

RTO/ISO Governance

Overview and recommendations

As the business of generating, delivering, and using electricity undergoes dramatic changes, industry players and other stakeholders are reviewing options for more regionalization of markets in the western United States, including the possibility of creating or joining Regional Transmission Organizations (RTO) or Independent System Operators (ISO). A fundamental consideration in this evaluation must be the governance structure of the new or incumbent RTO/ISO. Governance can determine how well the RTO/ISO carries out its FERC responsibilities while addressing the unique needs of its geographic region.

In support of the Colorado Public Utilities Commission proceeding on the topic (docket no. 16I-0816E), Energy Freedom Colorado (at EnergyFreedomCO.org) has reviewed a cross-section of recent writings on RTO/ISO governance and presents what it considers to be the most cogent points below. We begin with background on how we got to where we are today, followed by a review of key governance concerns and how RTOs/ISOs are addressing them across the country. Finally, we identify what strike us as the best practices that should be considered in any future plans for regionalization of markets in the West.

BACKGROUND

1. Origins of RTOs/ISOs¹
 - a. Federal Energy Regulatory Commission (FERC) Order 888 (1996) requires transmission-owning utilities to provide third parties access to their transmission lines, at the same price they charge their own retail utility affiliates.
 - b. FERC Order 2000 (1999) encourages and provides standards for the formation of RTOs.

2. Principal Functions of each RTO²
 - a. Manage the bulk power transmission system within its footprint.
 - b. Ensure non-discriminatory access to the transmission grid by customers and suppliers.
 - c. Dispatch generation assets within its footprint to keep supply and demand in balance.
 - d. Regional planning for generation and transmission.
 - e. Run a number of competitive wholesale markets for electric generation service.

3. RTOs are quasi-governmental entities, with many stakeholders. We are thus concerned with their governance – the process by which decisions are made about:³
 - a. Market design
 - b. Rule changes
 - c. Stakeholder engagement

FERC GOVERNANCE CRITERIA

4. FERC Order 719 (2008)⁴ sought to improve the operation of organized wholesale markets in four areas. Our focus is the Order's fourth area needing improvement: "the responsiveness of regional transmission organizations and independent system operators to their customers and other stakeholders, and ultimately to the consumers who benefit from and pay for electricity services." The Commission required RTOs/ISOs to report on their progress with respect to this concern. The commission assessed the reports they received using four criteria:
 - a. *Inclusiveness* - The business practices and procedures must ensure that any customer or other stakeholder affected by the operation of the RTO or ISO, or its representative, is permitted to communicate its views to the RTO's or ISO's board of directors.
 - b. *Fairness in Balancing Diverse Interests* - The business practices and procedures must ensure that the interests of customers or other stakeholders are equitably considered and that deliberation and consideration of RTO and ISO issues are not dominated by any single stakeholder category.
 - c. *Representation of Minority Interests* - The business practices and procedures must ensure that, in instances where stakeholders are not in total agreement on a particular issue, minority positions are communicated to the RTO's or ISO's board of directors at the same time as majority positions.
 - d. *Ongoing Responsiveness* - The business practices and procedures must provide for stakeholder input into the RTO's or ISO's decisions as well as mechanisms to provide feedback to stakeholders to ensure that information exchange and communication continue over time.
 - e. Note: This Order called for a one-time review with respect to the above criteria. FERC's assessment also evaluated the ability of RTO/ISO governance structures to continue to perform with respect to these criteria. No requirement exists for subsequent reports to be made to FERC since 2008.

5. Given the tectonic shifts in the electricity industry in the last decade, Energy Freedom Colorado suggests a fifth criterion:
 - a. *Adaptability* – the governance structure and policies must, without bias, accommodate new (potentially disruptive) technologies and business/market models, while ensuring the safety and reliability of the managed systems, both in the short and long term.
 - i. For instance, FERC Order 1000 (2011) "mandated planning authorities to evaluate non-transmission alternatives on a comparable basis when reviewing transmission solutions from incumbent and non-incumbent providers."^{5,6}
 - ii. A recent white paper from R Street Institute, arising out of interviews with industry experts, concludes "changes in stakeholder sectoral composition, the growth in the number of market participants and the introduction of innovative technologies and virtual trading were some of the areas that were said to place pressure on an efficient [stakeholder-governance] process."⁷

GOVERNING STRUCTURES AT EXISTING RTOs/ISOs

6. No two of the six federally regulated RTOs/ISOs and the one state-regulated ISO have the same governance structure. These structures are not dictated by FERC, but rather, they are the result of each RTO/ISO’s understanding of its region and its charter to serve the interests of the organization’s members and stakeholders (as interpreted by each RTO/ISO). Nevertheless, we note some of the key characteristics that most RTOs/ISOs share, with the exception of CAISO (see below):
- a. Board of Directors
 - i. Ultimately accountable for the ongoing success of the organization.
 1. Responsible for determining high-level mission, purpose, and strategies.
 2. Develops broad policies and objectives to guide the organization’s implementation of its strategies.
 3. Appoints, supports, and reviews key executives of the operating organization.
 - ii. Typically the entity that, sometimes along with transmission owners, has Section 205 filing rights – the ability to file changes to market rules and tariffs with FERC. These changes must be shown to be “just and reasonable and not unduly discriminatory or preferential.”⁸
 - iii. Ideally will be completely independent of the RTO/ISO management.
 - iv. With the exception of CAISO, board members are typically appointed by other stakeholders in the RTO/ISO. Note that, as a result of this fact, the diversity of board members is at risk of being directly related to the diversity of incumbent stakeholders, absent explicit and concerted diversity-promoting board-selection guidelines.

Table 1. RTO/ISO Governing Entities^{9,10}

RTO/ISO	Governing Entity	Composition	Board Member Selection
ISO-NE	Board of Directors	9 independent directors plus president/CEO (non-voting)	Slate nominated by a committee of NEPOOL and NECPUC. Final vote by board.
NYISO	Board of Directors	10 directors including president/CEO	Identified by Stakeholder Management Committee, nominated by Governance Committee and elected by board.
PJM	Board of Managers	9 voting managers plus PJM president (non-voting)	Selected by Nominating Committee and elected by Members Committee.
MISO	Board of Directors	9 independent directors plus president/CEO (non-voting)	Identified by Nominating Committee, selected by board, and voted on by members.

ERCOT	Board of Directors	16 members – 9 stakeholders, 5 unaffiliated members, CEO, and Pub. Util. Comm. Of Texas Chairman (non-voting)	Stakeholders selected by respective member groups, except Residential Consumer group, which is represented by Public Council of Office of Public Utility Counsel. Unaffiliated directors identified by Nominating Committee and voted on by members.
SPP	Board of Directors	9 independent members plus president (non-voting on most matters)	Candidates nominated by Governance Committee and elected by members.
CAISO	Board of Governors	5 members	Nominated by Governor of California and confirmed by state senate.

- b. Standing Committees of the Board
 - i. Oversee policies and performance of RTO/ISO functional activities (e.g., Finance, Audit, Human Resources, Legal).
- c. Advisory Committee
 - i. Receives, reviews, and adjudicates recommendations and concerns from stakeholder sectors (see below) for presentation to the Board, where final decisions are made.
 - ii. Decisions are heavily influenced by the structure and voting rights of the stakeholder sectors that bring issues to this committee for review/action.
- d. Stakeholder sectors
 - i. Collections of members (or their representatives) into segments that respect members' common interests within the broad diversity of RTO/ISO stakeholders.
 - ii. The most commonly represented sectors are:¹¹
 1. Transmission Owners
 2. Generators
 3. Transmission Users
 4. Other suppliers
 5. State Regulators and Consumer Organizations
 - iii. How individual stakeholders are grouped into sectors, how many distinct sectors are recognized, and how new industry entrants are slotted into existing sectors are matters handled differently by each RTO/ISO.
 - iv. The number of stakeholder sectors ranges from five or six to as much as ten.
 - v. Note: Other groups, such as municipal/cooperative utilities and environmental organizations are sometimes, but not universally, identified as unique sectors.
 - vi. These stakeholder groups meet regularly to discuss issues pertinent to their interests.

vii. Most issues before the RTOs/ISOs affect many, if not all, sectors, so voting rights are allocated to each sector to resolve disputes before the Advisory Committee. For instance, ISO New England has six sectors, each with 1 vote. MISO, however, has ten sectors, with transmission owners holding 12 votes, and environmental groups holding 8 votes, out of a total of 100 votes. How voting rights are allocated and how the allocations change over time is a very important characteristic of RTO/ISO governance. The concentration of influence among incumbents, the ability of new entrants to drive innovation and change, and the impact of elected officials on policy decisions are just a few issues that are directly affected by voting rights and allocations. More will be said about this topic below.

7. While details vary, most RTOs/ISOs address matters of markets, rule-making, planning, and cost allocation in regular meetings of each sector or functional committee.
 - a. Sectors bring their expertise and interest to the issue at hand and provide recommendations to the Advisory committee. Each RTO/ISO may have its own by-laws that guide how matters are discussed and disputes are resolved within the individual sectors.
 - b. Most matters, of course, affect more than one sector. When this is the case, the RTOs/ISOs each have their own rules for how to ensure that all affected sectors have a voice in the final outcome. Which sectors have a voice in such decisions, how much weight each sector's voice has in the final decision (a matter of voting rights, as discussed above), how the final recommendations to the Board of Directors are made, and how both majority and minority opinions are heard by the Board varies from one RTO/ISO to another.
8. CAISO, which was established by the California legislature, has a governance structure and a set of policies and procedures that more closely resemble those of a governmental body. Briefly¹²,
 - a. There is no official membership structure in CAISO and there are no limitations on who can be a stakeholder.
 - b. Each of the five members of the Board of Governors is appointed by the Governor of California and approved by the legislature.
 - c. CAISO staff or any stakeholder can identify an issue for consideration.
 - d. CAISO staff releases an issue paper or a straw proposal for addressing the issue.
 - e. Stakeholders review and comment on the proposal.
 - f. CAISO staff reviews comments and makes any changes it feels are required.
 - g. The final proposal is then sent to the Board of Governors for a final decision.

EVALUATION AGAINST FERC (AND RECOMMENDED) CRITERIA

9. The differences in governance across the seven RTOs/ISOs can result in variation in the degree to which the RTOs/ISOs stack up against the five criteria mentioned above. Let's look deeper into these criteria:

a. *Inclusiveness*

- i. Membership policies can indirectly embrace or discourage consideration of suggestions or concerns on the part of stakeholders. For instance:
 1. Southwest Power Pool permits a range of interested parties to be members, for a modest \$6,000/year fee. Once a party becomes a member, however, it is subject to a substantial exit fee which, should the party choose to withdraw from SPP, can reach \$700,000 or more for non-transmission owners. This effectively discourages memberships of small, but knowledgeable, organizations such as environmental groups, consumer rights organizations, engineering consultants, etc.
 2. CAISO's policy of requiring a period of open comments allows parties with expertise on specific matters to provide input without incurring a financial obligation.
 3. MISO's membership includes 12 Environmental Groups and 14 Public Consumer Groups. NYISO has 19 environmental or public power members. ISO-NE, ERCOT, and SPP, however, do not have any members that are uniquely identified as environmental groups.
 4. According to one report, NYISO, with a peak load of 33 GW, had 367 members in 2008. ISO-NE, with a peak load of 28 GW has 450 participants. In contrast, SPP, with a peak load of 50 GW, currently has less than 100 members.

b. *Fairness in balancing diverse interests*

- i. Organization of representative sectors, and their proportional voting rights, can potentially alter the RTO/ISO's balance of producer vs. customer interest.
 1. Five of the six RTOs, excluding CAISO, have specific sectors for end-use customers or consumers. While SPP has designated sectors for "Transmission Users", these are primarily wholesalers or local utilities – not end users.
- ii. Differences in how each RTO/ISO was formed can have downstream effects on how it treats diverse stakeholders. For instance, per AESL Consulting¹³ "SPP is set up as a 501(c)(6) organization – a business league or association of persons having some common business interest. There is no mention or requirement that the entity serve or operate in the public interest. Rather, 501(c)(6) entities are designed to assist and promote the members of the entity. By contrast, MISO is a 501(c)(4), a category used by and for entities dedicated to the promotion of social welfare...". Note: According to wikipedia.com¹⁴, "A 501(c) organization is a [nonprofit organization](#) in the [federal law of the United States](#) according to [Title 26 of the US Code, Section 501] and is one of 29 types of nonprofit organizations which are exempt from some [federal income taxes](#)." Organizations, when formed, choose which of the types of non-profit

organizations applies to their own organization, per the Internal Revenue Code (IRC). Table 2 presents the organizational category of each RTO/ISO.

Table 2. Organizational Categories of each RTO/ISO

RTO/ISO	IRC Organization Type	IRC Description
ISO-NE	501(c)(3)	“Religious, Educational, Charitable...”
NYISO	501(c)(3)	“Religious, Educational, Charitable...”
PJM	501(c)(3)	“Religious, Educational, Charitable...”
MISO	501(c)(4)	“Civic Leagues, Social Welfare...”
SPP	501(c)(6)	“Business Leagues, Chambers of Commerce...”
ERCOT	501(c)(4)	“Civic Leagues, Social Welfare...”
CAISO	501(c)(3)	“Religious, Educational, Charitable...”

iii. Sector composition and sector voting rights can also impact fairness across diverse interests.

1. For instance, in MISO, incumbent generators, transmission owners, power marketers, and transmission-dependent utilities occupy four separate sectors with a combined 48% of voting rights. Distributed Energy Resource providers join the generators sector and demand response providers join the power marketer sector.
2. In ISO-NE, however, generators and transmission owners fall into 2 sectors with a combined 33% of voting rights. Distributed Energy Resource providers join the stand-alone “Alternate Resources” sector providers, which has 17% voting rights, thus providing them with a larger voice, both within and across sectors.

Table 3. RTO/ISO Stakeholder Representation¹⁵

RTO/ISO	Stakeholder Groups	Voting Percentage
ISO-NE	Generation Owners	16.7%
	Competitive Suppliers	16.7%
	Transmission Owners	16.7%
	Municipal Power	16.7%
	End Use Customers	16.7%
	Alternative Resources	16.7%
NYISO	Generation	21.5%
	Transmission	20.0%
	Other Suppliers	21.5%
	Public Power/ Environmental Parties	17.0%
	End Use Customers	20.0%
PJM	Generation Owners	20%
	Transmission Owners	20%
	Electric Distr'n Companies	20%
	Other Suppliers	20%
	End Use Customers	20%
MISO	IPP/EWG (Generation)	12%
	Transmission Owners	12%
	Transmission Dependent Utilities	12%
	Power Marketers	12%
	Public Consumer Advocates	8%
	State Reg'y Authorities	16%
	Environmental/Others	8%
	End Use Customers	12%
	Coordinating Members	4%
	Transmission Developers	4%
SPP	Indep. Power Producers – TU*	Varies*
	Indep. Transmission Cos. – TO, TU	
	Investor Owned Utilities – TO, TU	
	Cooperatives – TO, TU	
	Municipals – TO, TU	
	Marketers – TU	
	Federal Agencies – TO	
	State Agencies – TO, TU	
	SPP Contract Participants	
ERCOT (Technical Advisory Committee)	Indep. Generators	13.3%
	Investor Owned Utilities	13.3%
	Municipal Utilities	13.3%
	Cooperative Utilities	13.3%
	Indep. Power Marketers	13.3%
	Indep. Retail Providers	13.3%
	Consumers	26.7%
CAISO	No official membership required No limitations on stakeholders	N/A

* Groups are organized into two voting groups – Transmission Owners and Transmission Users – and votes are taken within these groups. Voting percentage is based on one vote per sector, with passage requiring 66% votes among present members.

c. *Representation of minority interests*

- i. FERC recognized that not all decisions made by RTOs/ISOs are unanimous. Decision-making processes can encourage or discourage the airing of disagreements at all levels, be they within or across representative sectors. The more open and transparent these decision-making processes are, the more likely the recipients of recommendations will be to grasp the complexity and ranges of opinions on the topics at hand.
 1. CAISO's process of open comment promotes such transparency. This approach to decision-making is akin to that of a government agency (FERC, PUC, etc.).
 2. When topics arise at MISO, positions and opinions are presented to MISO by other MISO staff or by stakeholders. MISO staff then leads the analysis and generates a proposed solution, which is then voted on by stakeholders and, if passed by a majority of (weighted) votes, presented to the board for approval. This allows official consideration of all sides of each issue.¹⁶ This approach to decision-making is akin to that of a business or non-governmental organization (NGO).
 3. At SPP, matters are generally initiated by stakeholders, then presented to other stakeholders for consideration and resolution in a series of committee meetings. Per the AESL paper¹⁷ "decisions in SPP are made with a ... consensual approach." Proposals must receive a 66% vote of approval to pass. Dissenting opinions are only carried higher in the decision-making process if the dissenters elect to provide a written explanation for their "no" vote. This approach to decision making is not unlike that of a social club. This could have adverse effects on the RTO's "adaptability" (more on this below).
- ii. Given the complexity and resource demands of RTO/ISO matters, there can be a resulting bias toward larger, more established companies with the ability to dedicate full-time staff to their RTO/ISO participation. By definition, these firms seek to represent their own interests within their RTO/ISO, and so are able to steer decisions toward maintaining the status-quo and slowing the adoption of innovations in technologies or business models.
 1. It could well be that in representing its own interests, a powerful large utility member might steer decisions toward accelerating change toward a new technology or build-up of transmission lines from which it would profit.
 2. Consider that as far back as 2007 the number of stakeholder meetings held in that year were as follows:¹⁸
 - a. CAISO – 57
 - b. ISO-NE – 184
 - c. MISO – 611

- d. NYISO – 280
- e. PJM – 330
- f. SPP – 202

Any smaller player with limited resources cannot possibly attend all of these meetings. As such, smaller organizations come to the table with a built-in informational disadvantage. Remote (web-based) participation may help address this gap, as would the adoption of rules that allow proxy votes on matters which may not be central to individual participants' interest.

d. Ongoing Responsiveness

- i. Pursuant to FERC Order 719, the Commission assessed each RTO/ISO's commitment to continually evaluating their governance policies and stakeholder processes and consider how they may be improved. FERC found that each RTO/ISO adequately exhibited such a commitment, although it did not require regular follow-up reports to FERC.

e. Adaptability

- i. The many changes affecting the electricity industry are also presenting more and more situations where the interests of the industry players are at odds. These competing interests place substantial pressure on the governance structures of the RTOs/ISOs and their corresponding ability to efficiently resolve contentious issues.
 - 1. For instance, the fact that distributed energy resources (DER), energy storage, and non-wire alternatives (to centralized generation/transmission) are now able to economically compete with centralized generation means that RTOs/ISOs will be seeing more and smaller companies seeking membership and voice in RTO/ISOs. Providers of DERs, storage, etc. will grow in number and their industry will grow in market share, often to the detriment of the incumbent owners of centralized generation/transmission. RTO/ISO governance (membership standards, voting rights/percentages, consensus- vs. rules-based decision processes, etc.) must be flexible enough to work through the implications of these changes without compromising grid reliability or economic efficiency.
- ii. As more U.S. states consider opening their electricity markets to more competitive forces, in which prices are determined by the real-time tug-of-war between supply and demand, at increasingly granular levels, it will not always be obvious where the next "winners" will come from. Decision-making by RTOs/ISOs will need to be flexible enough to allow these "disrupters" to prosper, often at the expense of the status quo, while continuing to maintain the safety and reliability of the regional electrical system. To quote Adam Thierer, senior research fellow with the Technology Policy Program at the Mercatus Center at George Mason University and author of *Permissionless Investing*, "Will innovators be

forced to seek the blessing of public officials before they develop and deploy new devices and services, or will they be generally left free to experiment with new technologies and business models? If they aren't free to experiment, the result will be fewer services, lower-quality goods, higher prices, and diminished economic growth.”¹⁹

OTHER CRITERIA

10. In addition to the criteria of FERC Order 719, two other issues bear consideration when evaluating RTO/ISO governance.

a. Board independence

- i. Per Stanford Business School, a board of directors has a dual mandate²⁰:
 1. Advisory - consult with management regarding strategic and operational direction of the company.
 2. Oversight - monitor company performance and reduce agency costs.
- ii. The responsibilities of the board are separate and distinct from those of management. The board does not manage the company.
- iii. Boards are expected to be independent:
 1. Act solely in the interests of the firm.
 2. Free from conflicts that compromise judgment.
 3. Able to take positions in opposition to management.
- iv. In keeping with our concern for RTOs/ISOs' ability to simultaneously maintain system reliability and leverage the benefits of technological change, it is important to avoid the insularity that can come from a board/management relationship that is too “cozy”. It is important for the board to maintain a bit of a “hands-off” approach.
- v. We agree with NASUCA²¹, which calls for RTOs/ISOs to limit management's membership on the Board to just the organization's Chief Executive, who will not have voting rights.

b. Independent market monitor

- i. While not discussed above, one piece of the RTOs/ISOs' charter is to create and manage the wholesale electricity markets so that they maximize the benefits of competition and reduce any concentration of market power.
- ii. FERC, in its Order 719²², requires each RTO/ISO to provide for a Market Monitor that is empowered to independently assess the rules and structure of their respective RTO/ISOs and their ability to deliver on this imperative.
- iii. Per the R Street paper²³, “every RTO/ISO except for SPP and CAISO has an external market monitor” in addition to its internal market monitoring unit that assesses rules and tariffs. We would prefer to see this added independence brought to the market monitoring provision at SPP and CAISO.

RECOMMENDED BEST PRACTICES

11. Having reviewed governance structures of the RTOs/ISOs and their impact on inclusiveness, fairness in balancing diverse interests, representation of minority interests, ongoing responsiveness, and adaptability, Energy Freedom Colorado recommends the following best governance practices for RTOs/ISOs going forward:
 - a. Provide for and ensure the independence of the Board of Directors/Governors.
 - b. Re-evaluate, every two years, sector representation to ensure that it reflects changes taking place in the industry.
 - i. Allow full participation of new industry participants and stakeholders.
 - ii. Establish competitive mechanisms to allow new entrants an opportunity to test their offerings.
 - c. Provide for more representation of consumers, who ultimately pay for the RTO/ISO product.
 - d. Reduce the barriers to entry/exit for non-profit stakeholders.
 - e. Open up the process for soliciting and evaluating recommendations from all stakeholders.
 - i. Publish meeting minutes promptly.
 - ii. For every agreed-upon recommendation include competing arguments that were considered but not adopted.
 - iii. Record and publish member votes on all matters submitted to the board of directors.
 - f. Call upon FERC to regularly review the areas for concern addressed in FERC's Order 719.
 - g. Revise voting requirements at all RTOs/ISOs to allow a simple majority to carry most votes.
 - i. This would potentially remove bias toward incumbents.
 - h. Organize future RTOs/ISOs as 501(c)3 or 501(c)4 organizations.
 - i. Acknowledge the public service role played by these organizations.
 - i. Mandate a bi-annual external review of each RTO/ISO's markets to identify economic inefficiencies and propose solutions to correct them.
 - j. Pursuant to the goals of FERC Orders 719 and 2000, promote universal implementation, by existing and future RTOs/ISOs, of independent external market monitoring units.

COLORADO IMPLICATIONS

12. Implications for Colorado's energy markets.
 - a. At the time of this writing, several utilities in Colorado, Wyoming, New Mexico and Arizona have formed the Mountain West Transmission Group to consider joining or forming an RTO/ISO. MWTG's future has very recently been made uncertain by the withdrawal of Xcel Energy from the organization. So the situation is in flux. Nevertheless, as plans develop, the regionalization options being considered span the governance spectrum from adopting the established governance of SPP, to adopting some of the governance of CAISO by joining their

Energy Imbalance Market, to starting from a clean slate and joining with PJM and Peak Reliability.²⁴ We recommend that many of the best practices be considered as central factors in the decision about which path MWTG, or its successor organization(s), take.

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