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HOW THE RTO STAKEHOLDER PROCESS AFFECTS MARKET EFFICIENCY

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CONTENTS

INTRODUCTION

This white paper analyzes the role that the regional transmission organization (RTO) and independent system operator (ISO) stakeholder-governance process plays in ensuring the competitiveness and efficiency of a wholesale electric market.[1] In the United States, RTOs and ISOs maintain operational control of the regional electric-transmission grids, operate the regional competitive electric markets and plan for future grid expansion, while maintaining open access to a reliable electricity system. This paper reviews the stakeholder-governance processes in the six jurisdictional RTOs and ISOs of the Federal Energy Regulatory Commission (FERC): the Midcontinent Independent System Operator (MISO), the Southwest Power Pool (SPP), the California Independent System Operator (CAISO), the Independent System Operator of New England (ISONE), the New York Independent System Operator (NYISO) and the PJM Interconnection (PJM).[2]

Stakeholders play an important role in an RTO's operation. This is because stakeholder governance is one of the primary processes for the development, amendment and proposal of RTO market rules and tariffs for approval. This process is shared among stakeholders—RTO staff, RTO boards of directors and ultimately, FERC and the courts. These governance processes play a key role to identify, review and confirm market-rule development. In the various RTO committees, stakeholders bring forth issues for discussion and if proponents secure sufficient support, they vote to move them forward. Market rules in RTOs can take a number of forms, but final rules are detailed in FERC-approved tariffs.

Throughout this paper, we will refer to the RTO stakeholder-governance process in general terms, although each of the RTO stakeholder processes have unique structures that

1. While RTOs and ISOs are distinct organizational forms, herein we will generally refer to both entities simply as RTOs. However, technically speaking, the New York Independent System Operator (NYISO) and California Independent System Operator (CAISO) are ISOs and the other four organizations are RTOs. The differences between organizational types are not directly relevant to the issues we address.

2. This paper did not directly evaluate the stakeholder-governance processes of the Electricity Reliability Council of Texas (ERCOT), which is not under FERC jurisdiction and does not operate under the same federal oversight as the other RTOs. However, some interviewees who have interests in or knowledge of ERCOT did reference its stakeholder-governance processes.

influence their function in the market-rule development process. To understand and analyze the function of these unique structures is central to evaluate the effectiveness of the stakeholder-governance process.

RTO stakeholders are grouped together in various sectors: transmission owners, electric generators, end-use customers, marketers and/or brokers, public power entities, consumer advocates and environmental groups. RTO operating agreements or bylaws define sector membership. For an entity to become a member of a sector, they must formally apply for membership and meet the associated criteria. For example, members of the transmission-owner and generation sectors usually must have a defined level of ownership interest in that form of electric infrastructure to qualify for membership. For these reasons, membership is often limited to incumbent players, rather than those who intend to develop infrastructure in the future. Generally, each formal sector is allocated a voting interest in the stakeholder-governance process. Tallies of individual member votes within the sector then account for how votes are allocated. Also, RTO members take part in the formal stakeholder committees and working groups that assist in market-rule development. Nonvoting members, which in some RTOs may include state public service commissions, may also be granted the right to attend and participate in stakeholder meetings.[3]

FERC AUTHORITY OVER RTOS AND ISOS

Issued in 1996, FERC Order 888 began the process of creating ISOs by requiring all transmission-owning public utilities to file open access, nondiscriminatory transmission service tariffs and to unbundle wholesale power services.[4] Order 888's purpose was to "remove impediments to competition in the wholesale bulk power marketplace and to bring more efficient, lower-cost power to the Nation's electricity consumers."[5] It also provided guidance on the formation of ISOs that would have operational control of the new open-access transmission system, while the utilities retained ownership of the transmission assets.[6] FERC did not require the formation of ISOs, but rather encouraged their formation, finding that they would be efficient organizations for providing open access to the wholesale transmission system.[7]

By 1999, five ISOs had been approved by FERC but lingering concerns about reliability and competitive neutrality led FERC to issue Order 2000, which expanded upon the guidelines set forth in Order 888.[8] Due to the effects of unbundling on the wholesale markets, advanced need for transmission planning and the success and failures of ISO formation, FERC established guiding principles "to advance the formation of Regional Transmission Organizations (RTOs)."[9] As a result, there are currently four RTOs (ISO-NE, PJM, MISO and SPP) and two ISOs (NYISO and CAISO) operating under the oversight of the Federal Energy Regulatory Commission.[10]

FERC Order 719

In 2008, after markets had time to develop and mature, FERC revisited areas where it identified issues of concern with market structure. This time, its efforts were more focused and concentrated than the earlier stages of RTO development. The commission did not seek to remake the fundamental design of organized wholesale electric markets but to continue to make incremental improvements to their structure, without disrupting existing gains.[11] The result was the final version of Order 719,[12] which established new policies in four different areas of RTO market operations: market monitoring; long-term power contracts; demand response; and stakeholder involvement.

The order was a reaction to the absence of specific RTO board governance requirements in Order 888 and Order 2000.[13] In particular, the latter was issued during the initial stages of RTO formation, when FERC was not yet ready to prescribe the final outcome of the process.[14] The focus on stakeholder-governance processes in Order 719 was indicative of the need to balance the different pathways for developing, amending and proposing market-rule changes to FERC for final approval.

3. Information on the current status of RTO stakeholder-governance processes was obtained through a review of various reports and academic literature, as well as interviews with various market participants, state commissioners, members of RTO boards of directors, independent market monitors and other advocates. A comprehensive review of the market issues listed in the 2011-2015 market monitor reports was also completed. A list of all the individuals interviewed and their organizational representation is included in the appendix. In order to facilitate open communication, however, we do not attribute comments directly to particular interviewees. Organizational affiliation of these individuals should not be construed to suggest that any of these organizations support any statements or positions herein described.

4. Federal Energy Regulatory Commission, *Order No. 888*, April 24, 1996. https://www.ferc.gov/legal/maj-ord-reg/land-docs/rm95-8-00w.txt.

5. Ibid.

6. Ibid., p. 7.

7. Ibid. pp. 279-81.

8. Jim Lazar, *Electricity Regulation in the US: A Guide, Second Edition* (Montpelier, VT: Regulatory Assistance Project, 2011), pp. 21-22.

9. Federal Energy Regulatory Commission, *Order No. 2000: Regional Transmission Organizations*, Docket No. RM99-2-000, Dec. 20, 1999, pp. 9-30. https://www.ferc.gov/legal/maj-ord-reg/land-docs/RM99-2A.pdf.

10. Michael A. Yuffee et al., "Introduction: What is an RTO/ISO?", 4-89 *Energy Law and Transactions* § 89.01.

11. Federal Energy Regulatory Commission, *Order No. 719: Wholesale Competition in Regions with Organized Electric Markets*, Docket Nos. RM07-19-000 and AD07-7-000, Oct. 17, 2008. https://www.ferc.gov/whats-new/comm-meet/2008/101608/E-1.pdf.

12. Ibid., ¶ 2.

13. Ibid., ¶ 479.

14. Ibid.

Accordingly, the stakeholder involvement policy was designed to improve the responsiveness of RTOs to their customers and other stakeholders, and ultimately to the customers who benefit from and pay for electricity services. Under the order, "responsiveness" was defined as "an RTO/ISO board's willingness, as evidenced in its practices and procedures, to directly receive concerns and recommendations from customers and other stakeholders, and to fully consider and take actions in response to the issues that are raised."[15]

To meet the responsiveness requirement, FERC required RTOs to make a compliance filing to demonstrate that it had in place, or would adopt, practices and procedures to ensure the responsiveness of its board of directors to customers and other stakeholders. The commission assessed each filing using four criteria:

1. Inclusiveness;
2. Fairness in balancing diverse interests;
3. Representation of minority positions; and
4. Ongoing responsiveness.

Under the inclusiveness criterion, the RTO had to ensure through its business practices and procedures 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."[16] This was intended "to ensure that existing or newly-developed practices and procedures, are adequate to bring the views of all customers or other stakeholders before the board."[17] To meet the requirement, an RTO needed to demonstrate that it actively provided means for "presenting customer and other stakeholder issues, concerns, or proposals to its boards."[18]

As for the "fairness in balancing diverse interests" mandate, RTOs needed to ensure that their business practices and procedures were structured to provide equitable consideration of the interests of customers or other stakeholders. Further, it was required that "deliberation and consideration of RTO and ISO issues are not dominated by any single stakeholder category."[19] The purpose of this was to ensure that the "RTO/ISO may make well-informed decisions that reflect the full range of competing interests that may be affected."[20]

Likewise, under the "representation of minority positions" criterion, RTO business practices and procedures were assessed to 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."[21] Such a goal was designed to ensure that the RTO/ISO boards received both majority and minority views during their deliberations to guarantee that appropriate consideration is afforded to minority interests.[22]

Finally, "ongoing responsiveness" required an RTO to ensure that its business practices and procedures 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."[23] This was to encourage the RTO to develop a process to assess the needs of its customers and stakeholders on a continual basis, as the architecture or market environment of the RTO/ISO changed.[24]

RTO filing requirements under the Federal Power Act

FERC is the ultimate arbiter for proposed changes to RTO market rules and tariffs. Sections 205 and 206 of the Federal Power Act (FPA) give FERC the authority to regulate the sale of electric energy at the wholesale level in interstate commerce.[25] Because each RTO's governing documents relate to the transmission and sale of electricity in interstate commerce, changes to them must be filed with and approved by FERC. The rates, terms and conditions subject to this authority must be just and reasonable, and may not be unduly discriminatory or preferential.[26]

The different burdens of proof between Section 205 and 206 make the filing rights a critical factor in RTO stakeholder-governance analysis. Section 205 requires the proponent of a change to demonstrate that the proposed rate, term or condition is just and reasonable.[27] Section 206 imposes a higher burden of proof: the proponent of a change must demonstrate that the proposed change is just and reasonable *and* that the existing provisions are unjust and unreasonable.[28] Consequently, an entity that holds Section 205 filing rights can propose and receive FERC approval for changes to RTO

15. Ibid., ¶ 474.
16. Ibid., ¶ 482.
17. Ibid., ¶ 506.
18. Ibid.
19. Ibid., ¶ 482.
20. Ibid., ¶ 507.
21. Ibid., ¶ 482.
22. Ibid., ¶ 508.
23. Ibid., ¶ 482.
24. Ibid., ¶ 509.
25. Federal Power Act § 205(a), § 206(a).
26. Ibid., § 205 (a)–(b), § 206(a).
27. Ibid., § 205 (e).
28. Ibid., § 206 (b).

tariffs and rules more easily than an entity that has Section 206 filing rights.

For this reason, who holds and exercises Section 205 filing rights is a significant factor in RTO market-rule development. Generally, the RTO board or both the RTO board and the stakeholders have Section 205 filing rights for market rules that govern energy, ancillary services and capacity markets. For transmission-related issues,[29] Section 205 filing rights stay with the owner of the assets, a right affirmed in *Atlantic City v. FERC*.[30] As a result, Section 205 filings regarding transmission are often developed through a different process, wherein much of the tariff-development process is left to transmission owners, often in consultation with RTO staff. Because tariff changes for transmission must still be approved by FERC, the transmission owners and RTOs will often consult with other stakeholders to improve understanding and agreement in advance of interventions and comments in the FERC proceeding.

Because the stakeholder process for transmission issues is unique, this paper focuses on market-rule and tariff development for the energy, ancillary services and capacity markets through the different stakeholder-governance processes. It does not address the role of those processes in transmission issues, such as regional planning and cost allocation.

STAKEHOLDER-GOVERNANCE MODELS

RTOs generally fall within one of three stakeholder-governance models: advisory-only, shared governance and governor-appointed boards. In advisory-only stakeholder processes (ISO-NE, MISO and SPP) the stakeholders serve in an advisory role to the RTO's board of directors. Importantly, advisory-only stakeholder-governance structures send market-rule and tariff changes through the stakeholder process to receive input. However, the board of directors generally retains the Section 205 filing rights. For this reason, the board ultimately has authority to control which market-rule changes are submitted to FERC. However, stakeholders may still comment on or protest the proposal during the FERC proceeding.

In shared governance structures (NYISO and PJM) market-rule changes must receive stakeholder approval before being submitted to the board of directors. Under this schema, the senior stakeholder committee first approves a proposal. Then, the board of directors reviews and decides whether to approve it or send it back through the stakeholder process. Therefore, both the stakeholders and the board agree on a proposal before it is filed at FERC. If there is disagreement between the board's view and the stakeholder proposal, the RTO has defined processes to allow further discussion and revisions to the proposal. Ultimately, however, both the board and stakeholders retain the option to file any proposals with FERC under Section 206.

In CAISO, the governor appoints the five-member board of directors, who review and edit proposals submitted by CAISO to FERC. Guided by RTO staff, these proposals are developed through a much less formal stakeholder notice-and-comment process.

Given the differences among the stakeholder-governance structures, the sections below analyze how stakeholder governance impacts market-rule development. In doing so, the analysis compares RTOs where stakeholders play a more advisory role (e.g., ISO-NE, MISO, SPP and CAISO) with the RTOs where stakeholders have more shared authority with the RTO (e.g., NYISO and PJM).

Midcontinent Independent System Operator (MISO)

MISO operates the transmission system and central dispatch in parts of 15 states in the Midwest [31] and the South,[32] and covers the largest geographical range of all RTOs.[33] MISO's membership includes 48 transmission owners and 128 non-transmission owners.[34]

MISO's Section 205 filing rights are jointly held by MISO, the transmission owners and the Organization of MISO States (OMS), but it is not a shared-governance RTO. Each transmission owner maintains sole filing authority over transmission rate design within its own footprint and for capital investments that will be exclusively recovered from its customers.[35] The transmission owners and MISO jointly share Section 205 filing rights for any costs that arise from construction of new transmission and upgrades to existing

29. For example, rates, terms and conditions for transmission service, including transmission expansion and planning.

30. *Atlantic City v. Federal Energy Regulatory Commission*, 295 F.3d 1, 5 (D.C. Cir. 2002). In this case, the court affirmed that the transmission owners in the PJM region joining together to form a regional transmission operator did not cede their Section 205 filing rights to the ISO. Further, as provided in FPA Section 205(d), the transmission utilities retained the right to file changes to rates, charges, classification or service at any time upon 60 days' notice.

31. MISO's organizational plan and initial transmission tariff was accepted/approved in 1998.

32. Federal Energy Regulatory Commission, "Electric Power Markets: Midcontinent (MISO)," United States Department of Energy, March 10, 2016. https://www.ferc.gov/market-oversight/mkt-electric/midwest.asp.

33. M. Tyson Brown, "Midcontinent Independent System Operator adding four new electric territories in December," U.S. Energy Information Administration, Oct. 24, 2013. http://www.eia.gov/todayinenergy/detail.php?id=13511.

34. Midcontinent Independent System Operator, "Fact Sheet," February 2017. https://www.misoenergy.org/AboutUs/Pages/FactSheet.aspx.

35. Natural Resource Defense Council, "Making Sense of Potential Western ISO Governance Structures: The Role of the States," *Issue Brief*, June 2016. http://docketpublic.energy.ca.gov/PublicDocuments/16-RGO-01/TN211811_20160615T075209_Role_of_States__NRDC_Issue_Brief.pdf.

transmission for which the costs will be distributed across multiple transmission-utility footprints.[36] In 2013 and as part of the agreement to integrate the Entergy footprint into the MISO territory, OMS was granted Section 205 filing rights for cost allocation. These rights are triggered if MISO independently develops or amends a regional cost-allocation methodology or if MISO performs the task at the behest of OMS.[37] With the support of 66 percent of its voting members, OMS can request the MISO to submit a filing to FERC, but MISO is not obligated to do so.[38] If MISO opts not to file, it must explain its decision to OMS.[39] MISO's stakeholder-governance structure includes an advisory committee, which makes recommendations to MISO's board of directors.[40] Five subcommittees and a series of working groups and task forces assist the Advisory Committee.[41] Neither the Advisory Committee nor any stakeholder group exercises control over the board's decisions.[42] Further, MISO's governing documents specify that MISO retains FPA Section 205 filing rights over those documents.[43]

The Advisory Committee approves market, reliability and operational recommendations based on weighted sector votes.[44] Members are split into 10 sectors: transmission owners, TDU/municipalities, power marketers, public consumer advocates, state regulatory authorities, environmental/other, eligible end-use customers, coordinating members and transmission developers.[45] The Advisory Committee approves a properly noticed motion through a majority of sector votes.[46] If a motion is not properly noticed, two-thirds of the sector-weighted votes must approve the motion.[47] Subcommittees, working groups and task forces may use a straight voting process (one vote per member) or the sector-weighted voting process.[48] MISO may still file unapproved Section 205 proposals with FERC[49] but it must report any FERC filings to the Advisory Committee.[50]

The MISO Board of Directors consists of 10 directors, of which the CEO is an automatic appointee. The Nominating Committee nominates candidates for the remaining nine positions and the members elect them.[51]

The following table illustrates the sector voting weight and number of sector representatives seated on the Advisory Committee:

TABLE I: SECTOR REPRESENTATION ON MISO ADVISORY COMMITTEE

Sector	Seats	Weighted voting (%)
IPP and EWG[1]	3	12
Transmission owners	3	12
TDUs[2]	3	12
Power marketers	3	12
Public consumer advocates	2	8
State regulatory authorities	4	16
Environmental/other stakeholder groups	2	8
Eligible end-use customers	3	12
Coordinating members	1	4
Transmission developers	1	4

1. "IPP" refers to Independent Power Producers and "EWG" to Exempt Wholesale Generators.

2. Municipals, Cooperatives, and Transmission Dependent Utilities (TDUs).

Southwest Power Pool (SPP)

SPP[52] currently oversees the bulk electric grid and wholesale power market across 14 states in the central United States.[53]

Section 205 rights in SPP are divided between three different parties: the SPP, transmission owners and the Regional State Committee. SPP maintains FPA Section 205 filing authority for the Open Access Transmission Tariff and makes other filings subject to approval by the SPP Board of Directors.[54]

36. Ibid.

37. Ibid.

38. Ibid.

39. Ibid.

40. Midcontinent Independent System Operator, *Agreement of Transmission Facilities Owners to Organize the Midcontinent Independent System Operator*, Inc., A Delaware Non-Stock Corporation (MISO Agreement), July 1, 2014, Appendix A, ¶ VI. https://www.misoenergy.org/Library/Repository/Tariff/Rate%20Schedules/Rate%20Schedule%2001%20-%20Transmission%20Owners%20Agreement.pdf.

41. Midcontinent Independent System Operator, Stakeholder Governance Guide (MISO Stakeholder Governance Guide), Feb. 24, 2016, pp. 4-5. https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/Committee%20Documents/Stakeholder%20Governance%20Guide.pdf.

42. *MISO Agreement*, 2014, Appendix A, ¶ IV.

43. *MISO Agreement*, 2013, Appendix K, ¶ II. L.

44. *MISO Agreement*, 2014, Appendix A; MISO Stakeholder Governance Guide, p. 14.

45. *MISO Stakeholder Governance Guide*, 2016, p. 9.

46. *MISO Stakeholder Governance Guide*, 2016, pp. 11, 29. The notice requirements for entity meetings generally requires MISO to post the annual meeting schedule for all meetings, with in-person meetings scheduled at least 30 days in advance, if possible.

47. *MISO Stakeholder Governance Guide*, 2016, p. 11.

48. *MISO Stakeholder Governance Guide*, 2016, p. 10.

49. *MISO Agreement*, 2014, Appendix A. ¶ IV.

50. *MISO Stakeholder Governance Guide*, 2016, p. 32.

51. *MISO Agreement*, 2014, Appendix A. ¶ III.

52. FERC approved SPP as an RTO in 2004. See, e.g., Nathania Sawyer and Les Dillahunty, "The Power of Relationships: 75 Years of Southwest Power Pool," 2016, 93. https://www.spp.org/documents/46282/spp-75th-anniversary-online.pdf.

53. Southwest Power Pool. "About Us," 2015. https://www.spp.org/about-us/.

54. Southwest Power Pool, *Governing Documents Tariff*, Nov. 30, 2010, p. 108. https://www.spp.org/documents/13857/2010-11-30_bylaws%20and%20membership%20agreement%20tariff.pdf.

The board has the power to approve, disapprove or recommend revisions to the actions of any organizational group, including those reported to the Markets and Operations Policy Committee.[55] As in the case of MISO, the board consists of 10 directors with the SPP president holding one directorship.[56] The Corporate Governance Committee nominates candidates and the members elect directors for the remaining nine positions.[57] Transmission owners also retain exclusive Section 205 filing authority for any transmission service over their own facilities.[58] The Regional State Committee, which is composed of members from each of the SPP states, can make Section 205 filings directly to FERC on the issues of cost allocation and resource adequacy.[59]

SPP has 95 members[60] grouped into the following categories: cooperatives, federal agencies, independent power producers, independent transmission companies, investor-owned utilities, marketers, municipal utilities, state agencies and SPP contract participants.[61] Market analysts attribute SPP's low membership to the complex and expensive entry and withdrawal processes.[62] For example, members must pay an annual $6,000 membership fee[63] and withdrawal fees can reach $1 million.[64]

SPP hosts quarterly stakeholder-prioritization meetings that are open to members and nonmembers.[65] All participants can voice concerns about current practices or promote specific proposals.[66] Members influence decision making through participation in organizational groups,[67] which approve actions through a simple majority.[68] If any members disagree on an action taken, the member may appeal in writing and submit alternate recommendations to the board of directors. Organizational groups primarily report to the Markets and Operations Policy Committee, which consists of a representative for each member.[69] The committee then reports to the SPP Board of Directors.[70] Members vote on matters before the committee as transmission-owning members or transmission-using members. Matters pass if the average weighted percent of approval between the sectors reaches 66 percent.[71]

California Independent System Operator (CAISO)

Established in 1996,[72] CAISO is the only independent grid operator in the Western United States; CAISO's long-distance power lines make up 80 percent of California's grid and a small section of Nevada's.[73]

CAISO broadly retains FPA Section 205 filing rights.[74] CAISO and other market participants may adjust its governing documents pursuant to FPA Section 206.[75] Unlike the other RTOs, CAISO does not use the member and committee stakeholder structure. Instead it employs a stakeholder-initiative process that is triggered by writing an issue paper or proposal to address a problem. These discretionary issues are ranked annually in a stakeholder process to determine the issues that will provide the most benefit to the market and its stakeholders.[76] Stakeholders then have the opportunity to comment on the paper or proposal. CAISO reviews these comments and then drafts a proposal for the board of governors, which may then review and adjust the proposal. Stakeholders have the opportunity to comment on this version of the proposal before the board of governors submits it to FERC for approval.[77]

The governor of California appoints all five members of the CAISO Board of Governors to three-year terms, subject to

55. Ibid., pp. 49, 63.

56. Ibid., p. 51.

57. Ibid., p. 52.

58. Ibid., p. 130.

59. Southwest Power Pool, *Bylaws*, Aug. 5, 2010, p. 76. https://www.spp.org/documents/13272/current%20bylaws%20and%20membership%20agreement%20tariff.pdf.

60. Southwest Power Pool, "Members," 2015. https://www.spp.org/about-us/members/.

61. Ibid.

62. Synapse Energy Economics, "Regional Energy Markets: Do Inconsistent Governance Structures Impede U.S. Market Success?", July 2016, 9. http://e4thefuture.org/wp-content/uploads/2016/07/RTO-Governance-2016.pdf.

63. *Governing Documents Tariff*, p. 75. https://www.spp.org/documents/13857/2010-11-30_bylaws%20and%20membership%20agreement%20tariff.pdf.

64. Synapse Energy Economics, p. 9. http://e4thefuture.org/wp-content/uploads/2016/07/RTO-Governance-2016.pdf.

65. Southwest Power Pool, *Stakeholder Prioritization Process*, Jan. 27, 2017, p. 4. https://www.spp.org/documents/37588/spp%20prioritization%20v7.pdf.

66. Ibid.

67. *Governing Documents Tariff*, p. 25. https://www.spp.org/documents/13857/2010-11-30_bylaws%20and%20membership%20agreement%20tariff.pdf.

68. Ibid., p. 33.

69. Ibid., p. 63.

70. Ibid.

71. Ibid., p. 33.

72. Federal Energy Regulatory Commission, "California Independent System Operator Corporation (CAISO)," RTO/ISO *Market Metrics Report*, 2010, 28. https://www.ferc.gov/industries/electric/indus-act/rto/metrics/caiso-rto-metrics.pdf.

73. CAISO, "Understanding the ISO," 2017. http://www.caiso.com/about/Pages/OurBusiness/Default.aspx.

74. DC Energy, US *ISO Governance: Summary & Observations*, March 2016, p. 13. https://www.hks.harvard.edu/hepg/Papers/2016/March%202016/BleiweisPresentation.pdf.

75. CAISO, *Fifth Replacement FERC Electric Tariff*, June 28, 2010, ¶ 15. https://www.caiso.com/Documents/ConformedTariff_asof_Jul10_2017.pdf.

76. CAISO "Annual policy initiatives roadmap process," 2017. https://www.caiso.com/informed/Pages/StakeholderProcesses/StakeholderInitiativesCatalogProcess.aspx.

77. CAISO, "Stakeholder Engagement Opportunities," 2017. http://www.caiso.com/informed/Pages/StakeholderProcesses/Default.aspx.

California State Senate approval.[78] A majority vote by members approves most actions.[79]

In 2015, CAISO began to evaluate the possibility of developing a larger Western regional grid.[80] The California Legislature directed it to consider the environmental and economic impacts of a regional grid and to submit a proposal to the governor for enhanced grid integration by 2016.[81] CAISO developed and revised a governance proposal that focused on preserving state authority and transmission-owner withdrawal rights, establishing a transition process to shift from a single-state to a multistate governance system and on creating and selecting an independent ISO board and a Western States Committee.[82] The proposal also included the formation of a market advisory committee and other stakeholder committees as an issue to be discussed by the transitional committee.[83] The proposal was tabled in July 2016 and, shortly after, in August 2016, Gov. Jerry Brown sent a letter to the other Western governors that delayed the release of a proposal for their consideration until January 2017.[84] The proposal has not been revived as of September 2017. While California's current structure has managed to function effectively under a single-state market, expanding across the West—particularly into states with significantly different energy policies—presents significant hurdles.

Independent System Operator of New England (ISO-NE)

In 1971, the New England states voluntarily created the New England Power Pool (NEPOOL), which was charged with market coordination and reliability planning.[85] A quarter-century later, in response to the open–access transmission requirement of FERC Order 888, NEPOOL created the Independent System Operator of New England (ISO-NE) to coordinate the regional wholesale market and ensure open access to transmission lines.[86] The Participants Committee is the "principal governing body of NEPOOL" and acts as the primary mechanism through which NEPOOL members act as a stakeholder organization.[87]

NEPOOL has 450 participants among six sectors: generation (15 percent), transmission (7.5 percent), supplier (39 percent), publicly owned (13 percent), alternative resources (14 percent) and end use (10.5 percent).[88] NEPOOL has four committees: participants, markets, reliability and transmission.[89] Each sector within the Participants Committee has one-sixth of the vote.[90] The Participants Committee serves in an advisory capacity to ISO-NE and the board retains the 205 filing rights for market rules. However, an alternative filing pathway exists for when a disagreement arises between the board and the Participants Committee. With a 60 percent vote of the Participants Committee, it can compel ISO-NE to file an alternative market-rule proposal with FERC in what is known as a "jump ball." In such a situation, the board and the Participants Committee proposals are filed by ISO-NE using the ISO's Section 205 filing rights.[91] The ISO must describe the alternate market-rule proposal in sufficient detail to enable reasonable review by FERC, explain why it opted not to adopt the proposal and substantiate its assertion that its position is superior to that of the Participants Committee.[92]

New York Independent System Operator (NYISO)

New York's investor-owned utilities created the New York Power Pool (NYPP) in 1965. In 1997, NYPP filed to become an independent system operator. In 1999, NYISO officially took control of New York's wholesale electricity markets and transmission operations. [93] NYISO is one of two RTOs operating under shared -governance principles, as the NYISO Board of Directors and market participants share responsibility in its governance.[94]

The NYISO governance structure has three committees: management, business and operating. NYISO has a weighted-sector voting system: generation (21.5 percent), other suppliers (21.5 percent), transmission (20 percent), end-use customers (20 percent) and public power/environmen-

78. CAISO, *Amended & Restated Bylaws of California Independent System Operator*, 2015, p. 2.

79. Ibid., p. 4.

80. CAISO, "FAQ," Sep. 2016. https://www.caiso.com/Documents/ISORegionalEnergyMarketFAQ.pdf.

81. Ibid., 3-8

82. CAISO, *Revised Proposal: Principles for Governance of a Regional ISO*, July 15, 2016. http://www.caiso.com/Documents/RevisedProposedPrinciples-Regional-ISOGovernance.pdf.

83. Ibid., p. 10.

84. Office of the Governor of California, "Letter from Governor Brown to Leaders of California State Legislature," Aug. 8, 2016. http://www.caiso.com/Documents/GovernorBrownsLetterToLegislativeLeadersRegardingRegionalISOGovernance.pdf.

85. New England Power Pool, "Welcome," 2017. http://www.nepool.com/.

86. Independent System Operator of New England, "Our History," 2017. https://www.iso-ne.com/about/what-we-do/history.

87. New England Power Pool, 2017. http://nepool.com/Home_Page.php.

88. New England Power Pool, "NEPOOL Participants by Sector with Related Persons," Sept. 1, 2017. http://www.nepool.com/uploads/C-Sector_Roster.pdf.

89. New England Power Pool, *Second Restated NEPOOL Agreement*, Oct. 1, 2015, ¶ 6.1. https://www.iso-ne.com/static-assets/documents/2015/01/op_2d_rna.pdf.

90. Ibid., ¶ 6.9.

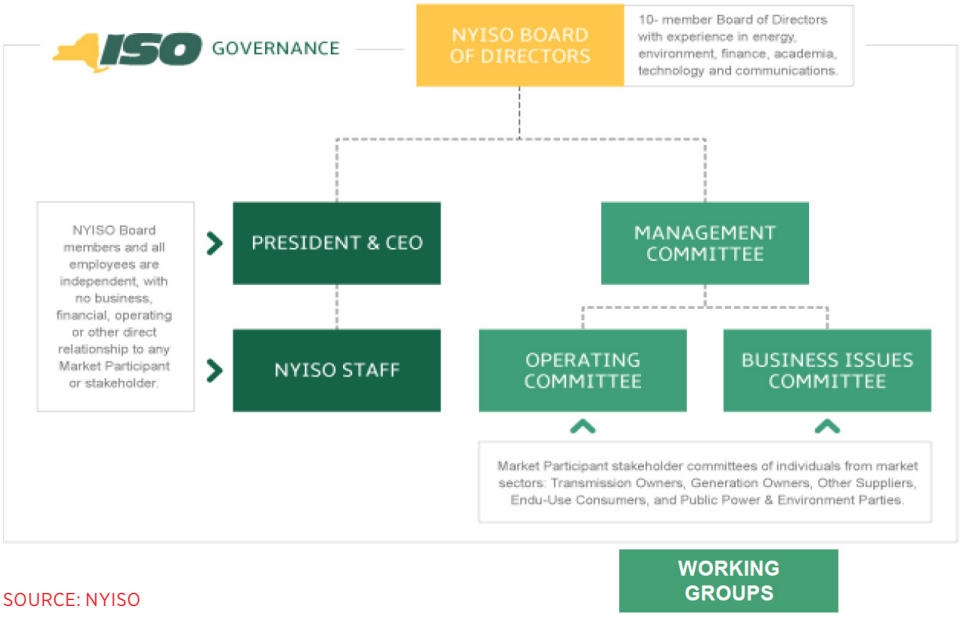
91. ISO New England, Inc. and New England Power Pool, *Participants Agreement*, 2015, ¶. 11.1.5. https://www.iso-ne.com/static-assets/documents/2015/10/parts_agree.pdf.

92. Ibid.

93. New York Independent System Operator, "When was NYISO Formed and Why," 2017. https://home.nyiso.com/frequently-asked-questions/.

94. NYISO, "Who is in charge of NYISO," 2017. https://home.nyiso.com/frequently-asked-questions/.

FIGURE I: NYISO SHARED-GOVERNANCE STRUCTURE



SOURCE: NYISO

tal (17 percent). It has approximately 150 members among five voting-sectors: generation (11 percent), other suppliers (30 percent), transmission (4 percent), end-use customers (11 percent) and public power/environmental groups (13 percent).[95] There are also nonvoting entities that make up 31 percent of NYISO members.[96]

The Management Committee approves an action with 58 percent approval.[97] It makes recommendations to the NYISO Board of Directors. However, the board retains ultimate responsibility for the governance of NYISO.[98] Both the Management Committee and the NYISO Board of Directors must agree in order to make a Section 205 filing with FERC. If there are exigent circumstances, the board may unilaterally submit a Section 205 filing, but the provision expires in 120 days without concurrence from the Management Committee.[99] Any party has the right to submit a Section 206 filing.[100]

PJM INTERCONNECTION

PJM has been a trailblazer in organized electricity markets since three utilities in the PJM region created the first power pool in 1927. It eventually become the largest wholesale electric market in the United States.[101] PJM developed the first energy-management system and website to provide information to its members. In 1997, it also became the first independent system operator and later, in 2002, the nation's first regional transmission organization.[102]

PJM has five sectors: generation owners, other suppliers, transmission owners, electric distributors and end-use customers. Each sector has 20 percent of the vote required to approve an action. PJM also has five committees: members; markets and reliability; market implementation; operating; and planning. The Members Committee reviews recommendations from all other committees and approves actions with 75 percent sector-weighted vote.[103] It also elects board members.[104]

Along with NYISO, PJM is the other shared-governance RTO with Section 205 rights split between the Members Committee, the board and the transmission owners.[105] The Members Committee holds the Section 205 filing authority over the operating agreement. The board can exercise

95. Kirk Dixon, "NYISO Shared Governance," *New York Market Orientation Course*, June 6, 2017, 5. http://www.nyiso.com/public/webdocs/markets_operations/services/market_training/workshops_courses/Training_Course_Materials/NYMOC_MT_ALL_201/NYISO_Shared_Governance.pdf.

96. Ibid.

97. New York Independent System Operator, Inc., *Agreements*, March 5, 2013, p. 54. http://www.nyiso.com/public/webdocs/markets_operations/documents/Legal_and_Regulatory/Agreements/NYISO/iso_agreement.pdf.

98. Ibid., p. 31.

99. Ibid., p. 83.

100. Ibid., p. 84.

101. PJM Interconnection, "PJM Markets," March 16, 2017. https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/pjms-markets-fact-sheet.ashx.

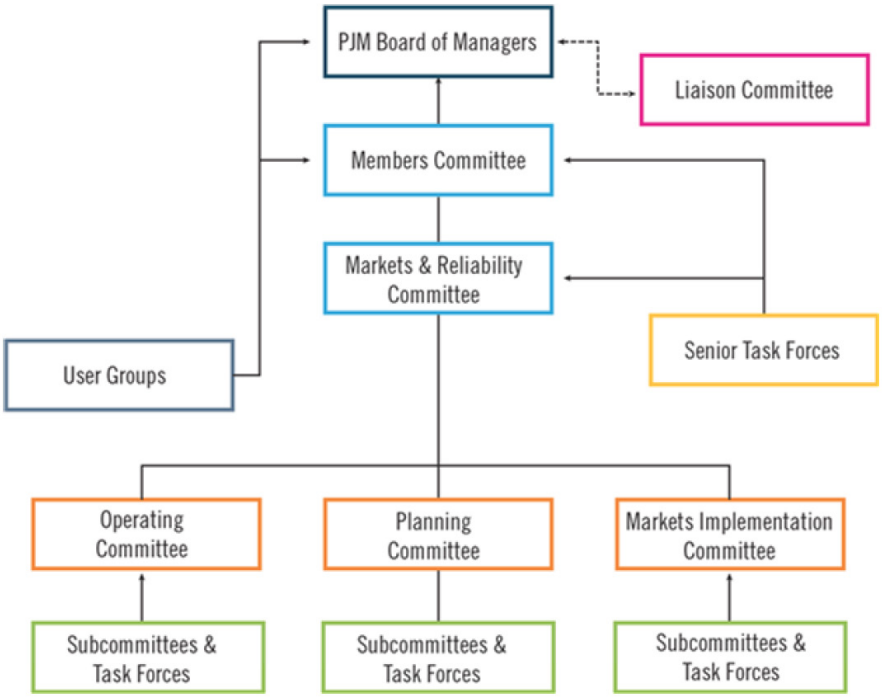
102. PJM Interconnection, "PJM History," 2017. http://www.pjm.com/about-pjm/who-we-are/pjm-history.aspx.

103. PJM Interconnection, "PJM Stakeholder Process," *PJM Manual* 34, May 19, 2016. http://www.pjm.com/-/media/documents/manuals/m34.ashx.

104. PJM Interconnection, *Operating Agreement*, March 20, 2003, ¶ 7.1. https://www.sec.gov/Archives/edgar/data/55373/000101540205001029/x10c1oa.htm.

105. PJM Interconnection, "Federal Power Act Sections 205 and 206," April 24, 2017. https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/federal-power-act-sections-205-and-206.ashx.

FIGURE 2: PJM STAKEHOLDER-PROCESS STRUCTURE



SOURCE: PJM Interconnection

its Section 206 filing rights to petition FERC to modify the operating agreement.[106] The board possesses the Section 205 filing rights for the Open Access Transmission Tariff, with the exception of certain provisions that are the exclusive purview of the transmission owners, and the reliability assurance agreement.[107]

EFFICIENCY AS A GOAL OF MARKET DESIGN

Market design defines market operations and participant interaction. It also provides incentives for competitive behavior. Yet it is difficult to judge the perfect market design.[108] In assessing the success of RTOs in developing an efficient market design for wholesale electricity markets, many agree that "an important objective [...] is to provide efficient prices with the associated incentives for operation and investment."[109] However, given the regional differences among RTOs, the question remains as to whether we should expect corresponding regional differences in what we consider to be the right market design. The answers are often complicated.

In promulgating Order 2000, FERC wrote that its goal was "to promote efficiency in wholesale electric markets and to ensure that electricity consumers pay the lowest price possible for reliable service."[110] RTOs were expected to improve access and competition by addressing operational and reliability issues and eliminating discrimination in transmission services.[111] The RTOs could pursue their mission through improvements to transmission-grid management efficiency and grid reliability; the removal of opportunities for discrimination in the provision of transmission services; improvements to market performance; and facilitation of lighter-handed regulation.[112]

The 2015 MISO *State of the Market Report* concisely summarizes what constitutes an efficient, competitive wholesale market: the ability to meet "system demand reliably and at the lowest cost."[113] However, when moving from theory to

106. *Operating Agreement*, ¶ 7.7.vi. https://www.sec.gov/Archives/edgar/data/55373/000101540205001029/x10c1oa.htm.

107. "Federal Power Act Sections 205 and 206." https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/federal-power-act-sections-205-and-206.ashx.

108. Devin Hartman. "Wholesale Electricity Markets in the Technological Age," *R Street Policy Study* No. 67, August 2016, 5. http://www.rstreet.org/wp-content/uploads/2016/08/67.pdf.

109. William W. Hogan, "Electricity Market Design and Efficient Pricing: Applications for New England and Beyond," Harvard University, June 24, 2014, 1. https://sites.hks.harvard.edu/fs/whogan/Hogan_Pricing_062414r.pdf.

110. Federal Energy Regulatory Commission, *Order No. 2000*, p. 1. https://www.ferc.gov/legal/maj-ord-reg/land-docs/RM99-2A.pdf.

111. Ibid., p. 3.

112. Ibid.

113. David B. Patton et al., "2015 State of the Market Report for the MISO Electricity Markets,"

Potomac Economics, June 2016, p. i. https://www.misoenergy.org/Library/Repository/Report/IMM/2015%20State%20of%20the%20Market%20Report.pdf.

detailed design of markets, it is rapidly revealed that the metrics of actual market design are much more complex than theoretical ones. They include factors such as net revenue earned by generators in particular regions, congestion levels and convergence of day-ahead and real-time energy prices.[114] Further, there exists little actual data about overall market efficiency. Instead, there is selective commentary on the particular challenges the markets face. For example, each RTO studied whether pricing in the markets allowed participants to make long-term decisions on resource investment, maintenance or retirement. The 2015 SPP *State of the Market Report* found that: "[e]fficient market prices provide signals for any new generation and ongoing maintenance to meet load."[115] MISO indicated that the current pricing structure was not sufficient to allow for the construction of new resource capacity[116] or upgrades to existing resource capacity.[117] However, deeper analysis demonstrates that it is incredibly challenging to conceive of a perfect market design.

The role of the market monitor to ensure market efficiency

In assessing the role of stakeholder governance in RTO market efficiency, it is important to also understand the critical role played by RTO market monitors to ensure a competitive structure in the operation of wholesale electric markets.[118] While the market monitors' roles and structure have evolved over time, their primary purposes are to assess the market rules and tariff provisions, to propose options that would enhance competitive performance and also to analyze market operations to ensure that there is no exercise of market power.

A major feature of the market monitor is their independence. FERC Order 719 emphasized the need for market monitors to be independent from the RTO. Each RTO was required to have one, but FERC did not specify whether the monitor must be internal, external or a hybrid structure with both internal and external monitors.[119] At present, each RTO has an internal market monitoring unit that assesses market rules and tariffs, and screens for market power. In addition, every RTO except for SPP and CAISO has an external market monitor. Working independently of the RTOs and stakeholders, the market monitors cast a critical independent eye on market operations through their annual reports and other communications.

At the core of the market monitor's independence is unfettered access to RTO market-performance data and direct access to the board. RTOs are required to provide market monitoring units (internal or external) with "access to market data, resources, and personnel sufficient to enable them to carry out their functions."[120] A main public output of the market monitors' analysis is the annual *State of the Market* reports, which convey market monitor findings and recommendations on market efficiency. The reports are provided directly to the RTO's board, stakeholders and the regulatory community. The transparency of the *State of the Market* reports serves as an effective check on internal and external influences that might otherwise seek to benefit from noncompetitive rules and procedures.

In order to assess the efficacy of the overall market-monitor process, we analyzed each RTO's market monitor reports for the past four years to determine patterns of persistent issues.[121] The analysis revealed the market monitors in each RTO had identified issues for multiple years and made similar recommendations in consecutive years without actions taken to resolve the identified problems. However, it was also common for a recommendation to be made for multiple years and then eventually to have action toward resolution—a process one interviewee described as the natural result of investing resources and time so that stakeholders could understand an issue and how it affected their business interests.

Our research indicates that the historic existence of a subset of persistent issues, many of which ultimately are resolved, is not sufficient to indicate a defect in the stakeholder-governance process. Recommendations can require extensive debate and discussion to arrive at a consensus position, and this is a process that takes time. To correct a problem can also require the allocation of funds to support the analysis of the impact of proposed changes and later, the development of complex software. All RTOs and stakeholder groups have limited resources to address multiple priorities. In the 2015 MISO *State of the Market Report*, the market monitor noted that it had made 22 recommendations, of which 14 were repeated from earlier reports. The pace of change was: "not unexpected as many of our recommendations require

114. The paper surveyed market monitor reports from SPP, CAISO, and MISO plus the FERC Report on Common Metrics. Federal Energy Regulatory Commission, "Common Metrics Report," October 2016. https://www.ferc.gov/legal/staff-reports/2016/08-09-common-metrics.pdf.

115. SPP Market Monitoring Unit, *2015 State of the Market*, Southwest Power Pool, Aug. 15, 2016, p. 16. https://www.spp.org/documents/41597/spp_mmu_state_of_the_market_report_2015.pdf.

116. This is also referred to as "the cost of new entry."

117. Patton et al., *2015 State of the Market Report for the MISO Electricity Markets*, Potomac Economics, p. iii. https://misoenergy.org/Library/Repository/Report/IMM/2015%20State%20of%20the%20Market%20Report.pdf.

118. Federal Energy Regulatory Commission, *Policy Statement on Market Monitoring Units*, Docket No. PL05-1-000, May 27, 2005, p. 1. https://www.ferc.gov/whats-new/comm-meet/052505/E-5.pdf.

119. *Order No*. 719, ¶ 327. https://www.ferc.gov/whats-new/comm-meet/2008/101608/E-1.pdf.

120. Ibid., ¶ 328.

121. For PJM, our analysis covered the period of 2013 to Q3 2016. For the rest of markets, our analysis covered 2012 to 2015.

both tariff and software changes that can require years to implement."[122]

Some interviewees expressed concern as to whether rule changes that impact market-mitigation rules should go directly to the RTO management and board and not through the stakeholder process. There may be valid concerns with respect to preventing unnecessary delay in market rules that have significant market-protection concerns. However, this can also be remedied with existing provisions in RTO governance that allow them to file a proposal under section 205 in exigent circumstances.[123] This process has seemed to work well for RTOs with these processes in place.

OVERALL PERFORMANCE OF RTO STAKEHOLDER GOVERNANCE

While there are some divergent views in our interviews of market participants across the nation, a strong majority of diverse stakeholders believe that RTO stakeholder-governance processes provide benefits to the function of competitive wholesale markets. For instance, it was a commonly expressed opinion that these processes educate stakeholders on issues and market changes that affect the markets in which they participate, and help narrow differences and forge consensus, thereby reducing litigation before FERC and the courts. Further, some feel the stakeholder process works because the stakeholders communicate and collaborate during the development of market-rule proposals. Many of the issues that have worked their way through the stakeholder process are incredibly complex and are a testament to a well-functioning governance process. Further, from a review of the internal market monitor reports, although the process can sometimes be slow, stakeholders generally resolve identified market issues within a reasonable timeframe.

From both stakeholder interviews and assessment of market-monitoring reports, we were unable to find any compelling evidence that those RTOs with the strongest shared-governance design (NYISO and PJM) demonstrated any different performance with regard to efficient market design than those wherein the RTO board exercises more unilateral authority. One critic of shared governance noted the willingness of stakeholders to work together often is more indicative of performance than structure and that shared governance in the NYISO has worked. Other stakeholders firmly support shared governance as the preferred structure. Furthermore, NYISO and PJM were often cited as RTOs with the most sophisticated market designs. When criticisms were directed at them, they seemed to be more focused on the institutions themselves and their multiple goals, rather than the stakeholder process. From this perspective, the stakeholder-governance process emerged as one of the primary checks on RTOs acting in their own self-interest, rather than as a barrier to effective market design.

However, while some stakeholders believed the process provided benefits to the function of RTO markets, other stakeholders identified challenges that can inhibit effective governance and optimal market outcomes. Such barriers include: the growing influence of state policies on market operations/efficiency; transparency and accountability; resources to participate; representation in the process; the tendency toward "second-best" solutions; and the ability to address contentious issues.

State influence on RTOs

Through various channels, states directly and indirectly exert significant influence over RTO actions.[124] Adding to the complex relationship between states and RTOs are the individual RTO and state characteristics, which can affect the nature and extent of such influence. States directly influence RTO stakeholder-governance processes through participation, as when they form a regional state committee—such as the Organization of MISO States—to coordinate participation in the governance process and intervene in FERC proceedings.[125]

States indirectly influence RTO governance processes through formal state energy policies and through the more behind-the-scenes communication of political preferences. State renewable portfolio standards and other resource-planning policies can affect both RTO market design and outcomes. For example, RTO capacity-market design—including forward commitment periods, performance requirements and market-power mitigation—can be directly affected by regional state policies. Or, the intended market outcomes can be influenced by state policies external to the market.[126] In RTOs without mandatory capacity markets, state resource-adequacy requirements can determine the ultimate level of capacity in the region. Even in regions with longstanding capacity markets, states have tried to shape the level of local generation through state policies, which at times have collided with federal policies and resulted in contentious fights

122. Patton et al., p. xiii. https://misoenergy.org/Library/Repository/Report/IMM/2015%20State%20of%20the%20Market%20Report.pdf.

123. For example, NYISO includes this provision in its governance documents.

124. Natural Resource Defense Council, 2. https://www.nrdc.org/sites/default/files/potential-western-iso-governance-structures-ib.pdf.

125. See e.g., Organization of MISO States, "About," 2017. http://www.misostates.org/index.php/about; Southwest Power Pool, *Order Accepting Tariff Revisions Implementing Formula Rates and Establishing Hearing and Settlement Judge Procedures*, Dec. 30, 2015, pp. 6, 71–72.

126. Federal Energy Regulatory Commission, "Centralized Capacity Market Design Elements," *Commission Staff Report* No. AD13-7-000, Aug. 23, 2013, 4. https://www.ferc.gov/CalendarFiles/20130826142258-Staff%20Paper.pdf.

over federal jurisdiction.[127] RTO stakeholder-governance processes are being forced to consider market-design changes to address these impacts.[128] The impact of state policies on RTO markets was evidenced by the recent two-day FERC technical conference on the impacts of state policies on the Eastern RTO markets and the increasing interest of RTOs to better respond to the corresponding market impacts.[129]

Moreover, RTO structures may influence the type and extent of state influence. Some stakeholders identified that RTOs and ISOs that cover a larger region face more challenges to coordinate a greater number of state interests. Indeed, the states in MISO—the largest RTO—were the first to form one such organization: the Organization of MISO States.[130] Conversely, other stakeholders note that the single state ISOs (CAISO and NYISO) face more state influence, based on their close connection to the state they cover.[131] These concerns are particularly acute for CAISO, where the governor of California appoints all five members of its board of directors.[132]

Finally, whether the RTO spans states without retail competition can also impact the nature and extent of state influence on RTO governance processes. In states with retail competition, or "restructured" states, the public service commissions have often encouraged their restructured utilities to divest their generation.[133] In states without retail competition, state public service commissions continue to allow vertically integrated utilities to control generation, transmission and distribution.[134] Here, vertically integrated utilities may use their end-to-end control over generation, transmission and distribution to their benefit in stakeholder-governance proceedings. In doing so, these utilities may try to leverage their status as transmission owners who voluntarily participate in RTOs to secure market rules that benefit their generation.

All the factors that affect the nature and extent of state influence over RTOs and ISOs raise the question of how these entities can best coordinate with states. With the formation of the regional state committees, progress in these areas has been made, but ongoing litigation over state versus federal roles and the increased interest for RTOs to consider how to incorporate state policies in market design continue to raise significant concerns. While California stands out as a stark example of an RTO whose policies are directly influenced by state appointments, there also seems to be significant recognition that CAISO policies, while reflective of the state's policy support for renewables and greenhouse gas (GHG) goals, also function well, given that state's policy framework. Similarly, while there are references to issues in New York where state influence has been exerted, the NYISO overall has been recognized as a leader in efficient market design.[135]

While it may not be clear that single-state versus multistate RTOs face bigger challenges, there seems to be strong agreement that state policies do affect RTO market performance and will continue to do so in the future. Furthermore, there remains significant controversy in how responsive the RTOs should be to state political influences. Some believe that RTOs have made problematic short-term market decisions that may lead to the need for further out-of-market solutions. Our research found no evidence that stakeholder governance exacerbates this problem and some believe that it can be an effective check and balance on those pressures that weigh most heavily on RTO management.

Several interviewees expressed concern with the effect of policy decisions on the development of the market and the willingness of the RTOs to make nonmarket solutions that provide short-term relief but create long-term obstacles to efficient operation. There was a general agreement that the markets were working well, but a fear that there was an underlying deficiency that threatened their long-term operation. For example, some expressed fear that the markets were not creating sufficient incentives to add new generation—a major component of what makes a market competitive.

Transparency

Transparency brings accountability into the RTO stakeholder process by facilitating informed and engaged participa-

127. One stark example is the recent Hughes v. Talen order in PJM where the D.C. Circuit Court of Appeals found that the State of Maryland did not have direct authority to determine which generation would be viable in that state. *Hughes v. Talen Energy Marketing*, 136 S. Ct. 993 (2016). Another example is New York's attempt to support currently uneconomic nuclear power plants through the creation of zero emission credits. See. e.g., *Coalition for Competitive Generation et al. v. Zibelman et al.*, 1:16-cv-08164 (S.D. NY, filed Oct. 19, 2016).

128. "Centralized Capacity Design Elements," 2.

129. Federal Energy Regulatory Commission, *Notice of Technical Conference*, Docket No. AD17-11-000, March 3, 2017. https://www.ferc.gov/CalendarFiles/20170303172159-AD17-11-000TC.pdf.

130. The Organization of MISO States was formed in 2003. See, e.g., Organization of MISO States, "OMS History," 2017. http://www.misostates.org/index.php/about. Further, SPP created its Regional State Committee in 2004 and the Organization of PJM states was created in 2005. William H. Smith, Jr., "Formation and Nurture of a Regional State Committee," *Energy Law Journal* 28 (2007), 185, 202–03. http://www.felj.org/sites/default/files/docs/elj281/185-205.pdf.

131. Synapse Energy Economics, 10. http://www.felj.org/sites/default/files/docs/elj281/185-205.pdf https://e4thefuture.org/wp-content/uploads/2016/07/RTO-Governance-2016.pdf.

132. Natural Resource Defense Council, 2. https://www.nrdc.org/sites/default/files/potential-western-iso-governance-structures-ib.pdf.

133. New York Public Service Commission, *Order Resetting Retail Energy Markets and Establishing Further Process*, Nos. 15-M-0127, 12-M-0476, 98-M-1343, Feb. 23, 2016, p. 9. http://www3.dps.ny.gov/W/PSCWeb.nsf/All/A6FFDA3D233FF24185257F68006F6D78.

134. Severin Borenstein and James Bushnell, "The U.S. Electricity Industry After 20 Years of Restructuring," *Energy Institute at Haas Working Paper* 252R, May 2015, 1. https://ei.haas.berkeley.edu/research/papers/WP252.pdf.

135. Examples include being a leader in features such as co-optimization of energy and reserve markets, the introduction of locational capacity markets and scarcity pricing, and its broader regional market initiatives.

tion.[136] Knowledge of RTO activities is one of the primary barriers to broader public understanding and influence on the decision-making process. For RTO stakeholders, access to information is less problematic. But for the diverse interests not seated at the table, transparency is a significant problem. Without increased transparency at all levels of the stakeholder process, lack of accountability remains a lingering concern for many stakeholders and interested parties.[137]

Greater transparency can be achieved by adopting corporate practice-based measures and periodic review requirements. For instance, the Organization of MISO States identified that records of which members voted and how they voted on different proposals within different sectors would improve the stakeholder-governance process.[138] RTO committee members and other stakeholders consistently describe the difficulty of accessing usable records for meetings they missed or those that occurred in other parts of the process.[139] The corporate community already widely implements uniform recordkeeping and publishing protocols based on legal requirements.[140] These protocols are essential, because they establish consistent access to information regarding that which has already been implemented by the RTO, staff and stakeholders, the decisions they made and their basis.[141] An effort to identify RTO best practices in this area may help improve this situation

From a broader perspective, FERC could support transparency and accountability if it encouraged a periodic review of RTO stakeholder processes. Under FERC Order 719, each RTO was required to evaluate and adjust their stakeholder processes based on four criteria for responsiveness to stakeholder concerns: (1) inclusiveness; (2) fairness in balancing diverse interests; (3) representation of minority positions; and (4) ongoing responsiveness.[142] Since then, there has not been a comprehensive review of all RTO stakeholder processes.[143] As a result, since 2008, RTOs have not been accountable to FERC to investigate, report or address any stakeholder-process problems that have arisen. This static, one-time review requirement does not account for the constantly changing nature of RTO market participants and stakeholders, which is caused by new technology and policy developments. FERC itself contributes to this shifting dynamic by enabling new market entrants, such as electric storage.[144] By encouraging RTOs to conduct periodic review of their stakeholder processes, FERC could shed light on the actual effectiveness of RTO stakeholder processes.

PJM and MISO's reviews of their stakeholder processes provide a useful framework for this type of approach. For example, in response to stakeholder concerns that PJM did not meet Order 719's stakeholder-responsiveness requirements, it formed a governance assessment team to review them and to develop a responsive action plan.[145] PJM hired an independent consulting company to perform the review process and offer recommendations.[146] Likewise, in recognition of the need to create more stakeholder groups to address new issues and challenges, MISO undertook a similar review of its own stakeholder-governance process[147] In doing so, it hired the same independent consulting company as PJM.[148] MISO and PJM's review processes collectively included the following: reviewing stakeholder-governance documents; conducting confidential interviews with members of the RTO, RTO employees and other stakeholders; observing stakeholder meetings; performing background research on and interviews with other RTOs; identifying and analyzing comparable membership organizations in the United States; and surveying all RTO stakeholders.[149]

PJM's review process resulted in changes to their stakeholder-governance manual, with a particular emphasis on trans-

136. See, e.g., The Hewlett Foundation, *Considerations in Establishing a Western Regional System Operator*, March 2016, p. 18. http://energy.utah.gov/wp-content/uploads/Hewlett-Foundation-Regional-ISO-Governance-1.pdf; Michael H. Dworkin & Rachel Aslin Goldwasser, "Ensuring Consideration of the Public Interest in the Governance and Accountability of Regional Transmission Organizations," *Energy Law Journal* 28 (2007), 543, 568. http://www.felj.org/sites/default/files/docs/elj282/Governance_of_RTOs.pdf.

137. The Hewlett Foundation, p. 6. http://energy.utah.gov/wp-content/uploads/Hewlett-Foundation-Regional-ISO-Governance-1.pdf.

138. The Organization of MISO States, *Public Response to MISO's Governance Feedback Request,* Jan. 17, 2014, p. 4. http://www.misostates.org/images/stories/Filings/MISO/2014/MISO-GovernanceFeedback-Filed17Jan14.pdf.

139. Ibid., p. 3.

140. Steven C. Bennet, "Records Management: The Next Frontier in E-Discovery?" *Texas Tech Law Review* 41 (2009), 519, 521.

141. J. Edwin Dietel, "A Clean Record: Developing a system for dealing with corporate information," *Business Law Today* 7:3 (January/February 1998), 59. https://apps.americanbar.org/buslaw/blt/bltjf98.html.

142. *Order No.* 719, p. 4.

143. Ibid; see also, Southwest Power Pool, Inc., *Order Accepting Compliance Filing*, 133 F.E.R.C. ¶ 61, 069 at 11 (Oct. 21, 2010).

144. Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 81 Fed. Reg. 86522 (proposed Nov. 20, 2016) (to be codified at 18 C.F.R. pt. 35).

145. Jonathan Raab and Patrick Field, *An Assessment of PJM's Governance and Stakeholder Process*, Raab Associates Ltd., Oct. 1, 2009, p. 1. http://www.raabassociates.org/Articles/PJM%20GAST%20Final%20Phase%20I%20Report.pdf.

146. Ibid. p. 2.

147. Midcontinent Independent System Operator, Redesigning the MISO Stakeholder Process, June 2015, p. 3. https://www.misoenergy.org/Library/Repository/Communication%20Material/Key%20Presentations%20and%20Whitepapers/2015%20Stakeholder%20Process%20Issue%20Paper.pdf.

148. Raab Associates, *Recommendations for Advisory Committee*, Miso Stakeholder Redesign Process Working Group, Nov. 3, 2015, p. 1. http://www.raabassociates.org/Articles/MISO%20Stakeholder%20Design%20Recommendations%20Final%20Clean%20(2).pdf.

149. See. e.g., Raab & Field, p. 2; and The Organization of MISO States, passim. http://www.raabassociates.org/Articles/PJM%20GAST%20Final%20Phase%20I%20Report.pdf.

parency and fairness.[150] The review did not result in changes in the balance of power between stakeholder groups.[151] Similarly, MISO's review process targeted its advisory committee's governance process but did not address the remaining three committees that report directly to the MISO Board of Directors.[152] These excluded committees included the Transmission Owner Committee, which consists of transmission owners who voluntarily participate in each RTO and whom other stakeholders worry may use their voluntary status to pressure RTOs to adopt policies that favor their own interests.

These RTO review processes suggest that stakeholders who wish to maintain a power imbalance may use their current power advantage to discourage periodic review and adjustments that disadvantage them.[153] Experts that voice these concerns contend that a FERC order that requires periodic review is the only way to ensure the appropriate adjustments.[154] Thus, while PJM and MISO's review processes provide a useful framework for review, some believe that FERC may need to compel implementation of the recommendations this type of review produces if the RTOs fail to act.

Participation

The development of market-rule and tariff changes in the RTO stakeholder-governance process is predicated on effective stakeholder participation. However, the burdens of participation were repeatedly identified as a both a barrier and a source of inequality. Including the various committee meetings, some RTOs hold more than 300 meetings per year, which makes maintaining a calendar of events difficult, let alone managing the resources required to participate effectively. This burden was felt by stakeholders, and particularly by new entrants to the process.

As Michael H. Dworkin and Rachel Aslin Goldwasser have argued, the stakeholder-governance process is, "complicated, technical, and expensive."[155] Participation therefore requires time and money to prepare for and attend stakeholder committee meetings, and it requires knowledge of the subjects being discussed. For those with limited resources, effective and extensive participation in the process is a difficult task.[156] Those with greater resources can afford to participate more effectively in the multitude of stakeholder meetings, which allows a greater presence in the process. Additionally, there is some concern that utilities can recover the costs of participation from customer rates while other stakeholders lack the same mechanism. As the number of new market participants grows, the cost of effective participation will become a greater concern. Additional funding for public education programs could address the knowledge gap issue.[157]

MISO provides an example of how to streamline stakeholder-governance process to improve both access and transparency. In MISO, all issues are submitted via an "issues submission" form to the Steering Committee, which is responsible for reviewing and assigning the issue to a specific committee for discussion and debate.[158] The single submission option allows for the efficient collection and distribution of information to stakeholders. Once the issues are submitted, the MISO Advisory Committee undertakes a review and creates a strategic priorities list.[159] The identified and prioritized issues are tracked using an online registry that is accessible to all stakeholders.[160] PJM and MISO have also implemented annual reviews of the stakeholder-governance processes to ensure that their systems are reducing participation barriers.[161]

With all of this said, there are limits to the amount of streamlining that market participants will accept. In several jurisdictions, participants expressed concern that reduced opportunity to raise concerns over issues and proposals will reduce the value of the stakeholder process. Interviewees acknowledged that while the stakeholder process is cumbersome, the markets are complex and the existing process reflects the need for stakeholders to be engaged significantly in the issues to both understand the problem and to participate effectively in collaborative solutions.

Incumbent and new-entrant participation

The number of and composition of RTO stakeholders has continued to change as RTO markets have matured. These

150. Independent Market Monitor for PJM, "Comment Letter on Proposed Tariff Provisions, No. ER13-535-000," Dec. 28, 2012, 7. http://www.monitoringanalytics.com/reports/Reports/2012/IMM_Comments_ER13-535-000_20121228.pdf.

151. Christina Simeone, "PJM Governance: Can Reforms Improve Outcomes?" Kleinman Center for Energy Policy, 2017, 12. http://kleinmanenergy.upenn.edu/sites/default/files/PJM%20Governance%20Reforms.pdf.

152. *Redesigning the MISO Stakeholder Process*, p. 3. https://www.misoenergy.org/Library/Repository/Communication%20Material/Key%20Presentations%20and%20Whitepapers/2015%20Stakeholder%20Process%20Issue%20Paper.pdf.

153. Simeone, 31.

154.Ibid.

155. Dworkin and Goldwasser, 583. http://www.felj.org/sites/default/files/docs/elj282/Governance_of_RTOs.pdf.

156. Raab and Field, 2009, p. 13. http://www.raabassociates.org/Articles/PJM%20GAST%20Final%20Phase%20I%20Report.pdf.

157. Roy J. Shanker, "Stakeholder Processes: A Good Idea, But..." Harvard Electricity Policy Group, March 25, 2015, 3. https://www.hks.harvard.edu/hepg/March%202015/Site%20Shanker%203.pdf.

158. *MISO Stakeholder Governance Guide*," 2017, p. 14. https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/Committee%20Documents/Stakeholder%20Governance%20Guide.pdf.

159. Ibid., pp. 13-14.

160. Ibid., p. 10.

161. See, e.g., "PJM Stakeholder Process," 71. http://www.pjm.com/-/media/documents/manuals/m34.ashx; and MISO, "Stakeholder Governance Working Group Charter," March 11, 2013. https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/SGWG/2013/SGWG%202013%20Charter.pdf.

processes divide market participants into sectors based upon their characteristics. Different RTOs and ISOs have different sectors, but most RTOs have specific sectors for transmission owners, generation owners, end-use customers, other suppliers and public interest groups.

In the last decade, the number of market participants in RTOs has swelled, as the markets have responded to changes in how energy is produced, transmitted and sold. Some markets have grown their membership through physical expansion of their territory. In the past decade, SPP, CAISO, MISO and PJM have all expanded their geographic boundaries. With the addition of virtual trading and financial transmission rights, all markets have seen a diversification of their participants. Due to market deregulation, the rise in natural gas generation capacity and the boom in renewable energy production, the number of generators that participate in the market has swelled. PJM has seen a dramatic increase in its total number from 200 members in 2002, to 670 members in 2010 and to more than 960 in 2015.[162] NYISO grew from 120 market participants in 2000 to 367 by 2008. By 2015, it had 415.[163] SPP grew from 54 participants in 2009 to 162 in 2015.[164] While the number of generators and virtual traders has swollen the number of market participants, the number of transmission owners has often shrunk, as transmission systems have consolidated through acquisitions and mergers.

One regularly identified concern among interviewees was that incumbents hold significant power in RTO stakeholder-governance processes as compared to new entrants. Incumbent influence stems from their resource advantage, their history and connection with RTO staff and from sector-participation rules that are often defined to only include those who have assets in the market (particularly the transmission owner and generation sectors). Further, incumbents are generally large organizations that have the resources to participate effectively. Continual participation in RTO governance has created an opportunity for incumbents to develop and benefit from relationships with RTO staff. This adds to the resource and knowledge advantages and is further exacerbated by the voluntary nature of RTOs, as incumbent transmission owners can threaten to leave. Over the years, some sectors (particularly transmission) members have declined in number due to consolidation of the industry.

The power imbalance creates concern that incumbents will vote for proposals that advance their interests and not those of new entrants seeking to enter competitive wholesale markets. After all, incumbents have interest in maintaining structures that preserve their existing market share and thus are motivated to perpetuate the status quo for as long as it interests them. The risk of losing voting share may dissuade incumbents from embracing changes that threaten the status quo. For example, maintaining the existing structure of the stakeholder process preserves a division of power that may not represent the current composition of market participants.

Additionally, state policies affect RTO stakeholder composition. Policies that require greater renewable energy production have brought in more renewable energy stakeholders. RTO governance structures have not adjusted to reflect the changed composition of the membership. For instance, MISO and NYISO's sector-weighted voting percentages may not reflect the change in the number of renewable generator stakeholders with interests in RTO market rules.[165] Alternatively, some RTOs, such as PJM, do not have a stakeholder sector designated for renewable generators.[166]

New entrants face difficulties not only with respect to the resources required to participate, but also with helping to develop and approve proposals on market-rule or tariff changes that would benefit new entrants. Small new entrants simply may not have the time, money or knowledge necessary to participate effectively. Incumbent members in both the transmission owner and generation sectors offer the counterargument that new entrants can join the process once they have met current participation thresholds, such as control of a certain level of relevant assets. Incumbents note that the RTO markets are complex and members should have some "skin in the game," as well as demonstrated experience. Another challenge identified is that new entrants are concentrated in specific sectors and this may result in vote dilution.[167]

Sector voting

Stakeholder-governance processes are intended to be consensus driven and produce outcomes that reflect the diversity of interests among market participants. Sector-weighted voting has been a primary mechanism to enforce this objective. Sectors are given weighted votes and the percentage of

162. PJM Interconnector, *PJM Stakeholder Process Training*, 2016, p. 5. http://www.pjm.com/-/media/committees-groups/committees/mc/20160629-stakeholder-training/20160629-stakeholder-process-training.ashx.

163. See, e.g., Susan F. Tierney, "The New York System Operator: A Ten-Year Review," Analysis Group, April 12, 2010, 56. http://www.nyiso.com/public/webdocs/markets_operations/committees/mc/meeting_materials/2010-04-21/Tierney_-_Analysis_Group_-_NYISO_10-Year_Review_-_4-12-2010_FINAL.pdf; and NYISO, 2015 *Annual Report*, p. 5. http://www.nyiso.com/public/webdocs/media_room/publications_presentations/Annual_Reports/Annual_Reports/nyiso-annual2015-FINAL-aug25.pdf.

164. See, e.g., SPP Market Monitoring Unit, 2009 *State of the Market Report*" Southwest Power Pool, May 26, 2010, p. 14. https://www.spp.org/documents/12393/spp-2009-asom-report.pdf; and 2015 *State of the Market Report*, p. 13. https://www.spp.org/documents/41597/spp_mmu_state_of_the_market_report_2015.pdf.

165. In both RTOs, voting sector percentages have not been adjusted during this period of growth. See, e.g., Southwest Power Pool, *2015 State of the Market Report*. https://www.spp.org/documents/41597/spp_mmu_state_of_the_market_report_2015.pdf

166. PJM, "Membership & Sector Selection," http://www.pjm.com/about-pjm/member-services/membership-and-sector-selection.aspx.

167. One way to address the power imbalance between incumbents and new-entrants is to reassess and potentially realign sectors. See, e.g., Simeone, p. 42.

votes required to pass a proposal is set at a level that requires sectors to cooperate but also prevents them from being able to block proposals. Sector-weighted voting is not normally applied in lower-level committees, which some interviewees recommended changing as a means to increase transparency in the actions of market participants.

Strategic coalition voting is also a potential threat. Just as the exercise of market power can push a market away from competitive performance, block voting can prevent advancement of market-rule proposals that would enhance market efficiency. Quantitative analysis by Penn State University researchers highlighted voting patterns in PJM's Market Committee (MC) as evidence for a stakeholder coalition between end-use interests who are the purchasers in the RTO market, electric distribution utilities and end-use customers, all of which aligned to prevent certain capacity-market reforms from advancing out of the committee.[168] Because of PJM's shared-governance process, the exercise of strategic voting could threaten the ability to reform market inefficiencies. Although the study was the first attempt to analyze RTO committee voting patterns, and the authors concede the need for additional research, it nevertheless indicates a potential hurdle in the stakeholder-governance process that could prevent contentious issues from being resolved when end-use interests are united.

Other interviewees noted similar concerns over attempts to allocate costs between different market participants. For example, some market participants believe that certain costs are inappropriately allocated to them. However, there are elements of Pareto efficiency embedded in RTO markets, where one party only gains at the expense of another party.[169] Therefore, simplified methods like socialization of costs to all parties may sometimes be hard to overcome, compared to more direct allocation of costs, if a majority of parties ultimately would be worse off. Sometimes when these situations arise, it is difficult to find a consensus position that can satisfy all parties. Thus, there is greater incentive to use sector-weighted voting positions to preserve the status quo. While isolated concerns have been raised, sometimes the criticism is directed in multiple directions. For example, generation interests point to the transmission owners and end-use customers as conspiring against their interests. At the same time, those representing electric-load interests point to the generators and other suppliers as the culprits. Ultimately, the stakeholder voting structures were designed to account for these concerns. Without clear ideas for improvement, this remains an issue for ongoing assessment and analysis.

Filing second-best proposals with FERC

Peter Cramton has written that: "[g]ood market design identifies the critical issues, and then addresses them as simply as possible, but not more simply."[170] The complex, complicated nature of an RTO may not always produce perfect market design. This is primarily because RTOs are governed by a group of stakeholders with divergent interests. It is an environment ripe for conflicting positions and differing opinions as to the best course of action. Market participants may have interests that are best served with a short-term view on the impact of a market rule or their interests may be framed by the long-term effects. Some market participants may wish to see an increase in the wholesale price of electricity, while others may want to mute price signals to reduce their short-term costs. Therefore, RTOs may file market-rule changes that are better than the status quo, but not optimal, because consensus among stakeholders is hard to achieve.

Many interviewees commented that the markets were working efficiently, but they declined to offer full support for the current market design. Some proposed the concern that the difficulty in resolving contentious issues that involve the allocation of costs and benefits between market participants limits efforts to promote enhanced market efficiency. For example, if a group of market participants benefits from an identified design flaw, then there is an inherent self-interest in maintaining that flaw.[171] This trend also leads to the practice of incrementalism—or, as one interviewee defined it, "incessant tinkering"—to find solutions to problems that were never fully resolved.

The stakeholder-governance process is intended to forge consensus and is designed to prevent one or two sectors from advancing positions that do not have the majority support of stakeholders. The use of sector-weighted voting ensures that more than a simple majority in the process is required to approve a proposed market-rule or tariff change for submission to FERC.[172] Interviewees noted that consensus is easily achievable on regular or typical market issues. However, on contentious or novel issues, it is more difficult to achieve because of the differing values and interests. For this reason, sometimes the best course of action to enhance market

168. Kyungjin Yoo, "Voting Behavior in PJM Regional Transmission Organization," United States Association for Energy Economics, June 2016, 9 and 27-28. http://www.usaee.org/usaee2016/submissions/OnlineProceedings/Yoo_Paper.pdf.

169. Frank Felder, "Who Watches the Watchman," *The Electricity Journal* 25:10 (2012), 29. Pareto efficiency is a state affairs for which no alternative state exists that would increase the welfare of some participants without making other participants worse off.

170. Peter Cramton, "Electricity Market Design: The Good, the Bad, and the Ugly", *Proceedings of the Hawaii International Conference on System Sciences*, January 2013, 1.

171. Ibid.

172. MISO applies a majority vote to approve a proposal. SPP proposals pass with 66 percent of the vote. NEPOOL requires a two-thirds approval. NYISO recommends a market rule or tariff change to the Board with 58 percent approval from the stakeholders. PJM requires 75 percent approval to file a proposal with FERC, after review from the Board.

efficiency is passed over in favor of a "second best" proposal that does not reflect the most economically efficient market design.

While there is some validity in these concerns, we would expect to see this problem occur more frequently in those regions where stakeholder governance is the strongest, which are the two regions with shared governance. However, there is no clear evidence of this trend. Furthermore, the independent market monitors, RTO staff, FERC and market participants who would benefit from the most efficient designs could check the stakeholder process if a consistent trend toward regularly ignoring more efficient outcomes emerged.

Principal-agent problem

While the focus of this research thus far has been on the stakeholder process, some interviewees have identified a different but related concern. Several noted the presence of the "principal-agent problem" as a common element in different RTOs—one that restricts the adoption of market rules to enhance efficiency. A principal-agent problem arises when the interests of the agent (the party or group working for the principal) do not align with the interests of the principal.[173] Instead, the agent works to advance their own agenda rather than the interests they are tasked to represent. The interviewees noted that it sometimes appears as though RTO staff advance positions that do not serve the public-interest purposes of the board.[174]

The principal-agent problem can arise from two different sources. First, the misalignment of interests can cause the agent and their principal to seek different objectives. Second, information asymmetry that arises from the complex nature of operating an organization can give the agent an advantage over the principal.

The complex nature of the RTO can engender both sorts of principal-agent problems. After all, RTOs are fabulously complex organisms that require the dedicated service of hundreds of expertly trained employees to make daily decisions and plan for long-term operations. Designing and operating reliable energy markets requires the development and maintenance of proprietary software supported by the analytic skills of computer programmers, engineers and economists. Likewise, interaction with market participants, state regulatory authorities and FERC requires teams of policy experts and lawyers. As RTO markets have matured and evolved, their level of complexity has increased and consequently, the number of personnel required to manage their functions has grown, along with the staff required to operate markets. To maintain the size and prestige of an RTO requires that its operating structure is kept in place[175] and that relationships with key stakeholders are preserved.[176] The preservation of those relationships may favor incumbents and existing technology over new entrants and innovation.[177]

The maturation of the RTO has also created an information asymmetry between the RTO and its board. In order to preserve their independence, the rules governing the composition of RTO boards require board members to be unaffiliated with market participants.178 This ensures that board members do not have any direct conflicts of interest. But at times, it also may relegate them to a knowledge deficit. The board members, who may only serve for a limited period of time, bring specific areas of expertise to the governance of the RTO and many RTO boards require representation from different fields.179 However, the members may lack the comprehensive knowledge of how the different elements of the RTO work together to operate the markets, plan transmission and perform other related tasks.

Multiple interviewees also noted that the principal-agent problem is exacerbated by the deference given by FERC to proposals advanced by the board. Encouraging FERC to treat RTOs as institutions that are capable of self-interest may create a better environment to analyze the effects of market-rule design proposals. Furthermore, it could shift the weight and deference given to RTO proposals to those advanced by stakeholders and the market monitor. In this way, a well-informed group of market participants who have a well-defined role in governance can act as an appropriate check on the principal-agent problem.

FERC's role in requiring just and reasonable rates

Through its mandate to require that rates be just and reasonable, and without discriminatory or preferential treatment, FERC plays a pivotal role in efforts to improve market

173. Kathleen M. Eisenhardt, "Agency Theory: An Assessment and Review," *The Academy of Management Review* 14:1 (January 1989), 58. http://www.wiggo.com/mgmt8510/Readings/Readings11/eisenhardt1989amr.pdf.

174. Dworkin and Goldwasser, 555-57.

175. One historic example of this was demonstrated by the northeastern RTOs' resistance to pressures to merge their markets following the issuance of FERC Order 2000. There was clear interest at FERC to increase the geographic scope of PJM, NYISO and ISO-NE in order to reduce the seams between the regions and to increase market efficiency. The staff and boards of these RTOs resisted this consolidation, which would have ultimately resulted in a reduction in RTO staff, including executive positions. PJM was much more receptive to this change, largely as a result of the belief that FERC favored PJM and was interested in merging the other RTOs into PJM's structure.

176. Felder, 30.

177. Ibid.

178. For example, PJM's board must follow a strict code of conduct designed to prevent self-dealing and to limit conflicts of interests. PJM Interconnector, "PJM Board of Managers Code of Conduct," January 2015. http://www.pjm.com/-/media/about-pjm/who-we-are/bom-code.ashx.

179. ISO New England, "Meet Our Board," 2017. https://www.iso-ne.com/about/corporate-governance/board.

efficiency.[180] In wholesale electric markets, FERC is the final arbiter of proposals that emerge from the RTO stakeholder process. Under Section 206 of the Federal Power Act, FERC can initiate proceedings to direct the RTOs to correct market rules that are unjust, unreasonable, discriminatory or preferential.[181] The process can be taken under FERC's own initiative or in response to a complaint. FERC can direct that all RTOs (or a single market) prepare filings that address changes to market rules and procedures. In turn, RTOs can respond by changing their market rules or by explaining how their current market rules address the issues. Furthermore, FERC can set deadlines for compliance with the directive. RTOs generally interpret that FERC compliance filings do not have to go through the stakeholder-governance process with proposals filed directly by the RTO. Time permitting, the RTOs often seek market-participant input on these compliance filings and other stakeholders have the right to intervene and oppose them.

Compliance filings are an important power that falls under FERC's authority. They can overcome unnecessary delay by RTOs to promulgate necessary market improvements. Furthermore, FERC can determine that an existing rule or procedure is in violation of the just and reasonable rate standard. It can also use the compliance-filing process to address changing market technologies. However, the willingness and timing of FERC's exercise of such authority was noted by interviewees as an opportunity to improve the functioning of markets.

A recent example of a compliance-filing process initiated by FERC is the Notice of Proposed Rule (NOPR) for Electric Storage Participation in Markets Operated by RTOs and ISOs.[182] FERC identified an ongoing issue in the structure of RTO tariffs that limited the participation of electric storage resources and distributed energy resource aggregations in RTO-operated markets.[183] The current system of resource participation was designed for traditional generation resources, which forced new technologies and innovations to fit into participation models developed for other types of resources. This reduced their ability to participate fully in the markets.[184] Adding to the burden placed on the new resources was the lack of consistency in RTO/ISO participation models or technical requirements.

To correct the issue, FERC proposed for discussion that each RTO/ISO revise its tariff to establish a participation model that accommodates resources with particular physical and operational characteristics. FERC provided a set of market rules that each RTO would be required to establish to facilitate the participation of the electric storage resources and a set for the distributed energy resource aggregators.[185]

However, FERC Section 206 proceedings take a significant amount of time to move from issue identification to market-rule correction. Accordingly, the correction process for the resource participation issue has unfolded over a two-year period. In November 2015, FERC hosted a panel to discuss electric storage resources.[186] In April 2016, FERC simultaneously issued a request for data and one for comments from the RTOs.[187] The request for data sought information on the rule in RTO and ISO markets that affected participation of electric storage resources.[188] In November 2016, the NOPR was issued and a 60-day comment period was opened.[189]

Further, it has been suggested that FERC has perhaps been too deferential to proposals coming from the RTOs and may not give sufficient weight to minority stakeholder concerns or market monitor comments when it assesses contested filings. Interviewees suggested that instead, FERC should approach RTO proposals with sufficient scrutiny and not overly rely on RTO independence, particularly because RTOs themselves may be in pursuit of multiple goals, including state policy targets that conflict with market efficiency.

In addition to the unequal level of scrutiny given to proposals, FERC's reticence on issues was also repeatedly noted by interviewees. For example, the electric storage resource participation problem has been on FERC's radar since 2010, when the commission issued a request for ideas on how to develop rate policies that accommodate the unique physical and technical characteristics of storage. The length of time from identification to action is supported by interviewees' comments that FERC regularly allows known issues to remain in place with the goal of getting the RTOs to make a Section 205 filing. For contentious issues where the solution will be a zero-sum answer, this practice can delay efforts to integrate new and innovative resources fully into the marketplace.

As expected, there is a lack of consensus on FERC's role in setting the agenda for RTOs. At the recent FERC Technical

180. 16 U.S.C. §§ 824d, 824e (2012).

181. Ibid.

182. Federal Energy Regulatory Commission, "Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, Docket Nos. RM16-23-000; AD16-20-000," Nov. 17, 2016. https://www.ferc.gov/whats-new/comm-meet/2016/111716/E-1.pdf.

183. Ibid., 1

184. Ibid., 2.

185. Ibid., 4, 5.

186. Ibid., 7.

187. Ibid.

188. Ibid.

189. Federal Energy Regulatory Commission, "FERC Proposes to Integrate Electricity Storage into Organized Markets," Nov. 17, 2016. https://www.ferc.gov/media/news-releases/2016/2016-4/11-17-16-E-1.asp#.WRidZOUrK1s.

Conference on State Policies and Wholesale Markets, participants espoused a range of opinions on whether FERC should take a more active role on contentious issues. Some participants acknowledged the benefits of a FERC-imposed deadline for getting RTOs to act, while others argued that the stakeholder process should be given sufficient time to achieve a collaborative conclusion.

CONCLUSION

Stakeholder-governance processes are essential to the efficient development of market rules. Our research and interviews discovered a consensus that these processes are generally working well and serve the needs of the stakeholder community. However, many interviewees highlighted stresses placed on the process by the continued evolution and maturation of the marketplace. 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 process. Because of these findings, we recommend the following potential actions:

1. FERC Order 719 laid out a simple principle: that the stakeholder-governance process needs to be responsive to changing conditions and to continue to evolve with the marketplace. Therefore, we recommend that RTOs create a regular review process of their stakeholder-governance processes that incorporates the four criteria for responsiveness: inclusiveness, fairness in balancing diverse interests, representation of minority positions and ongoing responsiveness. The review should be both procedural and substantive in nature, although substantive reviews may occur at longer intervals. Recognizing that each RTO is unique, there is no single process that we would recommend, but we do suggest that assessments of how to increase transparency at all levels of the decision-making process, how to reduce participation costs (financial and temporal), how to education participants to reduce the knowledge gap and how to address power imbalances between incumbents and new entrants be included in any review process. It should also be open to nonvoting parties and the results should be made public. PJM and MISO can serve as templates for how to conduct an initial review of stakeholder-governance processes and to establish a system for ongoing review. Another potential area of review is to analyze sector-weighted voting rights to determine if there is a need for a change in the structure due to the increasing diversity of market participants. A final area for continued analysis is whether stakeholder-governance processes are encountering the persistent use of voting blocs to prevent action on important issues.

2. Stakeholder governance is only a part of the framework to develop market rules effectively. Multiple interviewees commented about how different issues could impede stakeholders' efforts to advance proposals to address market inefficiencies. Tackling the identified concerns in the stakeholder-governance process, without paying attention to the other interconnected elements, would result in suboptimal performance and would limit progress. Our research shows there are multiple opportunities to improve the other components to advance market-rule development. Toward this end, the market monitors play a crucial role in identifying market inefficiencies and proposing solutions to correct them. The speed at which actions are taken to correct the identified issues can be discouraging to participants. Although the Market Monitors themselves recognize that advancing issues through the stakeholder process requires time and patience, there are opportunities to streamline the advancement of key issues that affect overall market performance. An increased focus on prioritizing solutions for the Market Monitor's identified issues should be considered by FERC, RTOs and stakeholders. Further, the impact of state policies on the efficient operations of the marketplace is already large and is increasing. To maintain the focus on long-term market efficiency and avoid short-term political solutions has become increasingly difficult as more complicated issues have surfaced. Whether it is the IMAPP process in ISO-NE or FERC's recent technical conference on integrating state policies into the Eastern RTOs, the impact of the state policies on resource adequacy decisions is becoming a concern in every RTO and must continue to be monitored.

3. Finally, increased vigilance from FERC in its assessment of RTO proposals and compliance filing powers would provide immediate relief. Multiple stakeholders noted that FERC is overly deferential to proposals from the RTOs and does not afford sufficient weight to alternate ones. The market rule development process should incorporate discussion and weigh suggestions from the RTOs, the stakeholders, the Market Monitors and other interested parties. To provide too much deference to one major party reduces the effectiveness of the other checks and balances in the process. The fact that proposals flow through pre-determined pathways does not always guarantee that the proposal is the best option available, nor does it ensure that self-interests have not pushed others' valid concerns aside. To cast a more critical eye on their proposals, as well as to fully consider competing alternatives is an important step toward ensuring that this collaborative process results in outcomes that enhance market efficiency and com-

petitive performance. Progress will require changes in staff culture on proposals from different stakeholders, including understanding the limitations to and external forces that impact RTO independence. Staff training sessions on how to better evaluate and assess different proposals and positions, including the different institutional pressures on RTOs and other stakeholders would be a step forward in the process to improve stakeholder perceptions on the oversight of RTO markets.

If these proposals are considered, a combination of procedural and substantive changes could help chart a pathway to resolve contentious issues in the changing marketplace.

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APPENDIX I: LIST OF INDIVIDUALS INTERVIEWED

Joe Bowring
president, Monitoring Analytics & PJM Independent Market Monitor

John Hughes
president and CEO, Electricity Consumers Resource Council (ELCON)

Joel Gordon
market policy director, PSEG Energy Resources & Trade LLC

Bruce Bleiweis
director of market affairs, DC Energy

Stuart Nachmias
vice president of regulatory affairs, Con Edison

Jane Quinn
director of Energy Policy Markets Group, Con Edison

Sally Talberg
chairman and commissioner, Michigan Public Utilities Commission

Jan Smutny-Jones
CEO, Independent Energy Producers Association

Tyson Slocum
director, Public Citizen Energy Program

Ave Bie
board member, NYISO

Travis Kavulla
commissioner, Montana Public Service Commission, and past president, National Association of Regulatory Utility Commissioners

Mike Florio
former commissioner, California Public Utilities Commission

Tanya Paslawski
executive director, Organization of MISO States