project finance group he focused on lending to alternative energy generation projects, including hydro, waste, wood and gas-fired cogeneration, and also managed the bank's portfolio of gas distribution and water utilities.

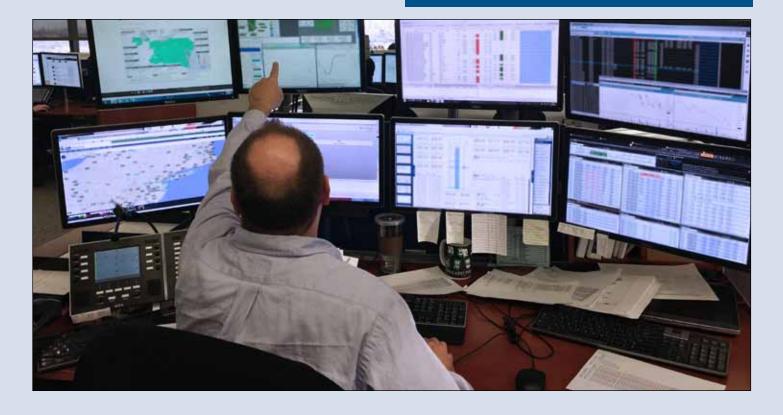
#### **ABOUT THE SUPPLIER SECTOR:**

A Supplier Sector member must be engaged, or be authorized to be engaged, in power marketing, power brokering or load aggregation within New England. Supplier Sector members include brokers, traders (physical and/or financial), load aggregators and distribution-only companies. Some members may qualify for both the Generation and Supplier Sectors but may be a member of only one of those Sectors.

- Average Annual Load-Weighted Wholesale Energy Price (all hours; through Oct 31) – \$34.44/MWh
- Financial Transmission Rights (FTRs) Auctions –

Annual – 23,063 MW awarded Monthly – 353,568 MW awarded

 Cleared Virtual Transactions – more than 4 million MWh



#### SUPPLIER SECTOR

Abest Power & Gas. LLC Aesir Power, LLC Agera Energy LLC Alphataraxia Nickel LLC Ambit Northeast LLC American PowerNet Management, LP AmericaWide Energy, LLC Ampersand Energy Partners LLC Archer Energy, LLC Aspirity Energy, LLC Astral Energy LLC Atlantic Energy MA, LLC Backyard Farms Energy, LLC Backyard Farms LLC BBPC LLC d/b/a Great Eastern Energy Bear Swamp Power Company LLC Black Bear Hydro Partners, LLC BlueRock Energy, Inc. BNP Paribas Energy Trading GP BP Energy Company Brayton Point Energy, LLC Brookfield Energy Marketing Inc. Brookfield Energy Marketing LP **Brookfield Renewable Energy** Marketing US LLC Brookfield White Pine Hydro LLC C.N. Brown Electricity, LLC Calpine Energy Services, LP Canadian Wood Products -Montreal, Inc. Cargill Power Markets, LLC Castleton Commodities Merchant Trading LP Centre Lane Trading Ltd. **Champion Energy Marketing** CHI Power Marketing, Inc. Choice Energy LLC CinCap V, LLC Citigroup Energy Inc. CleanChoice Energy, Inc. Clear Choice Energy, LLC Clearview Electric Inc. Competitive Energy Services, LLC Connecticut Central Energy, LLC Connecticut Gas & Electric, Inc.

Consolidated Edison Co. of

Consolidated Edison Energy, Inc.

New York, Inc.

Consolidated Edison

Development, Inc.

Consolidated Edison Solutions, Inc. Constellation Energy Power Choice, LLC Constellation Energy Services, Inc. Constellation NewEnergy, Inc. Cross-Sound Cable Company, LLC Cumulus Master Fund Darby Energy, LLLP DC Energy, LLC Devonshire Energy LLC **Direct Energy Business** Marketing, LLC Direct Energy Business, LLC Discount Power, Inc. DTE Energy Trading, Inc. **Duke Energy Commercial** Enterprises, Inc. Dynasty Power Inc. Dynegy Marketing and Trade, LLC EDF Energy Services, LLC EDF Trading North America, LLC eKapital Investments LLC Electricity Maine, LLC Electricity NH, LLC Eligo Energy, LLC Engelhart CTP (US) LLC Entrust Energy East, Inc. ETC Endure Energy, L.L.C. **EverPower Commercial** Services LLC Everyday Energy, LLC Exelon Generation Company, LLC Fairpoint Energy, LLC First Point Power, LLC Fitchburg Gas and Electric Light Company Freepoint Commodities LLC Galt Power Inc. GBF Power Inc. Granite Reliable Power, LLC H.Q. Energy Services (U.S.) Inc. Harborside Energy of Massachusetts LLC HIKO Energy, LLC Howard Wind LLC Hudson Energy Services, LLC IDT Energy, Inc. Inertia Power III LP Inspire Energy Holdings, Inc.

Interstate Gas Supply, Inc.

J. Aron & Co.

Macquarie Energy, LLC MAG Energy Solutions, Inc. Major Energy Electric Services Marble River, LLC Massachusetts Gas and Electric, Inc. MATEP LLC Mega Energy Holdings, LLC Mercuria Energy America, Inc. Merrill Lynch Commodities, Inc. Millennium Power Partners, LP Mint Energy, LLC Nalcor Energy Marketing National Gas & Electric, LLC Corporation Noble Americas Energy Solutions LLC Noble Americas Gas & Power Corp Nordic Energy Services, LLC North American Power and Gas. LLC Northern States Power Company Number Nine Wind Farm LLC Oasis Power, LLC d/b/a Oasis Energy Trading, Inc. Ontario Power Generation Inc. Pacific Summit Energy Palmco Power CT, LLC Palmco Power MA, LLC Patriot Partnership LLC Peninsula Power, LLC Perigree Energy, LLC Plant-E Corp. Plymouth Rock Energy, LLC PNE Energy Supply LLC Power Bidding Strategies, LLC Powerex Corp. Provider Power Mass, LLC PSEG Energy Resources & Trade LLC

Just Energy (U.S.) Corp. PSEG New Haven LLC Public Power, LLC Kimberly-Clark Corporation Liberty Power Delaware LLC Rainbow Energy Marketing Corporation Liberty Power Holdings LLC RBC Energy Services LP Linde Energy Services, Inc. REP Energy LLC Long Island Lighting Company d/b/a LIPA Repsol Energy North America Corporation Residents Energy, LLC Rhode Island Generation, LLC Roctop Investments Inc. Royal Bank of Canada Saracen Energy East LLC Saracen Power LLC SFE Energy Connecticut Inc. SFE Energy Massachusetts Inc. Shell Energy North America (US), L.P. Shipley Choice, LLC d/b/a Shipley Energy Morgan Stanley Capital Group, Inc. SmartEnergy Holdings LLC Solea Energy, LLC South Jersey Energy Company New Brunswick Energy Marketing South Jersey Energy ISO1, LLC South Jersey Energy ISO2, LLC Spark Energy, LLC Starion Energy Inc. StatArb Investment, LLC Sunwave USA Holdings Inc. Sustaining Power Solutions LLC Talen Energy Marketing, LLC TEC Energy, Inc. Tenaska Power Services Co. Texas Retail Energy, LLC Ontario Power Generation Energy Titan Gas LLC Town Square Energy, LLC TransAlta Energy Marketing (U.S.) Inc. Twin Eagle Resource Management, LLC Uncia Energy, LP - Series G Union Atlantic Electricity Uniper Global Commodities North America LLC Unitil Energy Systems, Inc. UNITIL Power Corp. Utility Expense Reduction LLC Verde Energy USA, Inc. Viridian Energy, LLC Vitol Inc. Wolverine Holdings, L.P. XOOM Energy, LLC

# Publicly Owned Entity Sector



Brian E. Forshaw Vice-Chair, Publicly Owned Entity Sector

Brian E. Forshaw, who served as the Participants Committee Chairman for 2010 and 2011 and is the longest continually serving Participant Officer, was re-elected to serve

as Vice-Chair of the Participants Committee this past year by the Publicly Owned Entity Sector, whose 59 Participant members are municipalities, agencies or New England public corporations that own electric generation, transmission or distribution facilities. In 2016, Brian retired and founded Energy Market Advisors LLC, an independent consulting firm formed with the goal of making wholesale electric markets work for electric consumers in New England. Energy Market Advisors provides representation, advocacy, strategic assessment, reporting and other services to public power systems throughout New England. Prior to starting Energy Market Advisors, Brian retired from the Connecticut Municipal Electric Energy Cooperative (CMEEC), where he worked for more than 35 years with responsibility for regulatory relations, risk management, long-term resource planning, strategic planning, resource procurement and contract negotiations. In his new consulting role, Brian continues to serve as the voting member for several Publicly Owned Entity Participants on the Participants Committee and other Technical Committees.



#### ABOUT THE PUBLICLY OWNED ENTITY SECTOR:

A New England municipality (or agency thereof) or a public corporation created under the authority of one of the New England states authorized to own, lease and operate electric generation, transmission or distribution facilities must be a member of the Publicly Owned Entity Sector. Members of the Publicly Owned Entity Sector also are electric cooperatives or organizations of Publicly Owned Entities.

#### PUBLICLY OWNED ENTITY SECTOR

Ashburnham Municipal Light Plant Belmont Municipal Light Department Boylston Municipal Light Department

Braintree Electric Light Department

Burlington Electric Department Chester Municipal Electric Light

Department Department

Chicopee Municipal Lighting Plant

Concord Municipal Light Plant

Conn. Materials Innovations and Recycling Authority

Conn. Municipal Electric Energy Cooperative

Conn. Transmission Municipal Electric Energy Cooperative d/b/a The Transmission Authority

Danvers Electric Division

**Energy New England LLC** 

Georgetown Municipal Light Department

Groton Electric Light Department Groveland Electric Light Department Hingham Municipal Lighting Plant

Holden Municipal Light Department Holyoke Gas & Electric Department

Hudson Light and Power Department

Hull Municipal Lighting Plant

Ipswich Municipal Light Department

Littleton (MA) Electric Light Department

Littleton (NH) Water and Light Department

Madison Electric Works

Mansfield Municipal Electric Department

Marblehead Municipal Light Department

Mass. Municipal Wholesale Electric Company

Massachusetts Bay Transportation Authority Massachusetts Development Finance Agency

Massachusetts Port Authority

Merrimac Municipal Light Department

Middleborough Gas and Electric Department

Middleton Municipal Light Department

New Hampshire Electric Cooperative, Inc.

North Attleborough Electric Department Norwood Municipal Light Department

Pascoag Utility District

Paxton Municipal Light Department

Peabody Municipal Light Plant

Princeton Municipal Light Department

Reading Municipal Light Department

Rowley Municipal Lighting Plant

Russell Municipal Light Department

Shrewsbury Electric & Cable Operations

South Hadley Electric Light Department

Sterling Municipal Electric Light Department

Stowe (VT) Electric Department Taunton Municipal Lighting Plant

Templeton Municipal Lighting Plant

University of Massachusetts at Amherst

Vermont Electric Cooperative

Vermont Public Power Supply Authority

Wakefield Municipal Gas and Light Department

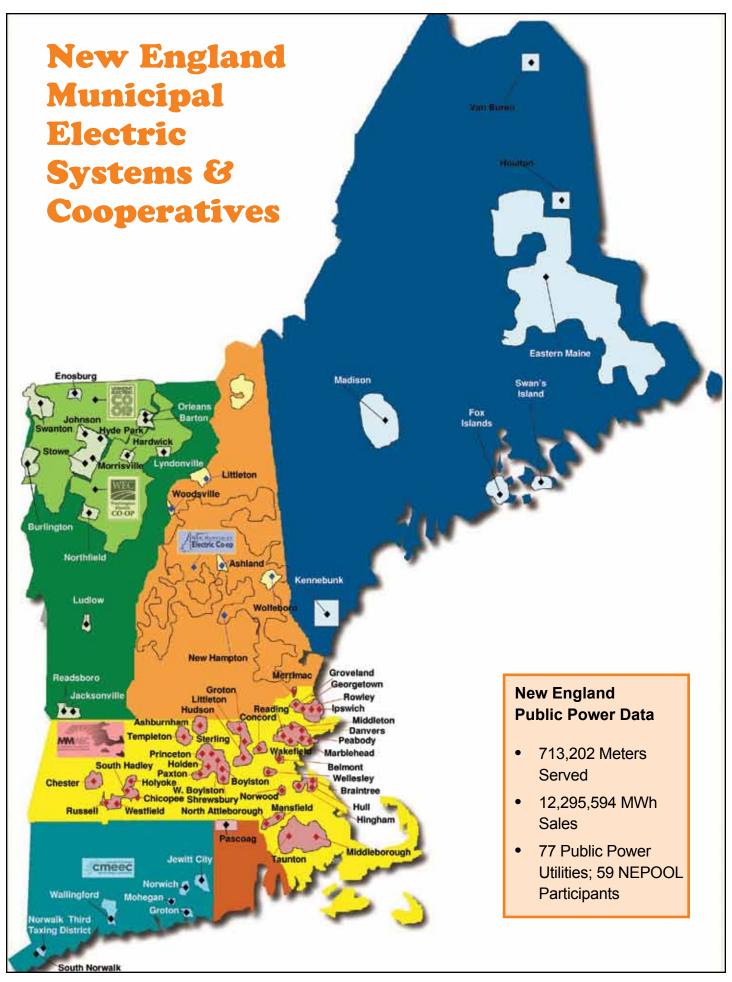
Wallingford, Town of

Wellesley Municipal Light Plant

West Boylston Municipal Lighting Plant

Westfield Gas & Electric Light Department

Wolfeboro Municipal Electric Department



### Alternative Resources Sector



John J. Keene Jr. Vice-Chair, Alternative Resources Sector

John J. Keene Jr. serves as a representative of the Alternative Resources Sector, whose 63 Participant members are Renewable Generation, Distributed Generation, and Demand Response

and Energy Efficiency Providers in the New England Control Area. John is Senior Counsel and Director of ISO Advocacy for SunEdison and is responsible for representing SunEdison's operational and development interests through the NEPOOL stakeholder process and before FERC. Prior to joining First Wind (which was subsequently acquired by SunEdison), John was Director of Regional and Federal Affairs at the Massachusetts Department of Public Utilities (DPU), where he served as the primary legal and policy adviser for that agency on regional and federal matters. John represented the DPU in a variety of regional and federal forums, including the NEPOOL Participants Committee, various ISO-NE/ NEPOOL Technical Committees and working groups, the North American Electric Reliability Corporation (NERC), and in administrative proceedings before FERC and other federal agencies. John is in his second term as the AR Sector's Participants Committee Vice-Chair.



#### ABOUT THE ALTERNATIVE RESOURCES SECTOR:

An Alternative Resources Sector member must be a provider of renewable generation, distributed generation, demand response, or energy efficiency. Alternative Resource members with at least 5 MW of resources located within New England may designate an individual voting member within the Renewable Generation, Distributed Generation or Load Response Sub-Sectors, as appropriate. Other members are entitled to participate through group seats within those Sub-Sectors.

### **Today's Landscape:**

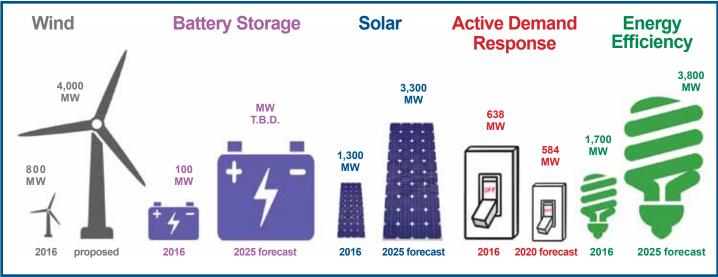
- 9,358,000 MWh Annual Energy produced by Renewables
- 1,300 MW of solar PV
- 800 MW of wind
- 1,700 MW of energy efficiency with capacity supply obligations
- Over 600 MW of active demand response

### **Future Outlook:**

- Over 4,000 MW wind (in ISO-NE generator interconnection queue)
- 3,800 MW energy efficiency/passive demand resources (2025)
- 3,300 MW solar (2025)







### **ALTERNATIVE RESOURCES SECTOR**

DFC ERG CT, LLC

Energy Federation Inc.

Acushnet Company
Ameresco CT LLC
Anthony, Christopher M.
Antrim Wind Energy LLC
Athens Energy LLC
Bloom Energy Corporation
Blue Sky East, LLC
Blue Sky West, LLC
Canandaigua Power Partners, LLC
CLEAResult Consulting Inc.
CommonWealth Resource

CommonWealth Resource
Management Corporation
Convergent Energy and Power LLC
Covanta Energy Marketing, LLC
Covanta Haverhill Associates, LP
Covanta Projects of Wallingford, L.P.
Deepwater Wind Block Island LLC

EnerNOC, Inc. Enerwise Global Technologies, Inc. d/b/a CPower Epico USA, Inc. Evergreen Wind Power II, LLC Evergreen Wind Power III, LLC First Wind Energy Marketing Fisher Road Solar I LLC Gas Recovery Systems, LLC Genbright, LLC Goose River Hydro, Inc. Gravity Renewables Inc. Great Bay Power Marketing, Inc. Green Development, LLC d/b/a Wind Energy Development, LLC Hancock Wind, LLC

Industrial Power Services Corp.
Jericho Power, LLC
LifeEnergy, LLC
Longfellow Wind, LLC
MA Operating Holdings, LLC
Manchester Methane, LLC
Mass Solar 1, LLC
Messalonskee Stream Hydro, LLC
Mid-Maine Waste Action Corporation
New England Energy Connection, LLC
Niagara Wind Power, LLC
Pioneer Hydro Electric Co., Inc.
Power Supply Services, LLC
Putnam Hydropower, Inc.
Rocky Gorge Corporation

Energy Services, Inc.

Seneca Energy II LLC Stetson Holdings, LLC Stetson Wind II, LLC Stored Solar J&WE, LLC Summit Hydropower, Inc. SWEB Development USA, LLC Swift River Trading Company LLC Tangent Energy Solutions, Inc. VCharge Inc. Vermont Energy Investment Corporation Vermont Wind, LLC Wallingford Energy II, LLC Wheelabrator Bridgeport, LP Wheelabrator North Andover, Inc. WM Renewable Energy, LLC

### **End User Sector**



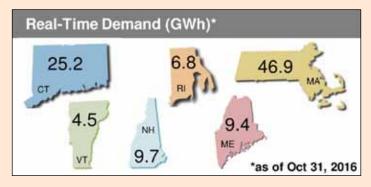
**Donald J. Sipe** *Vice-Chair, End User Sector* 

Donald J. Sipe serves as a representative of the End User Sector, whose 49 Participant members are New England consumers that purchase (and/or generate) electricity

primarily for their own consumption, or nonprofit groups representing such consumers, including New England agencies and municipalities (that are not Publicly Owned Entities). Don is an attorney with Preti Flaherty, which has offices in Portland and Augusta, Maine; Concord, New Hampshire; Boston, Massachusetts; and Washington, D.C. Don represents, among other NEPOOL End User Participants, the Industrial Energy Consumer Group, the first End User Participant in NEPOOL. Prior to becoming a member of Preti Flaherty, Don worked as a staff attorney at the Maine Public Utilities Commission and as a gymnastics coach, a landscaper, a waiter and an epic poet, although not necessarily simultaneously, with equal success or in that order. Don was the first End User Sector Vice-Chair and served as Participants Committee Chairman from 2004 to 2005.

#### ABOUT THE END USER SECTOR:

End User Sector members are New England-based consumers that either purchase or generate electricity primarily for their own consumption. These members principally buy electricity from, but may sell excess into, the New England Markets. Members of the End User Sector also include nonprofit groups and consumer advocates representing New England consumers in the puzzle-solving processes.



- New England Population: 14.7 Million
- Retail Electricity Customers: 7.1 Million
- Total Annual Energy Served in 2016\*: 102,479 GWh

### **END USER SECTOR**

Acadia Center

Associated Industries of Massachusetts

Bath Iron Works Corporation

Longreach Energy, LLC

Cape Light Compact

Connecticut Office of Consumer Counsel

Conservation Law Foundation Elektrisola, Inc.

Fairchild Semiconductor Corp

Fairchild Energy, LLC

Farhad Aminpour

Food City, Inc.

East Avenue Energy, LLC

Garland Manufacturing Company

Garland Power Company

Green Berkshires

Hammond Lumber Company

Hammond Belgrade Energy LLC

Hampshire Council of Governments

Hanover, NH (Town of)

Harvard Dedicated Energy Limited

Longwood Medical Energy Collaborative, Inc.

High Liner Foods (USA) Incorporated Industrial Energy Consumer Group J. F. Gray & Associates, LLC

Jeffrey A. Jones, P.E.

King Forest Industries, Inc.

Maine Public Advocate Office

Maine Skiing, Inc.

Massachusetts Attorney General's Office

Massachusetts Div. of Capital Asset Management and Maintanence

The Moore Company

Moore Energy LLC

New England Wireless Technologies

New Hampshire Industries

New Hampshire Office of Consumer Advocate

New Shoreham, Rhode Island, Town of

The Order of St. Benedict of NH, d/b/a St. Anselm College

PowerOptions, Inc.

Praxair, Inc.

Shipyard Brewing Co.

Shipyard Energy LLC

The Energy Consortium

The Energy Council of Rhode Island

Union Leader Corporation

Union of Concerned Scientists

University System of New Hampshire

Utility Services LLC

Z-TECH LLC



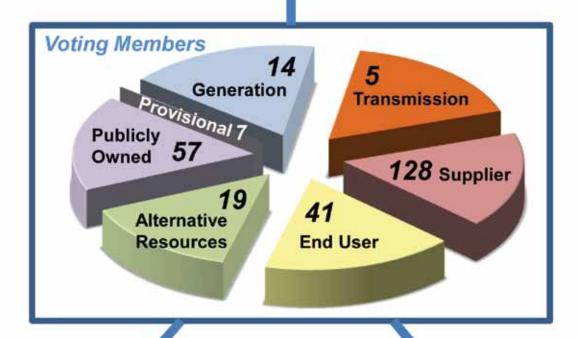
### **NEPOOL Stakeholder Process**



### **Participants Committee**



NEPOOL Chair and five Vice-Chairs
One Officer per Sector



Technical Committees
ISO Chairs
NEPOOL Vice-Chairs

Markets Committee

Reliability Committee

Transmission Committee



### **NEPOOL Stakeholder Process**

**Participants Agreement** 

MOU



NESC()E

Transmission Operating Agreement

> Participating Transmission Owners

New England Conference of Public Utilities Commissioners **Necpuc** 



# Pa

# **Participants Committee**







el S. Gordon David T. Doot Chair NEPOOL Counsel

Cynthia Jacobs NEPOOL Administrator

The Participants Committee is where the pieces that form and refine the design and operation of New England's wholesale power markets and transmission arrangements come together. As NEPOOL's principal governing body, the Participants Committee combines the collective input of NEPOOL's more than 450 members, in close collaboration with the New England states' regulators and policymakers and in concert with ISO-NE as the system operator and markets administrator, to opine on all modifications of Market Rules that enhance wholesale market competition and give shape to New England's energy puzzle, sometimes fashioning rule changes as alternatives to those advanced by ISO-NE.

Every one of the more than 450 members is entitled to participate in this committee's efforts. In addition to voting all proposed changes to the ISO-NE Tariff, manuals, and operating and planning procedures, the Participants Committee also is the body that votes on the annual budgets of the ISO-NE, NESCOE and NEPOOL.

The Participants Committee held 14 days of meetings in 2016, in four of the six New England states. Those 2016 meetings included the Participants Committee

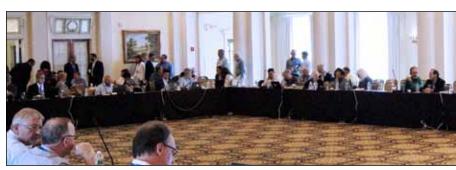
summer meeting at Bretton Woods, New Hampshire, at which the region began to focus its attention on how to fit together New England's competitive wholesale markets with state public policies, ultimately initiating the IMAPP efforts described earlier.

As provided for in the Participants Agreement, the Participants Committee held two separate sets of meetings with members of the ISO-NE Board of Directors as well as separate meetings with the representatives of the New England states and the Federal Energy Regulatory Commission. Grouped generally by business interest and governance Sector for smaller breakout sessions, Participants discussed matters of specific interest to those in each breakout group.

The Participants Committee also votes annually on a slate of nominees for the ISO-NE Board of Directors that is recommended to it by a Joint Nominating Committee composed of ISO-NE, NEPOOL and New England Conference of Public Utility Commissioners representatives. In 2016, the Participants Committee endorsed a slate of candidates composed of Raymond Hill, Barney Rush and Vickie VanZandt, each nominated for an additional term.

The Participants Committee represents NEPOOL's interest in proceedings before federal and state regulators. In 2016, the Participants Committee participated in or actively monitored more than 270 Federal Court and FERC proceedings involving New England matters. Those proceedings are identified on pages 38 to 41 of this Annual Report.







# NEPOOL Committees Year in Review

**PARTICIPANTS** 

Committee

14

**75** 

**Meeting Days** 

Votes



**MARKETS** 

Committee

18

**Meeting Days** 

34

Votes\*



**RELIABILITY** 

Committee

15

**Meeting Days** 

100

Votes\*



**TRANSMISSION** 

Committee

12

**Meeting Days** 

20

Votes\*

\* Votes through December 2, 2016



**BUDGET & FINANCE** 

Subcommittee

**MEMBERSHIP** 

Subcommittee

8

**Meeting Days** 

13

**Meeting Days** 

### **Markets Committee**







Alex Kuznecow Chair ISO-NE-Appointed

William Fowler Vice-Chair Participant-Elected

Sebastian Lombardi NEPOOL Counsel

The NEPOOL Markets Committee is the primary stakeholder forum that informs Market Participants, ISO-NE and all other regional stakeholders on matters relating to the design and operation of New England's wholesale electric markets.

The objective of the Markets Committee is to provide an opportunity for Market Participants collectively to examine and influence all proposed changes to Market Rules so they can be fully understood and discussed; to bring to the forefront and resolve, if possible, concerns identified by any of NEPOOL's more than 450 members operating across all aspects of the wholesale markets. The Markets Committee members bring to the meetings their diverse interests, experiences, and varied perspectives based upon their respective business models and policy goals. Markets Committee discussions reflecting that diversity of interests are essential to ensuring that any final proposals for changes to New England's wholesale power markets are more fully understood from all perspectives, and are crafted in ways that work best for New England.

To accomplish its responsibilities in 2016, the Markets Committee met at least monthly. Through November, the Markets Committee met 14 times over 18 days, discussing and debating each proposal brought to the committee for vote. The committee took 34 votes over the year.

Early this year, the Markets Committee was engaged in robust discussions on how to respond to the FERC's directive that ISO-NE file a sloped zonal demand curve proposal for the upcoming Forward Capacity Auction (FCA11) and beyond. Working closely with state representatives through NESCOE, the Markets Committee successfully identified and approved a comprehensive redesign of demand curves in the FCM that included a mechanism that will permit a stable transition to full implementation of ISO-NE's new methodology for both system-wide and zonal sloped

demand curves. Through diligent, collaborative and comprehensive efforts by Market Participants, state officials and representatives, and ISO-NE, the NEPOOL-approved package of demand curve changes achieved remarkably broad stakeholder support. FERC approved those changes, though they remain subject to rehearing.

This year, as in 2015, the Markets Committee diligently pursued a key NEPOOL business objective, which was to consider and to recommend market reforms that will improve price formation in the energy markets. In 2016, those reforms included proposals to (1) settle energy markets sub-hourly, at the same time interval as energy dispatch intervals, rather than the current hourly real-time settlements and (2) increase the number of resources that are economically dispatchable in Real-Time.

The Markets Committee debated and ultimately supported other market reforms that:

- Establish a revised methodology for calculating the Forward Reserve Heat Rate.
- Enhance FCM rules relating to auction qualification processes, CSO bilateral participation, and Real-Time Energy Market participation by non-capacity resources.
- Allow continued compensation for resources performing dual-fuel audits through dual-fuel auditing fixes in the Net Commitment Period Compensation (NCPC) rules.
- Modify the natural gas index used in the calculation of the Import Capacity Resource offer threshold, Peak Energy Rent strike price and the Forward Reserve Threshold Price.
- Address multiple FERC directives concerning the treatment of new incremental capacity in the FCM.
- Provide a concise, meaningful Information Notification form containing Market Participant Defaults such as Financial Assurance and Billing defaults.
- Support the implementation of (i) the real-time Do Not Exceed dispatch rules for certain wind and hydro resources and (ii) the Subhourly Real-Time Settlement design.

In addition, the Markets Committee is in the midst of considering a package of proposed FCM rule changes to update Cost of New Entry (CONE) and Net CONE values and to recalculate for FCA12 the capacity offer prices at which a market power review by the ISO Market Monitor is triggered.

# Overview of the New England Wholesale Markets

# More than 400 NEPOOL Market Participants \$7.2 Billion in Transactions in 2015

# ENERGY MARKETS – \$5.9 BILLION:

<u>Day-Ahead Energy Market</u> – Market Participants secure prices for electric energy the day before delivery to hedge prices.

<u>Real-Time Energy Market</u> – Price-based dispatch to meet the Real-Time demand for electricity across New England.

<u>Financial Transmission Rights</u> – Provides a hedge against the cost of transmission network congestion.

# CAPACITY MARKET – \$1.1 BILLION:

Forward Capacity Market – Buys resources to meet the future demand for electricity. Auctions are designed to send price signals to attract new investment and maintain existing resources.

# ANCILLARY SERVICES -- NEARLY \$0.2 BILLION:

<u>Regulation Market</u> – Pays resources that increase or decrease output moment-by-moment to balance system frequency.

<u>Real-Time Reserve Pricing</u> – Values resources operating in a ready-to-respond state to preserve system reliability.

Voltage Support System - Tariff-based

mechanism for maintaining voltage control on the system.

<u>Blackstart Program</u> – Pays specific power plants to provide the capability to restart the transmission system following a blackout.

Forward Reserve Market – Procures operable capacity to meet future needs for electric energy within 10 or 30 minutes, allowing the New England system to withstand unexpected outages and other adverse events.

# **Reliability Committee**

As its name implies, the Reliability Committee's primary role is to ensure that the energy puzzle is assembled with the paramount goal of ensuring reliability. The committee studies, reviews and votes on proposed plans to change the region's interconnected transmission system, reliability-related rules, cost allocation for regional transmission upgrades, and Installed Capacity Requirements (ICR) and Capacity Zones for use in the Forward Capacity Market.

The Reliability Committee held 15 meetings in 2016 and received input from its task forces and subcommittees, including the Voltage Task Force, the Stability Task Force, the Transmission Task Force, and the Power Supply Planning Committee. The Reliability Committee provided recommendations for numerous proposed plan applications

to add new resources to or remove resources from New England's bulk power system. It voted to recommend changes to Operating and Planning Procedures, and also voted on ICR-related values, Capacity Zones for the next Forward Capacity Auction (FCA11) and approximately \$1 billion worth of Transmission Cost Allocation applications.

As part of its work for 2016, the Reliability Committee made recommendations from a reliability perspective on broader efforts designed to improve markets and market infrastructure, including review and advisory input on a new proposal for sloped demand curves to be used in the FCM, review of major Elective Transmission Upgrades (including the Northern Pass and the New England Clean Power Link projects), and proposals to better integrate the Order 1000 processes with proposed plan application processes.



Robert de R. Stein (Supplier) Vice-Chair Participant-Elected Reliability Committee



Donald L. Gates Chair (Jan - Sept) ISO-NE-Appointed Reliability Committee Transmission Committee



Chair (Oct - Dec) ISO-NE-Appointed Reliability Committee Transmission Committee



(Transmission)
Vice-Chair
Participant-Elected
Transmission Committee



Eric Runge NEPOOL Counsel



## **Transmission Committee**

The NEPOOL Transmission Committee's work in solving the energy puzzle for the region covers

recommendations and advice for changes to both ISO-NE's general tariff provisions and the Open Access Transmission Tariff (OATT), which are sections I and II of the ISO-NE Tariff, respectively. Over its 12 meetings in 2016, the Transmission Committee reviewed and provided input on FERC-mandated compliance changes to the OATT, including to the OATT provisions relating to reactive power and voltage ride-through capability for asynchronous generators; ISO-NE's recommendations to leave unchanged the Schedule 2 VAR capacity cost compensation provisions; the potential changes to the New England formula rate for recovery of transmission revenues, which are being explored

in confidential settlement discussions at the FERC; additional proposed changes to the transmission revenue requirements formula; Order 1000 implementation; and a Participant proposal to revise the OATT's transmission planning process.

Consistent with one of NEPOOL's 2016-17 business priorities, the Transmission Committee has also been the forum in 2016 for exploring, discussing and providing input relating to ISO-NE's consideration of reforms to the generator interconnection process. The current proposal being discussed is one under which ISO-NE would perform clustered studies and cost allocation for interconnections so that backlogs in the interconnection queue (currently in parts of Maine) can be reduced or eliminated.

### **Budget & Finance Subcommittee**

The NEPOOL Budget & Finance Subcommittee has two primary responsibilities: reviewing and making recommendations on annual budgets for ISO-NE, NESCOE and NEPOOL, and considering and making recommendations on all changes and improvements to the ISO-NE Financial Assurance and Billing Policies.

During 2016, the Budget & Finance Subcommittee considered changes to the ISO-NE Financial Assurance Policy to make the provision of certain financial statements by Market Participants voluntary rather than mandatory, thereby easing the reporting burden for many Market Participants. The Subcommittee also considered and recommended changes to ISO-NE's Financial Assurance Policy and Billing Policy to account for charges related to a new application programming interface (API) for the NEPOOL Generation Information System. The Subcommittee is continuing its consideration of modifications to the Financial Assurance Policy to address netting of flow and counterflow positions in the calculation of financial assurance obligations associated with FTRs. That







Paul Belval NEPOOL Counsel

discussion is in connection with the implementation of the Balance of Planning Period auctions for FTRs. Finally, the Subcommittee continues to review ISO-NE's quarterly filings under its Capital Funding Tariff.

Over several meetings, the Subcommittee fully considered and discussed the 2017 budgets for ISO-NE and NESCOE, ultimately recommending their endorsement by the Participants Committee. The proposed ISO-NE and NESCOE budgets for 2017, as pending before the FERC, are as follows (with the 2016 budgets for comparison):

(\$	\$000's)	2017 (PROPOSED)	2016 (BUDGET)
<b>ISO</b> new england	Operating Budget	\$158,948	\$152,154
<b>ISO</b> new england	Capital Budget	\$28,000	\$27,000
NESCOE	Budget	\$2,258	\$2,200

Most recently, the Subcommittee recommended the following NEPOOL budget for 2017 (with 2016 budget figures included for comparison):

	(\$000's)	2017 (PROPOSED)	2016 (BUDGET)
NEPOOL	Operating Expenses	\$6,060	\$5,984
NEPOOL	Revenue	(\$3,350)	(\$3,351)
NEPOOL	Net Participant Expenses	\$2,710	\$2,633

## **Membership Subcommittee**





The roster of NEPOOL members signed slightly in 2016 (on a net basis) from 2015. This past year,

however, there was considerable turnover of individual members. In 2016 (through November 30), 30 new members joined NEPOOL, while 26 members left.

The Membership Subcommittee, chaired by Publicly Owned Entity representative Michael J. Lynch, is tasked with approving applications for membership in and terminations of membership from NEPOOL. The Subcommittee met 13 times in 2016, considering nearly 50 applications for membership in and 30 terminations of membership from NEPOOL. Nearly 20 applications conditionally approved for membership in 2016 remain pending as of publication of this report. Actions by the Subcommittee and all FERC membership filings are posted on the NEPOOL website at http://nepool.com/Memb\_Subcomm.php. The NEPOOL website also provides instructions for becoming a member, changing a Participant name and terminating a membership.

The change in NEPOOL membership reflects the ongoing evolution of the industry. One-half of the new members joining NEPOOL in 2016 were competitive electric

suppliers and joined the Supplier Sector, growing that largest Sector to nearly 180 members. Four members joined the Alternative Resources Sector. Another four new members joined as Provisional Members, allowing them to engage with all NEPOOL Participants as they worked to qualify for FCA11 or to participate in Order 1000 transmission development efforts. Three new members joined the Generation Sector as a direct result of corporate acquisitions. Three members also joined the End User Sector; one joined as a Data-Only Participant.

Of the members who left NEPOOL in 2016, 80 percent were from the Supplier and Alternative Resources Sectors, with most exiting members winding up their operations within New England. Three of the remaining terminations were from the End User Sector, with one each from the Generation Sector and the Provisional Member Group Seat.

#### **NON-SECTOR MEMBERS**

### PROVISIONAL GROUP MEMBERS

Anbaric Management LLC
Champlain VT, LLC
Lotus Danbury LMS100 One
Lotus Danbury LMS100 Two
Noble Environmental Power
NTE Connecticut, LLC
Nxegen, LLC
Viridity Energy, Inc.

#### **DATA-ONLY PARTICIPANTS**

Cambridge Energy Solutions Energy GPS LLC EnvaPower, Inc. Yes Energy, LLC

**GIS-ONLY PARTICIPANT** SRECTrade, Inc.

### **NEPOOL Audit Management Subcommittee**







Florence Davis NEPOOL Counsel

The NEPOOL Audit M a n a g e m e n t S u b c o m m i t t e e (NAMS) was initially formed in 2003 to provide guidance and input for the triennial performance

audit of ISO-NE permitted pursuant to the Participants Agreement. With NAMS involvement, performance audits have been conducted in 2004, 2007 and 2010-11.

In 2015, based on the recommendation of NAMS, which had reconvened in contemplation of the next performance audit, the NEPOOL Participants Committee retained consultant William "Bill" Dunn to provide input

into certain audit processes based on comments from Participants and to review the ISO-NE audit. NAMS identified a list of audit items, and Mr. Dunn reviewed the results of various ISO-NE audits in 2016.

Mr. Dunn submitted an interim report to the Participants in June 2016 (Interim Report). In the Interim Report, he described his review of various ISO-NE internal and external audit processes, including the 2016 KPMG SOC1 Type 2 engagement, the Control Room Audit, and the NCPC and Hourly Markets reviews. Mr. Dunn concluded his review in fall 2016 and presented a report to NAMS in November. He will conclude his engagement at the end of 2016 with a final report. NAMS will use this information to provide further input into the upcoming ISO-NE audit processes.

### 2016 New NEPOOL Members



Archer Energy, LLC (Supplier)



Solea Energy, LLC (Supplier)

### Bloomenergy

Bloom Energy Corporation (Alternative Resources)



Atlantic Energy MA, LLC (Supplier)



LifeEnergy, LLC (Alternative Resources)



EDF Energy Services, LLC (Supplier)



**ENGIE Resources LLC** (Generation)



Wolverine Holdings, L.P.(Supplier)



Sustaining Power Solutions LLC (Supplier)



Roctop Investments Inc. (Supplier)



FirstLight Power Resources Management, LLC (Generation)



GBE Power Inc. (Supplier)



Energy GPS LLC (Data Only)





Hancock Wind, LLC (Alternative Resources)



Cumulus Master Fund (Supplier)

#### Jeffrey A. Jones, P.E.

Jeffrey A. Jones, P.E. (End User)



National Gas & Electric, LLC (Supplier)

### **EVERS**URCE

Eversource Energy Transmission Ventures, Inc. (Transmission)





Rhode Island State Energy Center, LP (Generation)



Atlantic Energy MA, LLC (Provisional)



Titan Gas, LLC (Supplier)



Aspirity Energy, LLC (Supplier)



Alphataraxia Nickel LLC (Supplier)





Gravity Renewables Inc. (Alternative Resources)



Farhad Aminpour (End User)



King Forest Industries, Inc. (End User)



Cricket Valley Energy Center, LLC (Provisional)



### **GIS Working Groups**

Since 2001, NEPOOL has been the owner of the tracking and trading platform for renewable energy certificates (RECs) that are used in New England to demonstrate compliance with state mandates for generation attributes. Working with state regulators and APX, NEPOOL developed the NEPOOL Generation Information System (GIS), which was one of the first REC trading platforms. Since its development and implementation, the GIS has been operated under contract to NEPOOL by APX.

The GIS creates and manages electronic certificates for every megawatt hour (MWh) of energy production that identifies the fuel source, emissions and other attributes of all the power settled in the ISO-NE market settlement system, as well as attributes for certain behind-the-meter generators and conservation resources that are not settled regionally and certain generators that import power into New England. These certificates are separately bought and traded to provide a separate revenue stream to renewable power generators and a means for the ultimate owners of the certificates to prove that they have satisfied renewable energy requirements imposed by each of the New England states.

The NEPOOL Markets Committee chartered the GIS Operating Rules Working Group with an assigned responsibility for discussing, exploring and recommending changes to the GIS rules. The working group is composed of interested NEPOOL members and representatives from all six New England states.

In 2016, the working group successfully identified and NEPOOL approved revisions to the GIS Operating Rules to provide for a new API that will provide GIS account holders with an alternate means of accessing the GIS. That working group also considered changes to the GIS Operating Rules to provide for generator-specific certificates to be created for generators in non-adjacent control areas (which were ultimately rejected by the Markets Committee) and changes to address the implementation in 2017 of a new Renewable Energy Standard in Vermont.

NEPOOL also formed a new GIS Agreement Working Group to address the scheduled expiration of the GIS Development and Administration Agreement at the end of 2016. That working group decided to allow a one-year extension of that Agreement, and it is considering a range of options for the administration of the GIS after the Agreement's new scheduled termination at the end of 2017.

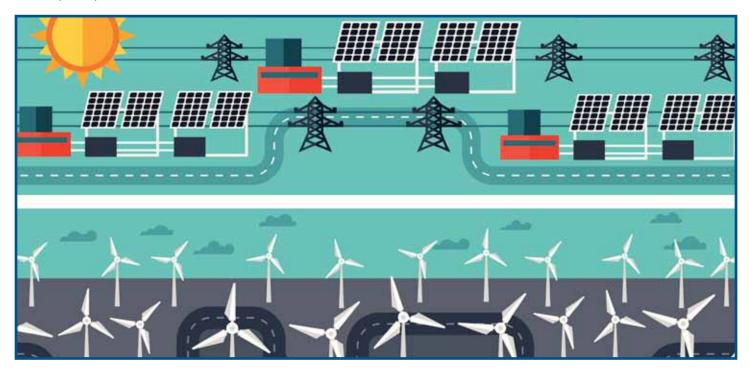
As of October 31, there were 1,712 active accounts in the GIS, with 265 of those accounts added in 2016. Generator registrations number 47,233, with 28,706 of those registrations from new generators joining in 2016. The GIS created and managed 113,266,409 certificates from the third quarter of 2015 through the second quarter of 2016.

### Demand Resources Working Group

The Demand Resources Working Group held eight meetings in 2016 and focused its discussions on a number of demand resource-related issues, including the review process for qualification of demand resources in FCA11, results from and updates on the 2015-16 and 2016-17 Winter Reliability Programs, input regarding price-responsive demand full-integration milestones, and updates on passive asset performance reporting and on the Energy Efficiency Measure (EEM) Database user guide. The Demand Resources Working Group also conducted sessions related to the results of FCA10 for demand resources, performance of demand resources and lessons learned.

### Meter Reader Working Group

The Meter Reader Working Group continued to review and provide input on the subhourly real-time settlement project and the related implementation effort required to develop the systems to report five-minute energy revenue quality meter (RQM) values to ISO-NE.



### Variable Resource Working Group

The Variable Resource Working Group (VRWG) provides a focused forum for the exchange of information and ideas on issues particularly affecting the participation of variable resources (e.g., wind, solar, run-of-river hydro) in the New England Markets. With the growth in both Participant ownership of variable resources and the number of new projects proposed in response to public policy directives, integration of variable resources has become a critical piece of New England's energy puzzle. ISO-NE had previously identified the need to integrate variable renewable resources as one of the five key risks that will impact the region's power system and markets. To ensure regional reliability and reasonable economics with that integration, ISO-NE has also explained that the region must explore enhancements to existing market and planning mechanisms. The VRWG allows members to explore together and with ISO-NE in a focused setting how the implementation of market rules and operating procedures, as well as proposed changes, fits with and impacts specifically the operations and financial performance of variable resources and the system as a whole. That increased understanding is intended to allow for better informed dialogue within the broader NEPOOL stakeholder process.

Membership in the VRWG is open to all NEPOOL Participants, representatives of ISO-NE, New England state representatives and officials, and service providers (e.g. software, equipment, information technology) to variable resources. The VRWG met six times during 2016. At the request of the Markets Committee, the VRWG considered and provided feedback to ISO-NE on possible audit methods to demonstrate commercial operation for FCM financial assurance and reconfiguration auction purposes, and on expanding solar resources' ability to participate in April and May monthly reconfiguration auctions. In addition, the VRWG received updates and discussed planning and operational topics of particular interest and applicability to variable resources, including wind and solar forecasting, qualification and production, and initial results from the implementation of "Do Not Exceed" (DNE) real-time economic dispatch rules for intermittent wind and hydro resources.

# Key New England State

NEPOOL cannot solve the energy puzzle in New England if its members do not know and understand the laws, regulations and policies of each of the six New England states. To that end, NEPOOL updates its members on key legislative developments on a regular basis, including publishing an annual summary of energy legislation passed in each New England state during the 2016 legislative session. The summary was distributed during the Participants Committee summer meeting in New Hampshire, and a final version is available on the NEPOOL website at <a href="http://www.nepool.com/uploads/Legislative\_Update\_20160913.pdf">http://www.nepool.com/uploads/Legislative\_Update\_20160913.pdf</a>.

The most noteworthy new legislation in each state includes the following:



### Connecticut

An Act Concerning the Shared Clean Energy Facility Pilot Program (Public Act No. 16-116) established a financing mechanism for the shared clean energy pilot program, requiring the program to be financed by tariff mechanisms approved by regulators for the state's electric distribution companies (EDCs). The legislation also authorizes

EDCs (1) to purchase power from facilities in the program, (2) to issue billing credits to the facilities' subscribers and (3) to recover their costs for implementing the program. See https://www.cga.ct.gov/2016/act/pa/2016PA-00116-R00HB-05427-PA.htm.

An Act Concerning the Use of Microgrid Grants and Loans for Certain Distributed Energy Generation Projects and Long-term Contracts for Certain Class I Generation Projects (Public Act No. 16-196) expanded the types of projects from which the state's EDCs must purchase renewable energy credits in 2017 to include larger, low-emission generation. The legislation also expanded a microgrid grant and loan program to include matching funds or low-interest loans for energy storage systems or distributed energy generation projects derived from new solar or wind or certain cogeneration or energy conservation resources placed in service after July 1, 2016. See https://www.cga.ct.gov/2016/act/pa/pdf/2016PA-00196-R00SB-00272-PA.pdf.



### Maine

An Act to Allow the Public Utilities Commission to Contract for Liquefied Natural Gas Storage and Distribution (Public Law No. 2016, ch. 445) amended the Maine law to authorize the Maine Public Utilities Commission (MPUC) to sign, or direct the utilities the MPUC regulates to sign, a physical energy storage contract for liquefied natural gas capacity in the state. See https://legislature.maine.gov/legis/bills/getPDF.asp?paper=HP0600&item=3&snum=127.

An Act to Establish a Process for the Procurement of Biomass Resources (Public Law No. 2016, ch. 483) directed the MPUC to initiate a competitive solicitation for up to 80

MW of biomass resources and to direct the utilities it regulates to enter into one or more two-year contracts to procure power from those resources. See https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0689&ite m=9&snum=127.

# **Energy Legislation**





### Massachusetts

An Act to Promote Energy Diversity (Ch. 188, the Acts of 2016) includes requirements for regulated EDCs to enter into long-term power purchase agreements to procure offshore wind and clean energy generation (solar, wind and/or hydropower); adjustments to rules regarding energy storage, alternative energy technologies and small hydropower generation; and creation of a new commercial sustainable energy program. EDCs must enter into long-term contracts before 2023 for clean

energy generation that, across the Commonwealth, would equal or exceed about 9.45 million MWhs and by June 30, 2027, for offshore wind energy totaling approximately 1,600 MW of aggregate nameplate capacity. Initial competitive solicitations must be jointly issued by April 1, 2017 for clean energy projects and by June 30, 2017 for offshore wind projects. Responses to those solicitations will be reviewed by the Department of Energy Resources, and any resulting contracts must first be approved by the Massachusetts Department of Public Utilities. See https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter188.

An Act Relative to Solar Energy (Ch. 75, the Acts of 2016) increased the state's public and private net metering caps by 3 percent. See https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75.

### **New Hampshire**

An Act Relative to Net Metering (Public Act No. 16-0031) raised the cap on New Hampshire's net metering program from 50 MW to 100 MW and directed the New Hampshire Public Utilities Commission to open a proceeding to review net metering and develop a new alternative tariff. See http://gencourt.state.nh.us/bill\_status/billText.aspx?id=293&txtFormat=html.



### Rhode Island

An Act Relative to Public Utilities and Carriers – Renewable Energy (Public Law 2016, Ch. 144) extended until 2035 the state's renewable portfolio standard, increasing the renewable requirements by 1.5 percent each year. Absent this legislation, the requirements would have been frozen at 14.5 percent renewable resources in 2019 and beyond. See http://webserver.rilin.state.ri.us/PublicLaws/law16/law16144.htm.

An Act Relating to Public Utilities and Carriers – Duties of Utilities and Carriers – Utility Base Rate (Public Law 2016, Ch. 149) extended Rhode Island's Renewable Energy Development Fund (REF) for five additional years, through December 31, 2022. The REF provides financing through grants and loans for renewable energy projects in the state. The legislation also created community remote distributed generation and shared solar programs, each of which allows groups of customers to receive bill credits for the energy generated by the remote distributed system, with a statewide cap of 30 MW through the end of 2018. The cap for traditional net-metering systems in the state was increased from 5 MW to 10 MW. See http://webserver.rilin.state.ri.us/PublicLaws/law16/law16149.htm.

### Vermont

An Act Relating to Improving the Siting of Energy Projects (2016 Act No. 174) gives more power to towns and regions when siting energy projects and encourages the siting of energy projects in locations with minimal impact (e.g., parking lots, brownfields). The legislation also allows regional plans to obtain a determination of energy compliance by the Commissioner of Public Service and thereafter, when siting electric generation facilities, requires that the state's Public Service Board give substantial deference to municipal and regional plans that have received a positive determination of energy compliance. See http://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT174/ACT174%20As%20Enacted.pdf.



## **Operative Documents**

Second Restated NEPOOL Agreement (2d RNA)

http://nepool.com/uploads/Op-2d\_RNA.pdf

Participants Agreement (PA)

http://nepool.com/uploads/Op-PA.pdf

Market Participant Service Agreement (MPSA)

http://nepool.com/uploads/Op-MPSA\_form.pdf

Memorandum of Understanding Among ISO, NEPOOL, and NESCOE

http://nepool.com/uploads/MOU\_Final.pdf

**ISO Tariff (Tariff)** 

http://www.iso-ne.com/regulatory/tariff/index.html

**Manuals** 

http://www.iso-ne.com/rules\_proceds/isone\_ mnls/index.html

Operating Procedures (OPs)

http://www.iso-ne.com/rules\_proceds/operating/isone/index.html

Planning Procedures (PPs)

http://www.iso-ne.com/rules\_proceds/isone\_plan/index.html

Transmission Owners Agreement (TOA)

http://www.iso-ne.com/regulatory/toa/index.html

Phase I/II Asset Owners Agreement (AOA)

http://www.iso-ne.com/regulatory/co\_agree/index.html

Phase I/II Interconnection Operators Agreement (IOA)

http://www.iso-ne.com/regulatory/co\_agree/index.html

Phase I/II HVDC Transmission Operating Agreement (HVDC TOA)

http://www.iso-ne.com/regulatory/toa/index.

Phase I/II HVDC-TF Transmission Service Administration Agreement (TSAA)

http://www.iso-ne.com/regulatory/toa/index.

Highgate Interconnection Operators Agreement

http://www.iso-ne.com/regulatory/co\_agree/index.html

New Brunswick and NYISO Coordination Agreements

http://iso-ne.com/static-assets/documents/regulatory/tariff/attach\_f/attach\_f.pdf

Generation Information System (GIS)
Operating Rules

http://www.nepoolgis.com/documents/

# Legal Proceedings & Appeals

A key piece in the solution to New England's energy puzzle is the FERC's and, in some cases, the federal courts' evaluations of proposed changes or challenges to the New England Markets' rates, terms and conditions of service. In 2016, there were more than 250 active FERC proceedings involving regional New England matters. Those proceedings were marked by a continuing focus on refinement and longer-term modifications of New England's Forward Capacity Market, winter reliability programs, Forward Reserve Market refinements, generator interconnection process revisions, changes allowing inverter-based generators to be compensated for reactive capability service, subhourly settlement changes, resource dispatchability changes, and changes to the natural gas index used in the calculation of the PER strike price, and the Import Capacity Resource offer threshold price.

2016's legal proceedings continue to highlight that the region is well-served by working collegially and collaboratively through the NEPOOL stakeholder process. Contested issues in the puzzle-solving process

can be significantly reduced when Tariff changes enjoy the joint support of NEPOOL and ISO-NE and, where applicable, transmission owners and others with affected filing rights. Even when regional consensus is elusive and the final balance is to be set by the FERC, the FERC's direction is informed by, and made more efficient as a result of, the systematic, purposeful, and collaborative course and comments produced by the Participant Processes. FERC action on New England matters continued to be guided and clarified by the collective insights and perspectives that emerged through the Participant Processes.

Each month, NEPOOL counsel summarizes for members the legal proceedings relating to New England matters and developments in those proceedings from the prior month. Those reports, as well as a brief summary of the developments since the last posted report, are available in the NEPOOL website's library at http://nepool.com/Litigation\_Reports.php. A full listing of the FERC proceedings that were active in 2016 is included at pages 38 to 41 of this Annual Report.

### **Appeals**

#### U.S. Court of Appeals for the D.C. Circuit (unless otherwise noted)

Docket	Appellants	Underlying Proceedings	
11-1486	EPSA, EEI ET AL.	ORDERS 745/745-A (RM10-17). Dismissed voluntarily following FERC v. EPSA (14-840).	
12-1306	EPSA and NEPGA	New England's Order 745 Compliance Filing (ER11-4336). Dismissed voluntarily following FERC v. EPSA (14-840).	
14-1104	TransCanada and RESA	2013/14 Winter Reliability Program and Bid Results (ER13-1851 and ER13-2266). Mandate remanding matter to FERC issued Feb. 17, 2016.	
14-1244	Public Citizen, CT AG	FCA8 (ER14-1409). Petitions dismissed.	
15-1071/16-1042	NEPGA / Exelon	FCM Pricing Rules Complaints (EL14-7; EL15-23). Briefing completed.	
15-1118 et al.	New England TOs (NETOs)	Base ROE Complaint I (2011) (EL11-66). Oral argument scheduled for Dec. 6.	
15-1139	NETOs; NESCOE/CT DEEP/CT PURA, et al.	Order 1000 Compliance Filings (ER13-193; ER13-196). Oral argument scheduled for Jan 13, 2017.	
15-1212	NETOs	Base ROE Complaints II & III (2012 & 2014) (EL13-33; EL14-86). Being held in abeyance pending outcome of EL13-33 et al.	
16-1023/16-1024	NEPGA	NEPGA PER Complaint and FCM Jump Ball and Compliance Proceedings (ER14-1050; EL15-25). Briefing completed Nov. 28.	
16-1068	Utility Workers Union of America	FCA9 Results (ER15-1137). Motions to govern future proceedings due Dec. 9.	
14-614/623 (Supreme Ct.)	Hughes v. Talen Energy Mktg. et al.	Constitutionality of Maryland Public Service Commission order directing utilities to enter into a contract for differences for capacity and energy in PJM found pre-empted by the FPA.	
14-634/694 (Supreme Court)	CPV Power Dev., Inc., et al. v. PPL EnergyPlus, LLC, et al.	Constitutionality of New Jersey's Long Term Capacity Agreement Pilot Program Act directing utilities to enter into standard offer capacity agreements with NJ PSB-selected generators found pre-empted by the FPA.	
14-840 (Supreme Ct.)	EPSA, EEI et al.	Orders 745/745-A. Supreme Court reverses D.C. Circuit decision vacating Order 745.	
5:15-cv-00230 (N.D.N.Y.)	Entergy Nuclear Fitzpatrick, LLC et al. v. Zibelman et al.	Complaint challenging NYPSC order approving an agreement to keep Dunkirk facility in the NYISO market, "repowered" as a natural gas-fired plant. Pending.	

Forward Cons	sity Austion Filings	ER17-337	Natural Gas Price Index Change
	city Auction Filings	ER17-337 ER16-250	NCPC Credit Revisions
ER08-633	FCA1 Results Remand Proceeding	ER16-870	New DNE Dispatch Changes Effective Date
ER15-1137	FCA9 Results Filing	ER17-68	Resource Dispatchability Changes
EL16-38	FCA10 Complaint: Dominion Manchester Street	ER16-1838	Sub-Hourly Settlement Changes
EL16-48	FCA10 Complaint: NextEra Bellingham	ER16-937	Transmission Outage Scheduling Revisions
ER16-308	FCA10 Qualification Informational Filing		
ER16-1041	FCA10 Results Filing	ER17-96	Effective Date Update:
ER16-2215	FCA11 De-List Bids Filing		Market Rule 1 §§ 2.7(a) & (g)
ER17-321	FCA11 Qualification Informational Filing	ICR, HQICC and	d Demand Curve Values
FCM Market R	ule Changes	ER16-446	2016-17 Annual Reconfiguration Auctions
ER14-1639	Domand Curvo Changes	ER16-307	2019-20 Power Year
ER14-1639 ER14-1639	Demand Curve Changes Remand Proceedings	ER17-320	2020-21 Power Year
	Demand Curve Changes Remand Proceedings		
ER16-1434	Demand Curve Design Improvements	<b>OATT Amendm</b>	ents
ER16-2126	FCM Composite Offers & Price Lock	ER15-2641	CTS Conforming Changes
ED46 0454	Mechanisms (FERC Compliance)	ER16-946	Generator Interconnection Revisions
ER16-2451	FCM Program Patients	ER16-2378	IRS Normalization Reqs.: Attachment F Changes
ER16-551	FCM Resource Retirement Reforms	ER16-2695	Orders 827/828 Compliance Filing
FCM CSO Tern	ninations	ER16-1789	Reactive Power Compensation Revisions
		ER16-819	Regional System Plan Timing Changes
ER16-864	Spruce Mountain Wind	LIV10-019	Regional System Flan Finning Changes
ER16-222	Brookfield White Pine Hydro	Financial Assur	rance/Billing Policy Amendments
ER16-224	Direct Energy		
ER16-225	Enerwise	ER16-286	Hourly Charge Estimation Changes
ER16-2137	Enerwise II	ER16-1874	Financial Statement Reporting Req. Changes
ER16-226	Green Mountain Power	ER16-1728	GIS API Revisions
ER16-223	Twin Eagle	Rate Filings	
Waiver Reques	sts	ER09-1532	2016-17 Power Year Transmission Rate Filing
ER16-2283	DER FCM Qualification Reqs (Genbright)	ER17-116	2017 ISO-NE Admin. Costs and Capital Budgets
ER16-708	FCM Qualification Lock-In Election (Calpine)	ER17-140	2017 NESCOE Budget
ER16-1904	RTEG Resource Type/De-List (ISO-NE)	EL13-33 et al.	Base ROE Complaints II & III (2012 & 2014)
EL16-22	New Resource Offer Floor Price Rules	EL16-64	Base ROE Complaint IV (2016)
LL 10-22	(Lotus Energy)	ER16-116	Eversource CCRP Cost Treatment Proposal
Other Market F	Rule and Information Policy Changes	Complaints/FPA	A Section 206 Proceedings
		EL15-85	206 Proceeding: 2014-15 RNS Recovery of
ER13-2266	2013/14 Winter Rel. Prog. Remand Proceeding	EL 13-03	SeaLink Development Costs
ER15-2641	CTS Conforming Changes	EL 16 10	•
ER16-462	CTS Winter Rel. Prog. Cost Allocation Correction	EL16-19	206 Proceeding: RNS/LNS Rates and
ER16-954	DARD Pump Parameter Changes	EI 16 15	Rate Protocols
ER16-538	De-List Bid Information Release Change	EL16-15	206 Proceeding: Zonal Sloped Demand Curves
ER16-167	DR Changes	EL15-21	NEPGA DE Adjustment Complaint
ER16-2529	Dual-Fuel Audit NCPC Calculation Revisions	EL16-120	NEPGA PER Adjustment Complaint
ER16-1296	FRM Heat Rate Calculation Revisions	EL15-23	New Entry Pricing Rule Complaint
ER16-921	FRM Offer Cap, Elimination of Price Netting	EL16-93	NextEra/PSEG Complaint (Seeking Market Rule
ER16-1413	Info Policy Changes (Default Notice Provisions)		Changes to Counter Potential Gas Pipeline-
ER15-2208	Winter Rel. Prog. Jump Ball Filing		Related Price Suppression)

Schedule 20/21/	/22/23 Updates	EL11-66	Opinions 531-A/531-B Local Refund Reports
ER09-938	Sched. 21-CMP: Annual Informational Filing	EL11-66	Opinions 531-A/531-B Regional Refund Reports
ER16-2386	Sched. 21-CMP: IRS Normalization ADIT	ER06-613	Reserve Market Semi-Annual Reports
	Changes	Manufacultin El	Burne.
ER15-1434	Sched. 21-EM: Annual Informational Filing	Membership Fi	lings
ER15-1434 et al	. Sched. 21-EM: Bangor Hydro/Maine Public	ER16-670	Jan 2016 Membership Filing
	Service Merger-Related Costs Recovery	ER16-836	Feb 2016 Membership Filing
ER16-273	Sched. 21-EM: Corrections	ER16-1031	Mar 2016 Membership Filing
ER16-840	Sched. 21-EM: Emera Maine/Covanta Maine	ER16-1321	Apr 2016 Membership Filing
	LTSA Terminations	ER16-1537	May 2016 Membership Filing
ER16-1063	Sched. 21-EM: GNP East IOA Termination	ER16-1813	June 2016 Membership Filing
ER16-1301	Sched. 21-EM: Rate Adjustments for	ER16-2104	July 2016 Membership Filing
	Anticipated Changes	ER16-2321	Aug 2016 Membership Filing
ER16-1301	Sched. 21-EM: Rate Adjustments for	ER16-2535	Sep 2016 Membership Filing
	Anticipated Changes Compliance Filing	ER16-2721	Oct 2016 Membership Filing
ER16-1023	Sched. 21-ES: Eversource Recovery of	ER17-229	Nov 2016 Membership Filing
	NU/NSTAR Merger-Related Costs		Dec 2016 Membership Filing
ER09-1498	Sched. 21-FG&E Annual Informational Filing	ER16-820	Involuntary Membership Termination: NAPP
ER16-1722	Sched. 21-FGE: Revised Depreciation Rates	ER16-818	Involuntary Membership Termination: Negawatt
ER16-2012	Sched. 21-NEP Deepwater Wind		·
21110 2012	Indemnification Agreement	Market Particip	ant Suspension Notices
ER16-986	Sched. 21-NEP: CV South Street Landing	not docketed	CHI Power Marketing, LLC
21110 000	Reimbursement Agreement	not docketed	Gallop Power Greenville, LLC
ER16-1745	Sched. 21-NEP: Deerfield Wind	not docketed	Lotus Danbury LMS100 One
21(10 17 10	Reimbursement Agreement	not docketed	Lotus Danbury LMS100 Two
ER16-1921	Sched. 21-NEP: Granite Ridge Prior Service	not docketed	Lotus Buribury Livio 100 Two
21(10 1021	Agreement Termination	ERO Reliability	Standards Filings
ER09-1243	Sched. 21-NSTAR: Annual Informational Filing	_	
ER16-816	Sched. 21-NSTAR: Fore River LGIA	RM12-6	BES Exclusions for Local Network
LICIO O IO	Termination Notice	DD40.0	Configurations Compliance Filing
ER16-2454	Sched. 21-UI: IRS Normalization ADIT Changes	RD16-3	Glossary Definition Changes
ER16-2024	Sched. 22 LGIA: Exelon West Medway II	RD16-7	Glossary Definitions: New
ER16-1024	Sched. 22 LGIA: Exelon West Medway II Sched. 22 LGIA: New England Wind	RD16-5	Glossary Definition Change: Special Protection
ER16-348	Scheds. 20A-ES & 21-ES: Eversource Updates		System
LIX10-340	ocheus. 20A-Lo & 21-Lo. Eversource opuates	RM16-22	New Rel. Standards: PRC-027-1 and PER-006-1
Regional Repor	ts	RM13-6	NOPR: BAL-002-1a Interpretation Remand
		RM16-13	NOPR: Rev. Rel. Standards: BAL-005-1 & FAC-
ER16-928	Capital Projects Report - 2015 Q4		001-3
ER16-1700	Capital Projects Report - 2016 Q1	RM16-7	NOPR: Rev. Rel. Standard: BAL-002-2
ER16-2415	Capital Projects Report - 2016 Q2	RM14-7	NOPR: Rev. Rel. Standard: MOD-001-2
ER17-122	Capital Projects Report - 2016 Q3	RM15-8	NOPR: New Rel. Standard: PRC-026-1
ZZ16-4	IMM Annual Markets Report (2015)	RM15-11	NOPR: New Rel. Standard: TPL-007-1
ZZ15-4	IMM Quarterly Markets Reports	RM15-14	Order 822: Rev. Rel. Standards: CIP-003-6,
not docketed	ISO-NE FERC Form 1		CIP-004-6, CIP-006-6, CIP-007-6, CIP-009-6,
not docketed	ISO-NE FERC Form 3Q		CIP-010-2, CIP-011-2
not docketed	ISO-NE FERC Form 582	RM15-8	Order 823: New Rel. Standard: PRC-026-1
not docketed	ISO-NE FERC Form 714	RM15-14-002	Order 829: New Rel. Standard Addressing
not docketed	ISO-NE FERC Form 715		Supply Chain Risk Management
ER07-476	LFTR Implementation Quarterly Status Reports	RM15-11	Order 830: New Rel. Standard: TPL-007-1

RD16-9	Rev. Rel. Standard: COM-001-3	ER16-510	D&E Agreement: NSTAR/NRG Canal 3
RD16-4	Rev. Rel. Standard: FAC-003-4	ER16-1473	D&E Agreement Cancellation:
RD15-7	Rev. Rel. Standards: IRO-006-EAST-2; IRO-009-2		NSTAR/NRG Canal 3
RD16-6	Rev. Rel. Standards: IRO-018-1 & TOP-010-1	ER16-357	D&E Agreement Cancellation: PSNH/NHEC
RD16-1	Rev. Rel. Standard: MOD-031-2	ER16-509	D&E Agreement: NSTAR/Exelon West Medway
RD16-2	Rev. Rel. Standard: PRC-005-6	ER16-1809	D&E Agreement Amendment: NSTAR/Exelon
RD16-8	Retirement of NPCC Regional Rel. Standard		West Medway
	PRC-002-NPCC-001	ER16-2467	D&E Agreement Termination Notice: NSTAR/
			Exelon West Medway
Other ERO Matt	ers	ER15-1429; EL	16-3 Emera MPD OATT Changes
EL15-93	E. Morris v. NERC/SERC	ER17-290	EMM Contract
RR15-12	Revised Regional Delegation Agreements	ER16-2328	Facilities Use Agreement: National Grid/
			Deepwater Block Island Wind
RR16-2	Rules of Procedure Changes	PA16-6	FERC Audit of ISO-NE
RR15-2	Rules of Procedure Changes Compliance Filing	EL14-55	FirstEnergy PJM DR Complaint
Mergers & Acqu	visitions	ER16-2416	IA Amendment: CMP-Brookfield White Pine
Mergers & Acqu	IISILIOIIS	ER 10-24 10	Hydro
EC16-145	Belmont/NSTAR	ED46 4477	•
EC16-19	Calpine/Granite Ridge	ER16-1477	IA Cancellation: Superseded 1993 NSTAR/NEA
EC16-167	CPV Towantic	ED40 4000	Interconnection Agreement
EC16-82	Essential Power	ER16-1099	IA Termination: UI/Bridgeport Harbor Station Unit #2
EC16-89	FirstLight/PSP	ER16-760	LGIA: National Grid/Wheelabrator Saugus
EC16-93	GDF Suez Energy Resources/Atlas Power	ER16-391	LGIA: PSNH/Schiller Generating Station
EC15-103	Iberdrola/CMP/UI	ER16-1619	Maine Power Express Project
EC16-50	Narragansett/Entergy Rhode Island State	ER11-1844	MISO Methodology to Involuntarily Allocate
	Energy		Costs to Entities Outside Its Control Area
EC17-8	Noble Americas Energy Solutions/Calpine	ER16-518	SGIA: CMP/Hackett Mills Hydro
EC16-86	Passadumkeag Wind Park (Southern/Quantum)	ER16-2189	Use Rights Transfer Agreement: NSTAR/HQUS
EC15-217	Passadumkeag Wind Park (SunEdison/	ER17-137	Orders 827/828 Compliance Filing: Maine Public
	Quantum)		District
EC16-58	ReEnergy Sterling		
EC16-16	Thunder Snow/Entergy Rhode Island State	PURPA Compla	ints
2010 10	Energy	EL16-69 et al.	v. CT PURA (Allco Finance & Windham Solar)
	Likigy	EL16-115 et al.	v. CT PURA (Allco Finance & Windham Solar)
Regional Interes	st	EL16-11 et al.	v. CT Agencies (Allco Renewable Energy)
_		EL17-6 et al.	v. MA Agencies (Allco Renewable Energy & Allco
ER16-2575	Agreements Cancellation: National Grid/		Finance)
	Wheelabrator Saugus	EL16-74 et al.	v. VT PSB (North Hartland)
	CFTC RTO/ISO Exemption Amendment	EE10710tal.	v. v. r. e.b. (recrait riandaria)
EL16-45	CL&P Petition for Declaratory Order (Dominion	FERC Enforcem	nent Matters
	Outage Dispute Governing Document)		
ER16-878 et al.	Cost Sharing Agreements (Greater Boston Area	IN16-3	Berkshire Power/Power Plant Management Srvs.
	Transmission Solution Plan): National Grid,	IN13-15	BP Initial Decision
	NSTAR, PSNH	IN16-4	Coaltrain et al. Show Cause and Penalties
ER16-2261	D&E Agreement: CL&P/PSEG Power Conn.		Orders
ER16-2700	E&P Agreement: CL&P/Beacon Falls	IN16-2	Etracom/M. Rosenberg Show Cause Order
ER16-2369	E&P Agreement: CMP/FPL Wyman	IN15-10	MISO Zone 4 Planning Resource Auction Offers
ER16-356	EDPS Agreement Cancellation: CPV Towantic		Formal Investigation
	-	IN12-10	Lincoln Paper & Tissue

IN15-4	Maxim Power	Administrative	Proceedings
IN16-5	National Energy & Trade, LP	AD14-14	Price Formation in RTO/ISO Energy and
IN16-6	David Silva		Ancillary Services Markets
IN12-17	Total Gas & Power North America, Inc.	AD16-18	Competitive Transmission Development Rates
Rulemaking Pro	oceedings	AD16-20	Electric Storage Participation in RTO/ISO Markets
RM16-6	NOI: Primary Frequency Response Service and	AD16-16	PURPA Implementation
	Compensation Reforms	AD16-17	Reactive Supply Compen. in RTO/ISO Markets
RM15-23	NOPR: Connected Entity Data Collection	AD15-12	Transmission Metrics
RM16-17	NOPR: Data Collection for Analytics &	AD16-14	White Paper: Guidance Principles on Clean
	Surveillance and MBR Purposes		Power Plan Modeling
RM16-5	NOPR: Price Formation Fixes - Price Caps in		
	RTO/ISO Markets	Natural Gas Pro	oceedings
RM15-24	NOPR: Price Formation Fixes - Settlement Intervals/Shortage Pricing	RP16-618	Algonquin EDC Capacity Release Bidding Requirements Exemption Request
RM16-1	NOPR: Reactive Power Requirements for Wind Generators	RP12-479	Opinion 538: ANR Storage Company, Order on Initial Decision
RM16-15	NOPR: Regulations Implementing FAST Act and Amending CEII Regulations	RM14-2	Order 809: Coordination of Natural Gas
RM16-8	NOPR: Small Generator Ride Through	DM40.4	Pipelines and Pub. Utils. Scheduling Processes
	Requirements	RM16-4	Order 820: Delegation of Authority for FERC Form No. 552
RM14-14	Order 816 & 816-A: MBR Authorization	RP14-442	Posting of Offers to Purchase Capacity (Section
	Refinements	RF 14-442	5 Proceeding)
RM15-2	Order 819: Third-Party Provision of Primary	RP15-1089	Rice Energy Marketing Declaratory Order
	Frequency Response Service	RP16-302	Section 5 Investigation: Columbia
RM15-24	Order 825: Price Formation Fixes - Settlement	RP16-300	Section 5 Investigation: Empire
	Intervals/Shortage Pricing	RP16-301	Section 5 Investigation: Iroquois
RM16-16	Order 826: Civil Monetary Penalty Inflation Adjustments	RP16-299	Section 5 Investigation: Tuscarora
RM16-1	Order 827: Reactive Power Requirements for	New England G	as Pipeline Proceedings
	Wind Generators	CP14-96	Algonquin Incremental Market (AIM) Project
RM16-8	Order 828: Small Generator Ride Through	CP16-9	Atlantic Bridge Project
	Requirements	CP14-529	Connecticut Expansion Project
RM15-21	Petition for LGIA/LGIP Rulemaking (AWEA)	CP13-499	Constitution Pipeline
RM16-12	Review of Generator IAs & Procedures	CP14-522	Salem Lateral Project



\*As of November 17, 2016

# NEPOOL Counsel & Administrative Team



David Doot (860) 275-0102 or (202) 218-3903 dtdoot@daypitney.com



Paul Belval (860) 275-0381 pnbelval@daypitney.com



Harold Blinderman (860) 275-0357 hmblinderman@daypitney.com



Joe Fagan (202) 218-3901 jfagan@daypitney.com



Florence "Flossie" Davis (860) 275-0360 fkdavis@daypitney.com



Evan Reese III (202) 218-3917 ereese@daypitney.com



Pat Gerity (860) 275-0533 pmgerity@daypitney.com



Eric Runge (617) 345-4735 ekrunge@daypitney.com



Jennifer Galiette (860) 275-0338 jgaliette@daypitney.com



Sebastian Lombardi (860) 275-0663 slombardi@daypitney.com



James "Jamie" Blackburn IV (202) 218-3905 jblackburn@daypitney.com



John Shriver (860) 275-0403 jshriver@daypitney.com



Sunita Paknikar (860) 275-0145 spaknikar@daypitney.com



Lori Hazzard Administrative Assistant (860) 275-0601 Ihazzard@daypitney.com



Cynthia "Cindy" Jacobs NEPOOL Administrator (860) 275-0246 ckjacobs@daypitney.com



Ray Tuohey
Legal Assistant
(860) 275-0109
rvtuohey@daypitney.com

"While there are many unknowns in the path ahead, what I know as an absolute certainty is that market participants and other regional stakeholders will respond to these externalities, and the market structure will continue to evolve as it reacts to the forces pressing upon it.

We have much work to do.

Together we can consider the appropriate next steps for NEPOOL as an organization that has provided a guiding hand to our industry for these last forty-five years."

Joel GordonNEPOOL Chairman 2016

