



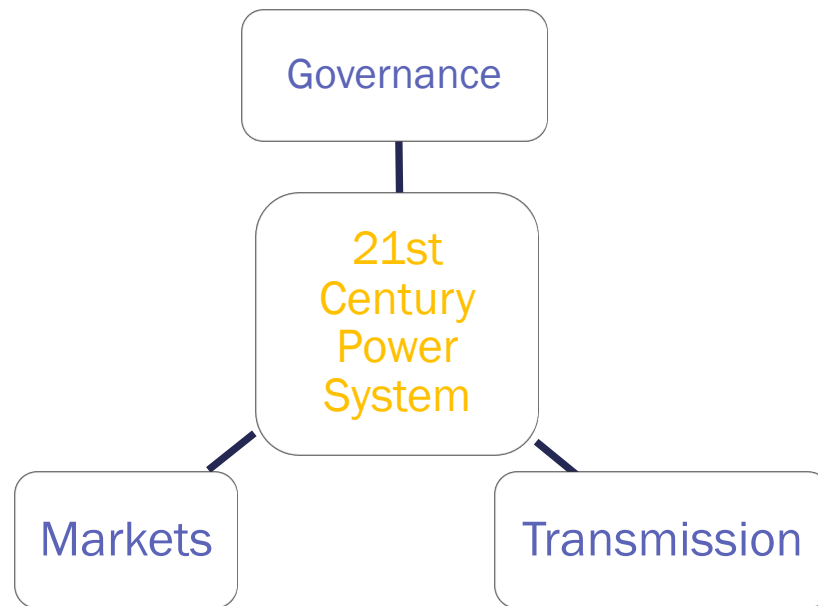
New England States
Committee on
Electricity
2020

REPORT TO THE NEW ENGLAND GOVERNORS

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Envisioning Our 21st Century Electricity System



2020 was Defined by a Call for Directional Change

In 2020, New England Governors issued a statement entitled *New England’s Regional Wholesale Electricity Markets and Organizational Structures Must Evolve for 21st Century Clean Energy Future*. It sought fundamental and lasting change. Against that backdrop, it expressed a commitment to realizing long-term, functional, and transparent market-based solutions to facilitate New England’s clean energy future. A companion *2020 Vision Statement* issued by NESCOE Managers put a bright light on the interconnected elements that require change to conform to current facts and laws: wholesale markets, transmission planning, and ISO New England governance.

We are grateful to ISO New England, the New England Power Pool, and other stakeholders for partnering with the New England states in the hard work to implement the changes needed to move to the future grid.

SECTION I: NESCOE GOVERNANCE

A Board of Directors representing the six New England states directs NESCOE's affairs and engagement in regional issues. Each Governor appoints the state's NESCOE Manager. Regardless of the number of individuals each Governor appoints as a NESCOE Manager, each New England state has one undivided vote in arriving at NESCOE determinations.

The vast majority of NESCOE determinations have been unanimous, reflecting the commonality of interests across the region and New England states' efforts to achieve consensus on regional electricity matters. In circumstances where there is not consensus, NESCOE makes determinations with a majority vote (i.e., a numerical majority of the states) and a majority weighted to reflect relative electric load of each state within the region's overall load.

2020 NESCOE Managers

State of Connecticut Katie S. Dykes

Commissioner, Department of Energy and Environmental Protection



Katie Scharf Dykes is the Commissioner of Connecticut's Department of Energy & Environmental Protection (DEEP). She was nominated by Governor Ned Lamont to serve as the Commissioner of DEEP and was confirmed on February 20, 2019. Katie previously served as Chair of the Connecticut Public Utilities Regulatory Authority (PURA) from 2015-2018, and as Deputy Commissioner for Energy at Connecticut DEEP from 2012-2015. Katie also served as the Chair of the Board of Directors of the Regional Greenhouse Gas Initiative, Inc. (RGGI) from 2014 to 2017. RGGI is a multi-state effort focused on reducing carbon emissions from electric generating facilities. Katie 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.

**State of Maine
Chairman, Public Utilities Commission
Philip L. Bartlett II**



Philip L. Bartlett II, J.D., was appointed to the Maine Public Utilities Commission in June 2019 by Governor Janet Mills. Prior to his appointment, he practiced law with Scaccia, Bartlett & Chabot. He also served in the Maine Senate from 2004 to 2012 and was elected by his peers to serve as Senate Majority Leader from 2008 to 2010. Bartlett chaired the Energy, Utilities and Technology Committee as well as the Joint Select Committee on Maine's Energy Future and he served on the Government Oversight Committee, Natural Resources Committee and Labor Committee. He taught micro and macroeconomics at the collegiate level. Chairman Bartlett holds a juris doctorate degree from Harvard Law School. He completed his undergraduate work at Tufts University, where he graduated Summa Cum Laude majoring in Economics and Political Science. His term expires in March 2025.

**Commonwealth of Massachusetts
Chair, Department of Public Utilities
Matthew Nelson**



Matthew Nelson was appointed Chair of the Department of Public Utilities in February 2019. Nelson began his energy career at the Department in 2007 in the Natural Gas Division. Subsequently, Nelson served as the Supervisor of Regulatory, Policy, and Planning for Eversource Energy as part of the nationally recognized Mass Save program. Returning to the Department, Nelson became the Director of Electric Power, and Regional and Federal Affairs. During Nelson's time at the Department, he has investigated a wide range of utility issues, including grid modernization investments, general rate case issues, solar and renewable energy development, energy efficiency, climate strategies, competitive supply, and storm restoration issues. Nelson's work at the Department and elsewhere has focused on reducing costs to ratepayers while improving reliability and continuing to drive down greenhouse gas emissions. Nelson is a graduate of Stonehill College and he holds a Master's degree in economics from Tufts University.

**Commissioner, Massachusetts Department of Energy Resources
Patrick Woodcock**



Patrick Woodcock was named DOER Commissioner in February 2020. Formerly the Executive Office of Energy and Environmental Affairs' Undersecretary of Energy, Commissioner Woodcock was named Acting Commissioner in December 2019 and served in this role until his current appointment.

Woodcock joined the Baker-Polito Administration in 2017 and served as the Undersecretary of Energy in the Executive Office of Energy and Environmental Affairs for over two years. In that position, Woodcock oversaw the Department of Energy Resources and the Department of Public Utilities. Woodcock serves on the Massachusetts Clean Energy Center Board and Investment Committee, represents Massachusetts on the Boards of the Regional Greenhouse Gas Initiative Inc. and National Association of State Energy Officials, and is a member of the Energy Facilities Siting Board.

Prior to his time in the administration, Woodcock was Director of the Maine State Energy Office, a position he held from 2013 through 2016. Previously, Woodcock worked for United States Senator Olympia Snowe in her Washington, D.C. office. Woodcock graduated from Bowdoin College and holds a Bachelor of Arts degree in Government.

**State of New Hampshire
Kathryn Bailey
Commissioner, Public Utilities Commission**



Kate Bailey was appointed to serve a six-year term on the New Hampshire Public Utilities Commission in July 2015. She has served on New Hampshire's Site Evaluation Committee and Enhanced 911 Commission, as well as on the NARUC Committee on Electricity. She was appointed NESCOE manager in July 2017. Commissioner Bailey joined the New Hampshire commission staff in 1989, where she held various positions, including Director of Telecommunications and Chief Engineer. Prior to her time at the 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.

State Of Rhode Island
Nicholas Ucci
Commissioner, Office of Energy Resources



Nicholas S. Ucci serves as Commissioner of the Rhode Island Office of Energy Resources (OER), the state's lead agency on energy policy and programs. OER works closely with private and public stakeholders to foster clean, affordable, and reliable energy solutions for all consumers, while spurring economic and job growth opportunities across Rhode Island's burgeoning clean energy economy.

During his time at OER, Commissioner Ucci has helped expand the state's clean energy portfolio nearly ten-fold, while supporting Rhode Island's standing as a national leader in energy efficiency innovation. He has played a significant role in major renewable energy procurements, including selection of the 400 MW Revolution Wind (offshore) project, and is leading efforts to ensure that 100% of the state's electricity demand is met with renewables by 2030 – a nation-leading effort. Nick has also been instrumental in guiding the state's Heating Sector Transformation (HST) initiative and helping to double EV charging infrastructure across Rhode Island roadways.

Nick serves as Executive Director of the Rhode Island Energy Efficiency & Resource Management Council (EERMC) and Distributed Generation (DG) Board, as well as Vice Chairman of the state's Executive Climate Change Council (EC4). He is also a recipient of the Environmental Merit Award (Government) from the U.S. Environmental Protection Agency (EPA).

A lifelong resident of the Ocean State, Nick is a proud graduate of the University of Rhode Island (URI), where he earned a Master of Arts degree in Political Science, with a concentration in Public Policy and a Graduate Certificate in Labor Relations. He also holds Bachelor of Arts degrees, with Highest Distinction, in Political Science and Economics from URI. A devoted father of two young children, Nick was elected by his peers to the Bishop's Committee of St. Francis Episcopal Church (Coventry, RI) and coaches little league baseball.

STATE OF VERMONT
June Tierney
Commissioner, Department of Public Service



Commissioner 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 Service Board (2012-2016). Before then, she was a Board 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.

Ed McNamara
Director, Energy Policy and Planning Department of Public Service



Ed McNamara is Director of Energy Policy and Planning for the Vermont Department of Public Service. In this role, he is responsible for developing and implementing statewide energy policy, including energy efficiency and demand resource management programs, renewable energy policy, and electric utility planning. In addition, Ed is the lead staff for developing Vermont's positions on federal energy issues, including wholesale electricity market rules and transmission planning processes. Prior to working at the Department of Public Service, Ed worked as a Hearing Officer and Staff Attorney for the Public Service Board.

SECTION II: 2020 STAFF & CONSULTANTS

The NESCOE staff team has diverse academic and professional backgrounds, including economics, accounting, engineering, and law and a cross section of private and public sector experience in New England. NESCOE's staff and technical consultants bring comprehensive and deep experience to analysis and filings with the FERC, other federal agencies, federal courts, and ISO New England.



From left, Ben D'Antonio, Dorothy Capra, Heather Hunt, Jeff Bentz, Jason Marshall

Jeff Bentz **Director of Analysis**

Jeff Bentz, CPA was named NESCOE's Director of Analysis in 2011. Previously, Jeff was with a New England generating facility, MASSPOWER, for nearly twenty years. Jeff served in progressive positions with MASSPOWER and was ultimately its General Manager. Earlier in his career Jeff was with Arthur Andersen and Company. Jeff has a Bachelor of Science degree in Accounting from Central Connecticut State University.

Dorothy Capra **Director of Regulatory Services**

In 2011, Dorothy Capra was named NESCOE's Director of Regulatory Services. Since 2000, Dorothy was International Power's Director of Regulatory Affairs for NEPOOL and more recently for PJM. In that capacity, she coordinated regulated activities in New England and PJM and related activities at the FERC. Dorothy was elected Vice Chair of the New England Power Pool's (NEPOOL) Transmission Committee and has served in the past as Vice Chair of its Reliability Committee. Before that, Dorothy was with New England Electric System (National Grid) for ten years in a variety of positions, including in transmission and rates. She began her career at BP Oil, Inc. Dorothy has an MBA from the Amos Tuck School at Dartmouth and a BS in Chemical Engineering from Washington University in St. Louis.

Ben D'Antonio **Senior Counsel & Analyst**

Ben D'Antonio joined NESCOE in 2012 as Counsel and Analyst. Before that, Ben worked in the Regional and Federal Affairs Division of the Massachusetts DPU as an Economist and Legal Counsel, with a focus on wholesale electricity market and transmission planning issues. Previously, Ben was a

Regulatory Assistance Project Energy and Environment Fellow, where he provided support to state utility commissions on clean energy policies. Earlier, Ben worked in financial services. Ben has a Juris Doctor, with honors, and Masters of Environmental Law, with honors, from Vermont Law School and a Bachelor of Arts in Economics from the University of Vermont.

Heather Hunt
Executive Director

Heather Hunt joined NESCOE as Executive Director in 2009. Previously, Heather had a regulatory law practice for six years, was Director, State Government Affairs, United Technologies Corporation and Group Director, then Vice President, Regulatory at Southern Connecticut Gas. Earlier, she was a Public Utility Commissioner in Maine and Connecticut and was on the legal staff of a Connecticut Governor. Heather has a Bachelor of Arts in Politics from Fairfield University and a Juris Doctor from Western New England College School of Law. Heather is the Chair of the Living Donor Committee of the national Organ Procurement and Transplantation Network and serves on the Board of Directors of the SJW Group.

Jason Marshall
General Counsel

Jason Marshall joined NESCOE in 2012 as Senior Counsel and was named General Counsel in 2014. Previously, he was Counsel with the Regional and Federal Affairs Division of the Massachusetts DPU. Before that, Jason was Legal Counsel to a Massachusetts State Senator. Earlier, Jason was an associate at Brown Rudnick LLP and was a Law Clerk to the Chief Justice of the Massachusetts Appeals Court. Jason has a Bachelor of Arts, with honors, from Boston College and a Juris Doctor, with honors, from the University of Connecticut School of Law. He serves on the Cambridge Board of Zoning Appeal and the Cambridge Water Board.

Technical Consultants and Legal Support

NESCOE retains consultants to provide technical analysis in the areas of system planning and expansion and resource adequacy. In 2020, NESCOE worked with consultants such as **Exeter Associates, Inc., Wilson Energy Economics, and Peter Flynn LLC.**

NESCOE does not use litigation as a primary means to accomplish its objectives, and when it needs to, NESCOE staff produces much of the organization’s legal work. NESCOE’s legal activity focuses on consumer interests in proceedings at FERC. Like past years, NESCOE participated in a broad range of FERC proceedings involving issues such as electric transmission planning and rates and wholesale market rules. When NESCOE required outside counsel, it worked primarily with **Phyllis G. Kimmel Law Office PLLC** in Washington D.C.

SECTION III: REGIONAL STATE ENTITY COORDINATION

NESCOE regularly communicates with the New England Conference of Public Utility Commissioners (NECPUC), and with the Coalition of Northeastern Governors as needed, to share information about matters on which it is working and to avoid duplication of efforts. In 2020, NESCOE participated in NECPUC meetings with ISO New England staff and Board of Directors. As issues warrant, NESCOE facilitates dialogue with subject matter experts from state governments to enhance coordination and leverage the technical expertise that exists within state agencies on issues with regional electric system implications.

SECTION IV: 2020 ACTIVITY, FOCUS AREAS & ACCOMPLISHMENTS

Advocating for Consumer Interests in Regional Stakeholder Forums

New England consumers fund the region’s wholesale electricity markets and high-voltage transmission system. The annual costs of the wholesale electricity markets have ranged over the past decade from a low of \$5.3 billion in 2016 to a high of \$13.6 billion in 2008, with 2020 coming in near the bottom of that range at \$5.7 billion. These costs include the energy, capacity, and ancillary services markets.

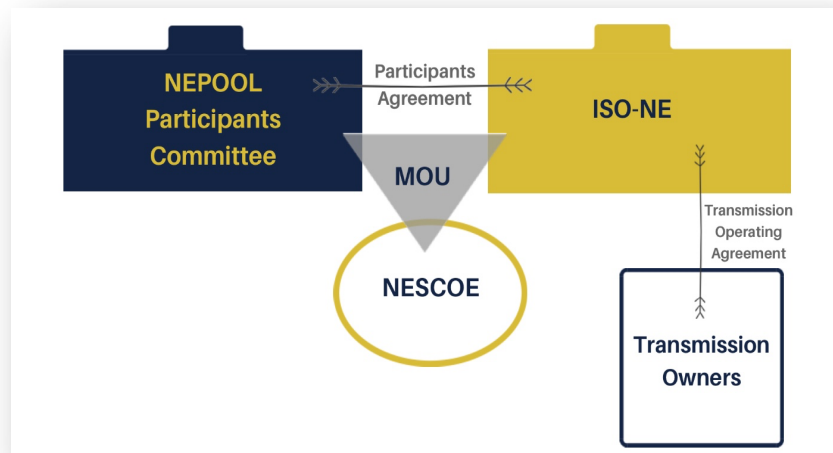
The plans and rules that determine the level and type of consumer investments in these markets are largely developed as part of a regional stakeholder process. Most proposals must ultimately be presented to FERC for its deliberation. Participating in these activities and the subsequent regulatory proceedings is resource

intensive but imperative: even “minor” revisions to market rules or planning approaches can mean significant changes and have material consumer cost implications.

After FERC approved NESCOE as New England’s Regional State Committee, NESCOE commenced activity in 2009, consistent with a Memorandum of Understanding among NESCOE, ISO New England, and NEPOOL submitted to FERC.

FERC reviews ISO New England’s filings to determine whether market rules and other proposals are “just and reasonable” under the Federal Power Act. Provided there is a certain super-majority level of stakeholder support for an alternative market rule proposal, ISO New England must include with its proposed filing the alternative market rule that NEPOOL supports. The NEPOOL alternative is considered by FERC on equal legal footing with ISO New England’s proposed rule. New England’s transmission owners have legal authority to make certain filings with FERC in connection with transmission rates and cost allocation, and FERC also reviews these filings under the Federal Power Act’s “just and reasonable” standard. Like market participants and stakeholders, NESCOE expresses its perspective to FERC on these various filings, which FERC will generally accept or reject.

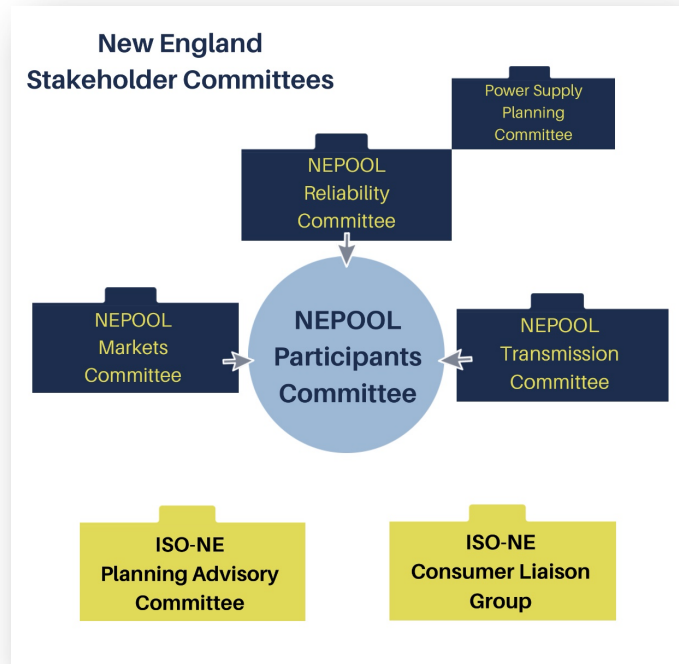
Further, from time-to-time, NESCOE, market participants, and others will seek federal court review of FERC decisions. These cases underscore the importance to consumers of NESCOE’s informed, active, and timely engagement in regional stakeholder conversations leading to FERC filings and, as needed, vigorous advocacy before FERC and in federal court.



Throughout 2020, NESCOE represented the collective views of the New England states and regularly played an important role in substantive New England regional stakeholder forums. This included NESCOE’s regular participation in NEPOOL’s Participants, Reliability, Transmission, and Markets Committee meetings. As part of this process in 2020, NESCOE offered proposals in connection with planning and market rule changes to advance consumer interests and states’ shared energy objectives as appropriate.

Additionally, NESCOE participated in ISO New England’s Planning Advisory Committee (PAC), the Power Supply Planning Committee and followed the Consumer Liaison Group activities.

NESCOE also participated in various working groups and *ad hoc* subject matter forums, such as the Energy Efficiency Forecast Working Group, the Distributed Generation Forecast Working Group, and the Environmental Advisory Group. These groups and activities provide an opportunity to communicate about data that drive investment decisions.



Envisioning the 21st Century Electric System

In October 2020, the New England states expressed their vision for a clean, affordable, and reliable 21st century regional electric grid that necessitates change in three core segments of New England’s energy system: Wholesale Electricity Market Design, Transmission System Planning, and ISO New England Governance.

The Vision Statement observed that New England’s *wholesale electricity markets* must modernize if they are to support achievement of clean energy laws, while maintaining system reliability and fostering more affordable electricity for regional consumers. The Vision Statement expressed commitment to pursuing a new, regionally-based market framework which must, at a minimum, reflect the following principles:

1. Meet states’ decarbonization mandates and maintain resource adequacy at the lowest cost by using market-based mechanisms;
2. Establish effective mechanisms that accommodate existing and future long-term contracts for clean energy resources executed pursuant to state law;
3. Integrate distribution-level resources effectively and efficiently;
4. Allow interested buyers and sellers to participate; and
5. Provide for an appropriate level of state involvement in market design and implementation.

NESCOE also expressed support for the continued exploration of a forward clean energy procurement like framework and other wholesale market structures and reforms that address the challenges associated with the existing capacity market design and energy and ancillary services markets.

With respect to *Transmission Planning*, the Vision Statement expressed support for the efficient use of existing transmission facilities and the construction of new facilities, where necessary and appropriate, to ensure the transmission grid's reliability, efficiency, and ability to integrate clean energy resources, consistent with certain states' legal requirements and other mandates. To help achieve a decarbonized system, as required by laws and mandates in Connecticut, Maine, Massachusetts, Rhode Island, and Vermont, the Vision Statement observed that it will be necessary to fully plan how to unlock onshore wind resources located far from load centers, to integrate significant levels of new offshore wind resources and new hydro resources, and to facilitate widespread adoption of distributed energy resources. NESCOE recommended that ISO New England conduct a comprehensive long-term regional transmission planning process and sought input on an associated framework. The Vision Statement also sought process changes to incorporate such long-term analysis into ISO New England's routine transmission planning efforts to ensure the integration of clean energy resources at the lowest possible cost.

- ◆ **ISO New England Response: 2050 Transmission Study.** In late 2020, ISO New England agreed to conduct transmission analysis to assess transmission needs in future hypothetical resource scenarios. This analysis is intended to identify a variety of potential infrastructure development pathways to meet the needs of the energy transition over long-term timeframes, out to 2050 and some interim periods, information about design considerations, and, importantly, high-level cost estimates. NESCOE appreciated ISO New England's responsiveness to the call for more granular and long-term transmission analysis rooted in state policies and mandates as a routine part of transmission planning processes.

On *ISO New England Governance*, the Vision Statement observed that just as the time is right for a holistic relook at markets and transmission planning, so too is it time to ensure ISO New England's mission and governance keep pace with changes in law and a transitioning energy system. To that end, the Vision Statement asked ISO New England and its Board, beginning in 2021, to convene a collaborative process with states and stakeholders to identify potential changes to its mission statement and governance structure that improve transparency and foster improved alignment with a rapidly-evolving 21st century clean energy grid. In that process, NESCOE sought to explore reform of ISO New England governance to achieve greater transparency around decision-making, a needed focus on consumer cost concerns, and support for states' energy and environmental laws.

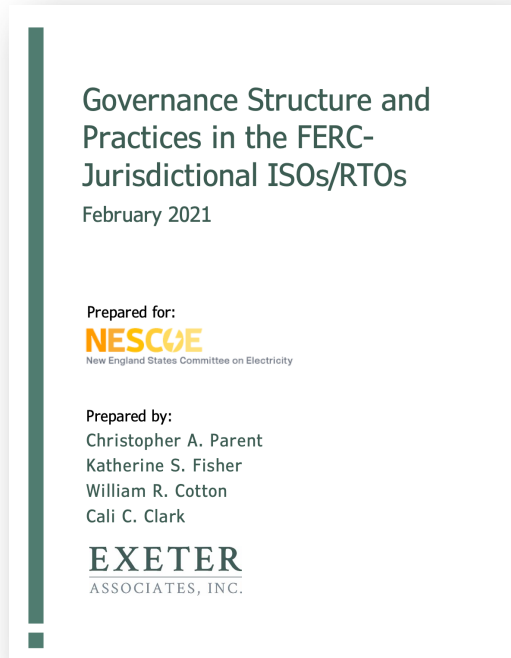
Consistent with the Vision Statement's expression of interest in public engagement, at the end of 2020, New England State officials set in motion a public process to inform the development of proposals related to the Vision Statement.

In late 2020, NESCOE also commenced analysis to inform consideration of two matters related to the Vision Statement:

- ◆ **Governance Structure and Practices in the FERC-Jurisdictional ISOs/RTOs.** To assist the states and stakeholders' consideration of the best governance practices - including transparency and accountability in decision-making - that other grid operators have adopted, in late 2020, NESCOE commissioned Exeter Associates, Inc. to produce a report, *Governance Structure and Practices in the FERC-Jurisdictional ISOs/RTOs*.

The report provides a summary of the governance structure and practices of the six FERC-jurisdictional independent system operators and regional transmission organizations (ISOs/RTOs): California ISO, New York ISO, ISO New England, Midcontinent ISO, PJM Interconnection, and Southwest Power Pool.

The report does not capture every nuance of governance, but rather provides a macro view across the different ISOs/RTOs for comparison and discussion purposes. The report provides a summary comparison of the key aspects of the governance structure and practices across the six regions. It helps to identify both simple practices that ISO New England could adopt on its own initiative without the need for tariff reforms and those that would require a stakeholder process and FERC consideration and approval.



- ◆ **High Level Analysis of New, Incremental Price on Carbon.** NESCOE has over many years consistently articulated and explained its opposition to a new, incremental price on carbon dioxide emissions (carbon price) that would be FERC-jurisdictional. Yet, ISO New England and some stakeholders continue to advocate for that mechanism. To contribute constructively to that dialogue, in 2020, NESCOE undertook analysis of a new and incremental carbon price. NESCOE engaged Exeter Associates, Inc. to explain the mechanics and impacts of such a hypothetical carbon price, provide a general assessment of carbon pricing mechanisms currently being discussed, or in effect, across North America, and assess and explain the marginal carbon price levels and emissions reduction results from recent studies. Exeter evaluated, at a high level, the impacts of carbon pricing in the New England electricity markets and analyzed the anticipated consumer cost and emissions reduction associated with a new, incremental carbon pricing mechanism using recent analyses of the ISO New England system and other relevant studies.

Exeter’s analysis determines that the incremental carbon price necessary to support the investment in utility-scale solar is \$45/short ton, onshore wind is \$60/short ton, and offshore wind is \$167-168/short ton. These levels, while eliminating or minimizing the need for mechanisms outside the wholesale markets to support these resources, could increase annual total costs to New England load (excluding pumping load and external transaction) between \$2.6-\$9.7 billion. This increase, when netted against carbon pricing fees/taxes collected from emitting suppliers and refunded back to wholesale load, results in a net impact to consumers between \$1.0-\$3.7 billion annually.

In Parallel: The Future Grid Study and Market Pathways Initiative

◆ The ‘Future Grid’ Reliability Study

In 2020, NEPOOL initiated the *Future Grid Reliability Study, Phase I*. This was in response to NESCOE’s 2019 request to ISO New England to dedicate market development and planning resources in 2020 to support states and stakeholders in analyzing and discussing potential future market frameworks that contemplate and are compatible with the implementation of state energy and environmental laws.

The *Future Grid Reliability Study, Phase I* is a series of engineering and economic analyses that use NESCOE- and stakeholder-defined scenarios to identify grid reliability challenges that could occur in the year 2040 in light of state energy mandates and policies.

In 2020, NESCOE put considerable time into working in close collaboration with ISO New England and NEPOOL, through the NEPOOL Participants Committee, to reach consensus on the study approach and scenarios. Of note, one hypothetical future scenario to be studied was based on a state’s ‘Roadmap to 2050 Study’, an ‘All Options’ scenario in the year 2040.

The ability to achieve regional consensus on the details of this study illustrates a seriousness of purpose with which New England stakeholders are approaching grid transformation dialogue.

This *Phase I* report is expected in the first quarter of 2022. A discussion about a Phase II study, focused on capacity market and transmission engineering analysis, will follow.

◆ The ‘Future Market Pathways’ Initiative

Throughout 2020, NESCOE participated in NEPOOL’s companion process that it commenced in response to NESCOE’s 2019 request - NEPOOL’s *Future Market Pathways*.

NEPOOL’s *Future Market Pathways* process was designed to identify and evaluate a range of potential alternative market frameworks that could support New England’s clean energy transition. Those discussions began with a call for ideas, and included presentations on potential future constructs such as a new forward clean energy market, a new and incremental carbon price approach, an energy only market, an Integrated Clean Capacity Market, a new energy-based resource adequacy construct, and alternative reliability assurance constructs.

NESCOE appreciated that NEPOOL conducted the process through dedicated Participants Committee meetings to maximize stakeholder engagement, and that it allocated resources to enable an independent consultant to qualitatively assess the advantages and disadvantages of each potential pathway stakeholders identified. This process, combined with informal stakeholder work on potential pathways, helped to identify issues and inform consideration of the trade-offs of various options. These discussions will continue.

◆ ISO New England’s Pathways Analysis

In late 2020, the ISO New England Board directed its management to undertake analysis of a new, incremental net carbon pricing design and a forward clean energy market.

NESCOE requested that ISO New England prioritize time and resources at the outset to an assessment of a forward clean energy market-style concept. The basis for such request was access to

numerous carbon pricing studies, as well as ISO New England’s observation at FERC’s Technical Conference regarding ‘Carbon Pricing in Organized Wholesale Electricity Markets’ that implementation of carbon pricing in relation to state mandates would require state agreement. Given NESCOE’s consistent - since at least 2017 - view about ISO New England’s interest in and advocacy around carbon pricing, prioritizing viable mechanisms seemed more appropriate. NESCOE appreciated ISO New England’s agreement to examine both potential pathways in parallel. Work on developing study approaches and details will continue in 2021.

Presenting Consumer Interests and Implications in ISO New England Forums and in Filings with Federal Agencies and the Courts

In 2020, NESCOE participated in ISO New England forums and federal-jurisdictional matters concerning resource adequacy and system planning-related issues with significant implications for New England consumers. Some proposed solutions follow years of analysis and discussion. Others emerge in reaction to more immediate circumstances. NESCOE’s substantive positions and filings in 2020 continued to involve a diverse range of issues, as they have in past years. Despite this diversity of issues, NESCOE’s common focus was on New England consumer interests and shared state objectives.

Regional Energy Security

Regional discussions about energy security that dominated 2019 spilled into 2020 and again occupied much of the activity over the first half of the year. NESCOE participated actively on behalf of consumers in exploring the nature and severity of energy security risks and possible solutions to those risks. After years of stakeholder discussions and multiple FERC orders, ISO New England finalized proposed wholesale market rule changes—known as the “Energy Security Initiative” or “ESI”—to address risks it identified to regional energy security. NESCOE and many others viewed the ESI proposal as excessive, overly expensive, and untested. In early 2020, NESCOE brought forward several amendments to the ESI proposal as part of the NEPOOL process. These amendments were tailored to mitigate NESCOE’s concern that ESI did not adequately address the problem and would overcharge consumers. The amendments received sufficient NEPOOL support to create a “jump ball” filing at FERC. A highly contested FERC proceeding followed. NESCOE advocated strongly for consumers, and the need for consumer protections, filing numerous legal pleadings with FERC in opposition to the proposal. FERC ultimately agreed with NESCOE and others that ISO New England’s proposal was not “just and reasonable.” It rejected the filing.

NESCOE continued to be a vocal consumer voice regarding a cost-of-service contract for retiring units located just outside of Boston. NESCOE participated in the latest chapters of FERC’s long-running docket related to the contract and filed for review in the D.C. Circuit when FERC’s orders resulted in a number of outcomes that unfairly disadvantage consumers. Additionally, NESCOE opposed a separate effort initiated with FERC that could have caused consumers to fund the units beyond the cost-of-service period.

Generator Out-Of-Market Cost Recovery

In early 2020, ISO New England filed a proposal with FERC to allow generators and other qualified resources to seek recovery of certain compliance costs associated with ISO New England’s designation of facilities as “medium impact” cyber systems under mandatory reliability standards. Over much of the preceding year, NESCOE worked closely with ISO New England and stakeholders to inform the proposal, advocating for material and necessary consumer protections. While NESCOE was generally

supportive of the ultimate proposal, the proceeding at FERC included a contested issue regarding whether facility owners could recover costs stretching back years prior to the ISO New England filing. NESCOE was the sole party arguing, as a matter of fairness and the law, that facilities could not recover expenditures pre-dating the cost recovery mechanism that had only recently been proposed and filed. FERC's order accepting the ISO New England proposal included the limitation that NESCOE sought. Two electric power generators sought review of FERC's action in the D.C Circuit, and NESCOE filed with the court to participate in support of FERC.

Other Market Rule and Rate Proposals

In 2020, NESCOE was vocal in a wide range of rule changes and FERC proceedings involving the potential for material consumer implications in connection with proposed market rule and rate changes including:

- ◆ **Net Metering.** NESCOE opposed an organization's attempt to persuade FERC to overturn decades of settled law under which the states exercised authority over retail net metering. FERC rejected these efforts to upend long-standing policy, as NESCOE and many others asked, and provided important certainty for state net metering programs and residential customers who have already installed solar power on their homes.
- ◆ **Imbalanced Transmission Rate Incentives.** In March 2020, a divided FERC proposed a package of regulatory changes that substantially favored transmission investor interests over consumer interests. NESCOE argued against adoption of new rules that created unjustified incentives, one-sided changes to existing incentives, and a retreat from decades of legal precedent establishing that incentive rates must be just and reasonable.
- ◆ **Proposed Statement on Carbon Pricing.** In October 2020, following a technical conference, FERC issued a proposed policy statement regarding carbon pricing in organized wholesale markets. The proposed statement sought to encourage efforts to incorporate state-determined carbon prices in organized wholesale electricity markets and to clarify FERC's jurisdiction over such market rules. NESCOE's perspective on the proposal was grounded in the New England states' long history of taking a lead on developing and implementing ways to address environmental objectives and support clean energy through legislation, regulations, and other means. The New England states helped to create, and were founding members of, the Regional Greenhouse Gas Initiative (RGGI). RGGI was the first power sector carbon pricing program in the country. With this context, NESCOE urged FERC to ensure that any final statement related to state-determined carbon pricing: (i) puts consumer costs at the forefront of FERC's inquiry into just and reasonable rates, (ii) does not have the effect of impeding or delaying efforts to develop mechanisms states and stakeholders in New England have expressed interest in exploring and assessing, and (iii) affirms the central role that states occupy in setting any carbon price.
- ◆ **Key Forward Capacity Market Inputs.** In late 2020, NESCOE filed with FERC its support for ISO New England's updates to key parameters applied in the annual auction to procure electric system capacity. NESCOE also advocated for FERC's rejection of a related complaint that generator representatives filed to effect an alternative pricing methodology that would impose tens of millions of dollars in additional costs on consumers and possibly over one hundred million dollars, according to ISO New England.
- ◆ **Dynamic Delist Bid Threshold.** In 2020, ISO New England set out to change the methodology on how to determine the dynamic delist bid threshold, a level at which capacity market bids are no longer reviewed by the market monitor. NESCOE opposed the construct as did market participants in NEPOOL's generation and supplier sectors. NESCOE worked with generation

and supplier stakeholders to reach agreement on changes to the ISO New England proposal. Together with NEPOOL stakeholders, NESCOE was able to work with ISO New England on a revised proposal, which ISO New England filed with FERC.

Forecasting and the Effect on Bottom Lines

New England consumers increasingly invest in technologies such as solar photovoltaics and energy efficiency in connection with state laws and programs that encourage resources located close to where consumers use power. The level of investment is so significant that in some cases it is reversing New England's growth in wholesale electric energy demand and slowing the growth in peak demand. At the same time, state laws and programs also support electrification of the transportation and building sectors of the economy. These initiatives are expected to increase demand for electricity from electric vehicles and heating equipment over time. Together, these investments and transitions affect the level of resources and infrastructure consumers need to plan and ultimately pay for, such as transmission or central power plants. In 2020, NESCOE continued to support and assess ISO New England's accounting for local resources and new loads in regional planning.

- ◆ **Distributed Generation Forecast.** Earlier in time, NESCOE requested that ISO New England produce a Distributed Generation (DG) Forecast to account for the dramatic increase of distributed resources expected to interconnect to the power system in the next ten years. NESCOE continued to contribute to forecast adjustments and to protect against those that would have the effect of negating consumer investments in energy efficiency and distributed generation resources.
- ◆ **Energy Efficiency Forecast.** The states' sustained prior effort to obtain from ISO New England greater integration of energy efficiency savings in the regional load forecast and in system planning process has achieved continuing results for consumers through ISO New England's Energy Efficiency Forecast. Consideration of the Energy Efficiency Forecast in transmission planning has translated into hundreds of millions of dollars of savings for consumers in the form of transmission project deferrals. NESCOE continued to advocate for regional planning and markets to appropriately account for these investments.
- ◆ **Heating and Transportation Electrification Forecasts.** ISO New England developed the Heating and Transportation Electrification forecasts to estimate impacts of the increasing demand for electricity from electric vehicles and heating equipment. ISO New England projections of increased future electricity demand are based on state laws and associated programmatic support, with input from technical committees. For a sense of scale, over ISO New England's study horizon, electric vehicle demand is projected to increase the summer peak by several hundred megawatts later in the decade (2025-2030). NESCOE assessed this work, which will have consumer cost implications over time.

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- ◆ **NESCOE Submission on Transmission Needs Driven by Public Policy Requirements.** In 2020, pursuant to ISO New England's transmission planning tariff provision the six New England states provided to ISO New England their view that there were no stakeholder-identified state or federal public policy requirements that drove transmission needs. NESCOE explained why stakeholder-identified transmission needs should not be evaluated for potential solutions and did not request that ISO New England initiate a public policy transmission study for that planning cycle.

In 2020, NESCOE also began assessing how the Order 1000 tariff provision could benefit from adjustment. This effort will continue in 2021.

- ◆ **ISO New England's First Competitive Process for Solutions to Reliability Needs.** In 2020, NESCOE closely monitored ISO New England's first and only request for proposals to solicit solutions for non-time sensitive reliability needs since Order 1000's inception. While this was a positive first step toward bringing competitive pressure to bear on transmission development, the unique circumstances and system conditions that prompted the need and the lack of any other solitication for any other need does not provide confidence that ISO New England will fundamentally alter its historic practices to meeting reliability needs.

In 2021, NESCOE will participate in the region's assessment of the first-ever competitive process and other changes to use competitive processes in those circumstances where it is sensible to do so for consumers.

SECTION V: PRIORITIES 2021 AND 2022

NESCOE carries into 2021 several priority matters that require significant attention, including advancing the Vision Statement elements. At the direction of Managers, NESCOE will continue to identify areas for proactive engagement related to resource adequacy and system planning and expansion. Where needed, NESCOE will conduct independent technical analyses to inform Managers' decisions.

In 2021 and 2022, NESCOE will continue to participate actively in NEPOOL stakeholder forums, exchange ideas with ISO New England and market participants, and represent the collective interests of New England states at FERC and, where appropriate, before other federal agencies and the courts.

In addition to addressing emerging issues as they arise, NESCOE anticipates focus on the following areas in 2021 and 2022:

- ◆ **Advance The Vision.** To further the 2020 Vision Statement, analyze potential future market frameworks that contemplate and are compatible with state energy and environmental laws and assess them against the Vision Statement's Wholesale Market Principles; contribute meaningfully to the development of ISO New England's 2050 Transmission Study and associated tariff modifications to make such long-term public policy-oriented transmission planning part of ISO New England's routine process; and, assess ISO New England's response to the Vision Statement's call for adjustments to governance and/or advocate changes that would achieve greater transparency around decision-making, a needed focus on consumer cost concerns, and support for states' energy and environmental laws.
- ◆ **Future Markets Pathways and Future Grid Analysis.** Contribute to the development of the *Future Grid Analysis* and assess ISO New England's Phase I report; consider with ISO New England and NEPOOL the contemplated Phase II analysis to assess revenue sufficiency and system security in a gap analysis; engage in defining the contours of ISO New England's *Future Market Pathways* analysis, including net carbon pricing and a forward clean energy market, and assess the results for its consumer cost and other implications in connection with state law requirements.

Continue dialogue with stakeholders about New England’s path forward, and assess, develop and/or provide analysis about means to reasonably harmonize the regional electricity market and the energy and environmental requirements in some New England states’ laws; provide analysis on potential mechanisms that value the attributes of resources implicated by such state laws, while ensuring consumers in any one state do not fund the public policy requirements mandated by another state’s laws. This includes, but is not limited to, policies and/or programs related to carbon dioxide emissions reduction, energy storage, and distributed generation. Continue conversations about the design of associated market rules, including, for example, the relative size and proper form of the ancillary service markets, and other possible mechanisms to harmonize state laws and markets in a way that meets states’ threshold objectives.

- ◆ **ISO New England’s Competitive Auctions and Sponsored Policy Resources.** Until an effective mechanism is adopted, assess whether and if so under what circumstances the “substitution auction,” ISO New England’s mechanism through which to accommodate resources required by state laws, might operate in practice. This includes analysis, and engaging in stakeholder dialogue, on the possible elimination of ISO New England’s “minimum offer price rule” design.
- ◆ **Order 1000 Processes.** Participate in ISO New England’s 2021 assessment of its first ever competitive solicitation for solutions to meet a reliability need, including about what resource types might appropriately qualify to bid into Order 1000 transmission solicitations, and under what circumstances (i.e., operational control, market interactions, etc.); consider means to increase the use of competitive processes for transmission infrastructure needs when it makes sense for consumers to do so; explore potential tariff adjustments to the ISO New England Order 1000 public policy study process and adjustments in response to any new transmission planning, interconnection, and cost allocation rules that FERC proposes.
- ◆ **Energy Security.** To the extent further work on energy security emerges, participate actively around core issues including but not limited to market mitigation concerns and related market-based mechanisms that value the contribution of resources needed for regional energy security and winter reliability; provide analysis as needed to support state evaluations, proposals, and/or amendments; ensure that consumer interests are chief among the metrics by which proposals are evaluated and that all potential solutions are illuminated by cost-effectiveness analysis to enable assessment of whether the consumer costs of proposed solutions have a reasonable relationship to asserted risks.
- ◆ **Energy Security or Reliability Cost-of-Service Contracts.** Advocate for consumer interests in the cost, terms and conditions of any energy security or reliability cost-of-service contracts ISO New England has entered into or may seek to enter into with power generators or other resources; continue to be a vocal consumer voice on a cost-of-service contract related to retiring units located just outside of Boston and ensuring the costs to be recovered under this contract are appropriate.
- ◆ **Transmission Planning for Reliability.** Review and provide input on ISO New England’s plans and planning processes, including but not limited to Regional System Plans, forecasting, and certain transmission needs assessments and solution studies; provide feedback on ISO New England’s planning assumptions and continued incorporation of probabilities in planning; continue to explore opportunities to comment on major NERC policy activities when they have the

potential for significant cost implications for New England electricity consumers and urge NERC to consider cost-effectiveness in its reliability standard development.

- ◆ **Transmission Cost Estimation and Tracking.** Continue to track transmission project costs, including but not limited to asset replacement projects and monitor cost overruns. To the extent tracking reveals cost overruns, which, among other issues, suggests alternative means would have been a better choice for consumers to satisfy the identified need, work with ISO New England and transmission companies to modify cost estimating practices and/or mitigate cost escalation.
- ◆ **Transmission Incentives.** Continue to advocate for transmission incentives that are just and reasonable and where, as designed, they deliver recognizable value for electricity customers.
- ◆ **Resource Reliability (Installed Capacity) Requirements.** Provide input on ISO New England's recommended ICR and associated assumptions, with particular attention to ensuring that the ICR appropriately reflects New England consumers' investment in local distributed generation and other clean energy resources and the improved generator performance driven through ISO New England's Pay-for-Performance modifications to the Forward Capacity Market.
- ◆ **Forecasting.** Continue to analyze and advocate for appropriate accounting of energy efficiency resources; so that consumers receive the full benefit of state policies and consumer investments in all forms of local power generation technologies; continue work to ensure that ISO New England's plans and resource determinations appropriately capture in the load forecast the increased penetration of solar PV and other distributed energy resources, and to ensure the application of this forecast to the transmission planning process and resource adequacy determinations; continue to examine and monitor the assumptions and methods used in ISO New England's heating and transportation electrification forecasts.
- ◆ **Resource Adequacy and Reliability Over the Long-Term.** Work with stakeholders and ISO New England to ensure that any proposed modifications to the Forward Capacity Market or other market rules provide consumers with reliable service at the lowest possible cost over the long-term while maintaining environmental quality. To inform consideration of proposed solutions, provide analyses where appropriate to confirm the nature of identified risks, and to understand the range of potential cost-effective solutions, including whether the costs of proposed solutions have a reasonable relationship to asserted risks. In any proposed modifications, seek to have consumer impacts weighed appropriately among other objectives, such as an interest in theoretical market purity (e.g., minimal application of adjustments or use of judgment).
- ◆ **Interconnection of Distributed Resources.** As increasing levels of distributed resources connect to distribution systems throughout the region and effect the transmission system, continue to assess jurisdictional and procedural issues associated with the increased penetration.
- ◆ **Critical Infrastructure Protection Interconnection Reliability Operating Limits.** Continue to protect consumer interests in connection with ISO New England's new schedule and process that allows market resources ISO New England deems critical to Interconnection Reliability Operating Limits to recover Critical Infrastructure Protection-related costs (incurred as a result of the designation) through the transmission tariff.

- ◆ **Advocate on behalf of Consumer Interests in Litigation Advanced by New England Market Participants.** Continue to advocate as appropriate in litigation implicating the interests of New England’s electricity consumers and, where necessary to safeguard consumer and states’ interests, intervene or bring matters to courts.
- ◆ **State Input into and Perspectives on ISO New England’s Economic Studies.** Monitor ISO New England’s Economic Studies and, as appropriate, provide inputs into studies, particularly with respect to assumptions about state laws and policies and offer the states’ observations about outcomes for context.
- ◆ **Reasonable Decision-Making Processes and Metrics that Enable Full and Fair Consideration of Economic Implications on Consumers.** Advocate for decision-making processes that provide reasonable notice and opportunity to consider fully the consumer implications of proposed rule changes and an opportunity for states and ISO New England to explore the lowest cost means to achieve identified objectives; when appropriate, advance states’ perspectives on objectives and on the metrics by which ISO New England and others should evaluate potential solutions (e.g., the balance between market pricing and consumer cost implications).
- ◆ **ISO New England “Major Initiatives” Assessments.** Advance consumer interests in connection with ISO New England’s execution of the required quantitative and qualitative analysis of major market initiatives; ensure the consumer cost implications of proposed initiatives, and any alternatives, are understood and considered in decision-making.

VI. 2020 EXPENDITURES

NESCOE operations are funded by a FERC-approved charge collected through Schedule 5 of Section IV.A of ISO New England's tariff. An independent audit of NESCOE's books for the year-end December 31, 2020 was completed and presented to the NESCOE Managers. The independent auditor opined that the organization's books conform to generally accepted accounting principles and issued an unqualified opinion letter. A 2020 Statement of Spending is as follows:

NESCOE	
Statement of Spending	
December 31, 2020	
Expenses	
Direct Expenses, Consulting	
Legal (FERC) Services	168,474
Technical Consulting	223,004
Total Direct Expenses, Consulting	<u>391,477</u>
Employment and Benefits	
Disability	10,338
Employee Health Insurance	38,406
Life Insurance	990
Payroll Taxes	56,664
Pension Contributions	31,496
Salaries & Wages	936,305
Total Employment and Benefits	<u>1,074,199</u>
General and Administrative	
Dues and Subscriptions	13,231
Depreciation	2,707
Insurance	5,886
Office Expenses	8,704
Professional Services	25,318
Rent, Parking & Utilities	29,451
Telephone & Communications	10,100
Travel and Meetings	4,511
Total General and Administrative	<u>99,908</u>
Total Expenses	<u><u>1,565,585</u></u>

VII. BUDGET 2021 & PRELIMINARY BUDGET 2022

NESCOE's 2021 budget, which is consistent with the current five-year *pro-forma* approved by NEPOOL and accepted by FERC, was presented to and affirmed by NEPOOL in October 2020. The 2021 NESCOE budget was submitted to the FERC and accepted in December 2020. The 2021 and preliminary 2022 budgets are as follows:

NESCOE Pro Forma Budget 2021 and Preliminary 2022		
	2021	2022
Salaries and Wages		
Salaries	1,074,173	1,106,398
Payroll Taxes	107,417	110,641
Health and Other Benefits	90,150	92,855
Retirement §401(k)	42,967	44,256
Total, Salaries and Wages	1,314,707	1,354,150
Direct Expenses - Consulting		
Technical Analysis	351,524	362,070
Legal (FERC)	351,525	362,071
Total, Direct Expenses, Consulting	703,049	724,141
General and Administrative		
Rent	29,650	30,540
Utilities	5,797	5,971
Office and Administrative Expenses	46,146	47,530
Professional Services	35,000	36,050
Travel/Lodging/Meetings	65,000	66,950
Total General and Administrative	181,593	187,041
Capital Expend. & Contingencies		
Computer Equipment	8,196	8,442
Contingencies	220,755	227,378
Capital Expend. & Contingencies	228,951	235,820
TOTAL EXPENSES	2,428,300	2,501,152
BUDGET	2,541,400	2,617,642