Regional Transmission Organization Governance: Comparisons and Differences with an ISO-NE Focus

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Framework for Comparative Analysis

What are the purposes served by governance designs?
● Effectiveness
● Legitimacy
● Fairness
● Robustness

How do designs support organizational resilience?
FERC Governance Principles

Commitment to:
- Voluntary self-organization
- Regional differences
- Ability for institutions to evolve

Independence
Financial, operational, political
(Order 888 and 2000)

Responsiveness
Representation, balancing diverse interests, access, inclusive, and minority positions
(Order 888, and 719)
Governance: Four structures and three participation dimensions

Energy Policy Goals, Regulatory Restructuring, and Resources

- **BOARD**
- **MEMBERS**
- **CIVIL SOCIETY**
- **RETAIL AUTHORITY INTERFACE**

How decisions are translation into public policy?

Who participates?

Context = green external factor
Structures = blue boxes
Dimensions = red lines
Context: Regulatory restructuring

Share of retail power marketer sales in RTO regions (2019 MWh)

- **ERCOT**: 72% Retail Power Marketer, 26% Consumer Owned
- **ISO-NE**: 50% Retail Power Marketer, 37% Consumer Owned, 10% Investor Owned, 1% Community Choice Aggregator
- **PJM**: 42% Retail Power Marketer, 44% Consumer Owned, 10% Investor Owned
- **NYISO**: 37% Retail Power Marketer, 34% Investor Owned, 27% Consumer Owned
- **CAISO**: 12% Retail Power Marketer, 21% Investor Owned, 56% Consumer Owned, 8% Community Choice Aggregator, 2% Behind the Meter
- **MISO**: 6% Retail Power Marketer, 72% Investor Owned, 22% Consumer Owned
- **SPP**: 56% Retail Power Marketer, 44% Consumer Owned

Source: EIA Forms 861 and 861S
Context: Policy and resources

Generation mix by regional transmission organization (2019)

Source: RTO State of the Market Reports, 2019
Structures: Variations in hierarchy and relationships within RTOs

ISO-New England Governance Structures

- BOARD
  - Board of Directors
    - Independent members (10)
    - Including ISO-NE President
  - Markets
  - System Planning and Reliability
  - Nominating and Governance
  - Administrative (Compensation and Human Resources, Audit and Finance)
    - 2 Committees

- MEMBERS
  - New England Power Pool (NEPOOL) Participants Committee
    - Market participants organized by six sectors
    - NEPOOL as a non-voting member

- CIVIL SOCIETY
  - Consumer Liaison Group
    - No more than 4 from one state (12)
    - Open participation

- RETAIL AUTHORITY INTERFACE
  - States Committee on Electricity (NISCCOE)
    - Policy or regulatory (~6)

- 16 Working Groups, Advisory Committees, and Initiatives

California ISO Governance Structures

- INDEPENDENT BOARD
  - CAISO Board of Directors
    - Independent members (5)
    - CAISO President & CEO reports to Board

- MEMBERS
  - Stakeholder Initiatives
    - Open to any organization or individual

- CIVIL SOCIETY

- STATE AUTHORITY
  - California Governor
  - California PUC
  - California Energy Commission

- Energy Imbalance Market Governing Board
  - CAISO Board
  - Stakeholder Initiatives
    - Open participation
  - Regional Issues Forum
    - Market participants in six sectors
  - EIM Body of State Regulators (~6)

Dashed lines indicate structures that can be established ad hoc.
### Structures: Variations in hierarchy and relationships within RTOs

<table>
<thead>
<tr>
<th>RTO/ISO</th>
<th>Board Selection</th>
<th>Members Committee</th>
<th>Public and Civil Society Participation</th>
<th>Primary State Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAISO</td>
<td>Appointed by state Governor</td>
<td>No membership</td>
<td>Within open initiatives</td>
<td>Governor appointment and Senate confirmation of board</td>
</tr>
<tr>
<td>ERCOT</td>
<td>Unaffiliated Approved PUC&lt;sup&gt;1&lt;/sup&gt; Affiliated Sectors elect</td>
<td>Representative</td>
<td>Within sector</td>
<td>PUC and legislative oversight</td>
</tr>
<tr>
<td>SPP</td>
<td>Members elect</td>
<td>Representative&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Separate sector</td>
<td>Committee of regulators</td>
</tr>
<tr>
<td>MISO</td>
<td>Members elect</td>
<td>Representative</td>
<td>Separate sectors</td>
<td>Organization of regulators</td>
</tr>
<tr>
<td>ISO-NE</td>
<td>Board elects</td>
<td>Plenary&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Within sector and liaison group</td>
<td>Organization of regulators and organization appointed by governors</td>
</tr>
<tr>
<td>NYISO</td>
<td>Board elects</td>
<td>Plenary</td>
<td>Within sector and advisory councils</td>
<td>PUC oversight</td>
</tr>
<tr>
<td>PJM</td>
<td>Members elect</td>
<td>Plenary</td>
<td>Non-voting user group</td>
<td>Organization of regulators</td>
</tr>
</tbody>
</table>

1. Unaffiliated members are nominated by the board and approved by 4 of 7 sectors and the PUC.
2. Concurrent board/members meetings.
3. Within a separate organization (NEPOOL).
Participation Dimension: Who participates?

Share of members by sector, largest sector by count, and total number of sectors
Participation Dimension: How has the number of members has grown?
Participation Dimension: Whose interests are grouped together?

Types of organizations within the end-use consumer sector in each RTO

- Environmental Nonprofits
- Aggregators
- Statewide Consumer Advocates
- Local Government Users
- Industrial and Commercial Users

SPP, MISO, NYISO, ISO-NE, PJM, ERCOT
**Participation Dimension: How organizations communicate?**

<table>
<thead>
<tr>
<th>RTO/ISO</th>
<th>Access to Board</th>
<th>Access to Members Committee</th>
<th>Access to Board and Committee Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAISO</td>
<td>Open to public participation</td>
<td>Open to public participation</td>
<td>Publicly available</td>
</tr>
<tr>
<td>ERCOT</td>
<td>Open to public participation</td>
<td>Open to public participation</td>
<td>Publicly available</td>
</tr>
<tr>
<td>MISO</td>
<td>Open to public participation</td>
<td>Open to public participation</td>
<td>Publicly available</td>
</tr>
<tr>
<td>SPP</td>
<td>Concurrent board/ members only</td>
<td>Closed to non-member participation</td>
<td>Publicly available</td>
</tr>
<tr>
<td>ISO-NE</td>
<td>Closed/ Liaison Committee</td>
<td>Closed to non-member participation unless invited</td>
<td>Board information not available Committee information publicly available</td>
</tr>
<tr>
<td>NYISO</td>
<td>Members only/ Liaison Committee</td>
<td>Closed to non-member participation unless invited</td>
<td>Publicly available</td>
</tr>
<tr>
<td>PJM</td>
<td>Closed/ Liaison Committee</td>
<td>Open to public participation</td>
<td>Board information not available Written comments to board and committee information publicly available</td>
</tr>
</tbody>
</table>

**Communication and Information Sharing at Board and Member Committee Meetings**

More Open

Less Open
Participation Dimension: How organizations make collective decisions?

<table>
<thead>
<tr>
<th>RTO</th>
<th>Transmission-Using</th>
<th>Generation and IPPs</th>
<th>Power Marketers and Suppliers</th>
<th>Consumer-Owned and Transmission Dependent Utilities</th>
<th>End-Use Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERCOT</td>
<td>13.3%</td>
<td>13.3%</td>
<td>13.3%</td>
<td>40.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>SPP</td>
<td>50.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MISO</td>
<td>16.0%</td>
<td>12.0%</td>
<td>12.0%</td>
<td>12.0%</td>
<td>32.0%</td>
</tr>
<tr>
<td>ISO-NE*</td>
<td>16.7%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>NYISO</td>
<td>20.0%</td>
<td>21.5%</td>
<td>21.5%</td>
<td>17.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>PJM</td>
<td>20.0%</td>
<td>20.0%</td>
<td>20.0%</td>
<td>20.0%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>
### Allocation of authority to propose rule changes under §205 of the Federal Power Act

<table>
<thead>
<tr>
<th>RTO/ISO</th>
<th>Allocation of §205 Authority</th>
<th>Board</th>
<th>Members Committee</th>
<th>State Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAISO</td>
<td>Retained</td>
<td>Emergent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MISO</td>
<td>Delegated</td>
<td></td>
<td>Advisory</td>
<td></td>
</tr>
<tr>
<td>SPP</td>
<td>Delegated</td>
<td></td>
<td>Advisory</td>
<td></td>
</tr>
<tr>
<td>ISO-NE</td>
<td>Competing</td>
<td></td>
<td>Co-Governance</td>
<td></td>
</tr>
<tr>
<td>NYISO</td>
<td>Consensus</td>
<td></td>
<td>Direct Authority</td>
<td></td>
</tr>
<tr>
<td>PJM</td>
<td>Divided</td>
<td></td>
<td>Direct Authority</td>
<td></td>
</tr>
</tbody>
</table>
Summary of Governance Comparison

CAISO  
ERCOT

MISO  
SPP

ISO-NE  
NYISO  
PJM

Informal Stakeholder Authority
Stronger State Role
More Open Communication
Develop Preferences
More Inclusive Participation

Formal Stakeholder Authority
Weaker State Role
Less Open Communication
Aggregate and Bargain
More Exclusive Participation
Summary: ISO-New England

- Originated from an exiting power pool
- Explicitly created to further restructuring
- Relatively high share of retail marketing
- Relatively low share of variable renewable resources, but moderate low-carbon resources
- Relatively strong role for ISO staff
- Potential for vote dilution in functionally defined stakeholder sectors
- NECOE is unique
- Relatively closed communication and emphasis on weighted-voting (aggregation and bargaining vs. deliberation)
- Competing FERC filings
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RTO Gov Project: https://nicholasinstitute.duke.edu/project/rtogov

Funded by the Alfred P. Sloan Foundation and the Heising-Simons Foundation
Shift in design to further empowerment

- More Inclusive Participation
- Less Intensive Communication (not fully deliberative)
- More Authority

Reference: Fung, 2006
Shift in design to further effectiveness

- More Exclusive Participation
- More Intensive Communication (fully deliberative)
- More Authority

Reference: Fung, 2006
### Table 8. Summary of RTO Governance Comparison

<table>
<thead>
<tr>
<th>Develop Preferences</th>
<th>Deliberation and Negotiation</th>
<th>Aggregation and Bargaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAISO</td>
<td>ERCOT</td>
<td>MISO</td>
</tr>
<tr>
<td>Dominant Restructuring Status</td>
<td>Partial retail choice</td>
<td>Retail choice</td>
</tr>
<tr>
<td>Major Generation Resources</td>
<td>Renewables and natural gas</td>
<td>Renewables and natural gas</td>
</tr>
<tr>
<td>§205 Filing Rights</td>
<td>Retained: Board</td>
<td>NA</td>
</tr>
<tr>
<td>Stakeholder Authority and Power</td>
<td>Emergent</td>
<td>Hybrid Board</td>
</tr>
<tr>
<td>Stakeholder Participation¹</td>
<td>Open self-selection</td>
<td>Organizational sectors</td>
</tr>
<tr>
<td>Type of Members Committee</td>
<td>None</td>
<td>Representative</td>
</tr>
</tbody>
</table>

1. Stakeholder participation reflects the method of recruitment through member sectors for the purposes of representation and voting. Two general methods are identified: 1) sectors bring together interests based on type of organization or business model (e.g., investor-owned utility; cooperative; independent power producer); or 2) sectors bring together interests on the function provided in the electricity system (e.g., generation, transmission, distribution, or user).