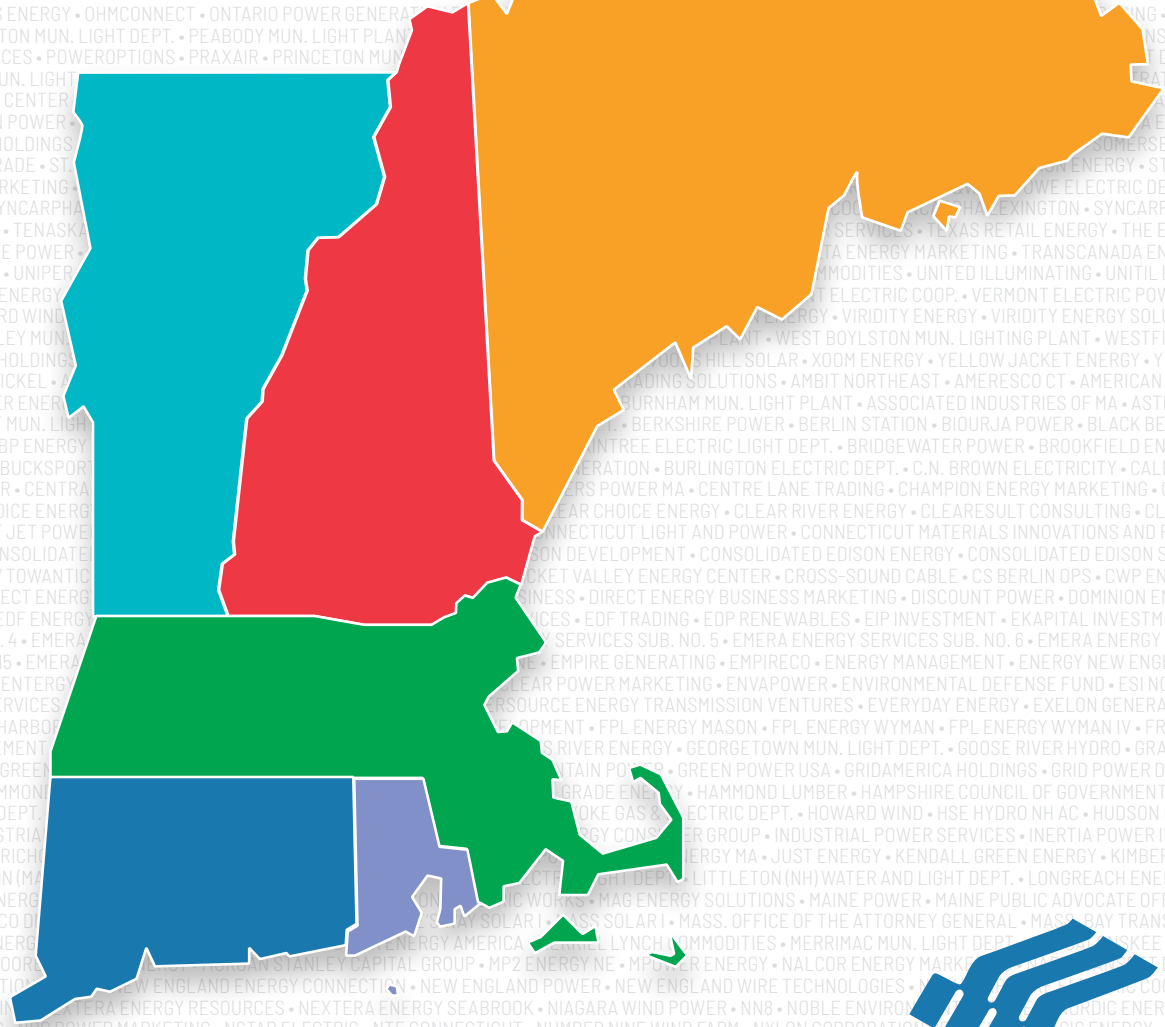


# For New England By New England



NEW ENGLAND POWER POOL ANNUAL REPORT 2018





# NEPOOL by the Numbers





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\* Statistical and other information in this report have been supported by Participants or derived from NEPOOL records or ISO New England (ISO-NE) records, except as specifically referenced. Information on photographs that appear in this report are posted on the NEPOOL website at [http://nepool.com/Annual\\_Reports.php](http://nepool.com/Annual_Reports.php). Capitalized terms used but not defined in this report are intended to have the same meaning given to such terms in the Second Restated NEPOOL Agreement, the Participants Agreement or the ISO-NE Transmission, Markets and Services Tariff (Tariff). Unless otherwise noted, data in this Annual Report is current through November 30, 2018.



# Chairman's Message

2018 was a particularly challenging year and another year underscoring NEPOOL's ability to deal quickly and thoroughly with complex "issues of the day".

2018 was a particularly challenging year and another year underscoring NEPOOL's ability to deal quickly and thoroughly with complex "issues of the day". The experience, wisdom, diligence and collaborative spirit of NEPOOL's diverse stakeholders provide a seasoned basis for its positions on issues and contribute a valuable complement to ISO-NE's expertise in operations, planning and market design. Though at times NEPOOL and the ISO-NE may not always agree, NEPOOL's open collaboration among its members and with the States provides the forum to bring diverse interests together to produce a superior alternative for New England by New England. As Chairman of the NEPOOL Participants Committee for the past two years, I have been honored to work with my stakeholder colleagues and with ISO-NE management to collectively work through our differences in achieving our shared goal – the reliable supply of electric energy to the region through competitive markets.



## Seeking Common Ground

Though both NEPOOL stakeholders and ISO-NE work hard to fulfill their respective missions, there are times and issues on which the two institutions disagree and 2018 was no exception. Early in the year, ISO-NE filed for authority through waiver of limiting tariff provisions to reject the Mystic 8 and 9 Retirement De-List Bids for fuel security reasons and to enter into a cost-of-service agreement (COSA) with those units. NEPOOL responded, urging that any changes to the tariff be subject to the full NEPOOL stakeholder process. The Federal Energy Regulatory Commission (FERC) denied ISO-NE's requested waiver, holding any such authority needed to be in the tariff, and ISO-NE responded by engaging NEPOOL stakeholders on an accelerated schedule to consider tariff changes. The fast-track process required an intense effort by NEPOOL stakeholders to assess and discuss complex evaluations and significant revisions to the tariff with their eyes on improving the balance between out-of-market fuel security actions, the competitive market design and cost to consumers. Ultimately, NEPOOL stakeholders supported changes to ISO-NE's scenario assumptions and criteria needed to trigger ISO-NE authority to take such out-of-market actions. The NEPOOL stakeholders' commitment to a timely yet sensible outcome of this proceeding was commendable – and a fine example of NEPOOL doing what NEPOOL does best! The region is now engaged in discussions to ensure the region's fuel security through improved competitive market signals, and NEPOOL stakeholders' collective wisdom and insight will no doubt prove valuable there as well.





Though NEPOOL and the ISO-NE, at times, may not always agree, NEPOOL's open collaboration among its members and with the States provides the forum to bring diverse interests together to produce a superior alternative for New England, by New England.

### Maintaining NEPOOL's Unique Role

During an already busy year, NEPOOL faced an additional challenge. Following closely on the heels of its fuel security efforts, some have chosen to criticize the NEPOOL stakeholder process, challenging a core principle that preliminary, sometimes probative, positions remain within the NEPOOL forum until they are formally identified as voting positions of the member represented by the person voting. A media outlet is currently seeking, via a complaint filed at the FERC, to force NEPOOL to admit media as members and to allow public reporting of statements made by members and guests at NEPOOL meetings. Acting at the direction of its diverse set of stakeholders, NEPOOL is seeking to preserve the candid and transparent dialogue occurring in its business meetings. Open discussion by members of the broad stakeholder constituency has been a key ingredient in reaching mutual understanding among stakeholders. As of the date this Annual Report was finalized for printing, the FERC had not yet ruled on this matter. It is our hope that the FERC will help NEPOOL preserve the informed, candid, interactive discussion that has been the foundation of NEPOOL's deliberative process since the Pool's inception.

It has been a great honor to serve as NEPOOL Chair in these sometimes turbulent but exciting times. But this is why NEPOOL exists – to apply the knowledge and wisdom of its very diverse and competent stakeholder representatives to complement ISO-NE's own knowledge and commitment to reliably meet the electric needs of New England by New England.

Thank you!

Handwritten signature of Thomas W. Kaslow in blue ink.

**Thomas W. Kaslow**

Chairman, NEPOOL Participants Committee



# NEPOOL Stakeholder Process

The Participants Committee is the highest-level committee to which all matters are submitted unless they have been otherwise delegated to one of the Technical Committees – the Markets, Reliability and Transmission Committees. The Participants Committee is also supported by, and delegates some responsibilities to, two standing, self-selected subcommittees – the Budget & Finance Subcommittee and the Membership Subcommittee.

The Participants Committee has eight elected officers. Each of the six voting Sectors elects someone from their Sector to serve as either a Chair or Vice-Chair. The Committee then elects a Chair from among those six Sector representatives. The Committee also elects a Secretary and an Assistant Secretary.

The Technical Committees' Chairs and Secretaries are ISO-NE personnel appointed by ISO-NE after consultation with NEPOOL. Each Technical Committee Vice-Chair is elected from among and by the voting members of that Technical Committee. The leaders of all other subcommittees and working groups are selected by the Chair of the Participants Committee or ISO-NE following consultation as appropriate.

NEPOOL meetings are always attended by ISO-NE representatives and state representatives, including representatives of the New England States Committee on Electricity (NESCOE) and the New England Conference of Public Utilities Commissioners (NECPUC), who participate actively in discussions.

**Participants Committee**  
**NEPOOL Chair and Five Vice-Chairs**  
One Officer per Sector



## Voting Members

**14**

**Generation**  
Members

**5**

**Transmission**  
Members

**130**

**Supplier**  
Members

**42**

**End User**  
Members

**22**

**Alternative  
Resources**  
Members

**58**

**Public Owned  
Entity**  
Members

## Technical Committees: ISO-NE Chairs | NEPOOL Vice-Chairs



**Markets**  
Committee



**Reliability**  
Committee



**Transmission**  
Committee

## Standing Subcommittees: NEPOOL Chairs



**Budget &  
Finance**  
Subcommittee



**Membership**  
Subcommittee



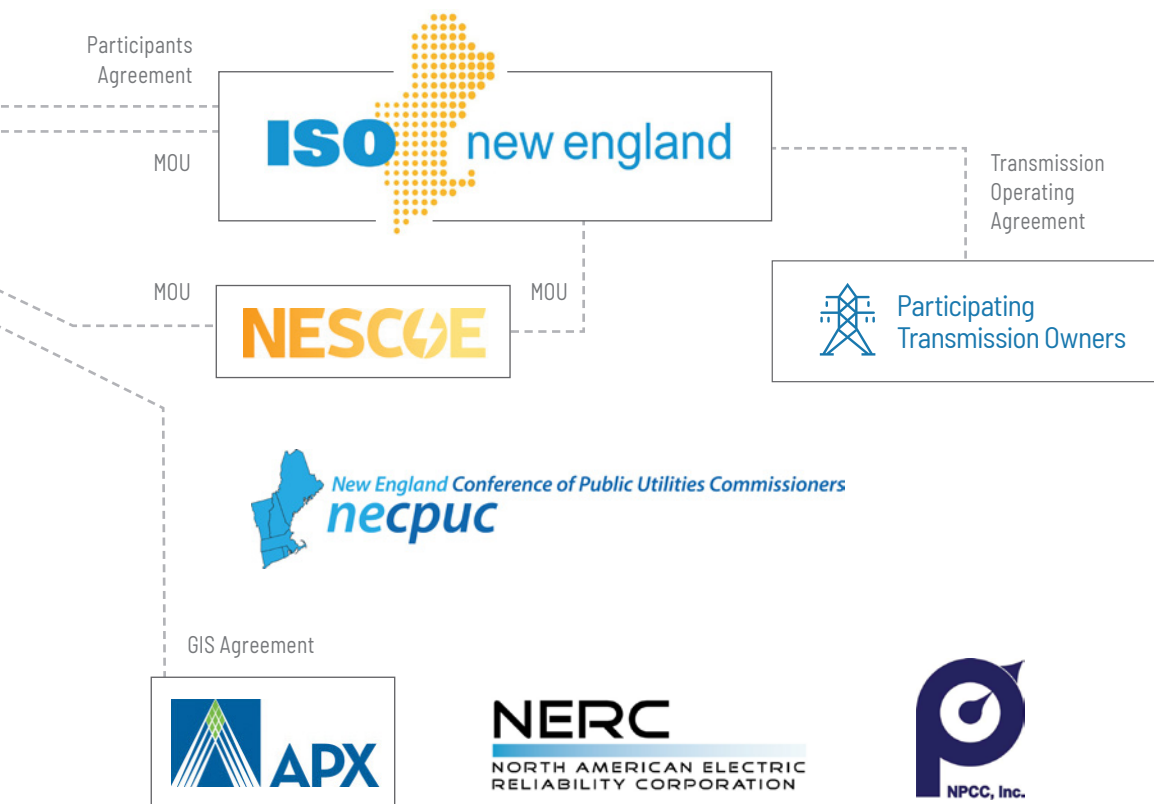
# NEPOOL Stakeholder Process

NEPOOL is the stakeholder voting organization that advises on all matters relating to New England's competitive wholesale market rules and transmission tariff design. Its stakeholder processes are designed to maximize active and informed participation and negotiations to reach consensus among stakeholders, and where consensus is not possible, to articulate, define and limit unresolved issues.

Through NEPOOL, Participants and representatives of the States, ISO-NE and the FERC provide informed and quality feedback at all levels. Informal feedback, which is a combination of education on and definition of positions, lays the foundation for consensus. Of course, consensus is not always possible, and in those circumstances, the NEPOOL process narrows and clarifies disagreements for resolution by the FERC as appropriate. NEPOOL acts through votes of the Principal Committees or by delegation to its subcommittees or elected or designated representatives.



**FERC**  
FEDERAL ENERGY REGULATORY COMMISSION





# For New England





# By New England



• SUMMER ENERGY NO  
1. LIGHTING PLANT • TO  
RE ENERGY • TRAIL S  
ENERGY SYSTEMS • UN  
TY • VERMONT TRANS  
WATERSIDE POWER • Y  
LOOM ENERGY • YELLO  
RICAN POWERNET MAN  
Y HAMPSHIRE INDUST  
ES • NORTH AMERICAN  
CT • ONTARIO POWER G  
ER HYDRO ELECTRIC •  
J. OF NEW HAMPSHIRE  
ENERGY CENTER • RINA  
A • SHIPYARD BRIVING  
NSEL COLLEGE • STA  
A HOLDINGS • SUSTAIN  
LETON MUN. LIGHTING  
ERGY MARKETING • TR  
MASSACHUSETTS AT  
O ENERGY SERVICES •  
AMPERSAND ENERGY  
ON WORKS • BEACON F  
EPT. • BP ENERGY • BR  
N. BROWN ELECTRICIT  
MUN. ELECTRIC LIGHT  
ERGY SERVICES • CONC  
NSERVATION LAW FOU  
IGFORD • CPV TOWANT  
BUSINESS MARKETING  
ELECTRICITY MAINE •  
RA ENERGY SERVICE  
L TECHNOLOGIES • ENG  
POWER COMMERCIAL  
MASON • FPL ENERGY  
NITE RELIABLE POWER  
ELECTRIC LIGHT DEPT  
S • HIKO ENERGY • HIN  
Y • INDUSTRIAL ENER  
GREEN ENERGY • KIMB  
VE • LOTUS DANBURY I  
ELECTRIC DEPT. • MA  
• MASSACHUSETTS EL  
TINERS • MINT ENERGY  
GLAND BATTERY STORA  
RA ENERGY MARKETING  
• NRG CANAL • NRG CU  
DISTRICT • PATRIOT C  
SUPPLY SERVICES •  
ERGY NORTHEAST • RE  
RP. • RUSSELL MUN. LI  
EY ELECTRIC LIGHT DE  
IT DEPT. • STETSON HO  
RPHA HANCOCK • SYN  
Y COUNCIL OF RI • THR  
ERGY - SERIES G • UNIO  
Y USA • VERMONT ELE  
FIELD MUN. GAS AND LI  
WIND ENERGY DEVEL  
MISSION • ALPHATAR  
CIATED INDUSTRIES OF  
ONE HYDRO • BLOCK IS  
MARKETING • BROOKFIELD



# The Unfolding Multi-Chapter Fuel Security Story

ISO New England has issued reports that have caused it to conclude that New England could be faced with inadequate fuel supply to generate power during the coldest winter months. ISO-NE outlined its proposal to address its fuel security concerns in three chapters: Chapters 1 and 2, which began in 2018 and are pending before the FERC as of this Annual Report, and Chapter 3, which is under active discussion and consideration in the NEPOOL stakeholder process, with changes expected to be filed with the FERC for approval in 2019.

## Prologue

To assess whether New England will have the fuel it needs in future winters, ISO-NE developed and published an Operational Fuel Security Analysis (OFSA) in January 2018. In that report, ISO-NE chose and studied 23 scenarios of possible resource combinations for the 2024-2025 winter period. In many of those ISO-NE scenarios, there were some hours of projected electric energy shortages resulting from inadequate fuel, based on ISO-NE scenario assumptions. Key assumptions included the level of natural gas supply for gas-fired generation resources, energy imports from neighboring regions and the number of oil tank refills at dual-fuel and oil-fired generating units assumed by ISO-NE. Based on its assumptions and study, ISO-NE described fuel security as the “foremost challenge to a reliable power grid in New England.” Reactions to the OFSA were swift and varied, ranging from characterizations of the study as a wake-up call from ISO-NE to active skepticism regarding the severity of the problem and criticism of perceived conservatism in the assumptions used.

ISO-NE’s fuel security concerns were compounded in March 2018, when Mystic generating units 8 and 9 (the Mystic Units) submitted bids to retire from the capacity market as of June 1, 2022. Those Mystic Units provide 1,400 megawatts (MW) of liquefied natural gas (LNG)-fueled generating capacity in the heart of the most populous load zone in New England. The proposed retirement of the Mystic Units could potentially include the retirement of the LNG facility providing fuel for those units.

ISO-NE responded quickly to the retirement bids, setting forth for NEPOOL the three chapters it proposed to follow to address its fuel security concerns. As laid out by ISO-NE, Chapter 1 would consist of ISO-NE seeking a waiver from the FERC to allow ISO-NE to retain the Mystic Units under an out-of-market contract that Exelon, the parent company of the owner of the Mystic Units, would

file with the FERC for approval. Chapter 2 entails the development, with NEPOOL, of generic, short-term Tariff provisions to expand the authority of ISO-NE to conduct a fuel security reliability review and to enter into out-of-market arrangements to retain resources for fuel security reliability purposes. Chapter 2 also included NEPOOL consideration of a proposed interim compensation mechanism for fuel security contributions (referred to as Chapter 2B). The final chapter, Chapter 3, involves the development, with NEPOOL, and implementation of long-term, market-based solutions designed to satisfy winter fuel security needs.

## Chapter 1

Chapter 1 opened with a May 1 filing by ISO-NE seeking FERC approval to expand ISO-NE’s authority through waiver of Tariff limitations that currently restrict its authority to enter into an out-of-market arrangement with the owners of the Mystic Units (FERC Docket No. ER18-1509). Separately, the Mystic Unit owners, on May 16, filed a COSA for the Mystic Units (FERC Docket No. ER18-1639). Two July FERC orders quickly transformed Chapter 1 into litigation at the FERC over the COSA. In an order issued on July 2, the FERC denied ISO-NE’s efforts to expand its authority through a Tariff waiver, but acknowledged the potential need for expanded ISO-NE authority and initiated a proceeding (FERC Docket No. EL18-182) to consider whether the existing Tariff was unjust and unreasonable in the absence of provisions that would allow ISO-NE to retain resources for fuel security. That order directed ISO-NE either to explain why the current Tariff is not unjust and unreasonable or to propose by August 31, 2018, Tariff revisions in a FERC filing that would provide authority for ISO-NE to enter into short-term COSAs to address demonstrated fuel security concerns, and in a second FERC filing, to be submitted by July 1, 2019, to propose more permanent Tariff revisions under which a market-based mechanism would help ensure regional fuel security.



On July 13, the FERC issued an order affecting Chapter 1, in which it conditionally accepted the Mystic Units COSA, subject to the outcome of a contested rate hearing and further order. As directed by the FERC, hearings were held on the COSA this fall, following highly accelerated discovery over the summer. Rather than issue an initial decision, the presiding administrative law judge was directed just to certify the record of the hearings, which he did on October 12. Parties were provided the opportunity on November 2 to provide the FERC briefs on their positions and on November 16 to reply to the briefs of others. As of this Annual Report, the entire record and briefs are pending before the FERC.

## Chapter 2

Chapter 2 followed an equally aggressive schedule that partially overlapped the schedule of the Chapter 1 litigation. As directed by the FERC, ISO-NE, NEPOOL and state representatives engaged in an accelerated NEPOOL stakeholder process to discuss, debate, negotiate, finalize and vote on ISO-NE Tariff revisions that seek to expand the authority of ISO-NE on an interim basis to enter into COSAs to retain resources needed to address fuel security concerns. Collectively, the NEPOOL Markets Committee and the Reliability Committee held six meetings, some going well into the evening, between the FERC order on July 2 and a final NEPOOL vote on August 22. During that time, some Participants, working closely with State representatives, crafted alternatives to ISO-NE's Chapter 2 proposal, mostly designed to reduce the risk of out-of-market actions. At the end of this intense stakeholder process, the Participants Committee voted and did not support the ISO-NE proposal for Chapter 2 changes but did support, in some cases unanimously, Participant-proposed alternatives to ISO-NE's proposal. On August 31, ISO-NE filed its proposal (FERC Docket No. ER18-2364), and NEPOOL responded shortly thereafter, filing its alternative proposals. As of the date this Annual Report was finalized for printing, the FERC's consideration of these proposals remained pending, and is subject to further direction from the FERC (and any subsequent rehearings) as well as ISO-NE implementation.



As part of the Chapter 2 efforts, stakeholders are considering, with ISO-NE, a proposed interim compensation mechanism intended to prevent the premature retirement of certain resources that the ISO-NE desires for fuel security by enhancing financial incentives for those resources during the time covered by the next two annual capacity auctions (FCAs 14 and 15) (i.e. Chapter 2B).

## Chapter 3

Immediately following the Chapter 2 filings, the NEPOOL stakeholder process for the Chapter 3 phase of the fuel security story began. The stakeholders, with ISO-NE, are considering potential long-term, market-based solution(s) to address the region's fuel security concerns, which must be filed with the FERC by July 1, 2019 (i.e., Chapter 3). As of the finalization of this Annual Report for printing, ISO-NE and stakeholders have worked together to better understand and define the problem to be solved and are working on design principles for potential solutions. Through the rest of 2018 and at least the first half of 2019, ISO-NE and stakeholders will be exploring any and all proposed long-term solutions that might result in the markets providing the fuel security needed for the region.

The fuel security initiative for 2018 so far has been collaborative where possible, involved and extremely resource-intensive. While much has been done, this multi-chapter effort is far from over. Until all three chapters are brought to a close, NEPOOL and ISO-NE, working closely with the States, will continue their tradition of working collaboratively to solve the ever-changing challenges facing the wholesale electric industry in New England.





# NEPOOL Participants

## A

Able Grid Infrastructure Holdings, LLC  
Acadia Center  
Acushnet Co.  
Aesir Power, LLC  
Agera Energy LLC  
Algonquin Energy Services Inc.  
Algonquin Gas Transmission, LLC  
Alphataraxia Nickel LLC  
AM Trading Solutions, LLC  
Ambit Northeast LLC  
Ameresco CT LLC  
American Power & Gas of MA, LLC  
American PowerNet Management, LP  
Aminpour, Farhad  
Amersand Energy Partners LLC  
Anbaric Development Partners, LLC  
Anthony, Christopher M.  
Antrim Wind Energy LLC  
Appian Way Energy Partners East, LLC  
Archer Energy, LLC  
Ashburnham Mun. Light Plant  
Associated Industries of Massachusetts  
Astral Energy LLC  
Athens Energy LLC  
Atlantic Energy MA, LLC  
Avangrid Renewables, LLC

## B

Backyard Farms LLC  
Backyard Farms Energy, LLC  
Bath Iron Works Corp.  
Beacon Falls Energy Park, LLC  
Bear Swamp Power Co. LLC  
Belmont Mun. Light Dept.  
Berkshire Power Co., LLC  
Berlin Station, LLC  
BioUrja Power, LLC  
Black Bear Hydro Partners, LLC  
Blackstone Hydro, Inc.  
Block Island Power Co.  
Blue Sky East, LLC  
Blue Sky West, LLC  
BlueRock Energy, Inc.  
Boston Energy Trading and Marketing  
Boylston Mun. Light Dept.  
BP Energy Co.  
Braintree Electric Light Dept.  
Bridgewater Power Co., L.P.  
Brookfield Energy Marketing Inc.  
Brookfield Energy Marketing LP  
Brookfield Renewable Energy Mktg. US  
Brookfield White Pine Hydro LLC  
Brown Bear II Hydro, Inc.  
Bruce Power, Inc.  
BSW ProjectCo, LLC  
Bucksport Generation LLC  
Burlington Electric Dept.

## C

C.N. Brown Electricity, LLC  
Calpine Energy Services, LP  
Calpine Energy Solutions, LLC  
Canandaigua Power Partners, LLC  
Cape Light Compact JPE  
Castleton Comm. Merchant Trading  
Celtic Power Analytics, LLC  
Central Maine Power Co.

Central Rivers Power MA, LLC  
Centre Lane Trading Limited  
Champion Energy Marketing LLC  
Champlain VT, LLC  
Chester Mun. Electric Light Dept.  
CHI Power Marketing, Inc.  
Chicopee Mun. Lighting Plant  
Choice Energy LLC  
Cianbro Energy, LLC  
Citigroup Energy Inc.  
CleanChoice Energy, Inc.  
Clear Choice Energy, LLC  
Clear River Energy LLC  
CLEAResult Consulting Inc.  
Clearview Electric Inc.  
Commonwealth Resource Management  
Competitive Energy Services, LLC  
Concord Mun. Light Plant  
Connecticut Central Energy, LLC  
Connecticut Gas & Electric, Inc.  
Connecticut Jet Power LLC  
Connecticut Light and Power Co., The  
Connecticut Materials Innovations and Recycling Authority  
Connecticut Mun. Electric Energy Coop.  
Connecticut Office of Consumer Counsel  
Connecticut Transmission Mun. Electric Energy Coop.  
Conservation Law Foundation  
Consolidated Edison Co. of New York  
Consolidated Edison Development, Inc.  
Consolidated Edison Energy, Inc.  
Consolidated Edison Solutions, Inc.  
Constellation Energy Power Choice, LLC  
Constellation NewEnergy, Inc.  
Convergent Energy and Power LLC  
Covanta Energy Marketing, LLC  
Covanta Projects of Wallingford, LP  
CPV Towantic, LLC  
Crocket Valley Energy Center, LLC  
Cross-Sound Cable Co., LLC  
CS Berlin Ops, Inc.  
CWP Energy inc.  
Cypress Creek Renewables, LLC

## D

Danvers Electric Division  
Darby Energy, LLC  
Dartmouth Power Associates, LP  
DC Energy, LLC  
Deepwater Wind Block Island, LLC  
Devon Power LLC  
Devonshire Energy LLC  
DFC ERG CT, LLC  
Direct Energy Business, LLC  
Direct Energy Business Marketing, LLC  
Discount Power, Inc.  
Dominion Energy Generation Marketing  
Dominion Energy Nuclear Connecticut  
DTE Energy Trading, Inc.  
Durgin and Crowell Lumber Co., Inc.  
Dynasty Power Inc.  
Dynegy Marketing and Trade, LLC

## E

E.N.H. Power  
EDF Energy Services, LLC  
EDF Trading North America, LLC  
EDP Renewables North America LLC  
EIP Investment, LLC  
eKapital Investments LLC  
Electricity Maine, LLC  
Elektrisola, Inc.  
Eligo Energy, LLC  
Emera Energy Services Sub. No. 1 LLC  
Emera Energy Services Sub. No. 2 LLC  
Emera Energy Services Sub. No. 3 LLC  
Emera Energy Services Sub. No. 4 LLC  
Emera Energy Services Sub. No. 5 LLC  
Emera Energy Services Sub. No. 6 LLC  
Emera Energy Services Sub. No. 7 LLC  
Emera Energy Services Sub. No. 8 LLC  
Emera Energy Services Sub. No. 9 LLC  
Emera Energy Services Sub. No. 11 LLC  
Emera Energy Services Sub. No. 12 LLC  
Emera Energy Services Sub. No. 15 LLC  
Emera Maine  
Empire Generating Co, LLC  
EmpireCo Limited Partnership  
Enel X North America, Inc.  
Energy Management, Inc.  
Energy New England LLC  
Energy Federation Inc.  
Energy GPS LLC  
Energy Plus Holdings LLC  
Energy Rewards, LLC  
Enerwise Global Technologies, Inc.  
Engelhart CTP (US) LLC  
ENGIE Energy Marketing NA, Inc.  
ENGIE Resources LLC  
Entergy Nuclear Power Marketing LLC  
EnvaPower, Inc.  
Environmental Defense Fund, Inc.  
ESI Northeast Energy GP, Inc.  
Essential Power Massachusetts, LLC  
Essential Power Newington, LLC  
ETC Endure Energy, LLC  
Evergreen Wind Power II, LLC  
Evergreen Wind Power III, LLC  
EverPower Commercial Services LLC  
Eversource Energy Transmission Ventures, Inc.  
Everyday Energy, LLC  
Exelon Generation Co., LLC

## F

Fairchild Energy, LLC  
First Point Power, LLC  
FirstLight Power Resources Management, LLC  
Fisher Road Solar I LLC  
Fitchburg Gas and Electric Light Co.  
Footprint Power Salem Harbor Development LP  
FPL Energy Mason, LLC  
FPL Energy Wyman, LLC  
FPL Energy Wyman IV, LLC  
Freeport Commodities LLC  
Fusion Solar Center, LLC

## G

Galt Power Inc.  
Garland Manufacturing Co.  
Garland Power Co.  
Gas Recovery Systems, LLC  
GBE Power Inc.  
Genbright, LLC  
GenConn Energy LLC  
GenOn Energy Management, LLC  
Georges River Energy, LLC  
Georgetown Mun. Light Dept.  
Goose River Hydro, Inc.  
Granite Reliable Power, LLC  
Gravity Renewables, Inc.  
Great American Power, LLC  
Great Bay Power Marketing, Inc.  
Great Eastern Energy  
Great River Hydro, LLC  
Green Berkshires, Inc.  
Green Mountain Energy Co.  
Green Mountain Power Corp.  
Green Power USA, LLC  
GridAmerica Holdings Inc.  
Grid Power Direct, LLC  
Groton Electric Light Dept.  
Group628, LLC  
Groveland Electric Light Dept.  
GSP Lost Nation LLC  
GSP Merrimack LLC  
GSP Newington LLC  
GSP Schiller LLC  
GSP White Lake LLC

## H

Hammond Belgrade Energy LLC  
Hammond Lumber Co.  
Hampshire Council of Governments  
Hancock Wind, LLC  
Harborside Energy of Massachusetts  
Hartree Partners, LP  
Harvard Dedicated Energy Limited  
High Liner Foods (USA) Inc.  
HIKO Energy, LLC  
Hingham Mun. Lighting Plant  
Holden Mun. Light Dept.  
Holyoke Gas & Electric Dept.  
Howard Wind LLC  
HSE Hydro NH AC, LLC  
Hudson Energy Services, LLC  
Hudson Light and Power Dept.  
Hull Mun. Lighting Plant

## I

Icetec Energy Services, Inc.  
IDT Energy, Inc.  
Indeck Energy-Alexandria, LLC  
Independence Energy Group LLC  
Indra Energy  
Industrial Energy Consumer Group  
Industrial Power Services Corp.  
Inertia Power III LP  
Inspire Energy Holdings, LLC  
Interconnect Energy Storage LLC  
Interstate Gas Supply, Inc.  
Invenergy Energy Management LLC  
IPKeys Power Partners, LLC  
Ipswich Mun. Light Dept.



**J**

J. Aron & Co. LLC  
J.F. Gray & Associates, LLC  
Jericho Power LLC  
Josco Energy MA LLC  
Just Energy (U.S.) Corp.

**K**

Kendall Green Energy LLC  
Kimberly-Clark Corp.  
King Forest Industries, Inc.  
Kleen Energy Systems, LLC

**L**

Liberty Power Delaware LLC  
Liberty Power Holdings, LLC  
Liberty Utilities (Granite State Electric)  
LifeEnergy, LLC  
Linde Energy Services, Inc.  
LIPA  
Littleton (MA) Electric Light Dept.  
Littleton (NH) Water and Light Dept.  
Longreach Energy, LLC  
Longwood Medical Energy Collaborative  
Lotus Danbury LMS100 One, LLC  
Lotus Danbury LMS100 Two, LLC

**M**

MA Operating Holdings, LLC  
Macquarie Energy, LLC  
Madison Electric Works  
MAG Energy Solutions, Inc.  
Maine Power LLC  
Maine Public Advocate Office  
Maine Skiing, Inc.  
Major Energy Electric Services  
Manchester Methane, LLC  
Mansfield Mun. Electric Dept.  
Maple Energy, LLC  
Marathon Power LLC  
Marble River, LLC  
Marblehead Mun. Light Dept.  
Marco DM Holdings, LLC  
Marie's Way Solar I, LLC  
Mass Solar I, LLC  
Mass. Attorney General's Office  
Mass. Bay Transportation Authority  
Mass. Development Finance Agency  
Mass. Div. of Capital Asset Management  
Massachusetts Electric Co.  
Massachusetts Gas and Electric, Inc.  
Mass. Mun. Wholesale Electric Co.  
Massachusetts Port Authority  
MATEP LLC  
Mega Energy Holdings, LLC  
Mercuria Energy America, Inc.  
Merrill Lynch Commodities, Inc.  
Merrimac Mun. Light Dept.  
Messalonskee Stream Hydro, LLC  
Middleborough Gas and Electric Dept.  
Middleton Mun. Electric Dept.  
Middletown Power LLC  
Millennium Power Partners, LP  
Mint Energy, LLC  
Montville Power LLC  
Moore Co.  
Moore Energy LLC  
Morgan Stanley Capital Group, Inc.  
MP2 Energy NE LLC  
MPower Energy LLC

**N**

Nalcor Energy Marketing  
Narragansett Electric Co.  
National Gas & Electric, LLC  
Natural Resources Defense Council  
Nautilus Power, LLC  
NEPM II, LLC  
New Brunswick Energy Marketing Corp.  
New England Battery Storage, LLC  
New England Confectionery Co., Inc.  
New England Energy Connection, LLC  
New England Power Co.  
New England Wire Technologies Corp.  
New Hampshire Electric Coop., Inc.  
New Hampshire Industries, Inc.  
New Hampshire Office of Consumer Advocate  
New Hampshire Transmission, LLC  
New York State Electric & Gas, Inc.  
NextEra Energy Marketing, LLC  
NextEra Energy Maine, Inc.  
NextEra Energy Resources, LLC  
NextEra Energy Seabrook LLC  
Niagara Wind Power, LLC  
NN8, LLC  
Noble Environmental Power, LLC  
Nordic Energy Services, LLC  
North American Power and Gas, LLC  
North Attleborough Electric Dept.  
Northern States Power Co.  
Norwalk Power LLC  
Norwood Mun. Light Dept.  
NRG Canal, LLC  
NRG Curtailment Solutions, Inc.  
NRG Power Marketing LLC  
NSTAR Electric Co.  
NTE Connecticut, LLC  
Number Nine Wind Farm LLC  
Nylon Corp. of America, Inc.

**O**

Oasis Energy  
Ohmconnect, Inc.  
Ontario Power Gen. Energy Trading, Inc.  
Ontario Power Gen. Inc.  
Orbit Energy Rhode Island, LLC

**P**

Pacific Summit Energy, LLC  
Pascoag Utility District  
Patriot Partnership LLC  
Pawcatuck Solar Center, LLC  
Pawtucket Power Holding Co.  
Paxton Mun. Light Dept.  
Peabody Mun. Light Plant  
Peninsula Power, LLC  
Perigee Energy, LLC  
Pioneer Hydro Electric Co., Inc.  
Plainfield Renewable Energy, LLC  
Plant-E Corp.  
Plymouth Rock Energy, LLC  
PNE Energy Supply LLC  
Power Bidding Strategies, LLC  
Power Supply Services, LLC  
PowerOptions, Inc.  
Praxair, Inc.  
Princeton Mun. Light Dept.  
Provider Power Mass, LLC  
PSEG Energy Resources & Trade LLC  
PSEG New Haven LLC  
Public Power, LLC  
Public Service Co. of New Hampshire  
Putnam Hydropower, Inc.

**R**

Rainbow Energy Marketing Corp.  
Reading Mun. Light Plant  
Record Hill Wind LLC  
ReEnergy Stratton LLC  
Reliant Energy Northeast LLC  
Renaissance Power & Gas, Inc.  
Rensselaer Generating LLC  
Repsol Energy North American Corp.  
Residents Energy, LLC  
Rhode Island Engine Genco, LLC  
Rhode Island State Energy Center, LP  
Rinar Power LLC  
Rocky Gorge Corp.  
RocTop Investments Inc.  
Roseton Generating LLC  
Rowley Mun. Light Plant  
Royal Bank of Canada  
Rubicon NYP Corp.  
Russell Mun. Light Dept.

**S**

Saracen Energy East LLC  
Saracen Power LLC  
Seneca Energy II, LLC  
SFE Energy Connecticut, Inc.  
SFE Energy Massachusetts, Inc.  
Shell Energy North America (US) L.P.  
Shipyard Brewing Co., LLC  
Shipyard Energy, LLC  
Shrewsbury Electric & Cable Operations  
SmartEnergy Holdings, LLC  
Solea Energy, LLC  
Somerset Power LLC  
South Hadley Electric Light Dept.  
South Jersey Energy Co.  
South Jersey Energy ISO3, LLC  
Spark Energy, LLC  
Sperian Energy Corp.  
Springfield Power LLC  
Spruce Mountain Wind, LLC  
SRECTrade, Inc.  
St. Anselm College  
Starion Energy, Inc.  
StateWise Energy Massachusetts LLC  
Sterling Mun. Electric Light Dept.  
Stetson Holdings, LLC  
Stetson Wind II, LLC  
Stonepeak Kestrel Energy Marketing  
Stored Solar J&WE, LLC  
Stowe Electric Dept.  
Summer Energy Northeast, LLC  
Sunrun Inc.  
Sunwave USA Holdings Inc.  
Sustaining Power Solutions LLC  
SWEB Development USA, LLC  
Swift River Trading Co. LLC  
Syncarpha Billerica, LLC  
Syncarpha Bondsville, LLC  
Syncarpha Hancock, LLC  
Syncarpha Lexington, LLC  
Syncarpha North Adams, LLC

**T**

Talen Energy Marketing, LLC  
Tangent Energy Solutions, Inc.  
Taunton Mun. Lighting Plant  
TCPL Power Ltd.  
TEC Energy Inc.  
Templeton Mun. Lighting Plant  
Tenaska Power Management, LLC  
Tenaska Power Services Co.  
Texas Retail Energy, LLC

The Energy Consortium  
The Energy Council of RI  
Three Corners Solar LLC  
Tidal Energy Marketing Inc.  
Titan Gas, LLC  
Town of Hanover, NH  
Town of New Shoreham, RI  
Town Square Energy, LLC  
TrailStone Power, LLC  
TransAlta Energy Marketing (U.S.) Inc.  
TransCanada Energy Ltd.  
TransCanada Power Marketing Ltd.  
Twin Eagle Resource Management, LLC

**U**

UIL Distributed Resources LLC  
Uncia Energy, LP - Series G  
Union Atlantic Electricity, Inc.  
Union of Concerned Scientists, Inc.  
Uniper Global Commodities North America LLC  
United Illuminating Co., The  
Unitil Energy Systems, Inc.  
UNITIL Power Corp.  
University of Massachusetts at Amherst  
University System of New Hampshire  
Utility Expense Reduction LLC  
Utility Services, Inc.

**V**

VECO Power Trading, LLC  
Verde Energy USA, Inc.  
Vermont Electric Coop.  
Vermont Electric Power Co., Inc.  
Vermont Energy Investment Corp.  
Vermont Public Power Supply Authority  
Vermont Transco LLC  
Vermont Wind  
Verso Energy Services LLC  
Village of Hyde Park (VT) Electric Dept.  
Vineyard Wind LLC  
Viridian Energy, LLC  
Viridity Energy, Inc.  
Viridity Energy Solutions, Inc.  
Vitol Inc.

**W**

Wakefield Mun. Gas and Light Dept.  
Wallingford, Conn., Dept. of Public Utilities, Electric Division  
Wallingford Energy II, LLC  
Waterbury Generation LLC  
Waterside Power, LLC  
WATTIFI INC.  
Wellesley Mun. Light Plant  
West Boylston Mun. Lighting Plant  
Westfield Gas & Electric Light Dept.  
Wheelabrator Bridgeport, LP  
Wheelabrator North Andover Inc.  
Wind Energy Development, LLC  
WM Renewable Energy, LLC  
Wolfeboro Mun. Electric Dept.  
Wolverine Holdings, L.P.  
Woods Hill Solar, LLC

**X**

XOOM Energy, LLC

**Y**

Yellow Jacket Energy, LLC  
Yes Energy, LLC

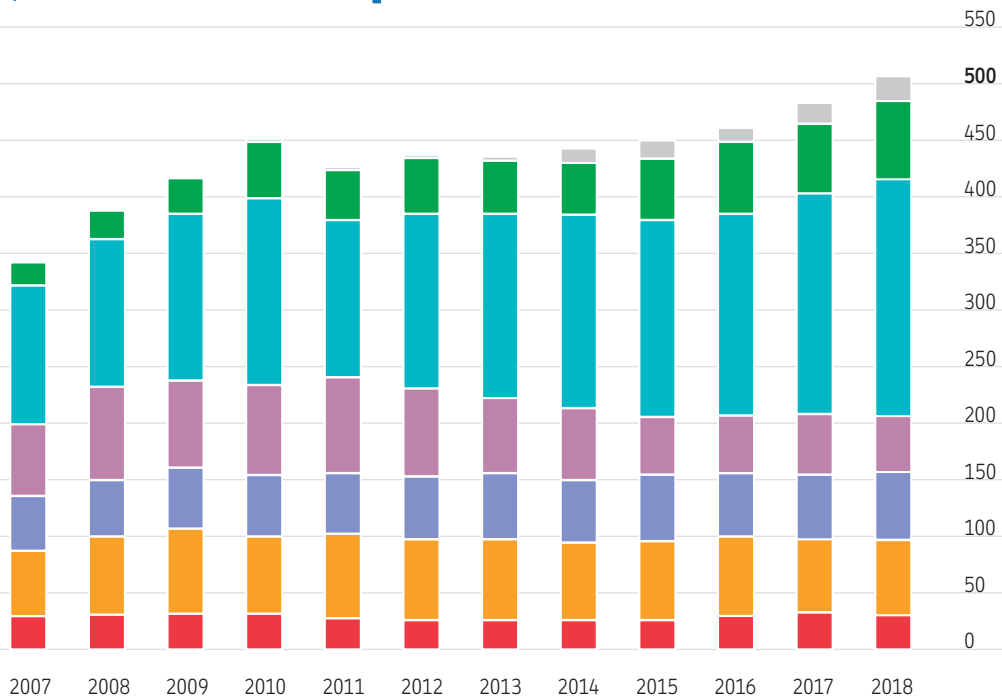
**Z**

Z-TECH LLC





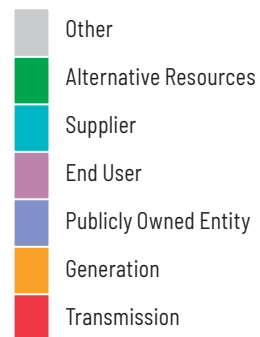
# Membership Growth



**500+ AND GROWING.** In late 2018, for the first time in its nearly 50-year history, NEPOOL membership exceeded 500 Participants (or signatories to the NEPOOL Agreement) (see pages 10-11 for a complete listing of NEPOOL Participants). To be a Participant, an Entity must either be engaged in the electric power business or be a consumer (or non-profit group representing consumers) of electricity in the New England Control Area that generates or purchases electricity primarily for its own consumption. NEPOOL membership has increased a little more than 13 percent over the last five years, and by more than 29 percent over the last 10 years.

Participants may, and are encouraged to, actively take part in the Participants Processes outlined in the Participants Agreement. That involvement is accomplished through the four Principal Committees and other NEPOOL subcommittees, task forces, and working groups (for a more complete discussion of the Principal Committees, standing subcommittees, and working groups, see pages 28-41 ahead).

For voting, a Participant, together with each of its Related Persons (or Affiliates), may join only one Sector, and can have no more than one vote in that Sector. For this reason, the number of Participants exceeds the number of Sector (or voting) members. In the Sector pages that follow, each of the Participants represented in the Sector are grouped together and listed in alphabetical order of the Sector voting member.





# NEPOOL Sectors

## Diversity in and Among Sectors

NEPOOL's 504 Participants are generally organized and act on matters by Sector. Each Sector has certain criteria, described in more detail in the pages that follow, that a Participant must meet in order to participate in that Sector. A Participant and all of its related affiliates are entitled only to one vote in the Sector and can join only one of NEPOOL's six Sectors, regardless of how many Sectors for which they might qualify.

## NEPOOL Voting

Sectors have equal aggregate votes (Voting Shares), with the exception of the Alternative Resources Sector, which has a slightly smaller Voting Share because its numbers are not yet sufficient for full activation. Within each Sector, individual voting members have an equal per-capita vote. To qualify as an individual voting member, Participants must meet certain criteria and/or minimum threshold requirements. In certain circumstances, members may (and some must) be represented by a group voting member. Group voting members and members required to vote with their related affiliates are entitled to split their votes to reflect the diversity of those they represent.

## Non-Sector Members

NEPOOL also created the opportunity for entities that are interested in joining NEPOOL but are not yet eligible to participate in any Sector – for example, because they are in the early stage of New England business development – to join NEPOOL as Provisional Members. Those members can vote in a group seat, with the group having a total vote of one percent (or less if there are not at least five Provisional Members). Non-Sector members, including the nine Gas Industry Participants and Data Only Participants that do not vote, are identified on page 37 and are not reflected in the circles to the right.

66

**Generation  
Participants**

31

**Transmission  
Participants**

205

**Supplier  
Participants**

60

**Publicly Owned  
Entity Participants**

69

**Alternative  
Resources Participants**

50

**End User  
Participants**

16

**Provisional Member  
Group Seat Participants**



# Generation Sector

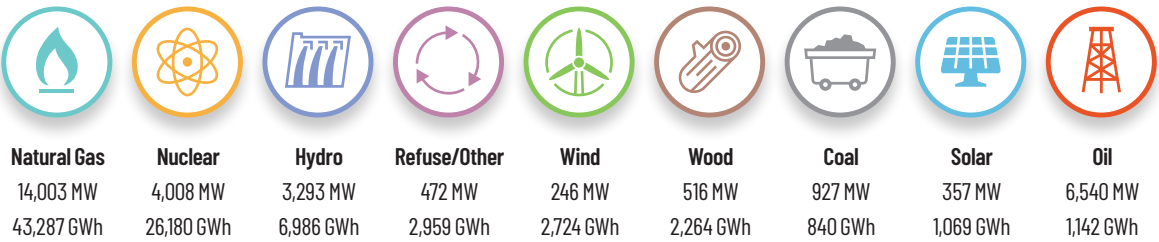
To qualify for membership in the Generation Sector, an entity must either own facilities in New England that generate power, have been approved by ISO-NE to interconnect to the system, have secured environmental air or siting approvals in New England for new generators, or have committed as a capacity resource in a New England Forward Capacity Auction (FCA).

Generation Sector members include independent power producers, exempt wholesale generators, and qualifying cogeneration and small power production facilities. Their facilities cover the gamut of generation, using a variety of fuel sources, including natural gas, oil, coal and nuclear fuel as well as hydro, bio/refuse and other renewable resources. The facilities are similarly varied in age and technologies used to produce electricity. Unit types include combined cycle and combustion turbines, steam turbines, pumped storage, run-of-river pondage hydro, and renewable resources that include wind, solar, bio/refuse-fueled units and fuel cells.

Each Participant in the Generation Sector that has at least 15 MW of New England-based generation is entitled to designate an individual voting member for each of the Principal Committees. Other Participants in the Generation Sector that do not designate individual voting members are represented through a group seat. In 2018, the Generation Group Seat represented 20 members and more than 1,728 MW in aggregate. Approximately 15,500 MW are represented by the remaining 13 voting members.

Because Participants must share their vote with all their related affiliates and can join only a single Sector, the others that own generation facilities participate instead in other Sectors. Generation Sector members include not only owners of generation facilities but also member companies that have significant power-marketing interests and retail load-serving interests.

## Generation Mix



### Generation By The Numbers

- 350 Generators
- Over 30,000 MW in 2018 generating capacity
- Over 13,300 MW of new generation proposed for New England, including over 3,000 MW of natural gas-fired generation, over 7,900 MW of wind, over 1,400 MW of solar, and over 800 MW of storage
- 89% 2018 System Weighted Equivalent Availability Factor (through Oct 30)

### GENERATION 101

#### Megawatt (MW):

A measure of electricity that is the equivalent of one million watts. It is generally estimated that a megawatt provides enough electricity to supply the power needs of 800 to 1,000 homes.

MW

#### Gigawatt Hour (GWh):

A gigawatt-hour is equal to one thousand megawatt hours of energy used continuously for one hour.

GWh

MW = Capacity    GWh = Net Energy for Load (Through October 31)





**Thomas W. Kaslow**  
Vice-Chair, Generation Sector

## Generation Sector Members

Bucksport Generation LLC  
CPV Towantic, LLC

GenConn Energy LLC

Dominion Energy Generation Marketing, Inc.

Dominion Energy Nuclear Connecticut

ENGIE Energy Marketing NA, Inc.

ENGIE Resources LLC

MATEP LLC

Waterbury Generation LLC

Entergy Nuclear Power Marketing LLC

FirstLight Power Resources Management, LLC

Generation Group Member

Berlin Station, LLC

CS Berlin Ops, Inc.

Blackstone Hydro, Inc.

Bridgewater Power Company, LP

Brown Bear II Hydro, Inc.

EmpireCo Limited Partnership

Energy Management Inc.

New England Battery Storage, LLC

Footprint Power Salem Harbor  
Development LP

Indeck Energy-Alexandria, LLC

Kendall Green Energy LLC

New England Confectionery Company

Pawtucket Power Holding Company LLC

Central Rivers Power MA, LLC

HSE Hydro NH AC, LLC

Plainfield Renewable Energy, LLC

Record Hill Wind LLC

Springfield Power LLC

Spruce Mountain Wind, LLC

Waterside Power, LLC

Invenergy Energy Management LLC

Clear River Energy LLC

Kleen Energy Systems, LLC

Beacon Falls Energy Park, LLC

Marco DM Holdings, LLC

Nautilus Power, LLC

Essential Power Massachusetts, LLC

Essential Power Newington, LLC

Rhode Island State Energy Center, LP

NextEra Energy Resources, LLC

ESI Northeast Energy GP, Inc.

FPL Energy Mason LLC

FPL Energy Wyman IV LLC

FPL Energy Wyman LLC

New Hampshire Transmission, LLC

NextEra Energy Maine, LLC

NextEra Energy Marketing, LLC

NextEra Energy Seabrook LLC

NEPM II, LLC

NRG Power Marketing LLC

Connecticut Jet Power LLC

Devon Power LLC

Energy Plus Holdings LLC

GenOn Energy Management, LLC

NRG Canal LLC

Green Mountain Energy Company

Independence Energy Group LLC

Middletown Power LLC

Montville Power LLC

Norwalk Power LLC

NRG Curtailment Solutions, Inc.

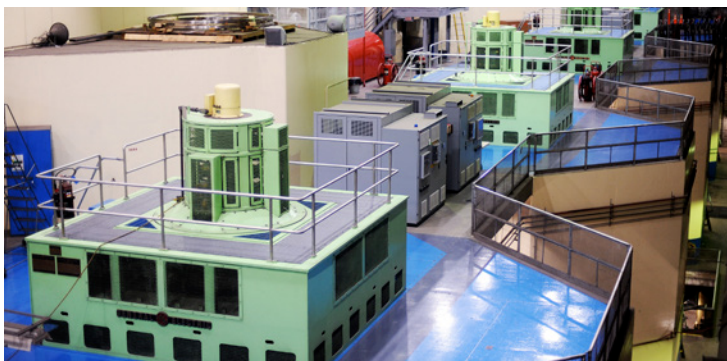
Reliant Energy Northeast LLC

Somerset Power LLC

XOOM Energy, LLC

Verso Energy Services LLC

■ Voting Members ■ Related Persons










# Transmission Sector

A Transmission Sector member must own transmission facilities that are Pool Transmission Facilities (PTF). PTF are defined as transmission facilities rated 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.

A Participant in the Transmission Sector can have an individual voting member if it owns PTF with an original capital investment of at least \$30 million. While Participants must meet this requirement to vote in the Transmission Sector, their related affiliates also include members that have significant non-transmission facilities in New England. Those Participants include companies with generation and power-marketing interests that operate in New England independently of their affiliated company that owns PTF. In some cases, those related affiliates have exercised their right to split the single Transmission Sector vote between or among themselves. There are also Participants that do not yet meet the eligibility requirements for NEPOOL membership in any Sector and often are in the early stage of their business development but are nevertheless required and/or interested in becoming Participants before meeting those requirements in order to participate in FERC Order No. 1000 transmission development efforts or the Forward Capacity Market (FCM).

	Service Territory	Electric Customers	Transmission Lines (miles)	Distribution Lines (miles)
	Central and Southern ME, Parts of CT	960,000	3,050	27,045
	Northern ME	159,000	1,265	6,090
	Parts of CT, MA and NH	3,190,000	4,352	57,970
	RI and Parts of MA	1,800,000	2,924	24,234
	VT	367,000	826	N/A

## TRANSMISSION 101

### Electric Transmission Upgrades (ETUs):



ETUs are market-based transmission investments that can be made by either traditional utility transmission companies or non-traditional transmission development companies; the costs of ETUs are supported through market arrangements and not through regional transmission rates.

## Transmission Sector Members

### AVANGRID

Central Maine Power Company  
 Avangrid Renewables, LLC  
 New York State Electric & Gas Corporation  
 United Illuminating Company, The  
 UIL Distributed Resources LLC  
 GenConn Energy LLC  
 Vineyard Wind LLC

### Emera Maine, Inc.

Emera Energy Services Subsidiary No. 1 through 9, 11, 12 and 15 LLC  
 Bear Swamp Power Company LLC

### Eversource Energy Service Company

Connecticut Light and Power Company  
 NSTAR Electric Company  
 Public Service Company of New Hampshire  
 Eversource Energy Transmission Ventures  
 BSW ProjectCo, LLC

### New England Power Company

Massachusetts Electric Company  
 Narragansett Electric Company  
 GridAmerica Holdings Inc.

### Vermont Electric Power Company, Inc.

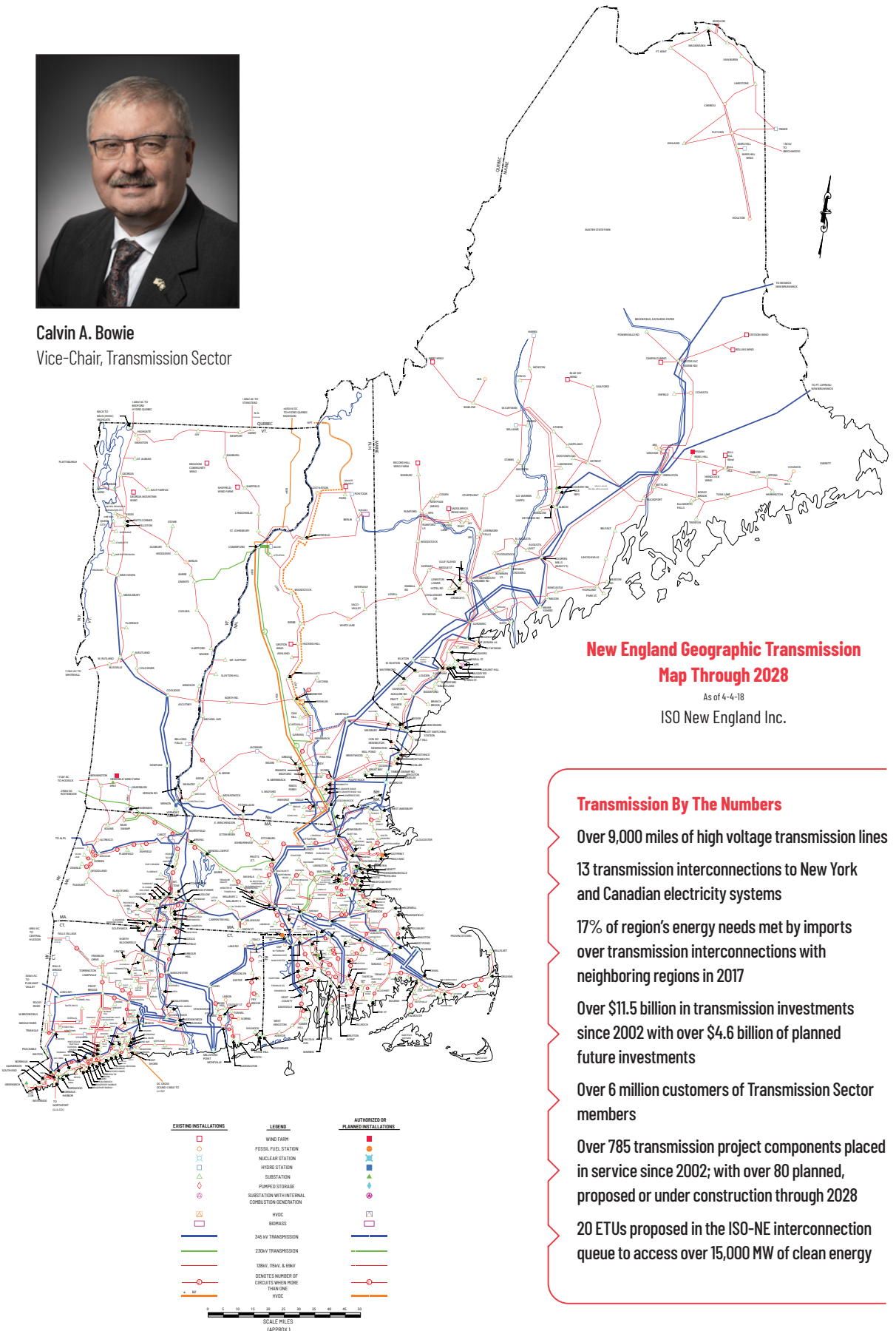
Green Mountain Power Corporation  
 Vermont Transco LLC

■ Voting Members ■ Related Persons





**Calvin A. Bowie**  
Vice-Chair, Transmission Sector



## New England Geographic Transmission Map Through 2028

As of 4-4-18

ISO New England Inc.

### Transmission By The Numbers

Over 9,000 miles of high voltage transmission lines

13 transmission interconnections to New York and Canadian electricity systems

17% of region's energy needs met by imports over transmission interconnections with neighboring regions in 2017

Over \$11.5 billion in transmission investments since 2002 with over \$4.6 billion of planned future investments

Over 6 million customers of Transmission Sector members

Over 785 transmission project components placed in service since 2002; with over 80 planned, proposed or under construction through 2028

20 ETUs proposed in the ISO-NE interconnection queue to access over 15,000 MW of clean energy



## Supplier Sector By The Numbers

**\$42.53/MWh Average Real-Time Locational Marginal Price (LMP) (All hours; through October 31)**

**37,276 MW Annual FTRs awarded  
367,323 MW Monthly FTRs awarded**

**More than 8 million MW Cleared Virtual Transactions (projected)**

## SUPPLIER 101

### Load-Serving Entity (LSE):

An entity that is treated by ISO-NE as financially responsible for the load to serve the electric demand of its customers.



### Financial Transmission Rights (FTR):

An FTR is a financial instrument that a Market Participant can buy to hedge the price risk of Day-Ahead congestion caused by constraints on the transmission system. FTR holders have a right to receive, or an obligation to pay the difference in congestion components of Energy prices in the Day-Ahead Market between two locations on the New England System.



### Virtual Transactions

Virtual transactions in ISO-NE are bids and offers submitted to take financial positions in the Day-Ahead Energy Market without the intent of delivering or consuming physical power in the Real-Time Energy Market.



# 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, distribution-only companies and a merchant transmission provider.

Some current members qualify for membership in the Generation, Supplier and Alternative Resources Sectors but, due to governance rules requiring membership of all related affiliates in a single Sector, have elected membership in the Supplier Sector. The Supplier Sector is by far NEPOOL's most populous Sector.

## Supplier Sector Members

Aesir Power, LLC

Agera Energy LLC

Algonquin Energy Services Inc.  
Liberty Utilities (Granite State Electric)

Alphataraxia Nickel LLC

AM Trading Solutions, LLC

Ambit Northeast LLC

American Power & Gas of MA, LLC

American PowerNet Management, LP

Ampersand Energy Partners LLC

Appian Way Energy Partners East, LLC

Archer Energy, LLC

Astral Energy LLC

Atlantic Energy MA LLC

BioUrja Power, LLC

Block Island Power Company  
Town of New Shoreham, Rhode Island

BlueRock Energy, Inc.

Boston Energy Trading and Marketing LLC

BP Energy Company

Brookfield Energy Marketing Inc.

Bear Swamp Power Company LLC

Blue Sky East, LLC

Black Bear Hydro Partners, LLC

Brookfield Energy Marketing LP

Brookfield Renewable Energy Mktg. US

Brookfield White Pine Hydro LLC

Canandaigua Power Partners, LLC

Evergreen Wind Power III, LLC

Granite Reliable Power, LLC

MA Operating Holdings, LLC

Mass Solar 1, LLC

Niagara Wind Power, LLC

Stetson Holdings, LLC

Stetson Wind II, LLC

Vermont Wind, LLC

C.N. Brown Electricity, LLC

Castleton Comm. Merchant Trading LP

GSP Lost Nation LLC

GSP Merrimack LLC

GSP Newington LLC

GSP Schiller LLC

GSP White Lake LLC

Rensselaer Generating, LLC

Roseton Generating, LLC

Celtic Power Analytics LLC

Centre Lane Trading Ltd.

Choice Energy LLC

Citigroup Energy Inc.

CleanChoice Energy, Inc.

Clear Choice Energy, LLC

Clearview Electric Inc.

Competitive Energy Services, LLC

Connecticut Central Energy, LLC

Consolidated Edison Energy, Inc.

Consolidated Edison Development, Inc.

Consolidated Edison Solutions, Inc.

Consolidated Edison Co. of New York

Cross-Sound Cable Company, LLC

CWP Energy Inc.

Darby Energy, LLC

DC Energy, LLC

VECO Power Trading, LLC

Devonshire Energy LLC

Direct Energy Business, LLC

Direct Energy Business Marketing, LLC

Discount Power, Inc.

DTE Energy Trading, Inc.

Dynasty Power Inc.

Dynegy Marketing and Trade, LLC





**Nancy P. Chafetz**

Vice-Chair, Supplier Sector

EDF Trading North America, LLC

EDF Energy Services, LLC

eKapital Investments LLC

Eligo Energy, LLC

Empire Generating Co, LLC

Engelhart CTP (US) LLC

ETC Endure Energy, L.L.C.

Exelon Generation Company, LLC

Constellation Energy Power Choice, LLC

Constellation NewEnergy, Inc.

First Point Power, LLC

Freepoint Commodities LLC

Galt Power Inc.

GBE Power Inc.

Great American Power, LLC

Great Eastern Energy

Grid Power Direct, LLC

Group628, LLC

H.Q. Energy Services (U.S.) Inc.

Harborside Energy of Massachusetts LLC

Hartree Partners, LP

Howard Wind LLC

EverPower Commercial Services LLC

IDT Energy, Inc.

Residents Energy, LLC

Town Square Energy, LLC

Indra Energy

Inertia Power III LP

Inspire Energy Holdings, Inc.

Interstate Gas Supply, Inc.

J. Aron & Company LLC

Josco Energy MA LLC

Just Energy (U.S.) Corp.

Hudson Energy Services, LLC

Kimberly-Clark Corporation

Liberty Power Holdings LLC

Liberty Power Delaware LLC

Linde Energy Services, Inc.

Long Island Lighting Company d/b/a LIPA

Macquarie Energy, LLC

Rhode Island Engine Genco, LLC

MAG Energy Solutions, Inc.

Marathon Power LLC

Marble River, LLC

EDP Renewables North America LLC

Number Nine Wind Farm LLC

Sustaining Power Solutions LLC

Mega Energy Holdings, LLC

Mercuria Energy America, Inc.

Merrill Lynch Commodities, Inc.

Mint Energy, LLC

Morgan Stanley Capital Group, Inc.

MPower Energy LLC

Nalcor Energy Marketing Corporation

New Brunswick Energy Marketing Corporation

Nordic Energy Services, LLC

Northern States Power Company

Ontario Power Generation Inc.

Ontario Power Generation Energy Trading, Inc.

Pacific Summit Energy LLC

Patriot Partnership LLC

Plant-E Corp.

Plymouth Rock Energy, LLC

PNE Energy Supply LLC

Power Bidding Strategies, LLC

PSEG Energy Resources & Trade LLC

PSEG New Haven LLC

Rainbow Energy Marketing Corporation

Renaissance Power & Gas, Inc.

Roctop Investments Inc.

Royal Bank of Canada

Rubicon NYP Corp.

Saracen Energy East LP

Saracen Power LP

SFE Energy Connecticut Inc.

SFE Massachusetts, Inc.

StateWise Energy Massachusetts LLC

Shell Energy North America (US), L.P.

MP2 Energy NE LLC

SmartEnergy Holdings LLC

Solea Energy, LLC

NN8, LLC

South Jersey Energy Company

South Jersey Energy ISO3, LLC

Spark Energy, LLC

Electricity Maine, LLC

E.N.H. Power

HIKO Energy, LLC

Major Energy Electric Services

National Gas & Electric, LLC

Oasis Energy

Perigee Energy, LLC

Provider Power Mass, LLC

Verde Energy USA, Inc.

Sperian Energy Corp.

Starion Energy Inc.

Stonepeak Kestrel Energy Marketing, LLC

Summer Energy Northeast, LLC

Sunwave USA Holdings Inc.

Talen Energy Marketing, LLC

Dartmouth Power Associates, LP

Millennium Power Partners, LP

ReEnergy Stratton LLC

TrailStone Power, LLC

TEC Energy, Inc.

Tenaska Power Services Co.

Tenaska Power Management, LLC

Berkshire Power Company, LLC

Texas Retail Energy, LLC

Tidal Energy Marketing Inc.

Titan Gas, LLC

TransAlta Energy Marketing (U.S.) Inc.

TransCanada Power Marketing Ltd.

TCPL Power Ltd.

TransCanada Energy Ltd.

Bruce Power, Inc.

Twin Eagle Resource Management, LLC

Uncia Energy, LP - Series G

Peninsula Power, LLC

Union Atlantic Electricity

Uniper Global Commodities North America LLC

Unitil Energy Systems, Inc.

Fitchburg Gas and Electric Light Company

UNITIL Power Corp.

Utility Expense Reduction LLC

Viridian Energy, LLC

Connecticut Gas & Electric, Inc.

Energy Rewards, LLC

Everyday Energy, LLC

Massachusetts Gas and Electric, Inc.

Public Power, LLC

Vitol Inc.

WATTIFI INC.

Wolverine Holdings, L.P.

Yellow Jacket Energy, LLC

■ Voting Members ■ Related Persons



# Publicly Owned Entity Sector

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



## Publicly Owned Entity Sector Members

Ashburnham Municipal Light Department	Holyoke Gas & Electric Department	Reading Municipal Light Department
Belmont Municipal Light Department	Hudson Light and Power Department	Rowley Municipal Lighting Plant
Boylston Municipal Light Department	Hull Municipal Lighting Plant	Russell Municipal Light Department
Braintree Electric Light Department	Ipswich Municipal Light Department	Shrewsbury Electric & Cable Operations
Energy New England LLC	Littleton (MA) Electric Light Department	South Hadley Electric Light Department
Burlington Electric Department	Littleton (NH) Water and Light Department	Sterling Municipal Electric Light Department
Chester Municipal Electric Light Department	Madison Electric Works	Stowe (VT) Electric Department
Chicopee Municipal Lighting Plant	Mansfield Municipal Electric Department	Taunton Municipal Lighting Plant
Concord Municipal Light Plant	Marblehead Municipal Light Department	Energy New England LLC
Energy New England LLC	Massachusetts Bay Transportation Authority	Templeton Municipal Lighting Plant
Conn. Materials Innovations and Recycling Authority	Massachusetts Development Finance Agency	University of Massachusetts at Amherst
Conn. Municipal Electric Energy Cooperative	Mass. Municipal Wholesale Electric Company	Vermont Electric Cooperative
Connecticut Transmission Municipal Electric Energy Cooperative d/b/a The Transmission Authority	Massachusetts Port Authority	Vermont Public Power Supply Authority
Danvers Electric Division	Merrimac Municipal Light Department	Village of Hyde Park (VT) Electric Department
Georgetown Municipal Light Department	Middleborough Gas & Electric Department	Wakefield Municipal Gas and Light Dept.
Groton Electric Light Department	Middleton Municipal Light Department	Wallingford, Town of
Groveland Electric Light Department	New Hampshire Electric Cooperative, Inc.	Wellesley Municipal Light Plant
Hingham Municipal Lighting Plant	North Attleborough Electric Department	West Boylston Municipal Lighting Plant
Energy New England LLC	Norwood Municipal Light Department	Westfield Gas & Electric Light Department
Holden Municipal Light Department	Pascoag Utility District	Wolfeboro Municipal Electric Department
	Paxton Municipal Light Department	
	Peabody Municipal Light Plant	
	Princeton Municipal Light Department	

■ Voting Members ■ Related Persons





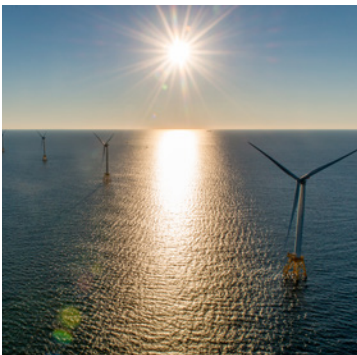


# Alternative Resources Sector

An Alternative Resources (AR) Sector member must be a provider of renewable generation, distributed generation, demand response or energy efficiency.

Renewable generation facilities generally produce energy through use of wind, photovoltaic/solar, hydro, bio/refuse or fuel cells. Distributed generation resources generally produce electricity at the point of consumption rather than centrally, and Distributed Generation Sub-Sector members also include providers of grid-connected electricity storage devices. Load response providers are entities that can effect reductions in energy sales/usage through either reductions or shifts in energy consumption or through energy efficiency measures.

Participants in the AR Sector with at least five MWs 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 Participants in the Sector are entitled to vote in group seats within those Sub-Sectors. As is often the case, some AR Sector members qualify for membership in other NEPOOL Sectors, but because they can be members of only one of those Sectors, have elected membership in the AR Sector. The AR Sector continues to be an area of increasing membership.



## Alternative Resources By The Numbers

2018 Annual New England  
Energy Production:

- 789 GWh\* Solar
- 2,999 GWh\* Wind
- 2,430 GWh\* Wood
- 3,182 GWh\* Refuse/Other
- 6,985 GWh\* Hydro
- 22 GWh\* PRD
- 16,407 GWh\* TOTAL

\* Through October 31, 2018

## ALTERNATIVE RESOURCES 101

### Demand Resource, Demand-Side Resource:



A source of capacity whereby a customer reduces the demand for electricity that must be served from the bulk power system, such as by using energy-efficient equipment, shutting off equipment, or using electricity generated on site.

### Energy Efficiency:



An installed end-use measure or system that reduces the total amount of energy and capacity that otherwise would have been needed to deliver an equivalent or improved level of end-use service, including the use of more efficient lighting, motors, refrigeration, heating, ventilation, and air conditioning equipment and control systems, and industrial process equipment.





**Douglas Hurley**  
Vice-Chair, Alternative  
Resources Sector

## Alternative Resources Sector Members

### RENEWABLE GENERATION SUB-SECTOR

Covanta Energy Marketing, LLC  
Covanta Projects of Wallingford, LLC  
DFC ERG CT, LLC  
Gas Recovery Systems, LLC  
Great River Hydro, LLC  
Jericho Power, LLC  
LifeEnergy, LLC  
Wallingford Energy II, LLC  
New England Energy Connection, LLC  
Novatus Energy  
Blue Sky West, LLC  
Evergreen Wind Power II, LLC  
Hancock Wind, LLC

Stored Solar J&WE, LLC  
SWEB Development USA, LLC  
Wheelabrator North Andover, Inc.  
Calpine Energy Services, LP  
Champion Energy Marketing, LLC  
Calpine Energy Solutions, LLC  
North American Power and Gas, LLC  
Wheelabrator Bridgeport, LP

WM Renewable Energy, LLC

AR RG Large Group Member

Antrim Wind Energy LLC  
Athens Energy LLC  
Cianbro Energy, LLC  
Deepwater Wind Block Island, LLC  
Fusion Solar Center, LLC  
Fisher Road Solar I LLC  
Marie's Way Solar I, LLC  
Syncarpha Billerica, LLC  
Syncarpha Bondsville, LLC  
Syncarpha Hancock, LLC  
Syncarpha Lexington, LLC  
Syncarpha North Adams, LLC  
Georges River Energy, LLC  
Messalonskee Stream Hydro, LLC

AR RG Small Group Member

Anthony, Christopher M.  
CommonWealth Resource Management  
Goose River Hydro, Inc.  
Gravity Renewables, Inc.  
Great Bay Power Marketing, Inc.  
Green Power USA, LLC  
Industrial Power Services Corp.  
Manchester Methane, LLC

Orbit Energy Rhode Island, LLC  
Pioneer Hydro Electric Co., Inc.  
Power Supply Services, LLC  
Putnam Hydropower, Inc.  
Rocky Gorge Corporation  
Swift River Trading Company LLC  
Wind Energy Development, LLC

### DISTRIBUTED GENERATION SUB-SECTOR

CLEAResult Consulting Inc.

Sunrun Inc.

AR DG Small Group Member

Acushnet Company  
Seneca Energy II, LLC

### LOAD RESPONSE SUB-SECTOR

Enel X North America, Inc.

CHI Power Marketing, Inc.  
Woods Hill Solar, LLC

Enerwise Global Technologies, Inc. d/b/a  
CPower

Genbright, LLC

Maple Energy LLC

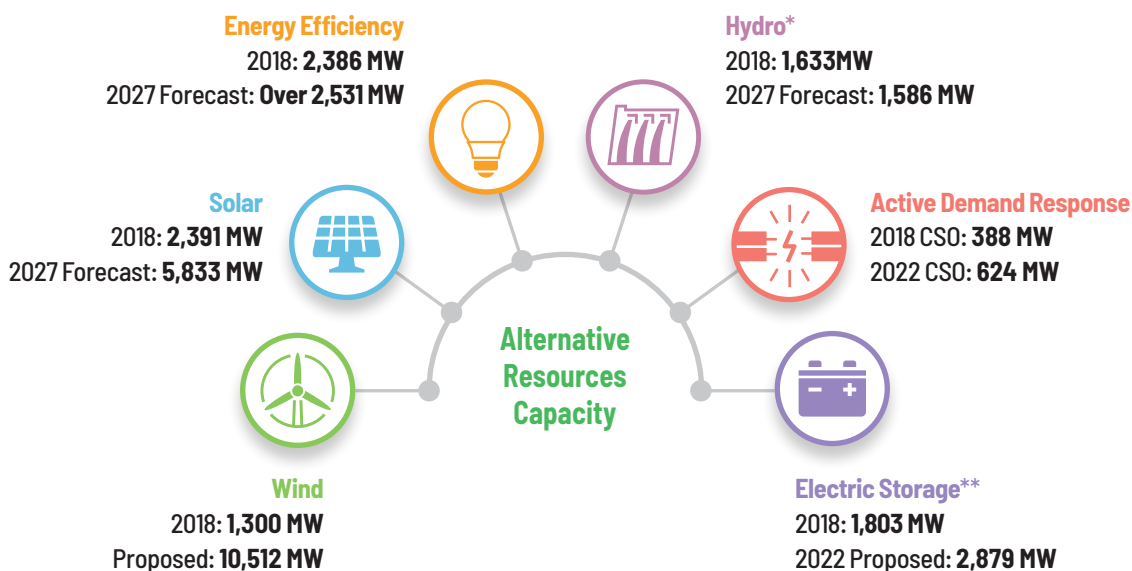
Ohmconnect, Inc.

Vermont Energy Investment Corporation

AR LR Small Group Member

Ameresco CT LLC  
Convergent Energy and Power LLC  
Energy Federation Inc.  
Icetec Energy Services, Inc.  
IPKeys Power Partners LLC  
Tangent Energy Solutions, Inc.  
Viridity Energy Solutions Inc.

■ Voting Members ■ Related Persons



\* Omits Pumped Storage \*\* Includes Pumped Storage



# End User Sector

End User Sector members are New England-based consumers that either purchase or generate electricity primarily for their own consumption.

End User Sector members represent their consumer interests in the NEPOOL stakeholder process. Participants in the End User Sector also include New England-based municipalities or other governmental agencies that are not Publicly Owned Entities. These members principally buy electricity directly from the New England Markets but may incidentally sell their excess electricity as well. Members of the End User Sector also include nonprofit groups and consumer advocates representing New England consumers in the market-making processes.

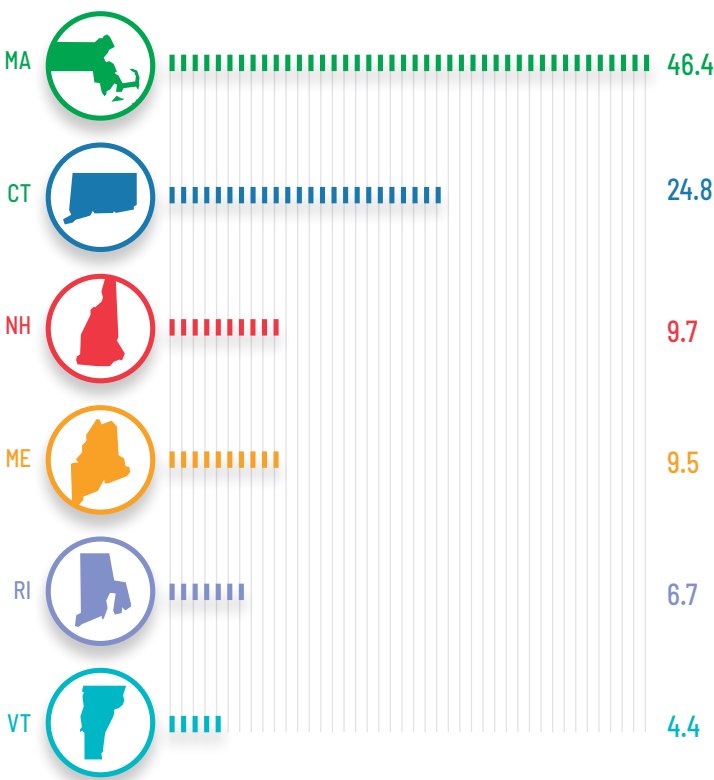


## End User Sector By The Numbers

- 14.8 Million: New England Population
- 7.2 Million Retail Customers
- 101,543 GWh\* Total Real-Time Demand
- \$58.12 MWh\* Average Yearly Wholesale Load Cost (All hours)

\* As of October 31, 2018

## Real-Time Demand (GWh)



As of October 31, 2018

## END USER 101

### Governance Only End User:

An End User Participant whose participation in NEPOOL is limited to and for the purposes of involvement in the Participant Processes, as outlined in Section 7.1 of the Participants Agreement.



### Market Participant End User:

An End User Participant that participates directly in the New England Markets.



### Real-Time Demand:

Consumer electricity consumption measured during an Operating Day. Electricity demand is driven primarily by weather, time-of-day and economic factors and, together with the cost of fuel, drives the price of wholesale electricity in New England.







**Frederick R. Plett**

Vice-Chair, End User Sector  
(Jan-Jun)

**Stacy Dimou**

Vice-Chair, End User Sector  
(Jun-Dec)

## End User Sector Members

Acadia Center

Associated Industries of Massachusetts

Backyard Farms Energy, LLC

Backyard Farms LLC

Bath Iron Works Corporation

Longreach Energy, LLC

Cape Light Compact JPE

Connecticut Office of Consumer Counsel

Conservation Law Foundation

Durgin and Crowell Lumber Company, Inc.

Elektrisola, Inc.

Environmental Defense Fund

Fairchild Semiconductor Corp

Fairchild Energy, LLC

Farhad Aminpour

Garland Manufacturing Company

Garland Power Company

Green Berkshires, Inc.

Hammond Lumber Company

Hammond Belgrade Energy LLC

Hampshire Council of Governments

Hanover, NH (Town of)

Harvard Dedicated Energy Limited

Longwood Medical Energy Collaborative

High Liner Foods (USA) Incorporated

Industrial Energy Consumer Group

J. F. Gray & Associates, LLC

King Forest Industries, Inc.



Maine Public Advocate Office

Maine Skiing, Inc.

Massachusetts Attorney General's Office

Massachusetts Div. of Capital Asset Mgmt.

The Moore Company

Moore Energy LLC

Natural Resources Defense Council

New England Wire Technologies

New Hampshire Industries Inc.

New Hampshire Office of Consumer Advocate

Nylon Corporation of America, Inc.

PowerOptions, Inc.

Praxair, Inc.

Saint Anselm College

Shipyards Brewing Co., LLC

Shipyards Energy LLC

The Energy Consortium

The Energy Council of Rhode Island

Union of Concerned Scientists

University System of New Hampshire

Utility Services, Inc.

Z-TECH LLC

■ Voting Members ■ Related Persons





# NEPOOL Leadership



Pictured from left to right are Kenneth Dell Orto (Budget & Finance Subcommittee Chair), Jose A. Rotger (Transmission Committee Vice-Chair), Calvin A. Bowie (Participants Committee Vice-Chair), Douglas Hurley (Participants Committee Vice-Chair), Nancy P. Chafetz (Participants Committee Vice-Chair), Brian E. Forshaw (Participants Committee Vice-Chair), Thomas W. Kaslow (Participants Committee Chairman), William S. Fowler (Markets Committee Vice-Chair), and Robert de R. Stein (Reliability Committee Vice-Chair). Frederick R. Plett (see pg. 25) (Participants Committee Vice-Chair [Jan-Jun]) and Stacy Dimou (Participants Committee Vice-Chair [Jun-Dec]) are not present in the photo.



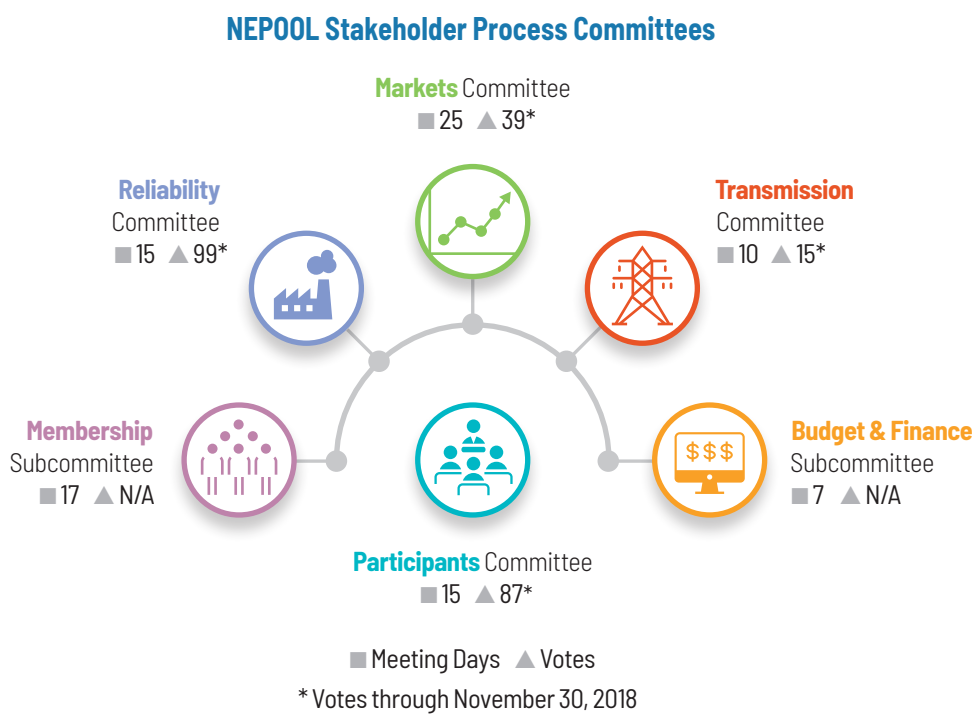
# NEPOOL Committees

## Committee Meetings

Active and informed participation at NEPOOL meetings is strongly encouraged. Principal Committees meet regularly, with the schedule for those meetings established in advance for the entire year. Each committee follows strict notice requirements so that no matter is subject to action that has not been noticed, with supporting materials, in advance of the meeting. NEPOOL committees follow normal parliamentary procedures, allowing any individual member participating in the meeting to comment on a matter up for discussion and to advocate as appropriate. Participation may be in person or by phone; voting may be in person or by proxy.

## Committee Votes

NEPOOL takes actions through supermajority voting in the Principal Committees. For changes to Market Rules, the Information Policy and Installed Capacity Requirements (ICR), that supermajority vote is 60 percent. For votes on amendments to the Participants Agreement and to endorse slates of candidates for election to the ISO-NE Board of Directors, the supermajority vote is 70 percent. For all other actions, the requisite vote is a two-thirds majority. Final votes are recorded and reported at the meeting and posted in a notice of actions and minutes after the meeting.





# Participants Committee



**Thomas W. Kaslow**  
Chair



**David T. Doot**  
NEPOOL Secretary, Counsel



**Cynthia K. Jacobs**  
NEPOOL Administrator

The Participants Committee is NEPOOL's principal governing body, with authority to determine whether the organization supports changes in the ISO-NE Tariff, Market Rules, Financial Assurance or Billing Policies or other procedures impacting the operation of the New England grid and the wholesale electric markets in New England, including potential "jump ball" alternatives to proposals by ISO-NE. The Participants Committee's considerations are informed by the explanation, background and recommendations from one or more of the Technical Committees and the Budget & Finance Subcommittee.

The Participants Committee's authority extends to consideration and vote on all modifications to wholesale power markets, on all changes to the regional transmission tariff arrangements, on all changes to NEPOOL's Generation Information System (GIS) arrangements, on nominees for the ISO-NE Board, on changes to the Financial Assurance Policy, and on NEPOOL's budget and the budgets for ISO-NE and NESCOE.

Given this scope of authority, Participants Committee meetings are the most widely attended of all NEPOOL's committees. The Committee typically meets monthly, or more frequently if needed. Its meetings are generally scheduled to be held in person but may be scheduled as a teleconference if warranted. In 2018, the Committee held 15 days of meetings, nine in person and six by teleconference.

Each year, the Committee holds a multiday summer meeting. The summer meeting is the most widely attended of all meetings. In 2018, the summer meeting was held in Westbrook, Connecticut. The summer meeting includes separate meetings with the ISO-NE Board and State officials, and the Committee covers one or more separate items for deeper review and discussions. In 2018, these additional items included a high-level discussion of the fuel security challenges confronting the region,

during which the Committee heard about the potential grid implications of changing climate and received information about Japan's experiences with dramatic changes in its generation mix since the Fukushima event. The fuel security issue is discussed on pages 8 and 9 of this Annual Report. The second key issue involved discussion and votes on NEPOOL's response to a press reporter's application to join NEPOOL and the corresponding change sought to remove the long-held understanding that statements and positions of others at NEPOOL meetings are not to be published outside of official NEPOOL records. The Chairman's Message at the beginning of this Annual Report describes the outcome of that discussion in NEPOOL and its pending status at the FERC as of the date this Annual Report was finalized for printing.

Participants Committee members receive all materials for meetings both directly and, except for confidential materials, through public posting on the NEPOOL and ISO-NE websites. For efficiency, the Participants Committee acts at the beginning of most meetings through a single vote on the items that do not warrant further discussion and debate beyond what has already occurred at the Technical Committees (Consent Agenda). Through a simple, timely notice, any member can remove



a matter from the Consent Agenda for full discussion and separate consideration by the Participants Committee. In 2018, roughly one-third of the 79 votes taken by the Participants Committee were accomplished through action on a Consent Agenda. Regardless of whether the Committee acts through a Consent Agenda or a specific discussion and vote, the outcome of all Participants Committee votes are reflected preliminarily in notices of actions circulated and posted promptly following each meeting, and finally, in the minutes of the meeting that are reviewed and approved by the Committee.

As required by the Participants Agreement, the Participants Committee votes on the slate of nominees for the ISO-NE Board. That vote is preceded and informed by a recommendation of a Joint Nominating Committee, composed of incumbent ISO-NE Board members not standing for re-election, a Sector-designated representative from each of the six NEPOOL Sectors and a NECPUC-designated representative. In 2018, the Participants Committee

endorsed a slate of candidates composed of Kathleen Abernathy and Philip Shapiro, both nominated for a third term, and Michael Curran, who was nominated to fill the vacancy that will open up at the conclusion of the term of Roberta Brown, who will have completed her third and final term. NEPOOL voted to endorse that slate, which was formally elected by the ISO-NE Board for terms that were renewed in October for Ms. Abernathy and Mr. Shapiro, and will begin in January 2019 for Mr. Curran.

The Participants Committee is contractually tasked to represent NEPOOL's interests in regulatory and legal proceedings. In that regard, the Committee receives a monthly litigation report that is posted publicly, with key developments flagged for members as appropriate during meetings, and updated during the month on the NEPOOL website. In 2018, the Participants Committee participated in or actively monitored more than 260 legal proceedings involving New England matters. Those proceedings are identified on pages 45 to 49 of this Annual Report.





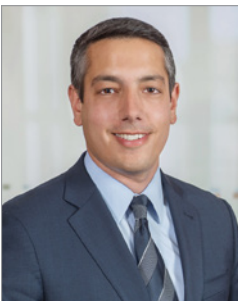
# Markets Committee



**Alex Kuznecow**  
Chair, ISO-NE-Appointed



**William S. Fowler**  
Vice-Chair  
Participant-Elected



**Sebastian M. Lombardi**  
NEPOOL Counsel

The Markets Committee, one of the three standing Technical Committees of NEPOOL, is responsible for reviewing and providing initial stakeholder input to ISO-NE and the Participants Committee on all changes to the design and operation of New England's wholesale electric markets.

The Markets Committee meetings are conducted with the overarching objective of ensuring all affected stakeholders have a chance to understand fully, to provide preliminary input on, and to explore and propose refinements or alternatives to, proposed market changes. This Committee's work involves efforts to identify, understand and resolve concerns raised by representatives of the New England States or by any of NEPOOL's over 500 Participants operating across all aspects of the market. NEPOOL stakeholder participation brings a diversity of goals, perspectives and considerations to the table for each discussion at NEPOOL Markets Committee meetings. This diversity of interests and expertise, coupled with consistently robust and candid engagement among those in the meetings, helps ensure that issues and concerns about or suggested improvements to Market Rule changes are understood and, to the maximum extent possible, resolved at the business table, eliminating, reducing and narrowing those issues that need to be addressed in litigation at the FERC.

In 2018 through November, the Markets Committee met 25 days (some jointly with the Reliability Committee), ultimately voting on nearly 40 separate matters. Many of those matters are discussed in other sections of this Annual Report, including lead responsibility for recommending to the Participants Committee changes associated with the evolution of the FCM, which is discussed on pages 32 and 33 of this Annual Report. Those matters also include input on the multi-chapter fuel security efforts discussed on pages 8 and 9 of this Annual Report, with the Chapter 3 efforts ongoing. Beyond these detailed, resource-intensive and complex matters, the Markets Committee also acted on the following market reforms:

- ▶ A comprehensive package of Tariff changes to facilitate the participation by new technology storage resources in New England's energy and ancillary services markets:
  - ▷ The first set of storage participation-related reforms seeks to codify an enhanced design that improves the ability for emerging storage technologies to participate in the markets.
  - ▷ Following development and NEPOOL consideration of the first set of Tariff revisions, the Markets Committee separately worked with ISO-NE to address additional market rule changes to complete the region's response to the FERC's final rule on electric storage participation in RTO/ISO markets (FERC Order No. 841).
- ▶ Multiple Participant-sponsored Market Rule proposals, including the following two proposals that were fully evaluated but in the end not supported by NEPOOL:
  - ▷ A proposal to extend the Winter Reliability Program – a program that was in effect for the three winters from 2015 through 2018 to bolster reliability of the system – for the upcoming 2018-2019 winter period and possibly beyond.



- ▷ Proposed revisions to the Competitive Auctions with Sponsored Policy Resources (CASPR) design that would expand the resources eligible to participate in the CASPR substitution auction to include resources developed to address local resilience policy objectives. Additional information on CASPR can be found in the Evolution of the FCM section on pages 32 and 33 of this Annual Report.
- ▶ Market changes to address certain FERC directives, including:
  - ▷ Tariff revisions to address the compliance requirements contained in the FERC's final rule on uplift cost allocation and transparency (FERC Order No. 844). These changes are designed to improve transparency practices in New England by requiring ISO-NE to issue new monthly reports concerning uplift payments and unit commitments and to document in the Tariff the current implementation for transmission constraint penalty factors.
  - ▷ Modifications to the method used by ISO-NE for calculating the Peak Energy Rent (PER) charges in compliance with the FERC's February 2018 order approving a settlement agreement related to the same.
- ▶ Numerous proposed changes to the Tariff and/or the Manuals to support the implementation of various previously developed market designs, including the fully integrated price responsive demand, the FCM PFP and CASPR designs.

Finally, the Markets Committee also reviewed in 2018 (1) improvements to the ability of resources to reflect energy opportunity costs of LNG, oil-fired and dual-fuel resources with fuel supply limitations over relatively short periods in their energy bids; (2) ISO-NE's external market monitor study that evaluated the second year of Coordinated Transaction Scheduling (CTS), which is the process through which NYISO and ISO-NE exchange real-time market information to schedule external transactions more efficiently; and (3) quarterly market reports of ISO-NE's internal market monitor (IMM).

## More than 450 NEPOOL Market Participants \$6.9 Billion in Transactions in 2017

### Energy Markets — \$4.5 Billion

#### ▶ Day-Ahead Energy Market

Market Participants secure prices for electric energy the day before delivery to hedge prices.

#### ▶ Real-Time Energy Market

Price-based dispatch to meet the Real-Time demand for electricity across New England.

#### ▶ Financial Transmission Rights

Provides a hedge against the cost of transmission network congestion.

### Capacity Market — \$2.2 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 — \$0.2 Billion

#### ▶ Regulation Market

Pays resources that increase or decrease output moment-by-moment to balance system frequency.

#### ▶ Real-Time Reserve Pricing

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.

#### ▶ Blackstart Program

Pays specific power plants to provide the capability to restart the transmission system following a blackout.

#### ▶ Forward Reserve Market

Procures "fast start or synchronized" capability to meet future local or system needs for electric energy within 10 or 30 minutes, allowing the New England system to withstand unexpected outages and other adverse events.



# Evolution of the Forward Capacity Market

## Challenges and Opportunities

Since 2005, New England has relied on the competitiveness of the FCM to support the continued operation of existing resources and the development of new resources needed to reliably meet projected system demand.

Under the FCM, three years in advance of a delivery period, ISO-NE determines the total capacity requirements needed to maintain reliability and conducts an annual auction to competitively select the lowest-cost set of resources to satisfy those requirements. Those resources are assured competitively determined capacity payments in exchange for their obligations to provide capacity service.

The FCM was a new, untested market when it was first implemented in 2005. Its design has been continuously evolving since that time, through the collaborative efforts of ISO-NE, NEPOOL members and state officials with guidance from the FERC. Most recently, the FCM evolved in partial response to the region's changing resource mix and corresponding reliability needs.

All FCM changes as well as any other market changes are first considered through NEPOOL's stakeholder processes. The changes are proposed by ISO-NE, state officials or Market Participants, and are discussed, analyzed, refined, negotiated and ultimately voted on by NEPOOL. ISO-NE and NEPOOL agree on many changes to modify and/or improve the FCM. Sometimes, though, there is insufficient

consensus in NEPOOL to agree on particular changes, and in some instances, NEPOOL has achieved its requisite supermajority consensus but on a proposal that ISO-NE does not support. Regardless of the outcome of the final NEPOOL vote on any proposed modifications or improvements to the FCM, the final work product is improved by the stakeholder process. It is only through engaging fully in that process of organized collaboration among ISO-NE, NEPOOL members and state officials that there is a reasonable chance to ensure that those changes and their implications for various stakeholder groups are understood and that solutions to problems with those changes can be explored and negotiated with the benefit of the knowledge, experience and creativity of the stakeholders.

2018 was yet another year of significant change in the FCM. On June 1, the following two major market reforms that were the product of years of collaboration, negotiation, litigation and FERC direction became fully effective:

► **Pay-for-Performance** – Before the FCM auction, held in 2015 for capacity obligations that began on June 1, 2018, the FERC approved a new performance structure in the FCM called Pay-for-Performance (PFP). Under this new structure,

two components are used to determine the ultimate payment to each capacity resource. The first component is a base capacity payment that is set in the annual auction. The second component is a new performance payment or charge that either rewards or penalizes the capacity resource based on the extent of the energy it produces or the reserves it provides during times of stress on the system, which are referred to as capacity scarcity conditions. This new PFP design, with a number of additional refinements since that 2015 auction to support implementation, became effective on June 1.

► **Full Integration of Price-Responsive Demand (PRD)** – Also beginning on June 1 of this year, like all other resources, demand resources in the FCM are now fully dispatched based on economics. Prior to that time, those demand resources were dispatched only in response to a capacity deficiency.

In addition, 2018 also marked the start of the CASPR design in the FCM. The CASPR construct, which was built on concepts first discussed and developed in NEPOOL's Integrating Markets and Public Policy (IMAPP) process, which was discussed in NEPOOL's 2017 Annual Report, is designed to accommodate the entry in the FCM of state-sponsored policy



resources, while also seeking to reduce the price-suppressing effects of those resources on capacity clearing prices. Like all other FCM changes, the CASPR design took shape over time through the review and input of stakeholders in numerous NEPOOL meetings. That NEPOOL stakeholder process broadened the understanding and perspectives of all interests around the stakeholder table on this novel, complex addition to the FCM. Ultimately, through that NEPOOL process, stakeholders achieved a far better understanding of the challenging interplay between state public policies and competitive wholesale power markets and identified and negotiated changes to the CASPR proposal to address some of the concerns. And while this is one of those circumstances in which NEPOOL could not achieve its requisite supermajority consensus on all aspects of the final proposal, the diversity of expertise and experiences shared in the NEPOOL stakeholder process helped shape the ultimate CASPR design.

Earlier this year, the FERC approved the CASPR design, and the first substitution auction under that design will take place in February 2019 (which will follow the 13th FCA (FCA13) for resource obligations that begin June 1, 2022). In anticipation of that auction, market participants and ISO-NE have been engaged in the process of qualifying resources that are eligible to participate in the auction, and they continue to evaluate and consider proposed Tariff revisions to clarify the CASPR construct or to support its

implementation. Changes this year have included enhancements to create a mitigation mechanism to test the eligibility of retiring resources for participation in the CASPR substitution auction.

Additional revisions to the FCM this year include the following Tariff changes intended to enhance New England's capacity market:

- ▶ Revisions modifying the economic life calculation that the IMM uses to help determine the de-list bid prices that would be used in the auction for resources seeking to leave the capacity market altogether. These revisions addressed an IMM-identified concern about the previously effective economic life calculation.
- ▶ Tariff revisions to implement an ISO-NE-sponsored proposal to allocate certain costs subregionally (to Capacity Zones) and to improve the transparency of FCM charges.
- ▶ Improvements to address a concern raised by capacity suppliers that they did not have sufficient flexibility to ensure any bids to retire their units produced the intended economic outcome. ISO-NE supported the proposed remedy, helped finalize it and filed the proposal with the FERC for its approval.
- ▶ Expansion of the options of a capacity resource with FCM obligations that it may not be able to satisfy during all or part of the annual delivery period. Those revisions reduce ISO-NE's role in assessing whether a resource will be able to satisfy its capacity obligations, and they provide the capacity supplier itself the

authority to exercise its judgment as to whether its new resource will be ready to satisfy its obligation or to seek to cover for the obligation of a resource that may not be ready to perform.

- ▶ Tariff revisions to establish a consolidated schedule for review and recalculation of a number of the parameters used in the FCM. That consolidated schedule is intended to help ensure consistency in each capacity auction across the values that are used for that auction.

**Capacity Factor** is the ratio of a generator's annual power production to the power it could have produced if it ran at 100 percent rated capacity 24/7.



**Capacity Supply Obligation (CSO):**

is an obligation to provide capacity from a resource, or a portion thereof, to satisfy a portion of the ICR that is acquired through a FCA, a reconfiguration auction or a bilateral transaction.



**Capacity Commitment Period (CCP):**

The one-year period from June 1 through May 31 of the following year for which FCM obligations are assumed and payments are made.







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

## Reliability Committee

As its name implies, the Reliability Committee is the Technical Committee that reviews all matters relating to the reliability of New England's bulk power grid, providing advice and input to ISO-NE and recommendations to the NEPOOL Participants Committee.

Every transmission upgrade or new or modified interconnection plan proposed by Participants that impacts the region's interconnected transmission system must first come before this Committee for its consideration and advisory vote. In addition, the Committee reviews, provides feedback and votes on reliability-related rules and procedures; cost allocation for regional transmission upgrades; ICR and related values; FCM Capacity Zones and other reliability-related matters.



**Mariah E. Winkler**  
(ISO-NE-Appointed), Chair  
Reliability Committee  
Transmission Committee

This past year has been a particularly active one for the Reliability Committee. In 2018, in addition to its usual matters, the Reliability Committee was the principal committee for consideration of grid resilience matters, initially prompted by the U.S. Department of Energy initiative and later for evaluation of fuel security in New England. The Committee provided the input for NEPOOL comments in the FERC's grid resilience proceeding and subsequently considered and acted on both ISO-NE and Participant-proposed fuel security-related Tariff changes. These activities occurred over 10 of the 22 Reliability Committee meetings in 2018. As it does each year, the Committee considered proposals from ISO-NE and recommendations and input from the Power Supply Planning Committee on the various inputs to ICR and related capacity values before considering whether to recommend those values for Participants Committee support. The Reliability Committee processed and voted on 27 proposals to change New England's bulk power system (including the Southeastern Massachusetts Reliability Transmission Project) and 37 sets of proposed changes to Operating Procedures and Planning Procedures. It also considered and voted on Capacity Zones for the next FCA (FCA13), provided advisory input on Tariff revisions to implement the CASPR, and considered and registered its advisory votes on almost \$500 million worth of Transmission Cost Allocation applications.







**José A. Rotger**  
(Supplier), Vice-Chair  
Participant-Elected  
Transmission Committee



**Eric K. Runge**  
NEPOOL Counsel  
Reliability Committee  
Transmission Committee

# Transmission Committee

The NEPOOL Transmission Committee considers any changes to ISO-NE's general tariff provisions and New England's Open Access Transmission Tariff (OATT), which are Sections I and II of the ISO-NE Tariff, respectively.

This Committee's votes advise ISO-NE and recommend formal NEPOOL positions on New England transmission and other general tariff matters to the Participants Committee for its consideration.

In 2018, over the course of 11 meetings and through seven votes, the Transmission Committee provided input and recommendations on the following revisions to the ISO-NE OATT: (1) formula rate revisions worked out over a multiyear settlement process in FERC Docket No. EL16-19-000; (2) Blackstart Service compensation provisions; (3) proposals to modify transmission-related provisions of the Tariff in response to FERC Order Nos. 841 (energy storage) and 842 (primary frequency response); and (4) cluster interconnection deposit refunds. The Transmission Committee also spent several meetings developing a compliance response to Order No. 845 (generator interconnection reforms) and related ISO-NE Tariff revisions and would have voted on those changes this year but for a FERC extension of the compliance deadline. The Committee also continued its active monitoring of the numerous New England transmission proceedings at the FERC on the return on equity (ROE) component of regional transmission rates.





# Budget & Finance Subcommittee



**Kenneth Dell Orto**  
(Generation), Chair






**Paul N. Belval**  
NEPOOL Counsel

The NEPOOL Budget & Finance Subcommittee monitors and provides ISO-NE and the Participants Committee with input on all matters relating to ISO-NE and NEPOOL finances, including the financial assurance provisions designed to minimize credit risk to ISO-NE and the Market Participants.

It is a non-voting body that carefully reviews quarterly financial reports; reviews ISO-NE, NESCOE and NEPOOL budgets and performance relative to budgets; and considers and provides the Participants Committee input on any changes to the ISO-NE Financial Assurance and Billing Policies.

As to its review of financial assurance matters in 2018, the Budget & Finance Subcommittee considered numerous changes to the Financial Assurance Policy (FAP) for Market Participants. Among those changes were revisions that sought to better account for actual charges to Market Participants with Capacity Load Obligations in the FCM. The Subcommittee also examined FAP changes to clarify the financial assurance obligations for participation in CASPR and for energy storage resources under the proposed market change for those resources.

With respect to budget reviews, the Subcommittee fully considered and discussed in numerous meetings the 2019 budgets for ISO-NE, NESCOE and NEPOOL. Those budgets are as follows (with the 2018 budgets for comparison).

	(\$000's)	2019 Proposed or Estimated	2018 (Budget)
	ISO-NE		
	Operating Budget	\$168,900	\$164,200
	Capital Budget	\$28,000	\$28,000
	NESCOE		
	Operating Budget	\$2,396	\$2,326
	NEPOOL		
	Operating Expenses	\$6,275	\$5,830
	Revenue	(\$3,630)	(\$3,145)
	Net Participant Expenses	\$2,645	\$2,685



# Membership Subcommittee

**The number of NEPOOL Participants working together on solutions for New England exceeded 500 for the first time in 2018. NEPOOL membership now stands at a record high.**

The Membership Subcommittee, newly chaired by End User Sector representative Sarah Bresolin Silver, is tasked with approving applications for membership and terminations of membership in NEPOOL.

The Subcommittee met 17 times in 2018, considering more than 52 applications for membership and 25 requests for termination of membership. Actions by the Subcommittee and all FERC membership filings are posted on the NEPOOL website at [http://nepool.com/Memb\\_Subcomm.php](http://nepool.com/Memb_Subcomm.php). The NEPOOL website also provides instructions for becoming a member, changing a participant name and terminating a membership.

In 2018 (through November 30), 44 new members joined NEPOOL, while 26 members left the Pool. The increase in overall membership continues to be led by growth in the Supplier and AR Sectors and also by an increased number of Provisional Member Group Seat and Generation Sector members.

One-half of 2018's new members were competitive electric suppliers, power marketers and/or financial marketers/traders, helping push the Supplier Sector, NEPOOL's most populous Sector, to 205 Participants represented. A little more than one-third of the new members were distributed between the AR Sector and Provisional Members. While the new AR Sector members were largely Renewable Generation Resource Providers, one joined as a Distributed Generation Resource Provider, pushing the AR Sector's aggregate voting share closer to an equal share with the other Sectors (as envisioned when the AR Sector was formed).

The new Provisional Members sought membership as part of the qualification requirements for FCA13, and notably included some of the large off-shore wind and energy storage projects participating in the New England state RFP processes.

Of the remaining 10 percent of new members, four joined the Generation Sector, largely composed of companies acquiring or taking a lead with respect to regional generation resources; one joined the Publicly Owned Entity Sector; and the Pool welcomed an additional Gas Industry Participant (an entity in the natural gas sector that satisfies the definitional requirement in the NEPOOL agreement and is not eligible to participate in any other Sector).

Of the members that left NEPOOL in 2018, more than half were from the Supplier Sector, with the remaining terminations distributed among the AR, Transmission and End User Sectors.

Early in 2018, the Membership Subcommittee was also tasked by the Participants Committee to consider and make a recommendation to the Participants Committee on how NEPOOL should address an application by a press reporter seeking to join NEPOOL as an End User Participant so he could report publicly on statements made by others during NEPOOL meetings. That matter was fully deliberated and presented to the Participants Committee for vote at its summer meeting. As reported in the Chairman's Message at the beginning of this Annual Report, the outcome is still being addressed at the FERC as of the finalization of this Annual Report for printing.

## PROVISIONAL GROUP MEMBERS

Able Grid Infrastructure Holdings  
Anbaric Development Partners  
Champlain VT, LLC  
Cricket Valley Energy Center, LLC  
Cypress Creek Renewables, LLC  
Interconnect Energy Storage LLC  
EIP Investment, LLC  
Lotus Danbury LMS100 One, LLC  
Lotus Danbury LMS100 Two, LLC  
Noble Environmental Power, LLC  
NTE Connecticut, LLC  
Pawcatuck Solar Center, LLC  
Three Corners Solar LLC  
Viridity Energy, Inc.

## SMALL STANDARD OFFER SERVICE PROVIDERS

Maine Power LLC

## GIS-ONLY PARTICIPANTS

SRECTrade, Inc.

## GAS INDUSTRY PARTICIPANTS

Algonquin Gas Transmission, LLC  
Repsol Energy North America Corporation

## DATA ONLY PARTICIPANTS

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



# 2018 New NEPOOL Participants



**GRANITE SHORE POWER**  
GSP Schiller LLC  
(Generation)



**STARWOOD ENERGY GROUP**  
Marco DM Holdings, LLC  
(Generation)

**Group628, LLC**

(Supplier)



Clear River Energy LLC  
(Generation)

**EIP Investment, LLC**  
(Provisional Member)



(Supplier)

**AM TRADING SOLUTIONS, LLC**

(Supplier)



**CATE STREET CAPITAL**  
CS Berlin Ops, Inc.  
(Generation)



Syncarpha Hancock, LLC  
(AR)



**PATRIOT RENEWABLES**



(AR)



(Generation)



**GRANITE SHORE POWER**  
GSP Merrimack LLC  
(Generation)



(Supplier)



**VINEYARD WIND**  
(Transmission)



**GRANITE SHORE POWER**  
GSP White Lake LLC  
(Generation)



**GridPowerDirect**  
(Supplier)



HSE Hydro NH AC, LLC  
(Generation)



(Supplier)





Pawcatuck Solar Center, LLC  
(Provisional Member)



GRANITE SHORE POWER

GSP Newington LLC  
(Generation)



NN8 LLC (Supplier)



Syncarpha North Adams, LLC  
(AR)



New England Battery Storage  
(Generation)



EDP Renewables North  
America LLC (Supplier)



BioUrja Power LLC  
(Supplier)



Hartree Partners, LP  
(Supplier)



STONEPEAK  
INFRASTRUCTURE PARTNERS

Stonepeak Kestrel Energy Marketing, LLC  
(Supplier)



Syncarpha Billerica, LLC  
(AR)



StateWise Energy  
Massachusetts LLC  
(Supplier)



GRANITE SHORE POWER

GSP Lost Nation LLC  
(Generation)



Green Power

Woods Hill Solar, LLC  
(AR)



Three Corners Solar LLC  
(Provisional Member)



Bay State  
Wind

An Ørsted & Eversource Initiative  
(Transmission)



Syncarpha Bondsville, LLC (AR)



ConnectGEN  
Interconnect Energy Storage LLC  
(Provisional Member)



VILLAGE OF HYDE PARK

Electric Department  
(Publicly Owned Entity)



Algonquin Gas Transmission  
(Gas Industry Participant)



# NEPOOL Working Groups

## Meter Reader Working Group

Over the course of three meetings in 2018, the Meter Reader Working Group provided input to help coordinate and improve meter data gathering, reconciliation and load estimation. That input addressed accelerating the determination of inputs supporting monthly settlements, improving revenue quality meter (RQM) value validation and estimation, and implementing PRD and FERC Order No. 841.

## Demand Resources Working Group

The Demand Resources Working Group discusses technical aspects of participation by demand resources in New England's wholesale power markets at the request of the Markets Committee. This group held 11 meetings in 2018, at which it received reports on monthly demand resource enrollment and demand resource-related issues associated with (1) the implementation of fully integrated PRD, (2) demand resource metering, and (3) commitment, dispatch and performance of demand resources.

## Variable Resource Working Group

The Variable Resource Working Group (VRWG) discusses the technical aspects of participation by variable resources (e.g., wind, solar, run-of-river hydro) in the New England Markets at the request of the Markets Committee. The VRWG met two times in 2018 and discussed and received updates on operational topics of specific interest and applicability to variable resources, including modifications to the determination of desired dispatch points for Do Not Exceed dispatchable generators during contingency dispatch and reviews of wind power forecast error statistics and wind plant aggregate undelivered energy reports (published for the first time in 2018).

## NEPOOL GIS

Several New England states administer Renewable Portfolio Standards (RPS) or Alternative Energy Portfolio Standards (APS) to implement their state policies. Compliance with those standards is facilitated by a regional GIS that provides for accurate accounting of Renewable Energy Certificates (RECs) to reflect actual generation at eligible facilities. NEPOOL established the GIS and continues to have primary authority over GIS rules and the contract with the third-party administrator. The GIS was established and is maintained with the full participation of NEPOOL members and regulators from all the New England states. The GIS creates and tracks one REC for every MWh of energy produced. The REC digitally identifies and registers the fuel source, emissions and other attributes of each MWh that is (1) settled in the ISO-NE market settlement system, (2) produced by certain behind-the-meter generators and conservation resources that are not settled regionally, or (3) imported into New England. The GIS is operated through a contract with APX, Inc., and the RECs, which can be bought and sold, are accumulated and used by load-serving entities in New England to demonstrate compliance with state mandates for generation attributes and by others to demonstrate the green quality of their energy.

In 2018, NEPOOL and APX implemented a new process for identifying and implementing changes to the GIS. A restated and amended GIS agreement with APX was executed in 2017, and per that agreement, APX now convenes a GIS Usability Group on a quarterly basis. That Group includes both NEPOOL Participants and non-Participants who use the GIS, and it is a new forum for proposing and reviewing changes to the GIS. Changes that emanate from that Group are then presented to and reviewed by the NEPOOL GIS Operating Rules Working Group. Those changes, along with any changes that might be raised by NEPOOL Participants or state agencies directly with the GIS Operating Rules Working Group and/or the Markets Committee, are then voted on by the Markets Committee, with more significant changes also presented to the Participants Committee for a vote.



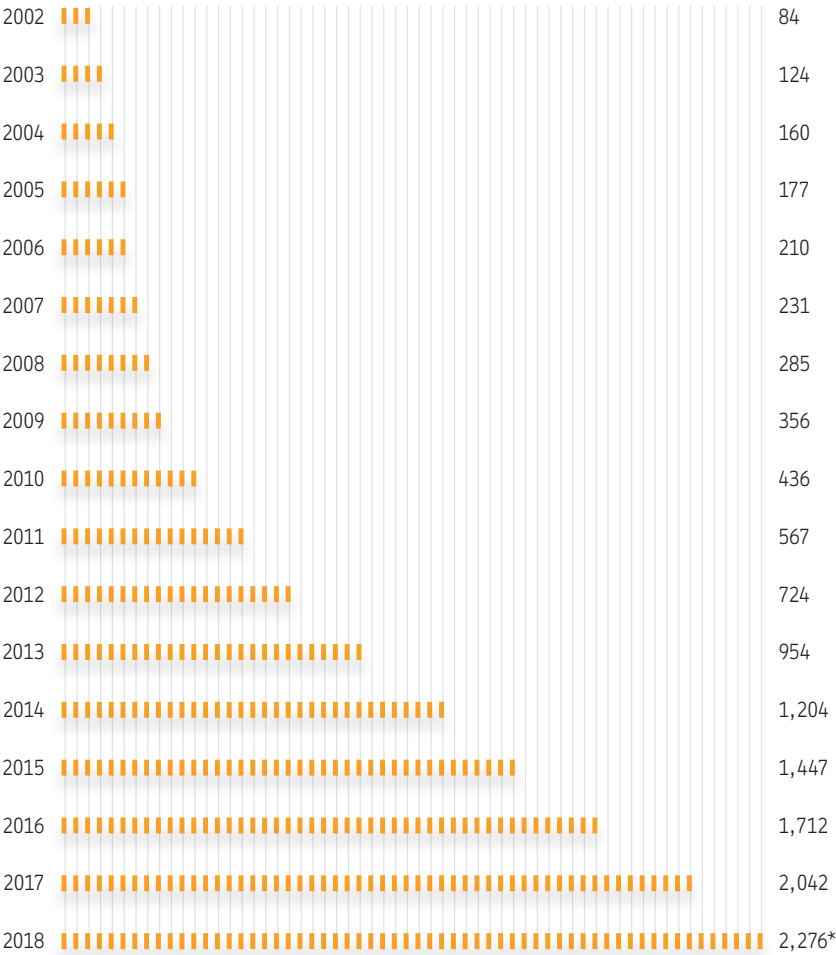
Using these processes, the following changes to the GIS and the GIS Operating Rules were approved by NEPOOL in 2018:

- ▶ The inclusion of the Massachusetts Clean Energy Standard as a separate data field on RECs.
- ▶ The creation of a separate attribute category for certain hydroelectric facilities that are eligible under the Connecticut renewable portfolio standard.
- ▶ The addition of identifying fields on transfer screens in the GIS.
- ▶ Revisions to public reports to be more specific with respect to residual mix RECs, reserved RECs, RECs dedicated to particular state subaccounts and RECs for exported energy.

- ▶ Releasing certain information related to generators, imports, exports and inter-account transfers prior to the start of a Trading Period in the GIS in order to make that information more transparent to GIS users.

As of October 31, there were 2,276 active accounts in the GIS, with 237 of those accounts added in 2018. Generator registrations number 72,764, with 11,105 of those registrations from new generators joining in 2018. The GIS created and managed 137,316,576 certificates from the third quarter of 2017 through the second quarter of 2018.

### Total GIS Account Holders



### Total Generators Registered in NEPOOL GIS

Year	GIS-Registered Generators
2002	488
2003	518
2004	545
2005	567
2006	584
2007	617
2008	677
2009	786
2010	986
2011	1,605
2012	3,526
2013	6,180
2014	12,329
2015	18,527
2016	47,233
2017	61,659
2018	72,764*

\* Through October 31, 2018



# New England State Energy Legislation

NEPOOL updates its members on key legislative developments on a regular basis, including by publishing an annual summary of energy legislation considered in each New England state during its 2018 legislative session. The summary was distributed during the Participants Committee summer meeting, and an updated version is available on the NEPOOL website at [http://nepool.com/uploads/Legislative\\_Update\\_20180905.pdf](http://nepool.com/uploads/Legislative_Update_20180905.pdf).

The most noteworthy new legislation enacted in 2018 in each state includes the following:

## Connecticut

### **An Act Concerning Connecticut's Energy Future (Public Act No. 50)**

enacts significant changes, including replacing the state's net metering program with new tariff-based programs and appreciably increasing the requirements of the state's renewable portfolio standard. See <https://www.cga.ct.gov/2018/act/pa/pdf/2018PA-00050-R00SB-00009-PA.pdf>

**An Act Concerning Climate Change Planning and Resiliency (Public Act No. 82)** establishes new greenhouse gas (GHG) emissions reduction requirements and requires that GHG emissions be reduced to a level at least 45 percent below the level emitted in 2001. See <https://www.cga.ct.gov/2018/act/pa/2018PA-00082-R00SB-00007-PA.htm>

## Massachusetts

**An Act to Advance Clean Energy (2018 MA H. 4857)** allows for the potential for Massachusetts utilities to procure additional offshore wind in the near future, continues a steady increase in the RPS and energy storage development, and creates a new "clean peak" resources standard. See <https://malegislature.gov/Laws/SessionLaws/Acts/2018/Chapter227>

**An Act Promoting Climate Change Adaptation, Environmental and Natural Resource Protection, and Investment in Recreational Assets and Opportunity (2018 MA H. 4835)** authorizes the expenditure of specific amounts on various projects in Massachusetts, including \$100 million for implementation of the integrated state hazard mitigation and climate change adaptation plan. See <https://malegislature.gov/Laws/SessionLaws/Acts/2018/Chapter209>



## Maine

### **An Act to Update the Allowance Budget for the Regional Greenhouse Gas Initiative (Public Law No. 2018, Ch. 323)**

establishes for each year from 2021 to 2030 the number of allowances that Maine can auction as a participant in the Regional Greenhouse Gas Initiative. See <https://legislature.maine.gov/legis/bills/getPDF.asp?paper=HP1142&item=3&snum=128>

**Resolve, Regarding Legislative Review of Portions of Chapter 308: Standards of Conduct for Transmission and Distribution Utilities and Affiliated Generators, a Major Substantive Rule of the Public Utilities Commission (Resolve 49)** addresses the recent enactment by the Maine Public Utilities Commission of a new rule reflecting Standards of Conduct for transmission and distribution utilities and affiliated generators. The Resolve approves the new rule, subject to a series of conditions set forth by the legislature. See [https://legislature.maine.gov/legis/bills/bills\\_128th/chapters/RESOLVE49.asp](https://legislature.maine.gov/legis/bills/bills_128th/chapters/RESOLVE49.asp)





## New Hampshire

### **An Act Requiring Electric Bills to Include the Cost of Compliance with Renewable Energy (Chaptered Law 0375)**

requires providers of electricity to include the estimated annual cost of RPS compliance in customer bills each December. See [http://gencourt.state.nh.us/bill\\_Status/billText.aspx?sy=2018&id=1050&txtFormat=pdf&v=current](http://gencourt.state.nh.us/bill_Status/billText.aspx?sy=2018&id=1050&txtFormat=pdf&v=current)

### **An Act Relative to Participation by the Public Utilities Commission in Regional Activities (Chaptered Law 0376)**

directs the New Hampshire Public Utilities Commission (NH PUC) and the Office of the Consumer Advocate (NH OCA) to advocate against any proposed regional or federal policies that are inconsistent with the policies, rules or laws of New Hampshire. This legislation requires the NH PUC and NH OCA to consider how other states' policies will impact New Hampshire rates and to work to prevent or minimize any rate impact determined to be unjust or unreasonable. See [http://gencourt.state.nh.us/bill\\_Status/billText.aspx?sy=2018&id=1075&txtFormat=pdf&v=current](http://gencourt.state.nh.us/bill_Status/billText.aspx?sy=2018&id=1075&txtFormat=pdf&v=current)



## Rhode Island

Despite the introduction of several energy-related bills in 2018, including bills related to energy facility siting, net metering, clean energy investment and carbon pricing, a "global warming" solutions act, utility rate reductions, interconnection of distributed energy resources, and land use for energy facilities, the Rhode Island General Assembly adjourned without enacting any energy legislation this year.



## Vermont

### **An Act Relating to State-Owned Airports and Economic Development (Public Act No. 108)**

requires, among other provisions, that the Secretary of Commerce and Community Development update Vermont's Economic Development Marketing Plan to incorporate the marketing of State-owned airports and to submit such plan for comment, and it requires the Agency of Transportation to evaluate the feasibility of siting one or more renewable energy generating plants at State-owned airports. See <https://legislature.vermont.gov/assets/Documents/2018/Docs/ACTS/ACT108/ACT108%20As%20Enacted.pdf>

### **An Act Relating to Appliance Efficiency, Energy Planning, and Electric Vehicle Parking (Public Act No. 139)**

requires that the State Comprehensive Energy Plan (CEP) include recommendations for State agency energy and transportation planning, requires those other plans and utility resource plans to be consistent with the CEP, and requires that the Public Utility Commission and the Department of Public Service make submissions to the General Assembly on issues relating to renewable electric generation and constrained areas of the electric utility grid. See <https://legislature.vermont.gov/assets/Documents/2018/Docs/ACTS/ACT139/ACT139%20As%20Enacted.pdf>

### **An Act Relating to Energy Productivity Investments Under the Self-Managed Energy Efficiency Program (Public Act. No. 150)**

makes changes to the self-managed energy- efficiency program and directs the Public Utility Commission to establish a pilot Energy Savings Account (ESA) partnership that will allow a participant, working with Efficiency Vermont, to place the participant's electric efficiency charge payments in an ESA and then use 100 percent of the funds on the participant's own energy efficiency projects. See <https://legislature.vermont.gov/assets/Documents/2018/Docs/ACTS/ACT150/ACT150%20As%20Enacted.pdf>





# Legal Proceedings and Appeals

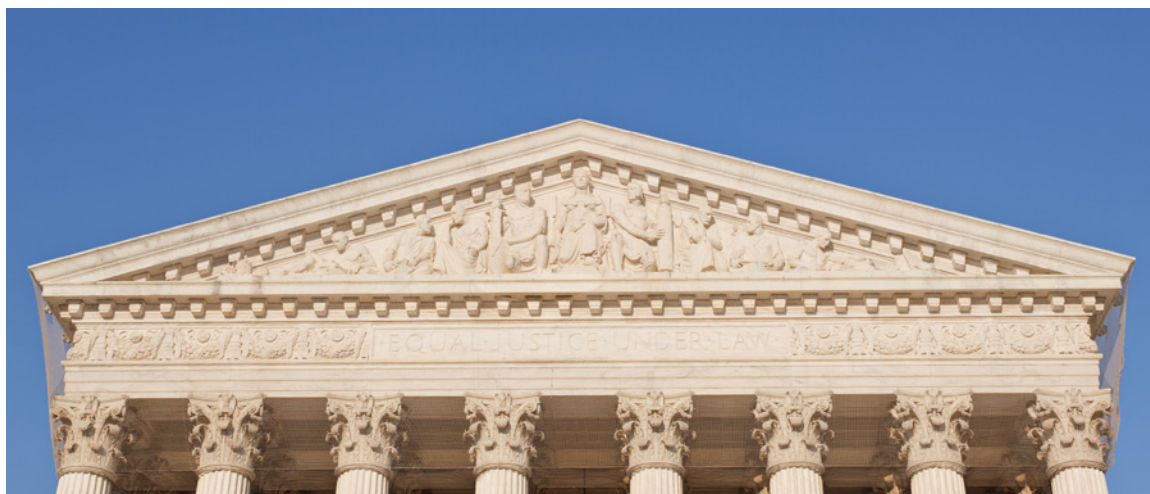
Market rule and tariff changes to the rates, terms and conditions of electric service in New England must all be filed with the FERC for approval or acceptance, generally with each filing initiating a new FERC proceeding.

While many of those FERC filings can be addressed without protest, the FERC and, in some cases, the federal courts must rule from time to time on disagreements among those affected by the changes. In 2018, there were more than 260 FERC proceedings involving New England matters, with the contested matters headlined by litigation over Chapters 1 and 2 of the region's fuel security story and efforts by a media outlet to attend and to report publicly on statements made in NEPOOL meetings, each described in more detail earlier in this Annual Report. In addition, FERC proceedings early in the year addressed changes to implement ISO-NE's CASPR proposal and other changes to the FCM, also described elsewhere in this Annual Report. The litigation with the media outlet that is described in the Chairman's Message of this Annual Report is the subject of two FERC proceedings – the RTO Insider Press policy complaint and NEPOOL's filing of its Press membership provisions. Proceedings also were held on issues relating to enhanced participation by energy storage resources, compliance with FERC Order Nos. 842 (frequency response) and 844 (uplift transparency), and settlement agreements to resolve ongoing litigation over the rates and protocols for setting rates for regional and local network service and PER settlements. Notably, in connection with litigation

regarding multiple contested FERC cases and court appeals challenging New England's ROE, the FERC announced its intention to use a new methodology for calculating transmission owners' ROE, the specifics of which are to be briefed by the parties in early 2019.

2018's legal proceedings continue to underscore that complex and important bulk power issues in New England are best worked through by New England first at the business table in the NEPOOL stakeholder process rather than through litigation at the FERC. While that process certainly does not resolve all disagreements, most result in agreement between NEPOOL and ISO-NE, and unresolved issues and potential solutions are far narrower and better understood having first been explored via the NEPOOL stakeholder process.

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 publicly available in the NEPOOL website's library at [http://nepool.com/Litigation\\_Reports.php](http://nepool.com/Litigation_Reports.php). A full listing of the FERC proceedings that were active in 2018 is included in the next five pages of this Annual Report.







## Federal Court Appeals

US Court of Appeals for the DC Circuit (unless otherwise noted)

Docket	Appellants	Underlying Proceedings
15-1071/ 16-1042	NEPGA / Exelon	FCM Pricing Rules Complaints (EL14-7; EL15-23). Petitions for review granted. Case remanded to FERC for further proceedings in which the FERC, in order to accept the changes filed, must provide analysis and explanation distinguishing this result from similar issues ruled on for PJM.
15-1212	New England TOs	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	Appeals of the FCM Jump Ball and Compliance Proceedings (16-1023) and the PER Complaint (16-1024). Petition for review in 16-1023 dismissed for lack of jurisdiction; petition for review in 16-1024 denied on the merits.
16-1068/ 16-1408	Utility Workers Union of America	FCA9 and FCA10 Results (ER15-1137). Petitions for review dismissed for Petitioner's failure to establish causation element of their standing to challenge the auction results.
16-70481 (9th Cir.)	California Pub. Utils. Comm. v. FERC	ROE Incentive Adder for RTO Participation (ER15-2294). Petition for review granted. Case remanded for further FERC action.
17-1110	NextEra, NRG, PSEG	Demand Curve Changes (ER14-1639). Petitioners' request for review denied.
17-1275	Constellation	FCM Resource Retirement Reforms (ER16-551). Oral argument held Nov 19. Pending.
18-1077	New England TOs	Base ROE Complaint IV (2016) (EL16-64). Petition for review dismissed for lack of jurisdiction (orders appealed from not final), without prejudice to a subsequent petition upon conclusion of FERC proceedings.



# FERC Proceedings

## Fuel Security Filings

ER18-2364	Fuel Security Retention Proposal
ER18-1509	ISO-NE Waiver Filing: Mystic 8&9
ER18-1639	Mystic 8&9 Cost of Service Agreement.

## FCM Market Rule Changes

ER18-2078	FCA Rationing Minimum Limit
ER18-2125	FCM Cost Allocation Improvements
ER18-1287	FCM Enhancements – Phase II
ER19--335	FCM Parameter Consolidation
ER19-169	New Capacity Resource Delayed Commercial Operation Changes
ER18-620	Updated Dynamic De-List Bid Threshold

## Other FCM-Related Changes

ER18-619	CASPR
ER19-444	CASP Conforming Changes
ER17-795	CONE & ORTP Updates
ER18-704	CSO Termination: Blue Sky West
ER18-2457	CSO Termination: Clear River Unit 1

## FCA Filings

ER18-264	FCA12 Qualification Info. Filing
ER18-940	FCA12 Results Filing
ER18-2047	FCA13 De-List Bids Filing
ER19-295	FCA13 Qualification Info. Filing

## Other Market Rule Changes

ER13-2266	2013/14 Winter Reliability Program Remand Proceeding
ER18-455	ART Market Rule Changes
ER18-1770	Economic Life Determination Changes
ER18-2506	Effective Date Change: § III.14
ER19-84	Enhanced Storage Participation
ER18-2489	ISO-NE eTariff Corrections
ER18-2394	Order 844 Compliance Filing
ER18-1223	PFP Enhancements
ER18-897	Real-Time Reserve Designation & Settlement Rule Changes



## Waiver Requests

ER18-1691	Bay State Wind Project: FCA13 Qual. Deposit Deadline
ER19-94	Clear River: CSO Termination
ER18-185	CPower: DR Auditing Requirements
ER18-623	GenOn: Timing of Canal-MA-GHG-Rule-Related Addl. Cost Recov. Filing
ER18-1722	Identified PTOs: 2017 Tax Law Waiver Request
ER17-1615	McCallum Enterprises: Dispatchable Resources RTU Requirement

## ICR, HQICC and Demand Curve Values

ER18-263	2021-22 Capacity Commit. Period
ER19-291	2022-23 Capacity Commit. Period
ER18-371	Annual Reconfig. Auctions 2018-2021
ER19-447	Annual Reconfig. Auctions 2019-2022
ER19-343	ICR Revisions

## OATT Changes

ER19-251	Blackstart Rate Update
ER19-161	Cluster Participation Deposit Refund Revisions
ER19-449	Interconnection Process Enhancement: Retiring Resources Treatment
ER18-1523	Order 842 (Frequency Response) Compliance Filing

## Financial Assurance Policy Amendments

ER18-2293	FAP FTR FA Changes
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## Rate Filings

ER09-1532	2018/19 Power Year Transmission Rates
ER19-107	2019 ISO-NE Budgets
ER19-110	2019 NESCOE Budget
ER19-140	Correction to 2018 §IV.A Schedule 5 (NESCOE Budget Collection)
ER17-933	Exelon Additional Cost Recovery Compliance Filing
ES18-25	ISO-NE Securities: Future Drawdowns Authorization
ER18-1259	VTransco Recovery of Highgate Ownership Share Acquisition Costs

## ROE Proceedings

EL13-33/14-86	Base ROE Complaints II & III (2012 and 2014) (Consolidated)
EL16-64	Base ROE Complaint IV (2016)
EL16-64 et al.	Base ROE Complaints I-IV: TOs' Motion to Dismiss/Consolidate



EL11-66	Opinions 531-A/531-B Local and Regional Refund Reports
ER15-414	TOs' Opinion 531-A Compliance Filing Undo

### Complaint/Settlement Proceedings

EL16-120	NEPGA PER Adjustment Complaint
ER17-2153	NEPGA PER Adjustment Complaint Settlement Agreement
ER18-1153	PER Settlement Compliance Filing
EL18-196	RTO Insider Press Policy Complaint
EL18-53	Delayed Resource Complaint
EL18-31	Clear River Sched. 11 O&M Complaint
EL16-19	RNS/LNS Rates and Rate Protocols
EL18-154	NEPGA Mystic 8/9 Pricing Complaint

### NEPOOL Agreement Amendments

ER18-2208	132nd Agreement (Press Membership Provisions)
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### Membership Filings

ER18-353	Dec 2017 Membership Filing
ER18-539	Jan 2018 Membership Filing
ER18-767	Feb 2018 Membership Filing
ER18-923	Mar 2018 Membership Filing
ER18-1235	Apr 2018 Membership Filing
ER18-1485	May 2018 Membership Filing
ER18-1714	June 2018 Membership Filing
ER18-1910	July 2018 Membership Filing
ER18-2116	Aug 2018 Membership Filing
ER18-2371	Sep 2018 Membership Filing
ER19-2	Oct 2018 Membership Filing
ER19-446	Dec 2018 Membership Filing

### Market Participant Suspension Notices

not docketed	AmericaWide Energy
not docketed	Chris Anthony
not docketed	Clear Choice Energy
not docketed	Cumulus Master Fund
not docketed	Energy Federation Inc.
not docketed	Indeck Energy-Alexandria
not docketed	Manchester Methane
not docketed	MPower Energy
not docketed	Plant-E Corp.
not docketed	Union Atlantic Electricity
not docketed	University System of NH
not docketed	VCharge

### Schedule 20/21/22/23 Proceedings

ER18-132	Eversource Reorganization Tariff Changes
EL18-52	Sched. 20A-GMP Brookfield Complaint
ER18-1719	Sched. 21-CMP: 2017 Tax Law Waiver
ER09-938	Sched. 21-CMP: Annual Info. Filing
ER15-1434 and ER18-960	Sched. 21-EM: 2017 Annual Update Settlement Agreement
ER15-1434	Sched. 21-EM: Bangor Hydro/Maine Public Service Merger-Related Costs Recovery
ER18-1213	Sched. 21-EM: BHD Tax Law & Settlement Changes
ER18-901	Sched. 21-EM: Brookfield LSA
ER19-64	Sched. 21-EM: Corrections to § 10.2
ER18-387	Sched. 21-EM: Stored Solar J&WE LSA
ER18-745	Sched. 21-ES: PSNH/VEC LSA
ER19-122	Sched. 21-ES: Rev. Depreciation Rates
ER09-1498	Sched. 21-FG&E Annual Info. Filing
ER12-2304	Sched. 21-GMP Annual Forecast Info. Filing
ER12-2304	Sched. 21-GMP Annual True Up Calc. Info. Filing
ER18-2174	Sched. 21-NEP: GMP G-33 Circuit Support Agreement
ER18-1861	Sched. 21-NEP: IA Cancellation: Superseded NEP/Wheelabrator Millbury IA
ER18-1901	Sched. 21-NEP: MECo - Gas Recovery Systems Cost Reimburs. Agreement
ER18-346	Sched. 21-NEP: National Grid/Granite Reliable Power RFA
ER18-1866	Sched. 21-NEP: SA Cancellation: Superseded NEP/Tiverton Service Agreement
ER18-1723	Sched. 21-NHT: 2017 Tax Law Waiver Request
ER09-1243	Sched. 21-NSTAR Annual Info. Filing and CWIP Supplement
ER19-123	Sched. 21-NSTAR: Rev. Depreciation Rates
ER18-1718	Sched. 21-UI: 2017 Tax Law Waiver
ER18-2302	Sched. 21-UI: UI/CPV Towantic LCSA
ER10-1181	Sched. 21-VEC and 20-VEC: Annual Info. Filing
NJ18-10	Sched. 21-VEC: VEC/PSNH LSA
ER18-349	Sched. 22: Clear River LGIA
ER18-2432	Sched. 22: Kibby Wind LGIA

### Regional Reports

ER18-841	Capital Projects Report - 2017 Q4
ER18-1571	Capital Projects Report - 2018 Q1
ER18-2204	Capital Projects Report - 2018 Q2
ER19-113	Capital Projects Report - 2018 Q3
ZZ18-4	IMM 2017 Annual Markets Report



# FERC Proceedings

ZZ17-4/8-4	IMM Quarterly Markets Reports
not docketed	ISO-NE FERC Forms 1, 582, 714, 715
ER07-476	LFTR Implementation Quarterly Status Reports
ER06-613	Reserve Market Compliance Semi-Annual Reports

## ERO Reliability Standards

RD18-7	BAL-002-3
RM18-20	CIP-012-1
RD18-4	PRC-025-2
RM18-2	NOPR: Cyber Security Incident Reporting Rel. Standards
RM14-7	NOPR: MOD-001-2
RM16-22	NOPR: PRC-027-1 and PER-006-1
RM17-12	Order 840: EOP-004-4, EOP-005-3, EOP-006-3, EOP-008-2
RM17-11	Order 843: CIP-003-7
RM16-22	Order 847: PRC-027-1 and PER-006-1
RM17-13	Order 850: CIP-005-6, CIP-010-3, CIP-013-1
RM18-8	Order 851: TPL-007-2

## Other ERO Matters

AD18-11	BPS Reliability Technical Conference
RR18-4	Compliance and Certification Comm. Charter Amendments
not docketed	FERC Staff Report on CIP v5 Reliability Standards Audits
RC11-6	Notice of FERC Staff Annual Review of Enforcement Programs
RM15-11	Revised GMD Research Work Plan
RR18-1	Rules of Procedure Changes (Appendix 3D - Registered Ballot Body Criteria)
RR17-2	Rules of Procedure Changes (Consolidated Hearings Process)
RR17-6	Rules of Procedure Changes (Sections 600 and 900)

## Mergers & Acquisitions

EC18-137	BED/Stowe Highgate Share
EC18-64	Boston Energy/Diamond Energy
EC17-182	Calpine/ECP
EC19-16	CPV Towantic/Osaka Gas USA
EC18-23	Dynegy/Vistra
EC19-14	ECP/Fawkes Holdings (Wheelabrator)
EC17-152	GenOn Reorganization
EC17-76	Green Mountain Power/ENEL Hydros

EC18-69	HIKO Energy/Spark HoldCo
EC18-132	Linde Energy Services
EC18-120	National Grid Green Homes (Sunrun)
EC18-85	NEP (Vuelta and Old Wardour Interconnection Assets)
EC18-83	NRG Canal/ Stonepeak
EC18-61	NRG/GIP III Zephyr Acquisition Partners
EC17-62	NSTAR/WMECO Merger
EC18-12	PSNH/Granite Shore
EC18-42	PSNH/HSE Hydro NE
EC18-130	Wheelabrator Technologies
EC18-82	XOOM Energy/NRG Retail

## Regional Interest

ER18-435	Anbaric's Ocean Grid Project: Trans. Rights at Negotiated Rates
ER18-1306	D&E Agreement Cancellation: CL&P/Beacon Falls Energy Park
ER18-330	D&E Agreement Cancellation: NSTAR/Essential Power Newington
ER18-1290	D&E Agreement: NSTAR/NGrid
ER18-111	D&E Agreement: Pootatuck Ring Bus Expansion
EL18-171	Deepwater Wind PURPA Complaint
ER18-791	IA Cancellation: Superseded NGrid/Casella Waste Systems IA
ER18-1192	IA: CL&P/Fusion Solar
ER18-316	IA: CL&P/Woods Hill Solar
ER18-424	IA: NSTAR/Covanta SEMASS
ER17-2449	IA: PSNH/Pontook
ER18-2294	IAs: PSNH/HSE Hydro NE Subs
ER18-505	LGIA: Emera Maine/Penobscot Energy Recovery Co
ER18-785,	LGIA: PSNH/GSP Newington/GSP
ER18-786/787	White Lake /GSP Lost Nation
ER15-1429	MPD OATT Annual Info. Filing
ER18-210	MPD OATT Attachment J Revision
ER18-1244	MPD OATT Changes
ER18-1569	MPD OATT Order 842 Compliance Filing
ER15-1429	MPD OATT Waiver of Annual Info. Filing Protocols
ER18-1350	NGrid/Granite Reliable Power Reimbursement Agreement Cancellation
ER18-388	NEP/HQUS Phase I/II HVDC-TF Service Agreement



EL19-10	New England Rate Payers Assoc. Complaint
ER19-146	NSTAR/HQ US ENE Use Rights Transfer Agreement
ER19-431	NSTAR/MATEP Rev. Distrib. Service Agreement
ER18-1574	NSTAR/Milford Related Facilities Agreement
ER18-749/751	NSTAR/WMECO Succession Proceedings
EL13-62	NYISO MOPR-Related Proceeding
EL18-169	PJM Clean MOPR Complaint
EL18-178 et al.	PJM MOPR-Related Proceedings
ER18-716	REMVEC II and REMVEC SAS Agreement Terminations
ER18-454	Third Supp. to UI/CT DOT Lease Agreement
ER18-2123	TSA: Emera Maine-ReEnergy Ashland
ER18-2124	TSA: Emera Maine-ReEnergy Fort Fairfield
ER18-2261 et al.	TSAs: New England Clean Energy Connect
ER18-2286	UI/HQUS Phase I/II HVDC-TF Service Agreement
ER18-1170	Use Rights Transfer Agreement: CMEEC/NSTAR/Nalcor
ER19-409	Use Rights Transfer Agreement: MMWEC/NSTAR/HQ US

#### FERC Enforcement Matters

IN13-15	BP Initial Decision
IN16-2	ETRACOM LLC and M. Rosenberg
PA16-6	FERC Audit of ISO-NE
IN18-7	Footprint Power
IN15-10	MISO Zone 4 Planning Resource Auction Offers
IN18-4	PSEG
not docketed	Rover- Notice of Alleged Violation
IN12-17	Total Gas & Power North America
IN18-10	Wheelabrator Claremont

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RM18-9	DER Participation in RTO/ISOs
RM18-1	DOE-Initiated Proposal: Grid Reliability & Resilience Pricing Rule
RM16-6	Essential Reliability Services and the Evolving Bulk-Power System
RM18-12	NOI: 2017 Tax Law Effect on FERC-Jurisdictional Rates
PL18-1	NOI: Certification of New Interstate Natural Gas Facilities
PL17-1	NOI: FERC's Policy for Recovery of Income Tax Costs & ROE Policies
RM19-5	NOPR: ADIT Change to Reflect 2017 Tax Law Changes

RM16-17	NOPR: Data Collection for Analytics & Surveillance and MBR Purposes
RM17-3	NOPR: Fast-Start Pricing in RTO/ISO Markets
RM16-15	Order 833: Critical Energy/Electric Infrastructure Information (CEII) Procedures
RM18-4	Order 839: Civil Monetary Penalty Inflation Adjustments
RM16-23	Order 841: Electric Storage Participation in RTO/ISO Markets
RM16-6	Order 842: Primary Frequency Response
RM17-2	Order 844: Uplift Transparency in RTO/ISO Markets
RM17-8	Order 845: LGIA/LGIP Reforms
RM18-7	Order 847: Withdrawal of Pleadings
RM18-11	Order 849: Pipeline Rates
ER18-454	Third Supplement to Lease Agreement: UI/CT DOT

#### Administrative Proceedings

AD18-7	Grid Resilience in RTO/ISOs; DOE NOPR
AD17-11	State Policies & Wholesale Markets Operated by ISO-NE, NYISO, PJM
not docketed	FirstEnergy DOE Application for Section 202(c) Order

#### Natural Gas Proceedings

RP16-618	Algonquin EDC Capacity Release Bidding Reqs. Exemption Request
RP18-415	Cont'd Justness & Reasonable of Rates Post-Tax Act
RP18-806	Engie/Exelon: Req. for Temp. Waiver of Capacity Release Regs. & Policies
not docketed	FERC Staff Inquiry in Response to EDF Allegations of Pipeline Capacity Withholding

#### Gas Pipeline Project Proceedings

CP16-9	Atlantic Bridge
CP13-499	Constitution Pipeline
CP16-17	Millennium Pipeline Valley Lateral
CP15-115	Northern Access
CP15-558	PennEast
CP18-251	Portland Express
CP14-554 e al.	Southeast Market Pipelines
CP13-502	Wright Interconnection



# Acronyms & Abbreviations

<b>ADIT</b>	Accumulated Deferred Income Taxes
<b>AOA</b>	Asset Owners Agreement
<b>APS</b>	Alternative Energy Portfolio Standard
<b>APX</b>	APX, Inc., GIS Administrator
<b>AR</b>	Alternative Resources
<b>ART</b>	Annual Reconfiguration Transaction
<b>BAL</b>	Resource and Demand Balancing Standards
<b>BHD</b>	Emera Maine Bangor Hydro District
<b>APS</b>	Bulk Power System
<b>AR</b>	Competitive Auctions with Sponsored Policy Resources
<b>CCP</b>	Capacity Commitment Period
<b>CEII</b>	Critical Energy Infrastructure Information
<b>CEP</b>	Comprehensive Energy Plan
<b>CIP</b>	Critical Infrastructure Protection Standards
<b>CL&amp;P</b>	Connecticut Light & Power
<b>CMEEC</b>	Connecticut Municipal Electric Energy Cooperative
<b>CMP</b>	Central Maine Power Co.
<b>Co.</b>	Company
<b>CONE</b>	Cost of New Entry
<b>COSA</b>	Cost-of-service agreement
<b>CPV</b>	Competitive Power Ventures
<b>CSO</b>	Capacity Supply Obligation
<b>CT</b>	Connecticut
<b>CTS</b>	Coordinated Transaction Scheduling
<b>D&amp;E</b>	Design & Engineering
<b>DC</b>	District of Columbia
<b>DER</b>	Distributed Energy Resources
<b>DOE</b>	U.S. Department of Energy
<b>DR</b>	Demand Response
<b>ECP</b>	Energy Capital Partners
<b>EDC</b>	Electric Distribution Company
<b>EM</b>	Emera Maine
<b>EOP</b>	Emergency Preparedness and Operations Standards
<b>ES</b>	Eversource Energy
<b>ESA</b>	Energy Savings Account
<b>ETU</b>	Electric Transmission Upgrades
<b>FA</b>	Financial Assurance
<b>FAP</b>	Financial Assurance Policy
<b>FCA</b>	Forward Capacity Auction
<b>FCM</b>	Forward Capacity Market
<b>FERC</b>	Federal Regulatory Commission
<b>FG&amp;E</b>	Fitchburg Gas & Electric
<b>FTR</b>	Financial Transmission Rights
<b>GHG</b>	Greenhouse Gas
<b>GIS</b>	NEPOOL's Generation Information System
<b>GMD</b>	Geomagnetic Disturbance
<b>GMP</b>	Green Mountain Power

<b>GSP</b>	Granite Shore Power
<b>GWh</b>	Gigawatt hour
<b>HQ US</b>	HQ Energy Services (US) Inc., a subsidiary of Hydro-Québec
<b>HVDC-TF</b>	High Voltage Direct Current Transmission Facilities
<b>IA</b>	Interconnection Agreement
<b>ICR</b>	Installed Capacity Requirements
<b>IMAPP</b>	Integrating Markets and Public Policy
<b>IMM</b>	ISO-NE Internal Market Monitor
<b>IOA</b>	Interconnection Operators Agreement
<b>ISO</b>	Independent System Operator
<b>ISO-NE</b>	ISO New England Inc.
<b>JPE</b>	Joint Powers Entity
<b>kV</b>	Kilovolt
<b>LCSA</b>	Localized Costs Sharing Agreement
<b>LFTR</b>	Long-Term Financial Transmission Right
<b>LGIA</b>	Large Generator Interconnection Agreement
<b>LGIP</b>	Large Generator Interconnection Procedures
<b>LLC</b>	Limited Liability Company
<b>LNG</b>	Liquefied Natural Gas
<b>LMP</b>	Locational Marginal Price
<b>LNS</b>	Local Network Service
<b>LP</b>	Limited Partnership
<b>LSA</b>	Local Service Agreement
<b>LSE</b>	Load-Serving Entity
<b>MA</b>	Massachusetts
<b>MBR</b>	Market-Based Rate Authorization
<b>ME</b>	Maine
<b>MISO</b>	Midwest Independent System Operator
<b>MOD</b>	Modeling, Data, and Analysis Standards
<b>MOPR</b>	Minimum Offer Price Rule
<b>MOU</b>	Memorandum of Understanding
<b>MPD</b>	Maine Public District
<b>MPSA</b>	Market Participant Service Agreement
<b>MW</b>	Megawatts
<b>MWh</b>	Megawatt hours
<b>NA</b>	North America
<b>NCPC</b>	Net Commitment Period Compensation
<b>NECPUC</b>	New England Conference of Public Utilities Commissioners
<b>NEP</b>	New England Power
<b>NEPGA</b>	New England Power Generators Association
<b>NEPOOL</b>	New England Power Pool
<b>NERC</b>	North American Electric Reliability Corporation
<b>NESCOE</b>	New England States Committee on Electricity
<b>NETOs</b>	New England Transmission Owners
<b>NH</b>	New Hampshire
<b>NH OCA</b>	NH Office of Consumer Advocate

<b>NH PUC</b>	NH Public Utilities Commission
<b>NOI</b>	Notice of Inquiry
<b>NOPR</b>	Notice of Proposed Rulemaking
<b>NPCC</b>	Northeast Power Coordinating Council
<b>NYISO</b>	New York Independent System Operator
<b>O&amp;M</b>	Operating and Maintenance Costs
<b>OATT</b>	Open Access Transmission Tariff
<b>OFSA</b>	Operational Fuel Security Analysis
<b>OPs</b>	Operating Procedures
<b>ORTP</b>	Offer Review Trigger Price
<b>PA</b>	Participants Agreement
<b>PER</b>	Peak Energy Rent
<b>PER</b>	Personnel Performance, Training, and Quals. Rel. Standards
<b>PFP</b>	Pay-for-Performance
<b>PJM</b>	Pennsylvania New Jersey Maryland Interconnection
<b>PPs</b>	Planning Procedures
<b>PRC</b>	Protection and Control Reliability Standards
<b>PRD</b>	Price-Responsive Demand
<b>PSEG</b>	PSEG Energy Resources & Trade, LLC
<b>PSNH</b>	Public Service Co. of New Hampshire
<b>PTO</b>	Participating Transmission Owner (TOA signatory)
<b>PTF</b>	Pool Transmission Facilities
<b>PURPA</b>	Public Utility Regulatory Policies Act
<b>RECs</b>	Renewable Energy Certificates
<b>REMEVC</b>	RI-Eastern MA-VT Energy Control
<b>RFA</b>	Related Facilities Agreement
<b>RI</b>	Rhode Island
<b>RNS</b>	Regional Network Service
<b>ROE</b>	Return on Equity
<b>RPS</b>	Renewable Portfolio Standard
<b>ROM</b>	Revenue Quality Meter
<b>RTO</b>	Regional Transmission Organization
<b>RTR</b>	Renewable Technology Resource
<b>RTU</b>	Remote Terminal Unit
<b>SA</b>	Service Agreement
<b>SGIA</b>	Small Generator Interconnection Agreement
<b>Tariff</b>	ISO New England Transmission, Markets and Services Tariff
<b>TOA</b>	Transmission Owners' Agreement
<b>TOs</b>	Transmission Owners
<b>TPL</b>	Transmission Planning Standards
<b>TSAA</b>	Transmission Service Admin. Agreement
<b>UI</b>	United Illuminating Company
<b>VAR</b>	Voltage and Reactive Standards
<b>VEC</b>	Vermont Electric Cooperative
<b>VRWG</b>	Variable Resource Working Group
<b>VT</b>	Vermont



# Operative Documents

- 📄 Second Restated NEPOOL Agreement (2d RNA)  
[http://nepool.com/uploads/Op-2d\\_RNA.pdf](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](http://nepool.com/uploads/Op-MPSA_form.pdf)
- 📄 Memorandum of Understanding Among ISO-NE, NEPOOL and NESCOE (MOU)  
[http://nepool.com/uploads/MOU\\_Final.pdf](http://nepool.com/uploads/MOU_Final.pdf)
- 📄 ISO-NE Tariff (Tariff)  
<http://www.iso-ne.com/regulatory/tariff/index.html>
- 📄 Manuals  
[http://www.iso-ne.com/rules\\_procds/isone mnls/index.html](http://www.iso-ne.com/rules_procds/isone mnls/index.html)
- 📄 Operating Procedures (OPs)  
[http://www.iso-ne.com/rules\\_procds/operating/isone/index.html](http://www.iso-ne.com/rules_procds/operating/isone/index.html)
- 📄 Planning Procedures (PPs)  
[http://www.iso-ne.com/rules\\_procds/isone plan/index.html](http://www.iso-ne.com/rules_procds/isone plan/index.html)
- 📄 Generation Information System Operating Rules  
<http://www.nepoolgis.com/documents/>
- 📄 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](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](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.html>
- 📄 Phase I/II HVDC-TF Transmission Service Administration Agreement (TSAA)  
<http://www.iso-ne.com/regulatory/toa/index.html>
- 📄 Highgate Interconnection Operators Agreement  
[http://www.iso-ne.com/regulatory/co\\_agree/index.html](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](http://iso-ne.com/static-assets/documents/regulatory/tariff/attach_f/attach_f.pdf)





# NEPOOL Counsel and Administrative Team



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



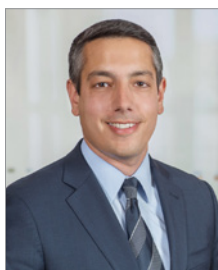
**Paul N. Belval**  
(860) 275-0381  
pnbelval@daypitney.com



**Harold M. Blinderman**  
(860) 275-0357  
hmbinderman@daypitney.com



**Joseph H. Fagan**  
(202) 218-3901  
jfagan@daypitney.com



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



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



**Patrick M. Gerity**  
(860) 275-0533  
pmgerity@daypitney.com



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



**Lynn M. Fountain**  
(860) 275-0298  
lfountain@daypitney.com



**James B. Blackburn IV**  
(202) 218-3905  
jblackburn@daypitney.com



**Alexander W. Judd**  
(860) 275-0147  
ajudd@daypitney.com



**Sunita Paknikar**  
(202) 218-3904  
spaknikar@daypitney.com



**Raymond V. Tuohey**  
Paralegal II  
(860) 275-0109  
rvtuohey@daypitney.com



**Cynthia K. Jacobs**  
NEPOOL Administrator  
(860) 275-0246  
ckjacobs@daypitney.com

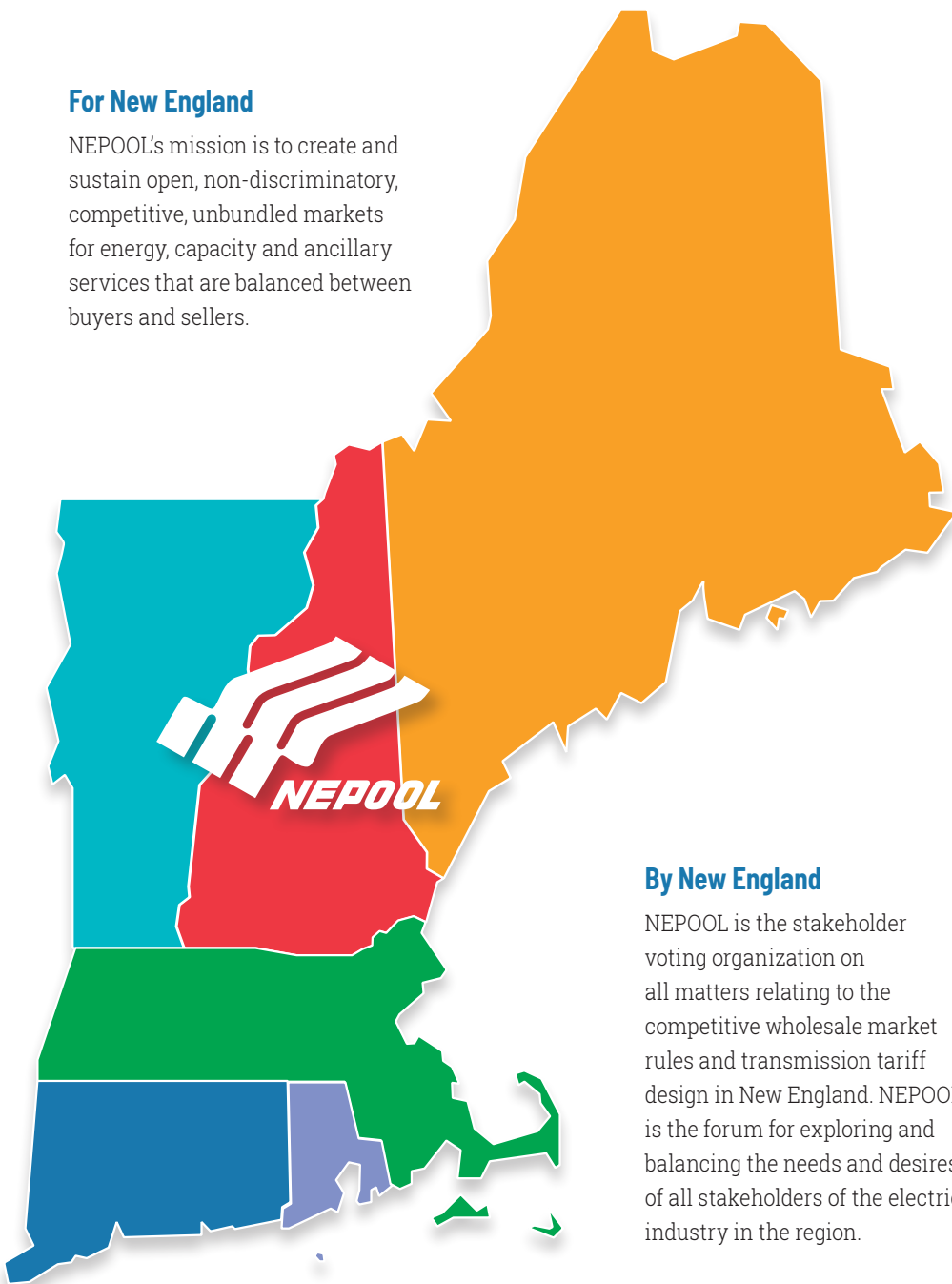


**Karen Cirillo**  
Legal Assistant  
(860) 275-0478  
kcirillo@daypitney.com



## For New England

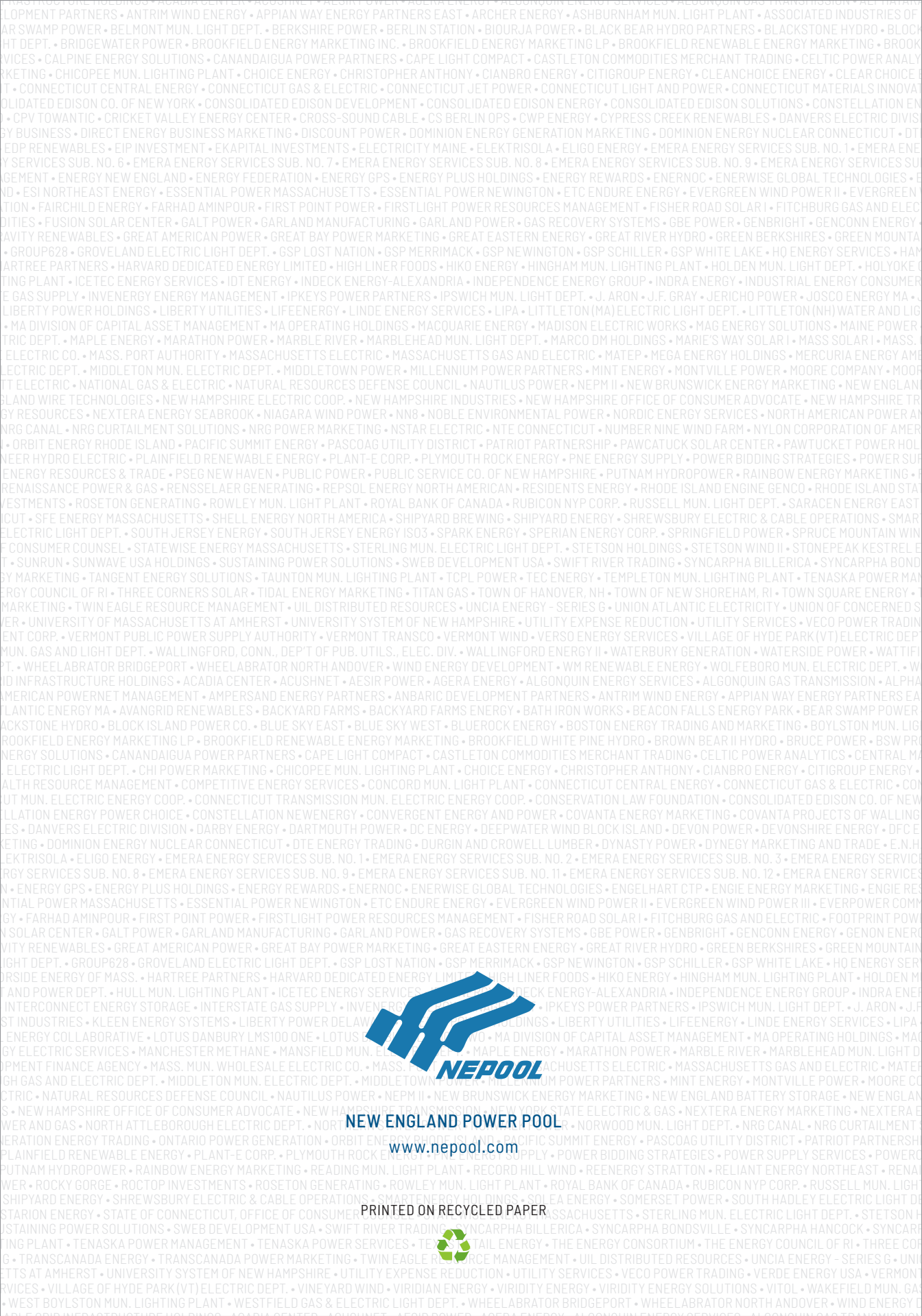
NEPOOL's mission is to create and sustain open, non-discriminatory, competitive, unbundled markets for energy, capacity and ancillary services that are balanced between buyers and sellers.



## By New England

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.





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