



New England Conference of Public Utilities Commissioners
necpuc



71st Annual Symposium

May 20-23, 2018 • Cliff House • Cape Neddick, Maine

NECPUC 71st Annual Symposium
May 20-23, 2018

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PROGRAM FOR 71st ANNUAL NECPUC SYMPOSIUM

Sunday, May 20, 2018

- 4:00 p.m. ISO-NE Budget Discussion Perkins Cove Salon
- ISO-NE will present administrative and capital budget information to the state public utility commissions, consumer advocates, Attorneys General, other state officials and invited guests.
Robert Ludlow, VP, Chief Financial and Compliance Officer, ISO-NE
- 6:00 p.m. Pre-dinner Reception Oceanview Terrace Salon
Sponsored by Pierce Atwood LLP and Brown Rudnick LLP
- 7:00 p.m. Dinner Atlantic Ballroom
- 8:30 p.m. Dessert Reception Oceanview Terrace Salon
Sponsored by the Nuclear Energy Institute and the National Association of Water Companies

Monday, May 21, 2018

- 7:30 a.m. Continental Breakfast Buffet begins Atlantic Ballroom
- 9:00 a.m. Plenary Session Cape Neddick Salon
- Welcome: *Hon. Mark Vannoy*, NECPUC President and Chair of the Maine Public Utilities Commission
Hon. Angus King, United States Senator, State of Maine (video address)
Hon. Robert Powelson, Commissioner, Federal Energy Regulatory Commission
- 10:00 a.m. Break
- 10:15 a.m. Plenary Session Cape Neddick Salon
Wholesale Markets Panel
- In 2017, ISO New England cautioned that our power system is “skating by” on the coldest days, and in 2018, it cautioned about worsening constraints. Exploring these reliability-centric market challenges will test the most often cited goals of competitive wholesale markets: placing risks of business decisions on investors rather than consumers and meeting consumers’ needs and preferences with lowest costs, while not diminishing environmental quality, compromising energy efficiency, or jeopardizing reliability. As state officials consider the challenges, one thing is clear: consumers will fund any solutions. On this panel, regulators will share some of their preliminary questions and concerns. Are the risks and the precise problem fully defined? What are the metrics by which potential solutions should be evaluated? How will the region make sure that the costs of proposed solutions have a reasonable relationship to asserted risks?

Moderator: *Hon. Mark Vannoy*, NECPUC President and Chair of the Maine Public Utilities Commission

Participants:

Hon. Abigail Anthony, Commissioner, Rhode Island Public Utilities Commission
Hon. Kathryn Bailey, Commissioner, New Hampshire Public Utilities Commission
Hon. Katie Scharf Dykes, Chair, Connecticut Public Utilities Regulatory Authority
Hon. Sarah Hofmann, Commissioner, Vermont Public Utility Commission
Hon. Angela O'Connor, Chair, Massachusetts Department of Public Utilities
Robert Stein, Vice Chair, NEPOOL Reliability Committee, and Principal, Signal Hill Consulting Group
Gordon van Welie, President and Chief Executive Officer, ISO-NE

Noon Luncheon Atlantic Ballroom

Hon. Mark Vannoy, NECPUC President and Chair of the Maine Public Utilities Commission
Hon. Jack Betkoski, President, National Association of Regulatory Utility Commissioners and Vice Chair, Connecticut Public Utilities Regulatory Authority
Invitation to 2019 NECPUC Symposium, *Hon. Katie Dykes*, Chair, Connecticut Public Utilities Regulatory Authority
Tom Kaslow, Chair, New England Power Pool and Director, Market Design & Policy, FirstLight Power Resources
Presentation of George Dunn Award to Staff by *Hon. Mark Vannoy*, NECPUC President and Chair of the Maine Public Utilities Commission

1:30 p.m. Concurrent Sessions

A. Water Panel Cape Neddick Salon B/C
Understanding and Managing Risk in the Water Industry

Sources of water supply provide the foundation for the delivery of quality water utility service. Vulnerabilities related to supply, treatment, or demand can create significant challenges which require timely assessment and action. These vulnerabilities can be explored through case studies – for example, the purchase of new infrastructure or addressing natural disasters such as drought via preparation and response. This panel will discuss various means of managing resources to ensure quality water service while balancing competing factors and interests.

Moderator: *Hon. Margaret Curran*, Chairperson, Rhode Island Public Utilities Commission

Participants:

Rick Knowlton, President, Maine Water Company
Lori Mathieu, Public Health Section Chief, Drinking Water Section, State of Connecticut Department of Public Health
Jeff McNelly, Director, Telephone and Water Division, Maine Public Utilities Commission
David Radka, Director of Water Resources and Planning, Connecticut Water
Jeff Ulrich, Director of Supply Operations, Aquarion Water

B. Telecom Panel

Cape Neddick Salon A

Peering Behind the Curtain on Net Neutrality: What you really need to know

For the first time in at least a decade, the Federal Communications Commission has been the subject of dinner table conversation, thanks to its recent decision regarding net neutrality. Between the challenging back story, the media tempest, and the prospects, everyone seems to have an opinion, even if details come from newspaper headlines. Is anyone harmed without net neutrality? Is regulating the internet the answer? This panel of esteemed experts will go beyond the soundbites to discuss what the FCC's actions mean with respect to on-the-ground impacts, industry evolution, and the long-term regulatory outlook.

Moderator: *Hon. Travis Kavulla*, Vice Chair, Montana Public Utilities Commission

Participants:

Daniel Lyons, Associate Professor, Boston College

Sarah Morris, Director of Open Internet Policy, Open Technology Institute

3:00 p.m. Break

3:15 p.m. Concurrent Sessions

A. Technical Innovation Panel

Cape Neddick Salon A

Innovation at the Bleeding Edge: The future of the grid

Looking beyond today's grid, this panel will first consider what the grid of the future could look like in 2030 and beyond. The panelists will then discuss issues associated with the application of technical innovation throughout the region with a focus on equities across geographic, consumer, and other differences. The panel will explore:

- Whether equity issues arising from regulatory changes that may create classes of "haves" and "have nots" associated with access to various forms of grid innovation;
- What forms of innovation should be considered universal or available to all going forward;
- What issues should be addressed if geographic differences lend themselves to application of technologies in certain communities or groups; and
- What questions should regulators be asking as they consider proposals regarding grid modernization or innovation initiatives?

Moderator: *Hon. Michael Caron*, Commissioner, Connecticut Public Utilities Regulatory Authority

Panelists:

Cindy Arcate, President and Chief Executive Officer, PowerOptions

Emilie Moeckel Bolduc, Vice President, New York Energy Manager, New York Power Authority

Elin Swanson Katz, Consumer Counsel, Connecticut Office of Consumer Counsel

Anne Margolis, Renewable Energy Development Director, Vermont Department of Public Service

Francis O'Sullivan, Director of Research, MIT Energy Initiative

B. Natural Gas Panel Cape Neddick Salon B/C
Construction, Operation, and Maintenance of Natural Gas Distribution Systems

This panel will include a discussion about the establishment of a positive safety culture among utilities and their contractors; a review of a serious incident caused by the failure of a defective plastic pipe fusion joint; a review of the risk of cross bores when installing pipe by horizontal directional drilling; and an overview of a robust Distribution Integrity Management Program.

Moderator: *Hon. Randall Davis*, Commissioner, Maine Public Utilities Commission

Panelists:

Mark Bruce, Cross Bore Safety Association

Nathan Dore, Inspector, Maine Public Utilities Commission

Robert Hall, Director, National Transportation Safety Board, Office of Railroad, Pipeline, & Hazardous Materials Investigations

Christopher LeBlanc, Vice President, Gas Operations, Unutil

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| 4:45 p.m. | Break | |
| 6:15 p.m. | Pre-dinner Reception
Sponsored by the Retail Energy Supply Association, Itron, and Robinson & Cole | Oceanview Terrace Salon |
| 7:15 p.m. | Dinner | Atlantic Ballroom |
| 8:30 p.m. | Dessert Reception
Sponsored by the Northeast Gas Association | Oceanview Terrace Salon |

Tuesday, May 22, 2018

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| 7:30 a.m. | Continental Breakfast Buffet begins | Atlantic Ballroom |
| 7:30 a.m. | Telecom Breakout Breakfast | Perkins Cove Salon |

Come discuss various telecommunications issues with Commissioners, state staff, and telecommunications professionals.

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| 9:15 a.m. | Coffee Chat
The State/Federal Divide: Beyond the Headlines | Cape Neddick Salon |
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From resilience and cybersecurity to state policies that may intersect with wholesale markets, the juncture of state and federal jurisdiction with respect to today's biggest issues is multifaceted and often confounding. This panel will provide an update on the legal framework that applies to this evolving area and explore emerging areas of concern. What solution sets are squarely within the jurisdiction of states and what is in the gray?

What questions should policymakers and stakeholders consider? What can be learned from other parts of the country? This panel will discuss these issues and more.

Participants:

Hon. Anthony Clark, Senior Advisor, Wilkinson Barker Knauer and former FERC Commissioner and Chairman of the North Dakota Public Service Commission

Kate Konschnik, Director of Climate & Energy Program, Duke University Nicholas Institute for Environmental Policy Solutions

Hon. Travis Kavulla, Vice Chair, Montana Public Utilities Commission

10:30 a.m. Break

10:45 a.m. Plenary Panel Cape Neddick Salon
Hair-Raising Hazards: Analytical Frameworks for Risk & Catastrophic Events

Managing risk, in particular high impact/low frequency events, has been a substantial topic of conversation throughout the utility industry during the past year. From cybersecurity to federal action on resilience, the utility industry is grappling with how to think about, and what actions to take, regarding potentially catastrophic events. What analytical frameworks can we use to analyze risk and proposed responses to perceived risks? Can those frameworks help us think about massive cybersecurity or weather events? What can we learn from experts outside our industry to help inform our thinking about these types of events and the investments that may be necessary to address them?

Moderator: *Hon. Bruce Williamson*, Commissioner, Maine Public Utilities Commission

Panelists:

Andrew Bochman, Senior Cyber & Energy Security Strategist, Idaho National Labs

Susan Ginsburg, Co-Founder and President, Criticality Sciences

David Mordecai, Lead Investigator, RiskEcon Lab for Decision Metrics, Courant Institute of Mathematical Sciences, New York University

Richard B. Jones, SVP Research & Engineering, Hartford Steam Boiler

12:15 p.m. Luncheon Atlantic Ballroom

Hon. Mark Vannoy, NECPUC President and Chair of the Maine Public Utilities Commission

Hon. Paul LePage, Governor, State of Maine

1:30 p.m. Concurrent Sessions

A. How Big a Buttress? Cape Neddick Salon B/C
Regulation and Risk Management in the Face of High Impact, Low Frequency Events

During the plenary session, the panel discussed big-picture analytical frameworks for thinking about risk, and what prospective actions might be taken in view of catastrophic events. We will now turn to regulatory aspects of risk. From distribution system planning to prudence reviews, and from wholesale market design to extreme weather conditions, regulators are faced with how to address high impact/low frequency events every day.

What regulatory frameworks should be applied to thinking about these events so that decisions fairly balance cost and consequence? What, if anything, do utilities and regulators need to change about the way they perceive their jobs in response to these kinds of risk? How should societal resources be allocated in a way that most sensibly prioritizes challenges. How do we assure equity not only between groups of ratepayers but also across utilities and utility types (e.g., gas, electric, water)? How should regulators assess the cost effectiveness of partial risk mitigation?

Moderator: *Hon. Michael Giaimo*, Commissioner, New Hampshire Public Utilities Commission

Participants:

Thorn Dickinson, Vice President-Business Development, Avangrid

Dalia Patino Echeverri, Gendell Associate Professor of Energy Systems and Public Policy, Duke University

Samantha Kappagoda, Investigator, RiskEcon Lab for Decision Metrics, Courant Institute of Mathematical Sciences, New York University

Richard B. Jones, SVP Research & Engineering, Hartford Steam Boiler

B. Electric Vehicles

Cape Neddick Salon A

Getting things Moving in New England

This panel will provide an update on what the New England States are doing with respect to electric vehicles (“EVs”) and EV infrastructure – and then answer the question, “what’s next?” What investments are being made today and who is making them? What is out there on the horizon? What equity issues should be considered as the region contemplates major investment in new infrastructure? What structures can support excellent infra- and intra-state decision-making?

Moderator: *Marion Gold*, Commissioner, Rhode Island Public Utilities Commission

Participants:

Hon. Matthew Beaton, Secretary of Massachusetts Executive Office of Energy and Environmental Affairs, Commonwealth of Massachusetts

Michael Brown, Manager, EV Infrastructure, Nissan Motor Company

Chris King, Chief Policy Officer, Siemens Digital Grid

Matthew Stanberry, Vice President, Market Development, Advanced Energy Economy

June Tierney, Commissioner, Vermont Department of Public Service

3:00 p.m.

Break

3:15 p.m. Afternoon Sessions

A. Ethics CLE for lawyers (3:30-4:30) Cape Neddick Salon B/C

Hon. Martin Honigberg, Chair, New Hampshire Public Utilities Commission
Bill Hewitt, Roach Hewitt Ruprecht, Sanchez & Bischoff

B. Workshop Perkins Cove Salon
Metrics for Resilience in Theory and in Practice

Joe Eto, Staff Scientist, Lawrence Berkeley National Laboratory
David Bradt, Director – Transmission Planning, Avangrid

4:45 p.m. Pre-dinner Reception Sponsored by ISO-NE

6:30 p.m. Non-public dinner for state officials and NESCOE

Wednesday, May 23, 2018

Non-public session for state officials and their staff, NESCOE and invited guests.

SPEAKER APPRECIATION



The NECPUC Symposium would not be successful without the dedication and efforts of speakers and panelists who have joined us from around the world. In recognition of these efforts, NECPUC has made a donation on behalf of each speaker to **Keep ME Warm**, which provides emergency heating assistance through a statewide partnership of Maine's United Ways and Community Action Agencies.

GENERAL INFORMATION

Information: If you have any questions about the Symposium, call Rachel Goldwasser, NECPUC Executive Director, at 603-748-9851.

Suggested Attire: Business Casual

Electronic Devices: In consideration of the speakers and your colleagues, please turn off all cellular phone and other communication devices while in any session.

CLEs: *Please sign up for CLE Credit at the registration desk and request a copy of the uniform certificate there.* CLE credit has been approved in Rhode Island (9.5 hours general, 1 hour ethics) and Maine and Vermont (both for 8 hours general, 1 hour ethics). NH is now a self-reporting CLE state. Attorneys should only claim credit commensurate with the extent of their participation in the Symposium.

Taping/Video Policy: Unless you receive prior approval from NECPUC, only credentialed members of the press are allowed to tape or video NECPUC sessions. If you wish to tape or record any portion of the NECPUC meeting, please contact Rachel Goldwasser at rgoldwasser@necpuc.org or 603-748-9851.



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Michael A. Caron – Treasurer
Connecticut Public Utilities Regulatory Authority

Rachel Goldwasser – Executive Director and Deputy Clerk
New England Conference of Public Utilities Commissioners

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June Tierney, Commissioner
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SPEAKER BIOGRAPHIES

Hon. Abigail Anthony, Commissioner, Rhode Island Public Utilities Commission – Abigail Anthony was appointed by Governor Raimondo to the Rhode Island Public Utilities Commission in June, 2017. Commissioner Anthony previously was the director of Acadia Center’s Grid Modernization and Utility Reform Initiative, and the organization’s Rhode Island director. Commissioner Anthony was appointed by Governors Carcieri and Chafee to the Rhode Island Energy Efficiency and Resource Management Council, where she served from 2010 to 2017 overseeing the implementation of the state’s energy efficiency programs and policies. Commissioner Anthony earned a PhD in Environmental and Natural Resource Economics from the University of Rhode Island. She received her MA and BA in economics from the University of Montana. Abigail is a lifelong resident of Jamestown, Rhode Island, where she lives with her husband and two young boys.

Cindy Arcate, President and Chief Executive Officer, PowerOptions – A respected energy expert with 30 years of experience in government and the private sector, Cynthia A. Arcate has an extensive background in utility regulation, operations and energy policy. As President and CEO of PowerOptions, the premiere energy-buying consortium of non-profits and government entities in Massachusetts, Connecticut and Rhode Island, Arcate articulates the strategic vision, managing a highly-skilled staff who implements its annual \$160 - 200 million electricity, natural gas and solar programs. She also acts as a hands-on advocate for its more than 500 members. She has served as a Vice Chair of the New England Power Pool, representing the End Use sector. Arcate’s extensive experience began at the Federal Energy and Regulatory Commission (FERC), then as a regulatory attorney and senior executive at New England Electric System, now National Grid. She served as Deputy Commissioner for Programs at the Massachusetts Division of Energy Resources (DOER), and director of business development for Comverge, a clean energy provider. Arcate is a 2016 recipient of the New England Women in Energy and Environment Achievement Award. She serves on the Board of the Northeast Clean Energy Council. Arcate earned her law degree from New York Law School and a Bachelor of Arts from St. Lawrence University.

Hon. Kathryn Bailey, Commissioner, New Hampshire Public Utilities Commission – Kate Bailey was appointed by Governor Maggie Hassan to serve a six-year term on the New Hampshire Public Utilities Commission in July 2015. She was appointed NESCOE Manager by Governor Sununu in July 2017. She also serves on New Hampshire’s Site Evaluation Committee and Enhanced 911 Commission, as well as on the NARUC Committee on Electricity. Commissioner Bailey joined the New Hampshire commission staff in 1989, and she went on to hold various positions, including Director of Telecommunications and Chief Engineer. Having joined the Commission shortly after the breakup of AT&T, Commissioner Bailey guided the regulatory transition in New Hampshire from rate-of-return monopoly telephone utilities to the predominantly deregulated competitive environment. Prior to her time at the New Hampshire PUC, Commissioner Bailey was commissioned in the Air Force where she served as a communications officer. After an honorable discharge from active duty, she was hired as a contractor to the federal government and worked on a microwave communications project throughout central Europe. Commissioner Bailey holds a Bachelor of Science degree from Union College in electrical engineering and she is a licensed professional engineer. She lives with her husband Rick and their golden retriever in Bow, New Hampshire.

Hon. Matthew Beaton, Secretary of Massachusetts Executive Office of Energy and Environmental Affairs, Commonwealth of Massachusetts – Secretary Matthew A. Beaton oversees the Commonwealth’s six environmental, natural resource and energy regulatory agencies: the Departments of Environmental Protection, Public Utilities, Energy Resources, Conservation & Recreation, Agricultural Resources, and Fish & Game. He also serves as Chairman of the Massachusetts Water Resources Authority, the Energy Facilities Siting Board, and the Massachusetts Clean Energy Center. Massachusetts was the first state in the nation to

combine energy and environmental agencies under one Cabinet secretary with the shared mission of bringing clean energy technology to market, curbing greenhouse gas emissions and cutting energy costs. Secretary Beaton is building on Massachusetts' nation-leading clean energy and environment accomplishments. Prior to his appointment to the cabinet post at Energy and Environmental Affairs, Secretary Beaton served as a State Representative for the Eleventh Worcester district. Elected in 2011, he was a member of the committees on Ways and Means; Environment, Natural Resources and Agriculture; and Ethics. In the private sector, Secretary Beaton has worked as an environmental engineer and sustainability consultant. He is the former owner of Beaton Kane Construction, a green building and energy efficiency consulting company that focuses on building energy efficient homes. Beaton earned an undergraduate degree in biotechnology from Worcester Polytechnic Institute and a master's degree in energy and environmental analysis from Boston University. Secretary Beaton and his wife, Laura, live in Shrewsbury, Massachusetts with their three young children.

Hon. Jack Betkoski, President, National Association of Regulatory Utility Commissioners and Vice Chair, Connecticut Public Utilities Regulatory Authority – John “Jack” Betkoski III has served on Connecticut's utility regulatory authority since 1997 when he was named a Commissioner of the Department of Public Utility Control. He was elected Vice Chairman of that body in 2007. When the Connecticut Public Utilities Regulatory Authority (PURA) was established on July 1, 2011 as the state's new regulatory authority, Vice Chairman Betkoski was appointed a Director by Governor Dannel P. Malloy and elected as Vice Chairman. He also serves as President of the National Association of Regulatory Utility Commissioner (NARUC) and Chairman of the Connecticut Water Planning Council. He was also a member of the EPA National Drinking Water Advisory Council, serving on its Water Security Working Group and the American Water Works Association Research Foundation's Public Council on Drinking Water Research. Prior to his time at PURA, Vice Chairman Betkoski served as a member of the Connecticut General Assembly, representing the 105th District (Ansonia, Beacon Falls, and Seymour) as a state representative from 1987-1997. Vice Chairman Betkoski was the Waterbury Salvation Army's Director of Human Services from 1989-1997, and held various administrative positions in human services agencies from 1974-1989. He served on Beacon Falls' Board of Selectmen from 1981-1987 and Board of Finance from 1979-1981. He presently serves as Chairman of the Beacon Falls Economic Development Commission. Vice Chairman Betkoski was born in Waterbury and is a lifelong resident of Beacon Falls, Connecticut. He received his B.A. from Sacred Heart University, and his M.S. and Sixth Year Diploma in Advanced Studies in Administration and Supervision from Southern Connecticut State University.

Andrew Bochman, Senior Cyber & Energy Security Strategist, Idaho National Labs – Andy Bochman is the Senior Grid Strategist for Idaho National Laboratory's National and Homeland Security directorate. In this role, Bochman provides strategic guidance on topics at the intersection of grid security and resilience to N&HS leadership as well as senior U.S. and international government and industry leaders. A frequent speaker, writer, and standards developer, Bochman has provided analysis on electric grid and energy sector infrastructure security actions, standards, and gaps to the Department of Energy, Department of Defense, Federal Energy Regulatory Commission (FERC), North American Reliability Corporation, National Institute of Standards and Technology, National Association of Regulatory Utility Commissioners, the Electricity Subsector Coordinating Council, and state utility commissions. He has testified before the U.S. Senate Energy and Natural Resources Committee on energy infrastructure cybersecurity issues and before FERC on the security readiness of smart grid cybersecurity standards. His two most recent papers, both published by the Center for Strategic and International Studies (CSIS), are “the National Security Case for Simplicity in Energy Infrastructure” (2015) and “IoT, Automation, Autonomy and Megacities in 2025: A Dark Preview” (2017). A member of the global advisory board for the Control Systems Cyber Security Association International (CS2AI), Bochman is also on the advisory committee to the SANS security training institute and a cybersecurity subject matter expert listed with the U.S. State Department Speakers Bureau. Prior to joining INL, he was the Global Energy & Utilities Security Lead at IBM and a Senior Advisor at the Chertoff

Group in Washington, DC. Bochman received a bachelor of science degree from the U.S. Air Force Academy and a master of arts degree from the Harvard University Extension School.

Emilie M. Bolduc, Vice President, New York Energy Manager, New York Power Authority – Emilie Bolduc is the Vice President of the New York Energy Manager for the New York Power Authority. She is responsible for leading the development and implementation of the New York Energy Manager (NYEM), a new business function in support of NYPA's strategic vision and New York State's comprehensive energy strategy for New York. NYEM gathers, stores, and presents compelling views of public building energy data on the web, allowing government facility managers across New York State to improve agency energy performance and manage utility costs in rapid ways not previously available. NYEM enables portfolio level energy performance benchmarking; virtual energy audits; predictive analytics; improved operations management; and supports measurement and verification of the impacts of solutions, programs, and projects in support of further investment in clean energy.

David Bradt, P.E., Director, Transmission Planning, Avangrid – David Bradt is currently the Director of Transmission Planning across Avangrid with operating companies located in Connecticut, Maine, and New York. Over the course of his career he has held a number of positions with responsibilities that included Operations, Maintenance, Engineering and Planning of T&D power systems. In addition, Bradt spent a part of his career outside of the utility industry as a consulting engineer designing and commissioning non-utility cogeneration systems. Most recently (following the creation of Avangrid) Bradt directed the successful creation of the Avangrid Transmission Planning group integrating engineering teams from multiple operating companies to efficiently plan the electrical transmission grid. Bradt holds a BSEE degree from Fairfield University and is also a licensed Professional Engineer in both Connecticut and Massachusetts. In his spare time, Bradt enjoys a wide range of outdoor sporting activities and also volunteering with his wife as a facilitator of family personal finance training classes.

Mike Brown, Manager, EV Infrastructure, Nissan North America – Mike and his team are currently responsible for the EV Infrastructure initiatives in the US that help promote EV adoption while making it easier for Nissan LEAF customers to use public charging. These include working with our partners on the 55 market No Charge To Charge program and other construction projects. He and his team manage dealer support programs, corridor development, and general partnerships. Mike's prior roles at Nissan have focused on the expanding the connected car programs, and most recently in Paris with the Renault - Nissan - Mitsubishi Alliance where he managed global supplier partners.

Mark H. Bruce, President, Cross Bore Safety Association – Mark Bruce graduated with a BS in Civil Engineering and has 45 years of experience in construction, manufacturing and services industries. Bruce has U.S. patents on pipe design and his products have been used on five continents. He has 20 years of ISO 9001 quality system experience. He is a principal of a pipe inspection service company for gas distribution, sewer and water utilities with a strong focus on new technologies. Bruce has authored articles in numerous publications and is a frequent presenter at conferences in the U.S. and internationally. In addition to being President of the Cross Bore Safety Association, he is Vice President of Hydromax USA, President of Can Clay Corporation, Chairman of the ASTM C-12 Committee, a member of ASTM C-04, D-20, F-17, F-36 Standards Committees, a member of the ASCE 36-15 Committee, past Chairman of NASTT - North American Society for Trenchless Technology, and past President of the National Clay Pipe Institute.

Hon. Michael Caron, Commissioner, Connecticut Public Utilities Regulatory Authority – Michael Caron is a Utility Commissioner of the Connecticut Public Utilities Regulatory Authority (PURA). Governor Dannel P. Malloy first nominated Caron to serve on the three-member regulatory authority on July 12, 2012. His appointment was confirmed by both the House of Representatives and State Senate in the 2013 session of the CT General Assembly and extends to 2017. He was reappointed by Governor Malloy in 2018 for a term that concludes in 2021. Commissioner Caron has served as the Authority's designee to the Connecticut Siting

Council and is PURA's representative to the Connecticut Economic Resource Council (CERC). Commissioner Caron is Treasurer of the New England Council of Public Utility Commissioners (NECPUC) and is a past member of the Electricity Committee for the National Association of Regulatory Utility Commissioners (NARUC) and was appointed last year to the NARUC Telecommunications Task Force by past President Commissioner Lisa Edgar (FL). He currently serves on the Gas Committee and the Critical Infrastructure Committee. Prior to his appointment, Caron was the Director of Public Affairs – Global Sites for Pfizer, Inc. and an associate lobbyist for the lobbying and business development firm Camilliere, Cloud & Kennedy. Caron previously served as a State Representative from the 44th District for nine terms (1991-2009) and Assistant Republican Leader for five terms (1999-2009). During his time as a member of the General Assembly, Caron served on the Finance, Revenue & Bonding Committee, as Ranking Member of a number of legislative committees including the Transportation Bonding Sub-Committee. He was a member of the Energy and Technology Committee and was an ex officio member of the CT State Bond Commission. Caron received his B.A. in History and a B.S. in Finance from Central Connecticut State University. He lives in West Hartford, Connecticut, with his wife Maureen Magnan.

Hon. Anthony Clark, Senior Advisor, Wilkinson Barker Knauer, former Commissioner, Federal Energy Regulatory Commission, former Chairman, North Dakota Public Service Commission – Tony Clark is a Senior Advisor at Wilkinson Barker Knauer, LLP. He provides clients with analysis and strategic advice on a variety of regulatory and public policy matters affecting their businesses. He specializes in working with clients in the energy and telecommunications industries and at the nexus of state and federal jurisdictional issues. Clark served from 2012 to 2016 as a Commissioner of the Federal Energy Regulatory Commission. From 2001 to 2012 he was a Commissioner of the North Dakota Public Service Commission, including over five years as its Chairman. He is a former President of the National Association of Regulatory Utility Commissioners. From 1999 to 2000, Clark was Labor Commissioner of the State of North Dakota, serving in the Cabinet of Gov. Ed Schafer. In 1994 he was elected to the North Dakota legislature, representing a portion of the City of Fargo for two terms in the State House of Representatives. He holds bachelors' degrees from North Dakota State University and an MPA from the University of North Dakota. In addition to his work at Wilkinson Barker Knauer, Clark serves as a member of the Board of Directors of NorthWestern Energy Corporation.

Hon. Margaret Curran, Chairperson, Rhode Island Public Utilities Commission – Chairperson Margaret Curran was appointed to the Rhode Island Public Utilities Commission by Rhode Island Governor Lincoln Chafee in June 2013. Chairperson Curran served as United States Attorney (District of Rhode Island) from 1998 to 2003, previously serving as Assistant U.S. Attorney. She was most recently a member of the Rhode Island Parole Board, and is currently Chair of the Rhode Island Health Benefits Exchange Advisory Board (HealthSource RI). Chairperson Curran has a B.A. in Biology from the University of Pennsylvania and an M.S. in Anthropology from Purdue University. Chairperson Curran received her J.D., with high honors, from the University of Connecticut School of Law, where she was Editor-in-Chief of the Connecticut Law Review. After graduation, she clerked for the Honorable Bruce M. Selya, in the United States District Court for the District of RI and for the Honorable Thomas J. Meskill, United States Court of Appeals for the Second Circuit. She has also been in private practice and served as Adjunct Professor of Law at the Roger Williams University School of Law, which awarded her an Honorary Doctor of Laws degree in 2003. In 2004, she received the John H. Chafee Memorial History Maker Award for Service. Chairperson Curran is a member of the American Law Institute and the First Circuit Court of Appeals Rules Advisory Committee, and she is an advisor on the Model Penal Code: Sentencing Project. She also belongs to the National Association of Former United States Attorneys and Bat Conservation International and is a member of the Board of Directors of the Institute for the Study & Practice of Nonviolence.

Hon. Randall Davis, Commissioner, Maine Public Utilities Commission – Randy Davis was appointed by Governor Paul R. LePage to serve on the Maine Public Utilities Commission in September 2017. Prior to his December 2017 arrival at the Commission, he worked as the Area Manager for Energy at Sappi North

America's Somerset Mill in Skowhegan, where he has worked since starting with the company in 1978. During his career at Sappi, he has overseen multiple aspects of the manufacturing process including roles in systems engineering, operations, maintenance, production planning, and supply chain. Prior to his tenure at Sappi, Commissioner Davis was systems engineer for Exxon Chemical working in New Jersey, Louisiana, Texas, and England until his decision to return to Maine. Commissioner Davis graduated from the University of Maine in 1976 with a Bachelor of Science in Chemical Engineering. His term expires in March 2023.

Thorn Dickinson, Vice President-Business Development, Avangrid – Thorn Dickinson is responsible for creating and supporting business development and growth initiatives for Avangrid. Dickinson has worked in the utility industry for 30 years. Prior to his current position, he worked in transmission and distribution operations, resource planning, rates and regulatory, strategic planning, investor relations and risk management. In these roles, Dickinson worked on integrated resource plans, clean-air compliance, industry restructuring, the Maine Power Reliability Project and the sale and acquisition of numerous businesses. Dickinson earned an MBA from Syracuse University and a B.S. in electrical engineering from Union College.

Nathan Dore, Inspector, Maine Public Utilities Commission – Nathan Dore is a Gas Pipeline Safety Inspector with the Maine Public Utilities Commission's Gas Safety program. Prior to his public service work, Dore coordinated construction quality assurance programs for an interstate natural gas transmission operator. Dore and his family live in Pittston, Maine, where they grow and market organic Maine wild blueberries.

Hon. Katie Scharf Dykes, Chair, Connecticut Public Utilities Regulatory Authority – Katie Scharf Dykes is the Chair of Connecticut's Public Utilities Regulatory Authority (PURA). She was nominated by Governor Dannel P. Malloy to serve as a PURA Commissioner on October 27, 2016. Chair Dykes previously served as Deputy Commissioner for Energy at Connecticut's Department of Energy and Environmental Protection (CT DEEP). She had held that position since March 2012. PURA, which operates under the leadership of three Commissioners, is statutorily charged with regulating the rates and services of Connecticut's investor owned electricity, natural gas, water and telecommunication companies and is the franchising authority for the state's cable television companies. As PURA Chair, Dykes plays an active role in helping to achieve the goal of Connecticut's energy agenda to bring cheaper, cleaner, and more reliable energy to the state's families and businesses. Chair Dykes represents Governor Malloy on the Board of Managers of the New England States Committee on Electricity (NESCOE) and is the Vice President of the New England Conference of Public Utility Commissioner's (NECPUC). She also currently serves as the Vice Chair of the Board of Directors of the Regional Greenhouse Gas Initiative. Chair Dykes joined CT DEEP in March 2012, after prior service as Deputy General Counsel for the White House Council on Environmental Quality and as a Legal Advisor to the General Counsel for the U.S. Department of Energy. She is a graduate of Yale College and the Yale Law School.

Dalia Patiño Echeverri, Gendell Associate Professor of Energy Systems and Public Policy, Duke University – Dalia Patiño-Echeverri is associate professor at the Nicholas School of the Environment at Duke University, where she studies the economic and environmental impacts of power generation technologies, market rules, and policies affecting capital investment and operating decisions within the electricity industry. Her research group is currently working on the development of a bottom-up mechanistic model to project future scenarios of residential electricity demand taking into account demographic, economic, climatic and technological change. This project is initially focusing on Mexico and China. Patiño-Echeverri is also adjunct associate professor at the Engineering and Public Policy Department at Carnegie Mellon University and co-principal investigator of the NSF Center for Climate and Energy Decision Making. She received B.S. and M.Sc. degrees in Industrial Engineering from the University of The Andes, Bogotá, Colombia and PhD degree in Engineering and Public Policy from Carnegie Mellon University.

Joe Eto, Staff Scientist, Lawrence Berkeley National Laboratory – Joe Eto is a staff scientist at the Lawrence Berkeley National Laboratory where he is a senior advisor for the Electricity Markets and Policy Group and the Energy Storage and Demand Resources Division. Among other things, he has spent the past 15+ years conducting research on reliability metrics and trends, and on the economic value of reliability to electricity customers. Eto’s principal research activities involve leading a national laboratory-university-industry R&D consortium that conducts public interest research and technology development focused on electricity reliability. Eto has also supported the U.S. Department of Energy’s Office of Electricity Delivery and Energy Reliability by serving on the US-Canada investigation of the Aug 14, 2003 blackout, and assisting in the preparation of DOE’s National Electric Transmission Congestion Studies. Eto has been a long-time contributor to state government-related activities. In 1988, he co-authored NARUC’s Handbook on Least Cost Utility Planning and in the 1990’s he organized yearly training seminars for state PUC staff on integrated resource planning.

Hon. Michael S. Giaimo, Commissioner, New Hampshire Public Utilities Commission – Michael Giaimo is a Commissioner with the New Hampshire Public Utilities Commission (PUC). He joined the PUC in August 2017. Before joining the PUC, Michael worked in the External Affairs Department for ISO New England (ISO). While there he supported the ISO’s outreach plans for regional system planning, wholesale electricity markets, and power system emergencies. During his decade-long tenure at the ISO, Commissioner Giaimo managed relationships with legislators, regulators, and policymakers, and at one time or another was ISO’s primary contact in Maine, Massachusetts, New Hampshire, and Vermont. In his role with the ISO, he participated in legislative and regulatory proceedings throughout the region and testified before state legislative committees. Prior to joining the ISO in 2007, Commissioner Giaimo spent 8 years as Vice President responsible for energy and environmental affairs for the Business & Industry Association of New Hampshire. Commissioner Giaimo is a graduate of the University of Massachusetts, Amherst (BA, History) and Suffolk University Law School (JD).

Hon. Marion S. Gold, Commissioner, Rhode Island Public Utilities Commission – Marion Gold was appointed to the RI Public Utilities Commission by Governor Gina Raimondo in June 2016. Previously, Commissioner Gold served for four years as Commissioner of the Rhode Island Office of Energy Resources (OER), the lead energy policy office for the State of Rhode Island. Prior to joining the OER, she was the Director of the Outreach Center at the University of Rhode Island where she established the URI Partnership for Energy and directed extension programs in energy, environmental horticulture, and urban agriculture. She has served on the URI President's Council for Sustainability, the RI Energy Efficiency and Resource Management Council, the Board of the National Association of State Energy Offices and on the Department of Energy’s State Energy Advisory Board. Commissioner Gold holds a B.S. in Natural Resource Science and Policy from the University of Michigan, a M.S. in Environmental Economics from Michigan State University, and a PhD. in Environmental Sciences from the University of Rhode Island.

Susan Ginsburg, Co-founder and President, Criticality Sciences – Susan Ginsburg is a start-up co-founder, public policy analyst and lawyer. She is CEO of Criticality Sciences, Inc., supporting resilience in infrastructure systems. She has written extensively about homeland security and is most recently the author of *The Sourcebook for Public Private Partnerships for Security and Resilience* (American Bar Association 2018). Her public service includes roles as senior counsel and team leader for the National Commission on Terrorist Attacks Upon the United States (9-11 Commission), and membership on the Quadrennial Homeland Security Review Advisory Committee and the Rice-Chertoff Secure Borders Open Doors Advisory Committee. Prior government service includes senior staff roles at the Treasury and State Departments, focused on firearms and drug enforcement and regulatory policy. Ginsburg obtained her law degree from the University of Pennsylvania Law School and served as a law clerk to Judge A. Leon Higginbotham, Jr. of the Third Circuit Court of Appeals. She is a member of the boards of Freedom House and the Whitehead Foundation and an advisor to the American Bar Association’s Standing Committee on Law and National Security.

Robert Hall, Director, National Transportation Safety Board, Office of Railroad, Pipeline, & Hazardous Materials Investigations – Robert Hall is the Director of the Office of Railroad, Pipeline and Hazardous Material Investigations at the National Transportation Safety Board (NTSB). Hall came to the NTSB from the U.S. Chemical and Hazard Investigation Board (CSB) where he was an Investigations Supervisor. Prior to his work at CSB, Hall worked for the Pipeline and Hazardous Material Safety Administration at the Department of Transportation. He has more than 30 years of experience in the design, inspection, and evaluation of hazardous systems, specializing in mechanical integrity and regulatory compliance. Hall has a B.S. Degree in Nuclear Engineering from Pennsylvania State University and a M.S. Degree in Energy, Resources, and Environment from George Washington University. He is a registered Professional Engineer in Virginia.

William D. Hewitt, Roach Hewitt Ruprecht Sanchez & Bischoff, P.C. – During more than 20 years of law practice, Bill Hewitt has developed a regional energy, telecommunications and public utility practice in New England. Hewitt represents participants in the natural gas, electric, telecommunications and water industries in Maine, Massachusetts and New Hampshire on a broad array of commercial and regulatory matters. In the regulatory arena, Hewitt has handled nearly every type of public utility proceeding, including reorganizations, management investigations, rate and rate design proceedings, service territory disputes, CPCN proceedings, infrastructure expansion and gas safety matters. Hewitt works closely with clients to understand their business and regulatory objectives and develops creative strategies designed to achieve the client's goals within the regulatory framework. He also represents clients in transactional matters involving the purchase and sale of energy and related products in wholesale and retail markets, including long-term contracts designed to promote state energy and environmental policies. An engineer before pursuing the law, Hewitt understands the complexities of utility distribution systems and leverages that knowledge when advocating on his client's behalf.

Hon. Sarah Hofmann, Member, Vermont Public Service Board – Sarah Hofmann was appointed to be a member of the Vermont Public Service Board by Governor Peter Shumlin beginning on March 1, 2015. Prior to her appointment she was the Executive Director of the New England Conference of Public Utilities Commissioners, Inc. (NECPUC). Before NECPUC, Commissioner Hofmann worked for the Vermont Department of Public Service for over sixteen years, first as a staff attorney, then as the Director for Public Advocacy and Consumer Affairs and finally as the Deputy Commissioner. At the Department, Commissioner Hofmann represented the interests of the public in regulated utility matters before Vermont and federal regulatory agencies and courts. She also worked with the legislature on regulatory issues and advised the Commissioner of the Department of Public Service and Governor on utility matters. Earlier in her career Commissioner Hofmann served as one of two Juvenile Defenders in the State of Vermont. She also has been a Legal Aid lawyer in Illinois. Commissioner Hofmann has a BA from Rollins College and a JD from the University of New Hampshire School of Law. She resides in Montpelier, Vermont.

Hon. Martin Honigberg, Chair, New Hampshire Public Utilities Commission – Chairman Honigberg was appointed to the New Hampshire Public Utilities Commission by Governor Maggie Hassan in December 2013 and became the Chairman a year later. Prior to his appointment, he was a partner at the Concord, NH law firm of Sulloway & Hollis for 11 years. At Sulloway & Hollis, Chairman Honigberg represented clients in a variety of litigation matters before state and federal courts, as well as administrative tribunals. He also served as leader of the Government Relations Practice Group. Chairman Honigberg served as special counsel to New Hampshire Governor Jeanne Shaheen (2001-2003) and as Senior Assistant Attorney General in New Hampshire (1994-1999). He also practiced law at the law firms of Rath, Young & Pignatelli in Concord, NH (2000-2001), Goodwin, Proctor & Hoar in Boston, MA (1989-1994) and Dickstein, Shapiro & Morin in Washington, D.C. (1985-1989). He has served the Concord School District in various positions, including as an elected board member, has been a member of the New Hampshire Supreme Court Advisory Committee

on Rules since 2002, and was on the New Hampshire Bar Association Board of Governors from 2001-2005. Chairman Honigberg holds a J.D. from Vanderbilt University and an A.B. from Amherst College.

Richard B. Jones, SVP Research & Engineering, Hartford Steam Boiler – Richard B. Jones is Senior Vice President of Research & Engineering at The Hartford Steam Boiler Inspection and Insurance Company. Jones is responsible for the development and application of new insurance products and services for renewables and other areas in the energy marketplace. His work currently involves developing risk-based methods for insuring minimum levels of system performance and applying this type of insurance as a credit enhancement tool in financing. Jones is a frequent speaker on the role of risk management as a tool to improve reliability and safety. He has over 75 publications and meeting contributions on various topics relating to reliability and risk management, has authored a book on Reliability-Centered Maintenance entitled: “Risk-Based Maintenance - A Reliability-Centered Approach,” a book published by Wiley in 2012 on risk management called “20% Chance of Rain – Exploring the Concept of Risk,” and has over 20 patents. He received a BS in Aerospace Engineering and PhD in Nuclear Science and Engineering from Virginia Tech. Earlier in Jones’s career he was a member of the technical staff at Sandia National Labs, a tenured professor of mathematics, and a commercial air taxi pilot and flight instructor.

Elin Swanson Katz, Consumer Counsel, Office of Consumer Counsel – Elin Swanson Katz has served as Consumer Counsel for the State of Connecticut since 2011. She heads the Office of Consumer Counsel, an independent state agency established in 1975, which advocates on behalf of consumers in matters relating to electricity, water, natural gas, and telecommunications. Her agency also includes the Connecticut State Broadband Office. As Connecticut’s Consumer Counsel, Ms. Katz serves on the Connecticut Energy Efficiency Board, the Commission for Education Technology, and the Water Planning Council Steering Committee, among other state boards. Ms. Katz is President of the National Association of State Utility Consumer Advocates (“NASUCA”). She is also NASUCA’s representative on the Federal Communication Commission’s (FCC) Federal-State Joint Board on Universal Service. Ms. Katz also serves as Governor Malloy’s designee on the FCC’s Intergovernmental Advisory Commission, for which she serves as Chair. Ms. Katz is on the Executive Committee for the Critical Consumer Issues Forum, a joint initiative of NARUC, NASUCA and EEI. She was named the “2016 Local Internet Choice State Champion” by the Coalition for Local Internet Choice. She was also the recipient of the New England Women in Energy and Environment’s (NEWIEE) 2014 Achievement Award. Ms. Katz holds degrees from Cornell University (B.S. in Industrial and Labor Relations), Boston University School of Law (J.D. cum laude), and Trinity College (M.A. in English (Writing, Rhetoric, and Media Arts), with honors).

Samantha Kappagoda, co-Managing Member of Numerati Partners LLC and Investigator at RiskEcon Lab for Decision Metrics @ NYU Courant Institute of Mathematical Sciences – Samantha Kappagoda is co-Managing Member of Numerati Partners LLC, which coordinates a data analytics investment and development ecosystem, with a mission to curate the next generation of scalable data-intensive risk and liability management enterprises by providing resources critical to accelerating the development of nascent leading-edge inferential surveillance, monitoring, and predictive analytics technologies for deployment in the forensic domains of RiskTech, LitTech and FinTech (i.e. risk technology, litigation technology and financial technology). Kappagoda is also an investigator at RiskEcon Lab for Decision Metrics @ NYU Courant, established in 2011 in order to apply a range of computational and analytical methods to commercial, consumer and population-related societal trends; and a Visiting Scholar at Courant Institute of Mathematical Sciences at NYU. Previously, she was Senior Economist/global head of analytics at Caxton Associates, a hedge fund investing in global markets across asset classes, with approximately \$12 billion of assets under management. Before that, she was an Economist in the Operations Evaluation Department of The World Bank in Washington D.C. Kappagoda received an M.B.A. in Analytic Finance and Statistics from the University of Chicago Graduate School of Business. She also holds an M.A. in Economics from the University of Toronto, and a B.Sc. (Honors) in Mathematics from Imperial College, London.

Tom Kaslow, Chair, New England Power Pool and Director, Market Design & Policy, FirstLight Power Resources – Tom Kaslow is the Director of Market Design and Policy for FirstLight Power Resources, an independent power producer with over 1300 megawatts of hydro and pumped storage generation in New England. Kaslow has over 25 years of industry experience in both regulated and competitive power companies. Kaslow has participated within the New England Power Pool (NEPOOL) stakeholder process since the late 1990's, with a leadership role in defining New England's original competitive market design and later serving as a NEPOOL witness in the FERC process to review that design. He has represented several independent power producers since restructuring, has previously served as Chairman of the Board of the New England Power Generators Association and currently serves as the Chairman of the NEPOOL Participants Committee.

Hon. Travis Kavulla, Vice-Chairman, Montana Public Utilities Commission – Travis Kavulla is Vice-Chairman, of the Montana Public Service Commission and co-chairman of the Committee on Regional Electric Power Cooperation (CREPC), which leads West-wide discussions on energy policy, wholesale electric markets, and the reliability of the grid. He also serves as the co-chairman for the Northern Tier Transmission Group (NTTG) Steering Committee, which conducts regional transmission planning and cost allocation and whose footprint covers much of the intermountain region and the Pacific Northwest. Vice-Chairman Kavulla was President of the National Association of Regulatory Utility Commissioners (NARUC) in 2015-2016, and continues to serve on the association's Board of Directors and Executive Committee. He also represents states on the Advisory Council of the Electric Power Research Institute (EPRI) and the FCC Joint Board on Jurisdictional Separations. He has been called to testify before FERC on the reform of the Public Utilities Regulatory Policy Act (PURPA) and before Congressional committees on the clean air regulations of the Environmental Protection Agency (EPA). Vice-Chairman Kavulla received his bachelor's in History at Harvard University, and holds a graduate degree from the University of Cambridge, England, where he was a Gates Scholar. Vice-Chairman Kavulla is a fourth-generation Montanan.

Hon. Angus King, United States Senator, State of Maine – Angus King is an independent Senator from Maine who serves on the Armed Services Committee, the Select Committee on Intelligence, the Committee on Energy and Natural Resources, the Committee on the Budget, and the Committee on Rules and Administration. In his time in the Senate, King has worked with Democrats and Republicans to strengthen America's national security, conducted critical oversight of the nation's Intelligence Community, advocated for policies that contribute to cleaner, cheaper energy and mitigate climate change, stood up against the corrosive effect of unchecked money in politics, fought to improve access to health care, pushed to strengthen the government's support of veterans, and promoted increased access to critical community resources like rural broadband. In his free time, he enjoys exploring the Maine outdoors – either on his Harley or with his family in their camper.

Chris King, Chief Policy Officer, Siemens Digital Grid – Chris King is Chief Policy Officer of Siemens Digital Grid, leading policy and strategy initiatives worldwide, emphasizing renewables integration, transportation electrification, grid modernization, demand response, and customer engagement. Prior to Siemens, King held leadership positions at the U.S.'s largest utility, Pacific Gas & Electric, and three Silicon Valley energy start-ups. An internationally recognized expert, author, and frequently invited speaker, King is on the Board of Directors of the Smart Electric Power Alliance and Brussels-based Smart Energy Europe, and is a member of the Advanced Energy Economy Business Council. He has testified before the U.S. Congress, several U.S. states, and international regulatory bodies on advanced energy technologies, including electric vehicle charging infrastructure. King holds bachelors and masters degrees in Biological Sciences from Stanford University, a masters from Stanford's Graduate School of Business, and a doctorate from Concord Law School. He is recipient of three patents related to advanced metering and intelligent grids.

Rick Knowlton, President, Maine Water Company – Rick Knowlton serves as President of Maine Water Company, a regulated investor-owned water utility in Maine that serves 32,000 customers in 21 municipalities through 12 distinct public water systems owned by the company. In addition to owned water systems, Maine Water provides contract operations, utility billing and financial services to a number of non-owned Maine water and wastewater systems. Knowlton is responsible for ensuring the Maine Water team achieves the highest levels of customer, employee, and shareholder satisfaction while practicing sound environmental stewardship. He has overall responsibility for operational performance, business planning, public and regulatory regulations, risk management and financial performance. Knowlton has 25 years of experience at Maine Water, serving most of that time as Vice President, Operations. Knowlton has a BS from the University of Maine in Civil Engineering and an MBA from Northeastern University. Knowlton has served as President of the Maine Water Utilities Association and has received the President’s Award for his contributions to the waterworks profession in Maine. Knowlton is also an active member of the New England Waterworks Association where he has served on several committees, presented papers and been recognized with the Association’s Leadership Award.

Kate Konschnik, Director of Climate & Energy Program, Duke University Nicholas Institute for Environmental Policy Solutions – Kate Konschnik is the Director of Climate & Energy at the Duke Nicholas Institute for Environmental Policy Solutions. Konschnik is also a Lecturer at Duke Law School and will teach a course at Duke this fall on “Transformation of the U.S. Electric Power Sector” with former FERC Chair Norman Bay, former Duke Energy CEO Jim Rogers, and Duke faculty colleague Brian Murray. Previously, Konschnik launched and directed the Harvard Environmental Policy Initiative at Harvard Law School. At both Harvard and Duke, Konschnik has conducted non-partisan research on environmental risk and innovation in the power sector. Previously, Konschnik served for more than a decade in the federal government, as Chief Environmental Counsel to Senator Sheldon Whitehouse (D-RI), and as a Trial Attorney in the Environmental Enforcement Section at the U.S. Department of Justice.

Christopher LeBlanc, Vice President, Gas Operations, Unitil – Christopher LeBlanc is currently Vice President, Gas Operations for Unitil Service Corporation, a combination natural gas and electric distribution company that operates in Massachusetts, New Hampshire, and Maine. In his current role, LeBlanc is responsible for the construction, maintenance, and operation of the Company’s natural gas distribution and transmission systems including the implementation of integrity management programs such as DIMP and TIMP. LeBlanc has 28 years of industry experience and has been employed by Unitil since 2000 in a variety of gas operations positions, including field supervision, manager, and most recently director. LeBlanc holds a Bachelor’s degree and MBA from Assumption College, Worcester MA.

Hon. Paul R. LePage, Governor, State of Maine – Governor LePage grew up in Lewiston, the oldest son of 18 children, and left home at the age of 11 to escape domestic abuse. Finding families who mentored him, employment, and education became his path out of poverty. A graduate of Husson College with an MBA from the University of Maine, he has had an extensive career in business management, heading his own consultancy firm and advising and leading businesses in several industries, including the forest products, retail, banking and energy sectors. He served three terms as Mayor of the City of Waterville. In both his private sector work and as the leader of the State of Maine, Governor LePage is a turnaround specialist. He took office in 2011 and won reelection in 2014 with the highest number of votes ever cast for a Maine governor. He was re-elected because voters saw the results of his efforts to balance the budget, reform welfare and cut taxes. During his Administration, Maine has reached a record-high number of private-sector jobs and the lowest unemployment rate in state history.

Prof. Daniel Lyons, Associate Professor, Boston College – Daniel Lyons is an Associate Professor of Boston College Law School, where he researches and writes in the areas of telecommunications, Internet policy, and administrative law. A *magna cum laude* graduate of Harvard College and Harvard Law School, he clerked for Judge Cynthia Holcomb Hall on the Ninth Circuit Court of Appeals and worked as an associate at

Gibson, Dunn & Crutcher and Munger, Tolles & Olson in Los Angeles before joining the BC faculty in 2009. Professor Lyons is also a Visiting Fellow at the American Enterprise Institute, where he has written over 100 blog posts on tech policy issues.

Anne Margolis, Renewable Energy Development Director, Vermont Department of Public Service – Anne Margolis is the Renewable Energy Development Manager at the Vermont Department of Public Service, where she works on policies, programs, and projects to advance the Vermont Comprehensive Energy Plan’s goal of transitioning to 90% clean energy across all sectors – electricity, transportation, and heating/cooling – by 2050. Margolis has previously managed the Department’s Clean Energy Development Fund and directed solar, wind, fuel cell, and energy storage initiatives for the nonprofit Clean Energy States Alliance. Margolis is a graduate of Dartmouth College.

Lori Mathieu, Public Health Section Chief, Drinking Water Section, State of Connecticut Department of Public Health – Lori Mathieu is Connecticut’s Public Drinking Water Administrator serving as the Public Health Section Chief with the Connecticut Department of Public Health’s Drinking Water Section. The Drinking Water Section is responsible for primacy of the Federal Safe Drinking Water Act and a variety of state statutes that oversee the purity and adequacy of Connecticut’s 2,550 public water systems. Mathieu has worked within the Department’s Drinking Water Section in a variety of units and programs. Mathieu currently serves as the DPH appointed representative to the Water Planning Council, served as a New England Region 1 Board member to the Association of State Drinking Water Administrators, represents DPH on a variety of drinking water related Committees, and serves as the Chair of her town’s Inland Wetland Agency.

Jeff McNelly, Director, Telephone and Water Division, Maine Public Utilities Commission – Jeffrey L. McNelly is a graduate of the University of Maine with a degree in Wildlife Management. He worked for the Maine Department of Environmental Protection for 2 years as an aquatic biologist. McNelly was employed by Camden & Rockland (Maine) Water Company for 16 years, dealing with resource protection, water treatment and administrative issues. As Executive Director of Maine Water Utilities Association, a position he held for 22 years, his responsibilities included legislative lobbying, regulatory advocacy, organizational and financial management and the coordination of volunteer committee activities. He is currently Director of the Telephone and Water Division at the Maine Public Utilities Commission.

David K.A. Mordecai, co-Managing Member of Numerati Partners LLC and Lead Investigator at RiskEcon Lab for Decision Metrics @ NYU Courant Institute of Mathematical Sciences – David K.A. Mordecai is co-Managing Member of Numerati Partners LLC, which coordinates a development ecosystem in RiskTech, LitTech and FinTech (i.e. risk technology, litigation technology and financial technology) domains. Dr. Mordecai is also lead investigator at RiskEcon Lab for Decision Metrics and Visiting Scholar at Courant Institute of Mathematical Sciences at NYC, as well as Scientist-in-Residence at FinTech Innovation Lab accelerator for early and growth stage technology firms, established by The Partnership Fund for New York City. During his 30 year tenure in industry, Mordecai served as a Managing Director at Swiss Re, and Senior Advisor to the Head of Swiss Re Financial Services; Managing Director of Structured Products at a multi-strategy hedge fund with \$10 Billion of A.U.M; Vice President of Financial Engineering/Principal Finance at AIG, and a Director at the rating agency Fitch. During the first decade of his career, he specialized in credit analysis for non-recourse project finance and highly leveraged transactions. Mordecai served as an advisor on systemic risk to the Federal Reserve, the International Monetary Fund (IMF), the US Treasury, and the Commodities and Futures Trading Commission (CFTC), as an advisor on hedge fund valuation issues to the International Organization of Securities Commissions (IOSCO), and serves on the board of governors of New York Academy of Sciences. Mordecai earned a Ph.D. from the University of Chicago, and an M.B.A. from NYU Stern School of Business.

Sarah Morris, Director of Open Internet Policy, Open Technology Institute – Sarah J. Morris, Director of Open Internet Policy, New America – As the Director of Open Internet Policy for New America’s Open Technology Institute, Sarah Morris leads OTI’s advocacy and legal efforts on issues related to broadband access and adoption, online consumer protections, and preserving the open internet. Her work on these issues has been widely quoted in a number of national publications, and she has appeared as an expert on radio and television outlets. She is a regular contributor for The Hill, and frequently writes for a variety of other national outlets. In addition, Morris is an adjunct professor of law at George Washington Law School, where she teaches telecommunications law and legal writing for the Federal Communications Law Journal. Prior to joining New America, Morris was a Google policy fellow with the public interest law firm Media Access Project, where she assisted with research and drafting of FCC comments on a wide range of key communications issues. She earned a B.A. from the University of Nebraska-Lincoln, and a J.D. and LL.M. in space, cyber, and telecommunications law from Nebraska Law, completing her thesis on privacy and security concerns related to smart grid technology. She currently serves on the Alumni Council for the LL.M. program.

Hon. Angela O’Connor, Chair, Massachusetts Department of Public Utilities – Angela M. O’Connor was appointed by the Governor of Massachusetts as the Chairman of the Department of Public Utilities in January of 2015. Prior to being appointed, Chair O’Connor was the Executive Director of TechNet for the northeast region. TechNet is a national, bipartisan CEO-led trade association founded in 1997 to create a bridge for the technology industry with state and federal policymakers. Chair O’Connor joined TechNet from the New England Power Generators Association (NEPGA). As the organization’s founding president, Chair O’Connor provided strategic leadership to NEPGA and served as chief spokesperson. Chair O’Connor previously served as Vice President of Energy Policy at Associated Industries of Massachusetts (A.I.M.), the Commonwealth’s principal statewide employer organization. Before joining A.I.M., Chair O’Connor was Operations Manager for Massachusetts Health and Educational Facilities Authority PowerOptions program, the largest energy purchasing consortium in New England. Earlier in her career she worked in marketing for the Boston Celtics, served as an environmental assistant to the city of Boston’s Environmental Department, and was a small business owner. She also served as chairman of the Board of Selectmen for the Town of Rockport. Chair O’Connor is a graduate of The University of Massachusetts - Boston.

Francis O’Sullivan, Director of Research, MIT Energy Initiative, Senior lecturer, MIT Sloan School of Management – Francis O’Sullivan works on topics related to energy technologies, policy and economics. He has written and spoken widely on these topics, and has made presentations to the President’s Office of Science and Technology Policy, the EIA, the EPA, the Brookings Institute, the Bipartisan Policy Center, the Center for Strategic and International Studies, the National Governors’ Association, the National Association of Regulated Utility Commissioners, at CERAWEEK, the American Physical Society, the American Geophysical Union and to a range of other academic, policy and industry forums. He is a lead author of both the 2011 MIT *Future of Natural Gas* study, and the 2015 MIT *Future of Solar Energy* study. O’Sullivan is a member of the U.S. National Academies’ Roundtable on Science and Technology for Sustainability, and is a Senior Associate with the Energy and National Security Program at the Center for Strategic and International Studies. He has also served as a member of the U.S. Secretary of Energy’s working group on methane emissions and as a member of the scientific advisory board for the Environmental Defense Fund’s methane emissions campaign. Prior to joining MIT, O’Sullivan was a consultant with McKinsey & Company, where he worked on engagements that included investment analysis and risk management, strategic planning, and operations in the private equity, oil and gas, electric utility, and renewable energy sectors.

Hon. Robert F. Powelson, Commissioner, Federal Energy Regulatory Commission, former Chairman, Pennsylvania Public Utilities Commission – Commissioner Robert F. Powelson was nominated by President Trump to be a member of the Federal Energy Regulatory Commission on May 8, 2017. Commission Powelson took the oath of office and became a FERC Commissioner on August 10, 2017. Prior to joining FERC, Commissioner Powelson spent nine years as a Commissioner at the Pennsylvania Public Utility

Commission (PA PUC). Powelson served as Chairman of the PA PUC from 2010 to 2014, and during that time, he ushered in a number of new energy policy initiatives and helped transform the agency into one of the most dynamic state commissions in the nation. Commissioner Powelson also served as President of the National Association of Regulatory Utility Commissioners (NARUC) from 2016-2017. Before becoming a state utility commissioner, Powelson was the President and CEO of the Chester County Chamber of Business & Industry in Malvern, PA. Powelson is a graduate of St. Joseph's University and received a Master's Degree in Governmental Administration from the University of Pennsylvania, where he received the Leadership for Results Award in 2004.

David L. Radka, Director of Water Resources/Planning, The Connecticut Water Company – David Radka has been employed by The Connecticut Water Company, a subsidiary of Connecticut Water Service, since 1988, where he currently holds the position of Director of Water Resources & Planning. He holds a B.S. in chemistry and biology and a M.S. in hydrogeology from Rensselaer Polytechnic Institute. Connecticut Water Service provides drinking water to nearly 122,000 customers, or about 400,000 people, throughout the states of Connecticut and Maine. Radka's work has led him to be very involved in water policy issues at the state level. He has participated on numerous committees and forums with other stakeholders and policy makers, including development of the State Water Plan, where he recently served on the Science & Technical and Policy subcommittees. Radka is a past president of the Connecticut Water Works Association, and has served as co-chair of the Water Planning Council's Advisory Group and as an advisory board member to the Connecticut Institute of Water Resources at the University of Connecticut. In 2009, he was elected to the board of the Rivers Alliance, a non-profit organization dedicated to protecting and enhancing Connecticut's rivers, streams and watersheds. Radka is involved with his local community as well, and serves as chair of the Inland Wetlands Commission in Clinton, CT.

Matthew Stanberry, Vice President, Market Development, Advanced Energy Economy – Matt Stanberry runs AEE's Advanced Transportation program that works on transportation electrification policy around the country on behalf of a group of leading companies from across the space, including charging station companies, manufacturers of vehicles of all sizes, technology and infrastructure firms, and fleet owners. The group is engaged in developing policy, thought leadership, and convenings in states ranging from Florida to California and at the federal level. Stanberry specializes in clean energy and transportation technology, policy, and business strategy, and has a background in the environmental and public health impacts of the industries. Before joining AEE in 2011, Stanberry was a management consultant within Navigant's Energy Practice, focused on emerging technologies, business strategy and project implementation. Prior to Navigant, Stanberry was a consultant for ICF International addressing industrial systems, energy technologies, environmental impacts, and risk assessment. He holds a Bachelors degree from Duke University and a Masters in Public Health from Johns Hopkins University.

Robert Stein, Vice Chair, NEPOOL Reliability Committee, and Principal, Signal Hill Consulting Group – Bob Stein has been involved in NEPOOL activities for over 45 years. He is a graduate of WPI earning a BS in Electrical Engineering in 1971, received an MBA from Western New England in 1979 and attended the Harvard Advanced Management Program in 1992. His first job was at NEPOOL where he did transmission planning as an Associate Engineer. Among his studies was a transmission plan to meet the then projected 1990 load of 40GW. Stein's corporate career spanned 26 years with increasing levels of responsibility at MMWEC, United Illuminating (UI) and Central Vermont Public Service (CVPS, now Green Mountain Power) where he was a corporate officer. He represented each company at NEPOOL on task forces and the Planning Committee. At UI and CVPS he managed wholesale marketing departments. After leaving CVPS in 1996 he began a consulting career and co-founded the Signal Hill Consulting Group. As a consultant he represents client's interests on virtually all stakeholder committees. The work has spanned the utility divestiture of generating assets and continuing development of the wholesale markets, numerous interconnections of new generating units and strategic planning. For over 15 years he taught a commercial

seminar, Electricity 101. He is currently vice-chair of the Reliability Committee and is past vice-chair of the Supplier Sector and past Participants Committee Chair.

June E. Tierney, Commissioner, Vermont Department of Public Service – June E. Tierney was sworn in as the Commissioner of the Vermont Department of Public Service by Governor Phil Scott on January 5, 2017. Prior to her appointment, Commissioner Tierney served as general counsel to the Vermont Public Utility Commission (2012-2016). Before then, she was a PUC hearing officer (2008-2012), as well as a staff attorney at the Vermont Department of Public Service (2001-2008). A 1986 graduate of Boston University and a 1993 graduate of Vermont Law School, Commissioner Tierney began her legal career with a clerkship at the Vermont Supreme Court, followed by three years as an associate at Davis Polk & Wardwell in New York City, where she specialized in securities fraud litigation, white collar crime defense and corporate internal compliance investigations. Before her admission to the bar, Commissioner Tierney enjoyed the privilege of serving on active duty (1986-1990) as a commissioned officer in the United States Army.

Jeff Ulrich, Director of Supply Operations, Aquarion Water – Jeff Ulrich has worked in the water industry for over 25 years. As Aquarion Water Company's Director of Supply Operations, he oversees a department of 75 people that produces drinking water for over 700,000 people in Connecticut. The department operates 29 reservoirs, 9 water treatment plants, 60 pump stations, 100 wells and 70 water storage tanks. Ulrich received his Bachelor of Civil Engineering from Villanova University and Masters of Science from Rutgers University.

Gordon van Welie, President and Chief Executive Officer, ISO-NE – Gordon van Welie is President and Chief Executive Officer of ISO New England Inc., having previously served as the company's Executive Vice President and Chief Operating Officer. He joined ISO New England from Siemens Power Transmission & Distribution LLC, where he served as Vice President and General Manager of the Power Systems Control Division and was responsible for managing information technology solutions for electric companies. Before coming to Siemens, van Welie held several positions at ESKOM, South Africa's electric utility based in Johannesburg. van Welie is a member of a number of industry groups, including the Executive Committee of the U.S. National Committee of CIGRE, the Member Representatives Committee of the North American Electric Reliability Corporation (NERC), the ISO/RTO Council, and the IEEE Power & Engineering Society. He is a recipient of 2017 Utility Variable-Generation Integration (UVIG) Achievement Award and, in 2016, was awarded the IEEE Power & Energy Society Leadership in Power Award.

Hon. Mark Vannoy, NECPUC President and Chair of the Maine Public Utilities Commission – Mark Vannoy was appointed Chairman of the Maine Public Utilities Commission in December 2014 by Governor Paul R. LePage. He had previously served as Commissioner being appointed in June 2012 and reappointed in May 2013. Prior to coming to the Commission he worked as an Associate Vice President in the infrastructure and civil practice group at Wright Pierce in Topsham, Maine. Before moving to Maine in 2000, he served as an Officer in the United States Navy, completing tours as a NROTC instructor at Cornell University, and a nuclear tour, as the Damage Control Assistant aboard CGN36 USS California. Chairman Vannoy graduated from the United States Naval Academy in 1993 with a Bachelor of Science in Ocean Engineering. He completed his Masters of Engineering at Cornell University in 2000. His term expires in March 2019.

Hon. Bruce Williamson, Commissioner, Maine Public Utilities Commission – Dr. Bruce Williamson is Commissioner, Maine Public Utilities Commission He is active with the National Association of Regulatory Utility Commissioners, the Research Advisory Council for the Electric Power Research Institute (EPRI), serves as co-chair of Maine's Regional Greenhouse Gas Initiative (RGGI) and is on the Executive Board of RGGI, Inc.; is a symposium participant for the Harvard Electricity Policy Group (HEPG); and serves on the Board of Directors for the ConnectME Broadband Authority in Maine. Commissioner Williamson has 40 years of industry experience in economics, market valuation, regulatory economics, and technology adoption for investor-owned as well as publicly-owned utilities, both in the US and internationally. Much of his work

supported new market development, valuation of markets, and bid preparation for national auctions to obtain operator licenses, and the network business modeling to support buildouts. He has also contributed to the field of defense economics for the US Air Force and the Naval Postgraduate School regarding cost, schedule and quantity contracting in major defense acquisition programs. Commissioner Williamson holds a PhD in Economics, an MA degree in International Studies, and a BA in American Foreign Policy and Government.

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