

PRIMER

U.S. ORGANIZED WHOLESALE ELECTRICITY MARKET GOVERNANCE PRIMER



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ABOUT THE CLEAN ENERGY BUYERS INSTITUTE

The Clean Energy Buyers Institute (CEBI) solves the toughest market and policy barriers to achieve a carbon-free energy system. CEBI's aspiration is to achieve a 90% carbon-free U.S. electricity system by 2030 and a global community of customers driving clean energy.

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OVERVIEW

This Primer compares key governance and decision-making elements across the seven Regional Transmission Organizations/Independent System Operators (RTOs/ISOs) in the U.S., highlighting the importance and impact to electricity customers. Elements are structured in a top-down approach, beginning with discussion on regulatory oversight and governing bodies, and ending with stakeholder participation and independent evaluation of RTOs.



THE PURPOSE This Primer is a starting place for energy customers new to the mechanics of RTO governance. Introductory guidance is provided on how the Federal Energy Regulatory Commission (FERC) regulates RTOs and its authority, the governance structure within each RTO, and stakeholder processes by which electricity market rules are changed. The Primer also discusses why governance is important and how energy customers can engage in these markets.



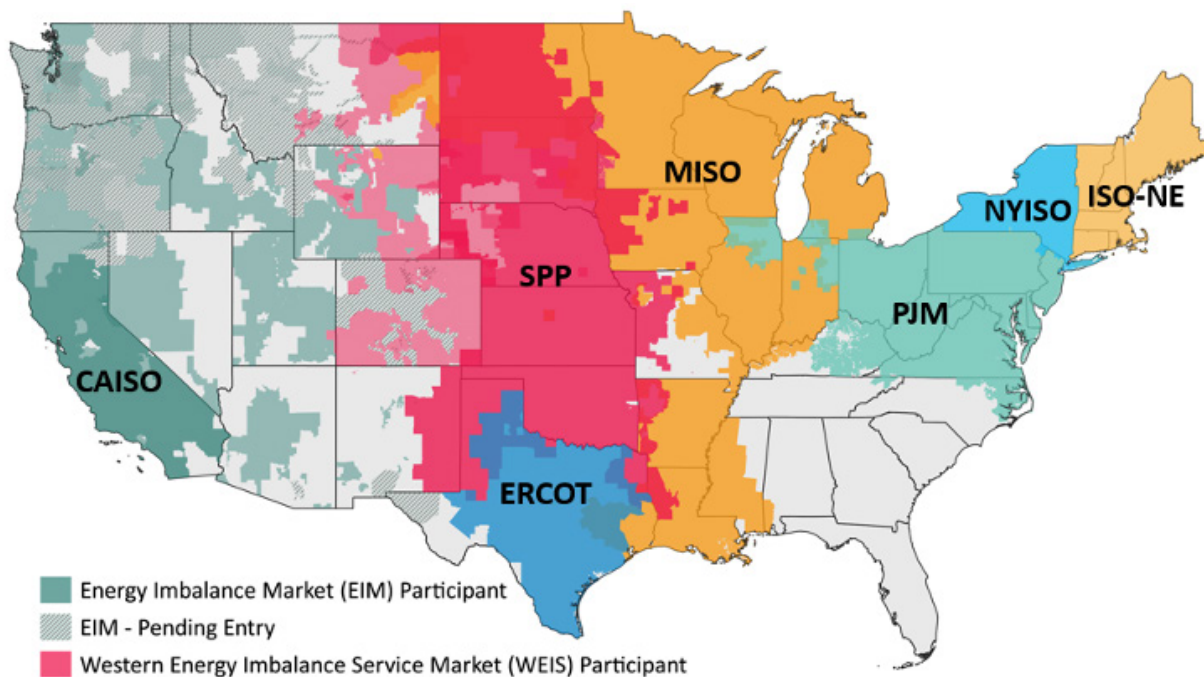
AUDIENCE / WHO SHOULD READ THIS: This resource was developed for energy customers interested in understanding and/or engaging in an RTO decision-making process.

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INTRODUCTION TO RTO/ISO GOVERNANCE

FIGURE 1: ORGANIZED WHOLESALE MARKET STRUCTURES ACROSS THE U.S.



The U.S. Organized Wholesale Electricity Market Governance Primer introduces the governance of Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), which are the non-profit entities that operate and maintain open access to the organized wholesale electricity markets covering two-thirds of the U.S. Organized wholesale markets are critical to efficient decarbonization and clean energy integration as these markets leverage the power of wholesale competition to increase customers' ability to participate in and drive the clean energy transition. While there are a few small differences between an RTO and an ISO, the terms are often used

interchangeably, and in this resource both entities are referred to as RTOs for simplicity. There are a total of seven RTOs in the U.S.:

- California Independent System Operator (CAISO)
- Electric Reliability Council of Texas (ERCOT)
- ISO New England (ISO-NE)
- PJM Interconnection (PJM)
- New York ISO (NYISO)
- Midcontinent ISO (MISO)
- Southwest Power Pool (SPP)

Other less-developed markets, such as Energy Imbalance Markets (EIM) and Power Pools, also exist in areas of the U.S. although they do not provide all of the features and benefits of RTOs.

RTOs produce billions in customer savings through efficient, economic, and competitive operation of wholesale electricity markets.^{1, 2, 3} Well-implemented and designed RTOs reduce capacity needs, lower production costs, and expand customer energy choices, while driving innovation and renewable energy integration.⁴ Approximately 80% of total U.S. installed variable renewable energy capacity is in RTOs.⁵

For customers and other stakeholders who purchase renewable energy in organized wholesale electricity markets or engage in

associated policy issues, understanding the governance structure and process of each is critical to understanding how markets resolve issues and manage the market rules and operating procedures that guide RTO functions. A wider set of stakeholders have increased involvement in RTO stakeholder engagement processes as it becomes apparent that the 21st century market design must transform to achieve a decarbonized future.⁶ There is also growing recognition that existing RTO governance models may need to evolve to meet the needs of a broader set of stakeholders and challenges. In areas where RTOs are proposed or maturing, an understanding of current practices is key to assessing future proposals.



¹ SPP provides on average \$627 million in annual savings. Southwest Power Pool. Integration: 2019 Annual Report. April 2020. <https://spp.org/documents/62057/2019%20annual%20report%2020200428%20web.pdf>

² PJM provides \$3.2-4.0 billion in annual savings. PJM Interconnection. PJM Value Proposition. 2019. <https://www.pjm.com/-/media/about-pjm/pjm-value-proposition.ashx>

³ MISO provides \$3.2-3.9 billion in annual savings. MISO. MISO Value Proposition. 2021. <https://www.misoenergy.org/about/miso-strategy-and-value-proposition/miso-value-proposition/>

⁴ REBA Institute. Renewable Energy Policy Pathways Report. May 2020. <https://reba-institute.org/research/renewable-energy-policy-pathways-report/>

⁵ See the table on page variable renewable energy. Sun, Y., Wachche, S., Mills, A., and Ma, O. 2018 Renewable Energy Grid Integration Data Book. National Renewable Energy Lab. February 28, 2020. <https://www.osti.gov/biblio/1603244-renewable-energy-grid-integration-data-book>

⁶ REBA Institute report. Designing the 21st Century Electricity System: How Electricity Buyers Can Accelerate Change. March 2021. <https://reba-institute.org/research/designing-the-21st-century-electricity-system/>

REGULATORY OVERSIGHT OF RTOs/ISOs

Before the establishment of Regional Transmission Organizations (RTOs), wholesale energy transactions were limited to bilateral agreements and power pool agreements. RTOs created a transparent and open platform for energy trading between power generators and suppliers. The 1990s brought a wave of efforts to deregulate the energy market to guard customers from exploitation by monopoly utilities and led to a national policy shift to promote competitive wholesale markets. The Energy Policy Act (EPAct) of 1992 gave the Federal Energy Regulatory Commission (FERC) the authority to foster competition in wholesale energy markets through open access to transmission facilities. To encourage competition, FERC introduced Independent System Operators (ISOs) in 1996 in Orders 888/889 as a concept for existing power pools to satisfy the requirements of providing non-discriminatory access to transmission. In 1999, FERC Order 2000 encouraged voluntary formation of RTOs to manage and operate regional transmission grids, and described 12 characteristics and functions an entity must meet to become an RTO.^{7, 8} RTOs/ISOs are broadly required to operate the transmission system and competitive wholesale energy markets, to balance supply and demand, and ensure non-discriminatory open access to transmission and market participation.⁹

FERC has regulation over RTOs through the EPAct and Orders 888 & 2000 with the exception of the Electric Reliability Council of Texas (ERCOT), which is regulated by the Public Utility Commission of Texas (PUCT). FERC's regulatory power comes from having jurisdiction over interstate commerce of natural gas, oil, and electricity. Specifically, FERC regulates interregional transmission, wholesale electricity sales, transmission siting, interregional grid reliability, and energy markets (this includes other non-RTO structures such as energy imbalance markets and power pools). State Public Utility Commissions regulate retail electricity sales to the end-use customer, local reliability issues, and approval of electric generation facility construction. All changes to electricity market rules proposed by interregional bodies must be approved by FERC.

The governance structure of RTOs dictates the process by which market rule changes are submitted to FERC, so understanding FERC's authority over RTOs can be important to energy buyers engaging in RTO issues. While FERC has allowed each RTO to develop its own governance structure, it can use its authority to introduce new requirements for RTOs, or reject RTO proposals developed through an RTO's stakeholder process.

⁷ Federal Regulatory Energy Commission. RTOs and ISOs. Accessed August 12, 2021. <https://www.ferc.gov/electric/power-sales-and-markets/rto-and-iso>.

⁸ Federal Regulatory Energy Commission. Electric Competition. Accessed August 12, 2021. <https://www.ferc.gov/industries-data/electric/power-sales-and-markets/electric-competition>.

⁹ Penn State Department of Energy and Material Engineering. Regional Transmission Organizations. Accessed August 12, 2021. <https://www.e-education.psu.edu/eme801/node/535>.

SECTION 205 VS. 206 FILING RIGHTS

Section 205 and 206 of the Federal Power Act (FPA) give FERC ultimate authority on approving proposed changes to RTO tariffs and define the requirements for stakeholders proposing changes. A tariff is one of the RTO governance documents that dictates the rules and operations of an RTO.

Under Section 205, some stakeholders – primarily utilities – have the right to file a new proposal or amend a previously filed proposal that affects a rate, term, or condition. A stakeholder without Section 205 rights can file a Section 206 filing, which must not only prove that the existing provisions are unjust and unreasonable, but also include a proposed change that remedies this, making the burden of proof higher.¹⁰ FERC assesses proposals filed by stakeholders to determine if they are just and reasonable and not unduly discriminatory or preferential.¹¹ If the filing passes those requirements, FERC will require the RTO to make the necessary changes to their tariff.

Energy customers should understand Section 205 and 206 filing rights because they represent a pathway for stakeholders to initiate changes at RTOs. Entities that have Section 205 filing rights and to what extent they are able to file proposals or amendments varies across RTOs. These different filing rights can influence market-rule development since an entity that has Section 205 filing rights is subject to a lower burden of proof, which may make the market change request easier. Generally, RTO governing boards (discussed in the following section) retain Section 205 filing rights, but in some cases Transmission Owners and State entities also own rights. Table 1 details a list of the entities in each RTO that have Section 205 rights and the rights pertaining to each tariff section.¹² Committees, governance documents, stakeholder groups and voting processes referenced are described later in this guide.

TABLE 1: STAKEHOLDERS WITH SECTION 205 RIGHTS BY RTO

RTO	ENTITY	SECTION 205 FILING RIGHTS
CAISO	Board of Directors	Rights over rates, terms, conditions, charges, classification of service, the Scheduling Coordinator Agreement, rules, or regulation ¹³
CAISO	Transmission Owners	Rights over transmission revenue requirements and cost allocation
ERCOT	N/A	N/A
ISO-NE	Board of Directors	Rights over tariff

¹⁰ Ibid., section 206(b); For more information on how FERC makes decisions on wholesale market rules see Panfil, M. and Zakaria, R. Uncovering Wholesale Electricity Market Principles. March 2020. <https://repository.law.umich.edu/mjeal/vol9/iss1/5/>

¹¹ Federal Power Act section 205(a-b) and 206(a). Federal Energy Regulatory Commission. Federal Power Act. Accessed August 12, 2021. https://www.ferc.gov/sites/default/files/2021-04/federal_power_act.pdf.

¹² R Street. How the RTO Stakeholder Process Affects Market Efficiency. October 5, 2017. <https://www.rstreet.org/2017/10/05/how-the-rto-stakeholder-process-affects-market-efficiency/>.

¹³ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

RTO	ENTITY	SECTION 205 FILING RIGHTS
ISO-NE	Stakeholders	Board of Directors holds rights to tariff. However, stakeholders can force a “jump ball” filing if the Board of Directors and Participants Committee fail to agree and choose separate filing proposals to FERC. The Committee must have a 60% voter approval to force the “jump ball” filing. In the filing, ISO-NE must explain why its proposal is superior despite failing to receive support.
ISO-NE	New England States Committee on Electricity (NESCOE)	Rights over transmission cost allocation
ISO-NE	Transmission Owners	Rights over Open Access Transmission Tariff (OATT) for cost allocation and rate design
MISO	Transmission Owners	Jointly held rights with MISO and the Organization of MISO States (OMS). Own rights over transmission rate design within footprint. Share rights with Board over transmission upgrades and maintenance costs.
MISO	Organization of MISO States (OMS)	Jointly held with MISO and Transmission owners. Own rights on transmission planning and cost allocation, but not resource adequacy matters ¹⁴
NYISO	Board of Directors	Rights over OATT, Services Tariff, and NYISO Agreements but must agree with Management Committee (MC). Can unilaterally submit a filing, but this expires after 120 days without MC approval.
NYISO	Transmission Owners	Exclusive rights over OATT or ISO agreement on return-on-investment (ROI) and retail access programs
NYISO	New York State Reliability Council (NYSRC)	Rights to file on system installed capacity requirements, but not on installed capacity requirements

¹⁴ See report for filing right details on resource adequacy and how states participate. Chen, J., and Murnan, G. Nicholas Institute. State Participation in Resource Adequacy Decisions in Multistate Regional Transmission Organizations. March 15, 2019. <https://nicholasinstitute.duke.edu/publications/state-participation-resource-adequacy-decisions-multistate-regional-transmission>.

RTO	ENTITY	SECTION 205 FILING RIGHTS
NYISO	NYISO and Management Committee (MC)	Rights on installed capacity requirements
PJM	Members Committee (MC)	Rights on Operating Agreement
PJM	Board of Directors	Rights on Tariff and Reliability Assurance Agreement (RAA)
PJM	Transmission Owners	Rights on rate Design and return-on-investment (ROI) ¹⁵
SPP	SPP and Transmission Owners	Rights on Open Access Transmission Tariff (OATT) and Tariff
SPP	Regional State Committee (RSC)	Can make Section 205 filings directly to FERC on issues of transmission planning, cost allocation, and resource adequacy. Other filings are subject to Board approval.
SPP	Board of Directors	Files on behalf of RSC

Under Section 206, FERC may initiate its own changes to RTO tariffs if it finds them to be unjust and unreasonable. FERC can initiate changes by opening a rulemaking docket that requires RTOs to submit a revised tariff for approval to FERC that demonstrates how RTOs adhere to the requirements within the rulemaking. There are several different types of orders FERC can make to open a rulemaking docket, including a Notice of Inquiry (NOI), Advanced Notice of Proposed Rulemaking (ANOPR), and Notice of Proposed Rulemaking (NOPR). In a NOI, FERC seeks public comment on the topic under investigation.

Based on FERC's investigation and comments received, FERC can release an ANOPR or NOPR. The ANOPR seeks comments on potential proposed changes that could be undertaken by FERC. Should FERC decide to seek further detailed comment on particular matters that were gathered from the ANOPR comments, FERC will initiate a more comprehensive and tailored stakeholder process referred to as a NOPR. The NOPR will describe the rules that ultimately may be adopted by FERC and give stakeholders an opportunity to comment on the implications of said rules.

¹⁵ Kleinman Center for Energy Policy. PJM Governance: Can Reforms Improve Outcomes? May 2017. <https://kleinmanenergy.upenn.edu/research/publications/pjm-governance-can-reforms-improve-outcomes/>.

FIGURE 2: FERC RULEMAKING PROCESS

RULEMAKING PROCESS

Notice of Proposed Rulemaking

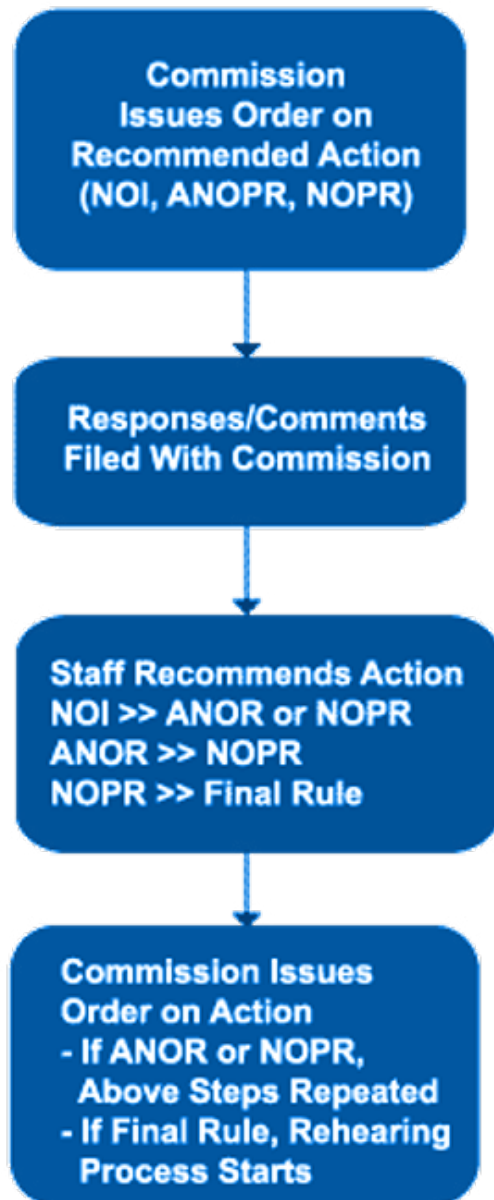


Figure 2: FERC uses the rulemaking process outline above to catalyze change across RTOs by requiring them to update their market rules and operations to align with FERC guidance. This process is public and allows stakeholders the opportunity to officially comment on proposed changes so that FERC can consider the options of various stakeholders.

Source: Federal Energy Regulatory Commission. "Rule Making Process." FERC, n.d. <https://www.ferc.gov/media/rule-making-process>.

MARKET RULES & GOVERNANCE DOCUMENTS

Each Regional Transmission Organization (RTO) operates under a set of documents that establish market rules, operating procedures, agreements, and governance guidelines. FERC jurisdictional RTOs must also develop an Open Access Transmission Tariff (OATT) that outlines rates and terms of service. A list of RTO

governance documents and a short description of their purpose is included in Figure 3: Governing Documents by RTO. Energy buyers looking for specific information on RTO rates, market operation, or governance might find these documents to be useful resources.

FIGURE 3: GOVERNING DOCUMENTS BY RTO

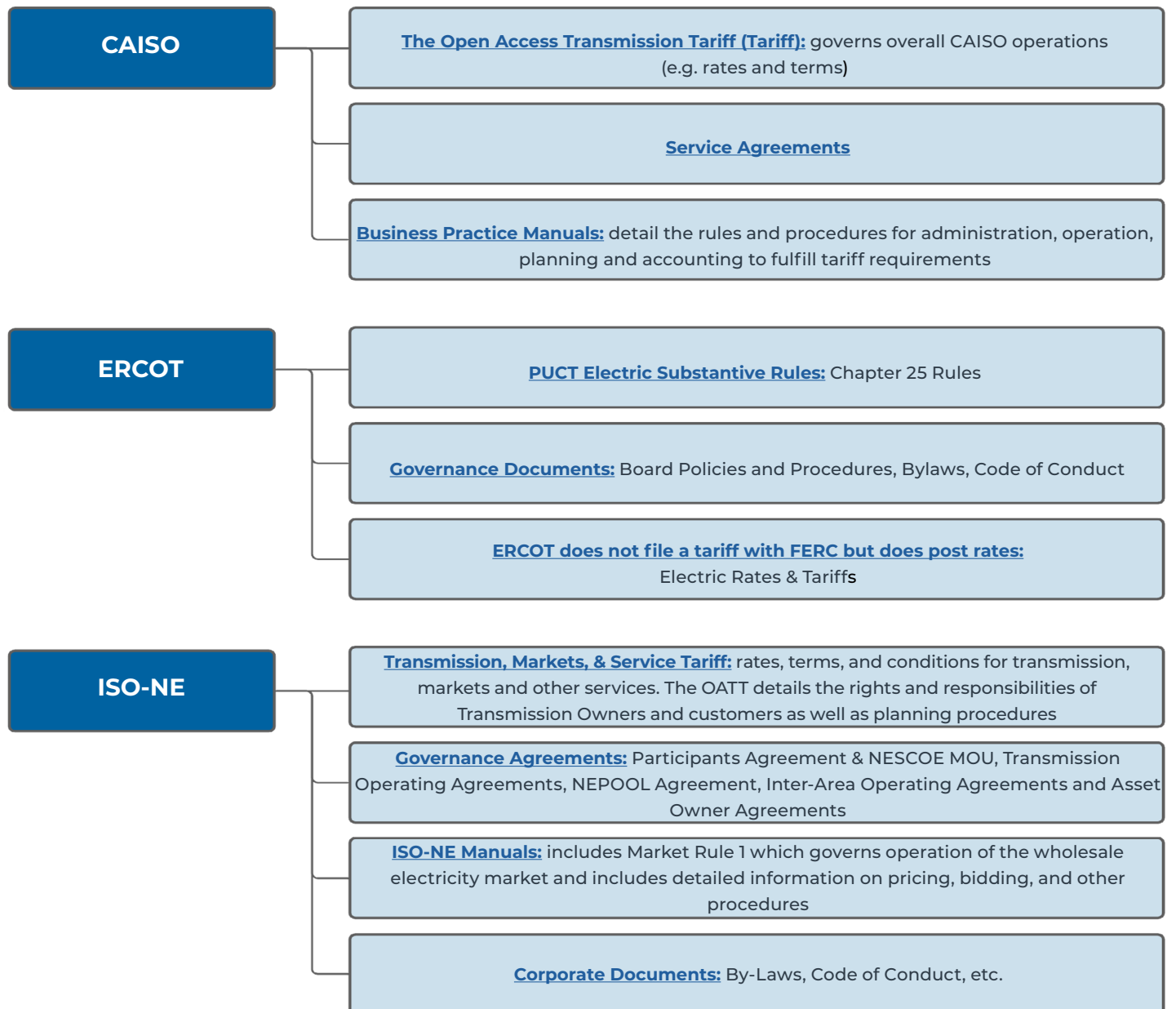


FIGURE 3: GOVERNING DOCUMENTS BY RTO

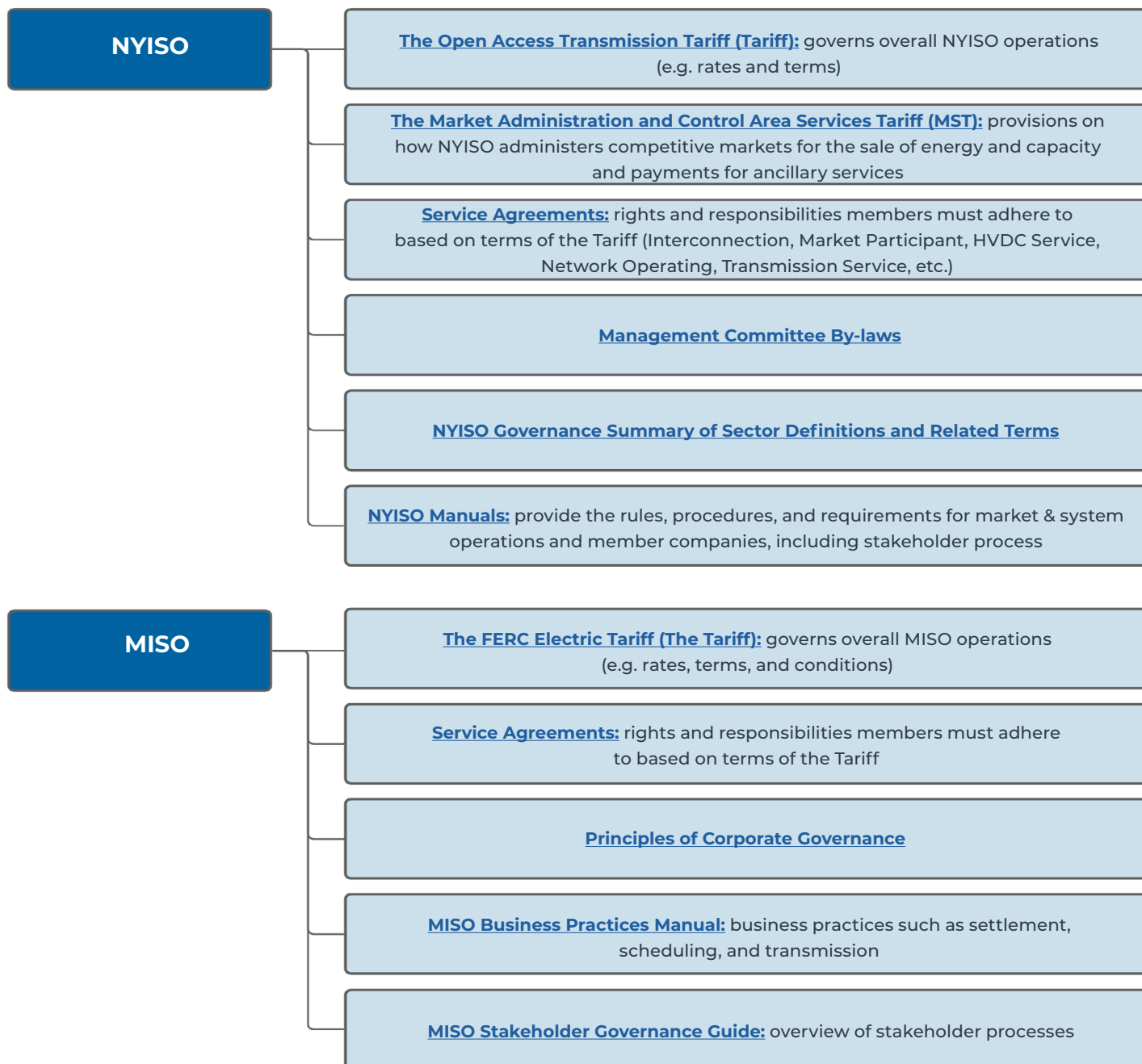
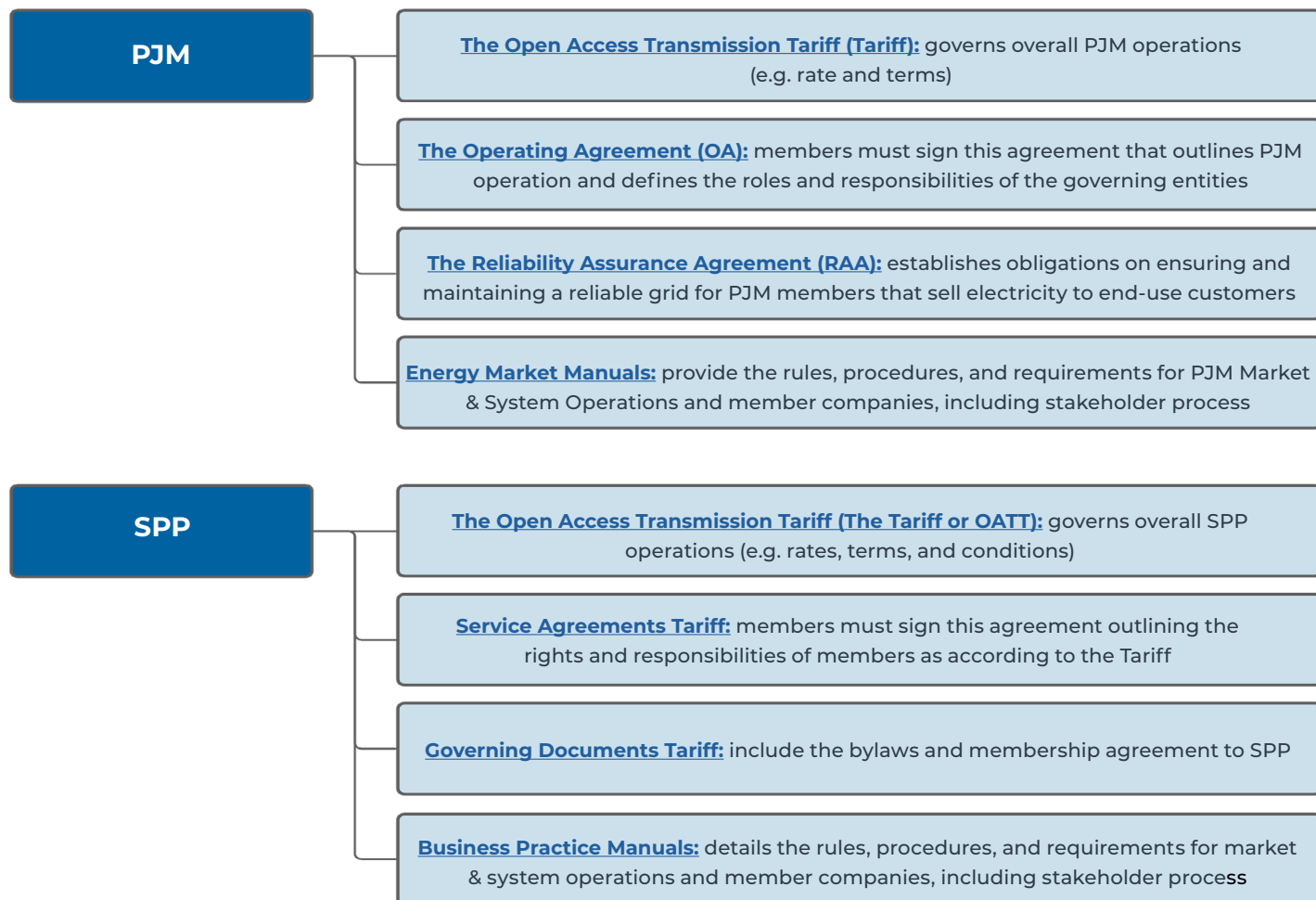


FIGURE 3: GOVERNING DOCUMENTS BY RTO



BOARD COMPOSITION & SELECTION

Each RTO has a governing body in the form of a Board of Directors, Managers, or Governors. The Board is responsible for reviewing and approving grid planning proposals, market design changes, an annual budget, and other RTO tariff changes before they are filed with FERC for approval. FERC Order 2000 requires that RTOs be financially and operationally independent from market participants, which broadly means RTO employees and Board members must have no financial interests in market operations, and that the RTO decision-making process should not be subject to control by any market participant or stakeholder group.

While all RTOs strive for independent Boards, the composition of each Board and the selection of members vary by RTO. Each RTO Board has an influential oversight function, and Board composition should therefore ideally reflect the perspectives of all stakeholders. A diverse and transparent Board selection process is necessary to ensure all stakeholders are involved and trust RTO governance. Energy customers should consider the composition of an RTO's Board and the processes by which Board members are selected when assessing whether the Board represents the interests of all stakeholders.

FIGURE 4: OVERVIEW OF RTO BOARDS

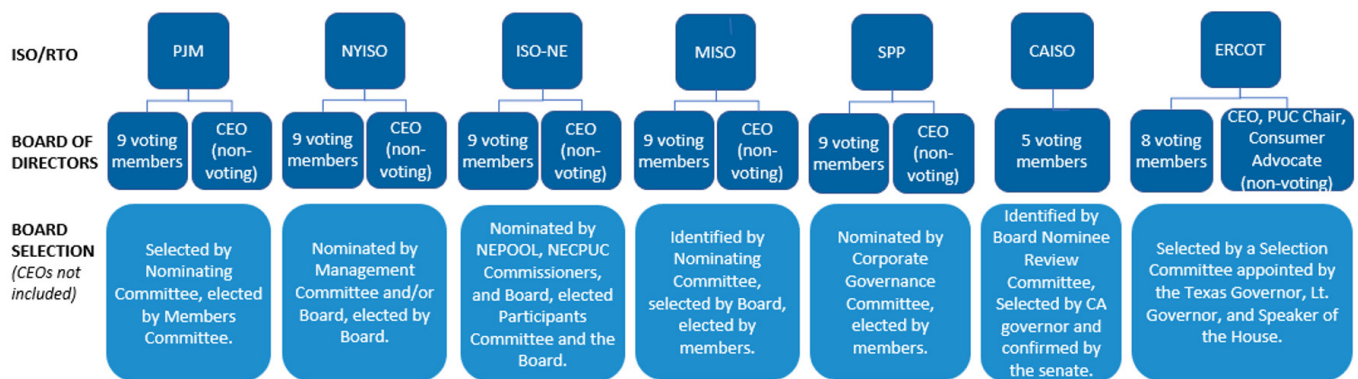


Figure 4: This chart illustrates the varying compositions of Boards across RTOs and how they are selected. Market structures that do not constitute full RTOs, such as energy imbalance markets and power pools, may also have boards or other governing structures.



The Board Composition of PJM, NYISO, ISO-NE, SPP, and MISO includes nine independent voting members in addition to the President or CEO of the RTO, who mostly acts as a non-voting party. Board members usually have executive-level experience in a cross-section of industry skills. Mandated through the Texas legislature, ERCOT recently changed its Board composition to eight independent voting board members with executive-level experience, along with the Texas PUC Chairman, the ERCOT CEO (acting as non-voting parties), and a member representing residential and small commercial consumer interests. CAISO is the only RTO with a five-member Board.

The Board candidate selection processes differ across RTOs. In PJM, NYISO, SPP, and MISO, candidates are usually nominated by committees comprised of market stakeholders that advise

the Board, and then Board and/or RTO members vote on the final selection. ERCOT, CAISO, and ISO-NE maintain slightly different Board selection processes with stronger state involvement. In ERCOT, a selection committee of three individuals appointed by the Governor, Lieutenant Governor, and Speaker of the House selects the Board members. The CAISO Board of Governors are identified through the Board Nominee Review Committee. Candidates are then selected by California's Governor and confirmed by the Californian legislature. The ISO-NE Board members are nominated by a Joint Nominating Committee made of Board Members, the New England Power Pool (NEPOOL) and New England Conference of Public Utility Commissioners (NECPUC). The ISO-NE Participants Committee then votes on the nominees and the Board grants final approval.¹⁶



¹⁶ See table ES-3 in the recent NESCO report for more details on the requirements for Board of Directors across RTOs. NESCO. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 19, 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

GOVERNANCE MODELS & STRUCTURES

Regional Transmission Organizations (RTOs) have three types of stakeholder-governance models: advisory-only, shared governance, and governor-appointed.

FIGURE 5: TYPES OF RTO GOVERNANCE MODELS

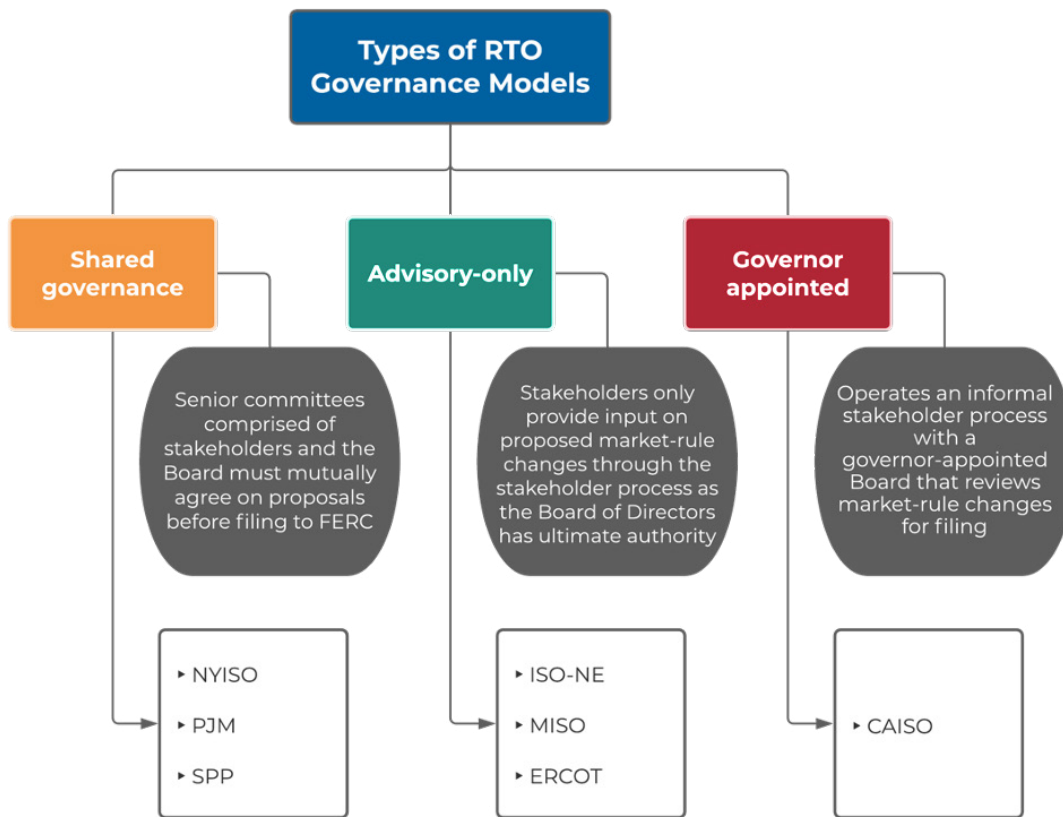


Figure 5: This chart illustrates the varying compositions of Boards across RTOs and how they are they are selected. Market structures that do not constitute full RTOs, such as energy imbalance markets and power pools, may also have boards or other governing structures.

In a shared governance model, like NYISO, PJM, and SPP, senior committees, comprised of stakeholders, and the Board must mutually agree on proposals before filing to FERC. In advisory-only models, like ISO-NE, MISO, and ERCOT, the Board of Directors has ultimate authority on any market-rule changes, while stakeholders only provide input on proposed market-rule changes through the stakeholder process. The governor-appointed model, unique to CAISO, operates an informal stakeholder process with a governor-appointed Board that reviews market-rule changes for filing.

¹⁷ Some categorize CAISO's model as an advisory-only model.¹⁸

With the exception of CAISO, RTO Boards of Directors collaborate with Committees, Subcommittees, and Working Groups comprised of stakeholders. RTO organizational charts differ and can include dozens of advisory bodies. Senior committees often manage voting processes to determine what proposals are submitted to the Board and vary by number of participants and voting ability. Energy buyers engaging in RTO stakeholder processes can benefit from understanding committee structure and their influence over final decisions. This resource covers just the top committees of each RTO that closely work with the Board of Directors.

¹⁷ Ratz, H., Roche, P., and Hutchinson, N. Local Government Voices in Wholesale Market Issues: Engagement Approaches for Decarbonization. March 23, 2021. World Resources Institute. <https://www.wri.org/research/local-government-voices-wholesale-market-issues-engagement-approaches-decarbonization>.

¹⁸ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 19, 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>

GOVERNANCE MODELS

CAISO

As previously mentioned, CAISO's governance structure does not include stakeholder committees. However, CAISO currently leads an Energy Imbalance Market (EIM) in the West that offers real-time trading¹⁹ and has its own governance structure that does make use of stakeholder committees. The EIM has a governance structure made of three bodies: The EIM Governing Body, the Body of Regulators (BOSR), and the Regional Issues Forum. The Governing Body has five independent members and holds primary authority in approving or rejecting market proposals. Governing Body members are nominated by a Nominating Committee comprised of one representative from five different sectors.²⁰ BOSR consists of one commissioner from each state Public Utility Commission. The Regional Issues Forum meets three times annually to discuss broad issues facing the EIM. Meetings and materials are open to the public.²¹

ERCOT

In ERCOT's structure, a Technical Advisory Committee (TAC) provides policy recommendations to the ERCOT Board of Directors and is assisted by subcommittees, working groups, and task forces.²² The TAC has 30 representatives selected by simple majority from each sector and sub-sector. There are four representatives from each sector except for the consumer sector, which has six representatives: two industrial Consumers, one small commercial, one large commercial, one residential consumer, and the Public Counsel's designated ex officio.²³

ISO-NE

ISO-NE's governance structure is different because its stakeholder groups are organized in an official self-funded entity called New England Power Pool (NEPOOL) that operates through three main committees. The Participants Committee is the principal governing body of NEPOOL, and is comprised of the NEPOOL Chair and five vice-chairs representing one of each sector: end user, generation, transmission, alternative resources, and supplier. NEPOOL members are official voting members and ISO-NE's Consumer Liaison Group manages non-voting members.²⁴

¹⁹ The EIM does not provide the full functions of an RTO but is developing plans to expand its services.

²⁰ Western EIM. Selection Policy for the EIM Governing Body. Accessed August 12, 2021. <https://www.westerneim.com/Pages/Governance/default.aspx>.

²¹ Western EIM. Charter for Energy Imbalance Market Governance. Accessed August 12, 2021. <https://www.westerneim.com/Pages/Governance/default.aspx>.

²² ERCOT. Governance. Accessed August 7, 2021. <http://www.ercot.com/about/governance>.

²³ ERCOT. Membership. Accessed August 7, 2021. <http://www.ercot.com/about/governance/members>.

²⁴ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

PJM

In PJM, the Members Committee (MC) is the most senior committee, and reviews and votes on all proposed issues brought forth from subcommittees. The Markets and Reliability Committee is another important committee that is responsible for reviewing the fairness and reliability of PJM markets and proposed changes to the Operating Agreement, which is an agreement that outlines PJM operation and defines the roles and responsibilities of the governing entities.

MISO

MISO's senior committees include the Transmission Owners Committee, the Organization of MISO States (OMS), the Advisory Committee, and the Alternate Dispute Resolution Committee. The Advisory Committee includes 10 sectors that vote to approve changes to market, reliability, and operational issues. After issues are submitted by stakeholders through the Steering Committee, the Advisory Committee reviews and creates a strategic priorities list that is tracked using an online registry accessible to all stakeholders.²⁵

NYISO

NYISO has three primary committees: the Management Committee (MC), the Business Issues Committee (BIC), and the Operations Committee (OC). The Board of Directors has ultimate responsibility for governance but must receive recommendations from the MC. The MC is responsible for recommending proposed changes to the Board, prepares the budget for review & approval, supervises activity, and reviews appeal of actions taken at other committees. The BIC recommends proposed tariff changes to MC, and reviews and recommends policies and procedures related to commercial aspects and business/capital operations. The OC recommends proposed tariff changes to the MC, and oversight, approval, and the establishment of procedures related to system operations, such as planning study reports.²⁶

SPP

The SPP Board of Directors is directly advised by the Regional State Committee (RSC) and the Market Operations Policy Committee (MOPC). The RSC is composed of one commissioner from each participating state and provides recommendation and input on all matters to the Board. The MOPC consists of a representative for each member and has numerous technical subcommittees advising it.

The Committees mentioned are often entities that energy customers can directly participate in as voting or non-voting members to influence and submit proposals that may reach the Board of Directors. Understanding the governance structure and senior committees can provide customers direction in how to engage with RTOs. Customers interested in engaging as voting members should be aware that official membership may require fees and/or financial liability, which is covered later in this resource.

²⁵ MISO. MISO Org Chart. Accessed August 7, 2021. <https://www.misoenergy.org/stakeholder-engagement/committees/>.

²⁶ NYISO. NYISO Shared Governance. <https://www.nyiso.com/documents/20142/1408883/Introduction-to-the-NYISO.pdf/0910588e-41de-5c38-380f-23c176792bd4>.

STAKEHOLDER PROCESSES & TRANSPARENCY

FERC Order 719 established policies on stakeholder engagement and was intended to improve the responsiveness of RTOs to their customers and stakeholders. To meet these requirements, RTOs submit compliance filings indicating their practices and procedures in place or to be adopted. FERC then assesses these filings using four criteria: inclusiveness, fairness in balancing diverse interests, representation of minority positions, and ongoing responsiveness.²⁷ The result is varying RTO stakeholder processes that were not built for speed. Today's stakeholder processes tend to be resource-intensive with layers of task forces, subcommittees, and committees, and can include upwards of 300 meetings a year, making it challenging to fully engage for stakeholders with less experience with the process or those with limited funding.

All RTOs have several committees in which stakeholders can participate with the exception of CAISO. Even without a formal committee structure, CAISO staff and stakeholders are able identify issues which are then followed by a

staff paper or proposal to address the problem. Stakeholders can then review and comment on proposals, which CAISO will review before drafting a proposal to be submitted to the Board. The Board reviews and may adjust the proposal, which stakeholders also have the opportunity to comment on before it is sent to FERC.

Other RTOs make use of senior and lower committees that guide decision making. Stakeholders participating as official members of the RTO can vote on proposals and other matters relevant to the RTO operation within this structure. In some RTOs, non-member stakeholders can participate and speak out in committees even though they cannot vote. Voting often occurs in lower committees before proposals pass on to a higher committee or the Board of Directors, and is often sector-weighted, which allocates a specific voting share to each stakeholder group. This approach can impact the voting power of individual stakeholder entities because the voting power of the stakeholder group remains limited to a specific amount (see Table 2).



²⁷ R Street. How the RTO Stakeholder Process Affects Market Efficiency. October 5, 2017. <https://www.rstreet.org/2017/10/05/how-the-rto-stakeholder-process-affects-market-efficiency/>.

RTO/ISO	Stakeholder Groups	Voting %	Number of Participants	Voting Power Per Participant
PJM	Generation Owners	20.0%	109	0.2%
	Transmission Owners	20.0%	14	1.4%
	Electric Distribution Companies	20.0%	43	0.5%
	Other Suppliers	20.0%	310	0.1%
	End Use Customers	20.0%	23	0.9%
NYISO	Generation	21.5%	21	1.0%
	Other Suppliers	21.5%	35	0.6%
	Transmission	20.0%	4	5.0%
	End Use Customers	20.0%	14	1.4%
	Public Power/Environmental Parties	17.0%	20	0.9%
ISO-NE	Generation Owners	16.5%	12	1.4%
	Competitive Suppliers	16.5%	134	0.1%
	Transmission Owners	16.5%	6	2.8%
	Municipal Power	16.5%	59	0.3%
	End Use Customers	16.5%	38	0.4%
	Alternative Resources	16.5%	24	0.7%
CAISO	No official membership required and no limitation on stakeholders. All stakeholders can submit comments on CAISO proposals.			
SPP	Transmission Owners	50%	17	2.9%
	Transmission Users	50%	90	0.6%
MISO	State Regulatory Authorities	16.0%	17	0.9%
	IPP/EWG (Generation)	12.0%	29	0.4%
	Transmission Owners	12.0%	52	0.2%
	Municipals, Coops, and Transmission Dependent Utilities	12.0%	33	0.4%
	Power Marketers	12.0%	33	0.4%
	Eligible End Use Customers	12.0%	10	1.2%
	Public Consumer Advocates	8.0%	17	0.5%
	Environmental/Others	8.0%	11	0.7%
	Coordinating Members	4.0%	1	4.0%
	Transmission Developers	4.0%	26	0.2%
	Independent Generators	13.3%	22	0.6%
ERCOT	IOUs	13.3%	7	1.9%
	Municipal Utilities	13.3%	18	0.7%
	Coops	13.3%	43	0.3%
	Independent Power Marketers	13.3%	16	0.8%
	Independent Retail Providers	13.3%	7	1.9%
	Consumers	26.7%	125	0.2%

TABLE 2 REFLECTS VOTING POWER IN SENIOR COMMITTEES.

Voting percentage is often dictated by the number of representatives per stakeholder group on a committee. ERCOT and MISO voting is determined by stakeholder seats on the Technical Advisory Committee and Advisory Committee. Not all committees utilize sector weighted voting, and some stakeholder types are divided even further. For example, voting shares for NYISO End Use Consumers and Public Power are further divided by different types of consumers and public power. Voting is advisory only unless stakeholder body has Sec. 205 filing rights.

Energy buyers can often directly participate in RTO decision-making by joining a stakeholder group for end-use customer members, either with voting rights or as a non-voting entity. Individuals or organizations that have significant interest in a sector may join as non-voting entities if they do not qualify for membership, or view fees as a barrier. Membership fees can be as high as \$6,000 annually for voting members with some RTOs, like PJM, offering membership tiers with lower fees ranging from \$0-\$500.²⁸ Non-voting membership can offer lower annual fees as well. MISO poses the largest barrier to entry with an initial membership fee of \$15,000 with the option for multiple entities to split.²⁹ RTOs can also implement withdrawal fees if an entity wants to leave a stakeholder group. For example, SPP withdrawal fee was as high as \$1 million which was recently challenged at FERC and adjusted.³⁰

RTO stakeholder processes should be transparent and inclusive to all stakeholders, regardless of the ability to pay, considering that not all large customers have the capacity and capital to join as voting members. Voting procedures vary by RTOs but transparency can be supported by public information on member voting, decision making, and matters of the board. NYISO voting can be conducted through a show of hands, roll call, or a secret ballot can be called.³¹ SPP committees vote by email and votes must be recorded in meeting minutes while the SPP Board votes via secret ballot.³² In PJM, voting is completed through online surveys and is not publicly disclosed.³³ In addition, senior committees only receive the number and percentages of yes, no, and absentee votes from lower committees and not full voting details.

MISO is an example of more robust information sharing on voting. Within five business days of a vote, all proposals approved or defeated with a 60/40 vote are forwarded to the parent entity, stakeholder relations, and the Steering Committee with the following information enclosed: the motion; stakeholders present; number of yes, no, and abstention votes; any supporting material; specific action the entity is seeking from the main parent entity; and if a voting action of the Main Parent Entity is desired then the requesting entity must provide the motion for consideration with documentation describing majority and minority positions.³⁴

Withholding information on voting or Board issues can fuel opportunities for manipulation, place stakeholder groups not involved at a disadvantage, limit well-informed voting, and impact trust. In addition to voter transparency, energy customers engaging with wholesale markets and working towards decarbonization commitments benefit from transparency on market data such as net electricity generation by source, marginal costs, and estimated average and marginal greenhouse gas (GHG) emissions per megawatt/hour MWh.

Streamlining the RTO stakeholder processes for efficiency while maintaining transparency is key for reducing barriers to participation. Understanding current processes is an important step in evaluating best practices and informing decision-makers on how to improve governance. If the customer voice is not present, then energy customers risk missing out on potential market benefits.

²⁸ PJM. PJM - Membership Enrollment. Accessed August 7, 2021. <https://www.pjm.com/about-pjm/member-services/membership-enrollment>.

²⁹ MISO. MISO Stakeholder Governance Guide. Accessed August 7, 2021. <https://www.misoenergy.org/stakeholder-engagement/committees/>.

³⁰ R Street. How the RTO Stakeholder Process Affects Market Efficiency. October 5, 2017. <https://www.rstreet.org/2017/10/05/how-the-rto-stakeholder-process-affects-market-efficiency/>.

³¹ NYISO. Management Committee By-laws. Accessed August 7, 2021. <https://www.nyiso.com/management-committee-mc->.

³² SPP. SPP Tariff. Accessed August 7, 2021. <https://www.spp.org/governance/>.

³³ Kleinman Center for Energy Policy. PJM Governance: Can Reforms Improve Outcomes?. May 2017. <https://kleinmanenergy.upenn.edu/research/publications/pjm-governance-can-reforms-improve-outcomes/>.

³⁴ MISO. MISO Stakeholder Governance Guide. Accessed August 7, 2021. <https://www.misoenergy.org/stakeholder-engagement/committees/>. *This document provides a high-level summary of ISO/RTO governance and does not fully reflect all governance details.*

STATE AND/OR RATEPAYER ADVOCATE ENGAGEMENT

Every multi-state RTO has a Regional State Committee (RSC) that provides collective input from the state, providing each RSC a unique role compared to other stakeholders. The power of RSCs, their membership, and funding levels vary, but all are funded through their

RTO. It is important to understand the power balance relationship between states, consumer advocates, and RTOs for possible coalition-building since these groups often work in the public interest.

REGIONAL STATE COMMITTEES AND CONSUMER ADVOCATE GROUPS BY RTO

PJM:

States do not vote but are represented by the Organization of PJM States (OPSI), a non-profit that serves to coordinate and inform state public utility commissions on PJM issues. OPSI is funded by PJM through rates with an annual budget of \$425,000-\$696,000. Individual states do have the right to contact the Board and/or petition FERC directly. PJM has offered states membership, but they have so far declined. OPSI can attend stakeholder meetings, add agenda items, provide input, as well as file comments and complaints to FERC. OPSI and member states have one annual meeting with the Board to discuss issues of joint concern and create proposals for consideration. The State Policy Solutions group is a recently developed entity focused on the overlap between state energy policy goals, PJM planning, and market operations.³⁵

The Consumer Advocates of the PJM States (CAPS) is a non-profit of state-based consumer advocate officials that facilitates stakeholder participation. CAPS does not have a vote but is funded by PJM through transmission rates with an annual budget of \$450,000. There is also the non-voting Public Interest and Environmental Organization User Group (PIEOUG). PIEOUG and CAPS have direct meetings with the PJM Board of Directors.³⁶ Outside these groups, consumers can participate in the stakeholder process by becoming a member in the end-use customers sector.

³⁵ Shields, J. PJM Introduces State Policy Solutions Group. June 29, 2020. PJM Inside Lines. <https://insidelines.pjm.com/pjm-introduces-state-policy-solutions-group/>.

³⁶ Kleinman Center for Energy Policy. PJM Governance: Can Reforms Improve Outcomes?. May 2017. <https://kleinmanenergy.upenn.edu/research/publications/pjm-governance-can-reforms-improve-outcomes/>.

NYISO:

State agencies that participate at all levels of the stakeholder process include the Public Service Commission (PSC) and Department of Public Service (DPS) as a non-voting participant. States also can engage with the Board through the Liaison subcommittee that meets roughly 12 times a year.³⁷ The DPS also has the power to attend and participate in Board meetings.

Consumer advocates can participate in the stakeholder process by becoming a member in the end-use customers sector with voting rights or participate as a non-voting entity.

ISO-NE:

The New England States Committee on Electricity (NESCOE) is the organizing body for Governors in New England with a single collective vote in actions, and an annual budget of roughly \$2.5 million.³⁸ NESCOE can provide input on action items, propose new market rules and standards, and gets one vote in the Participants Committee. States also participate through the New England Conference of PUCs (NECPUC), which is the organizing body for state utility commissions, and receive one vote on the Board Nominations Committee.^{39, 40} State official meetings are held twice a year with the Board and a Board Liaison Committee is held once per year with NECPUC.

Consumer advocates have a venue to address ISO-NE issues through its Consumer Liaison Group which is governed by Coordinating Committees representing various stakeholder groups.

CAISO:

All stakeholders can submit comments and recommendations on CAISO proposals and attend Board meetings through CAISO's open-meeting policy. The State directly influences governance by appointing the CAISO Board members. CAISO also works closely with state regulatory agencies, the California Public Utility Commission (CPUC) and the California Energy Commission (CEC).⁴¹

SPP:

The SPP Regional State Committee (RSC) provides collective approval on action items through its state committee vote. Its annual budget is roughly \$5,000 - \$300,000.⁴² State Commissions located in the SPP footprint can participate fully in all SPP actions as a non-voting member and participate in Board meetings.⁴³

The Stakeholder Prioritization Process is a mechanism in which stakeholders, including consumer advocates, can provide input into the prioritization of projects and enhancement and revision requests. SPP Staff post a quarterly report on member requests and proposals for stakeholder review and comment and then hold a meeting for interested parties to provide feedback. The proceedings are submitted in a report to the Market Operations Policy Committee (MOPC).⁴⁴

³⁷ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

³⁸ NESCOE. 2020 Annual Report to New England Governors. July 28, 2021. https://nescoe.com/resource-center/2020_annual_report/.

³⁹ Chen, J. and Murnan, G. State Participation in Resource Adequacy Decisions in Multistate Regional Transmission Organizations. March 15, 2019. Nicholas Institute. <https://nicholasinstitute.duke.edu/publications/state-participation-resource-adequacy-decisions-multistate-regional-transmission>.

⁴⁰ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

⁴¹ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

⁴² SPP. 2021 SPP Budget Document. October 27, 2020. <https://www.spp.org/spp-documents-filings/>.

⁴³ NESCOE. Governance Structure and Practices in the FERC Jurisdictional ISOs/RTOs. February 2021. <http://nescoe.com/resource-center/isorto-governance-feb2021/>.

⁴⁴ SPP. Stakeholder Prioritization. Accessed August 7, 2021. <https://spp.org/stakeholder-center/stakeholder-prioritization/>.

MISO:

MISO's Regional State Committee (RSC) is the Organization of MISO States (OMS). Individual states can set individual targets for resource adequacy that differ from the regional target. OMS is active in developing action items through Working Groups led by staff representatives of member-state commissions. Its annual budget is roughly \$1.3 million.⁴⁵ State commissions can also participate in the stakeholder process within the State Regulatory Authorities sector. OMS can participate in Board and Board Committee Meetings as well as provide quarterly updates directly to the Board. Consumer advocates can participate in the stakeholder process as part of the Public Consumer Advocates sector and can attend MISO Board and Board committee meetings.⁴⁶

ERCOT:

The state directly participates through its PUCT seat on the Board of Directors. However, the Chair does not have voting rights. Consumers can participate in the stakeholder process by becoming a member of the Consumers sector. Consumers also have a non-voting member representing them on the Board.

INDEPENDENT MARKET MONITOR

RTO Independent Market Monitors (IMM) play a critical role in ensuring a competitive and efficient operation of wholesale electricity markets. IMMs release public, annual reports assessing the RTO's market rules and tariff provisions and provide recommendations to enhance market operation. FERC Order 719 emphasized the need for independent

market monitors to enhance accountability and transparency. Each RTO, except SPP and CAISO, has an external market monitor. Customers engaging with an RTO or related coalition should be aware of the IMM as a source of information and potential group to aid customers in better understanding RTO trends or performance.

INDEPENDENT MARKET MONITORS (IMM) PER RTO:

PJM - Monitoring Analytics

NYISO, ISO-NE, MISO, ERCOT - Potomac Economics

SPP - Internal Market Monitoring Unit overseen by the Board of Director Oversight Committee

CAISO - Internal Department of Market Monitoring overseen by the Board of Director Oversight Committee

⁴⁵ OMS Organization Docs. OMS Budgets. 2021. <https://www.misostates.org/index.php/about/organization-docs>.

⁴⁶ Ibid., R Street, NESCOE, and Nicholas Institute studies

CONCLUSION

This Primer is intended to shed light on some key RTO governance elements, how they differ across U.S. RTOs, and why they are important to customers. The governance structure and processes of RTOs heavily impact how and what changes are made to market rules and operations. Market design reforms and new rules are often developed through stakeholder participation before ultimately being submitted to FERC. Understanding each RTO's stakeholder process provides opportunities for energy customers to consider elevating the customer voice. Customers interested in engaging with their RTO can use this primer as a starting place but should still review their RTO's governance structure and guiding documents in greater detail.

Stakeholders, policymakers, grid operators, and regulators understand the need to create a reliable and affordable electricity system fueled by zero-carbon technologies and recognize that further reform of existing markets and the expansion of new markets is needed. These changes will be driven by FERC-led directives and changes passed through RTO stakeholder processes, making it a critical time for stakeholder voices to be heard. The complexity of stakeholder engagement and barriers, like lack of transparency, pose opportunities for improvement. Customers can utilize this introduction to RTO Governance to inform their engagement with RTOs and FERC, as well as evaluate and compare RTO structure for conversations on best practices.



APPENDIX

GLOSSARY

Unless otherwise indicated, the following definitions are derived from the Federal Code and glossaries provided by The Energy Information Administration, Federal Energy Regulatory Commission, and the North American Reliability Corporation.

Advanced Notice of Proposed Rulemaking (ANOPR)

A FERC document issued ahead of a Notice of Proposed Rulemaking (NOPR) that functions similar to a request for comments, allowing public input on the formulation of a regulatory change before the agency has done significant research on its own.

Bilateral Agreement

A written agreement between two parties stating the terms an exchange or purchase of energy.

Day-Ahead Markets

Forward markets where electricity quantities and market clearing prices are calculated individually for each hour of the day on the basis of participant bids for energy sales and purchases.

Energy Imbalance Market (EIM)

A voluntary market that provides a sub-hourly economic dispatch of participating resources to balance supply and demand every 5 minutes while maintaining meaning transmission and reliability constraints.⁴⁷

Federal Energy Regulatory Commission (FERC)

The independent regulatory agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification.

Independent Market Monitor (IMM)

Monitoring units FERC requires RTOs/ISOs to employ to report on the state of each market, monitor market power and other functions. FERC's outlined key functions in its 2007 Policy Statement and further refined the role of IMMs in Order 719.

Independent System Operator (ISO)

An independent, FERC entity established to coordinate regional transmission in a non-discriminatory manner and ensure the safety and reliability of the electric system.

⁴⁷ Bonneville Power Administration. Energy Imbalance Market. Accessed August 7, 2021. <https://www.bpa.gov/Projects/Initiatives/EIM/Pages/Energy-Imbalance-Market.aspx>.

Jump Ball Filling

A provision found in Section 11.1.5 of the ISO-NE Participants Agreement that allows both the ISO-NE Board and Participants Committee to advance competing market rule proposals to FERC for approval. If a proposal receives at least 60% approval of the Participant Vote, the ISO must submit that proposal alongside its own as well as details on why it did not adopt the proposal.⁴⁸

Notice of Inquiry (NOI)

Defined by REBA as a FERC document issued that functions similar to a request for comments, allowing public input in the early stages when FERC is considering whether or not regulatory action is needed.

Notice of Proposed Rulemaking (NOPR)

A FERC document issued ahead of a Rulemaking allowing public input on detailed rules that ultimately may be adopted by FERC.

Organized Wholesale Market

Defined by REBA as wholesale power markets that are administered by the Regional Transmission Organization (RTO) or Independent System Operator (ISO) to provide transparency and competition.

Power Pool

An association of two or more interconnected electric systems having an agreement to coordinate operations and planning for improved reliability and efficiencies.

Open Access Transmission Tariff (OATT)

An electronic transmission tariff filed by each RTO/ISO and accepted by the U.S. Federal Energy Regulatory Commission which requires all Transmission Service Providers are provided non-discriminating service.

Return on Investment (ROI)

Defined by REBA as is the regulated amount of return a utility may earn on its investments within an Open Access Transmission Tariff (OATT).

Regional State Committee (RSC)

A committee of state representatives within the footprint of an RTO that covers multiple states, organized to coordination engagement within the stakeholder process. RSC names, roles, and participants vary by RTO.

Regional Transmission Organization (RTO)

Regional Transmission Organizations (RTO) administer the transmission grid on a regional basis, similar to Independent System Operators, but also satisfy twelve characteristics and functions outlined by FERC in Order 2000 when it encouraged the voluntary formation of Regional Transmission Organizations (RTOs).

⁴⁸ ISO New England. Participants Agreement and NESCOE MOU. Accessed August 10, 2021. <https://www.iso-ne.com/participate/governing-agreements/participants-nescoc-mou/>.

Scheduling Coordinator Agreement (SCA)

In CAISO, scheduling coordinators are certified entities that can directly bid or self-schedule resources as well as handle the settlements process. Scheduling Coordinators are granted the rights and status to transact in the CAISO market through the Scheduling Coordinator Agreement, although additional agreements may be required depending on the type of entity.⁴⁹

Wholesale Power Market

The purchase and sale of electricity between generators and resellers, including ancillary services needed to maintain reliability and power quality at the transmission level. Resellers include electricity utility companies, competitive power providers and electricity marketers.

⁴⁹ California ISO. Business Practice Manual Change Management. Accessed August 7, 2021. <https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Scheduling%20Coordinator%20Certification%20and%20Termination>.



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