

Electric System Decision Making in Other Regions

Prepared for

**Western Interstate Energy Board
Committee on Regional Electric Power Cooperation**

by



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Executive Summary

The nation's electricity system is regional in nature, because of the operation of the interconnected grids and the markets defined by them. Over the years, many regional organizations of utilities and governments have formed to manage and oversee these markets.

Industry restructuring has intensified this regional nature while decreasing cooperation among many market participants. In response, new regional entities have been proposed and formed.

The National Governors Association has proposed that states form Multi-state Entities (MSEs) to coordinate transmission siting and planning and to address regional issues.

The FERC, in its SMD NOPR and White Paper, proposed Regional State Committees (RSCs) to help develop and oversee RTOs and their markets.

In the eastern interconnection, RTOs have been formed or are in progress, with different approaches to oversight and advice:

RTOs	Regional Entities
PJM	MOU with state utility regulators
New York ISO	<i>de facto</i> : State of New York
ISO New England	RSC recommended by governors
Southeast—SeTrans not approved	No RSC
GridFlorida (provisionally approved)	No RSC
Midwest—MISO	Organization of MISO States

The Organization of MISO States was formed in June, 2003, to have the MISO states act in concert on: issue analysis, policy formation, advice and consultation, decision making and advocacy. Its PUC members act on a one-state, one-vote basis, with referral to the states for concurrence or dissent.

Executive Summary (continued)

The future of regional entities will depend on how well these regional functions are performed:

- Coordination
- Research and analysis
- Siting
- Transmission planning
- Resource adequacy
- Market and congestion monitoring
- Gas supply coordination
- Transmission price regulation and cost allocation
- Demand response and load management
- Distributed generation and interconnection
- Environmental policies and programs
- Credit trading and tracking
- RTO oversight
- Reliability oversight

Will better outcomes be achieved under the existing framework of laws and institutions or would regional entities do better?

Introduction

For decades, the bulk electric power system has had regional characteristics due to the operation of the interconnected grids and the buying and selling of power in the market defined by those grids. Electric utilities have formed and participated in many regional entities, such as reliability councils and power pools. Because they were vertically integrated and tightly regulated, utilities participated readily in these entities and cooperated closely.

Likewise, state governments have formed many regional organizations. Examples in the West include the Western Interstate Energy Board (originally the Western Interstate Nuclear Board) and the Northwest Power Planning Council, both based on interstate compacts. The Committee on Regional Power Cooperation is an informal entity with no authority.

Over the last decade or so, electric industry restructuring has intensified the regional nature of the bulk power system:

- Many generators are independent and sell on a market basis, with limited or no obligations to serve;
- The number of sales transactions has greatly increased and over half the electricity generated is now traded in wholesale markets;
- Competitive forces, even among vertically integrated utilities, have decreased inter-company cooperation.

The result has been uncertainty about the authority and responsibility for many regional functions and, some argue, underinvestment in infrastructure, especially transmission, but also alternatives to transmission. In response, there has begun an examination of the institutional infrastructure for these functions.

This paper is intended to provide a basic description of the functions a regional state Multi-State Entity (MSE) might perform with information about how those functions have been organized in various regions within the Eastern interconnection of the US.

Overview of Regional Entities

Various terms have been coined to describe regional electricity entities, e.g.: “Multi-state Entities” and “Regional State Committees” (see below).¹ Regardless of the label, more important are the reasons for considering a regional entity. Why is one needed and what would it do? To be justified, regional electricity entities should meet at least two conditions.

¹ The terms “Multi-state Entity” and “Regional State Committee” are often confused and interchanged. For purposes of this discussion, an MSE is an entity that would deal mostly with matters under state jurisdiction but with regional implications. An RSC would address matters of FERC (interstate) jurisdiction. However, this distinction may be somewhat artificial for the purpose of policy dialog.

First, a regional entity should be organized around the regional functions of the electricity industry. Many attributes of the electric sector are clearly regional in scope, including system operations, system planning (especially for transmission) and market operations.

The second condition should be that the regional entity would produce outcomes that would not otherwise be achievable by individual states or through FERC-only regulation, or that would only be achieved in a sub-optimal way. Where the existing framework of laws, utilities and state government agencies and regulation functions in a way that produces good regional outcomes, then the case for a regional entity would not be made.

Where the conditions for use of a regional entity are in place, such an entity should have clearly defined functions and be held to a clear standard of decision-making and performance. First, the functions should reflect the characteristics and requirements of the regional system. No function should be isolated from the others. For example, customers don't have "transmission" needs *per se*; rather, they have end-use needs, such as lighting or the operation of machinery, that rely on electricity. In fulfilling those needs, the system, not its separate parts, should cost-effectively meet those needs.

Second, alternative solutions to any system problem should be fully and fairly considered. For example, transmission problems or system needs might be addressed, not just by transmission system expansion, but by substitutes such as generation close to load or reductions in demand from price driven demand responses, energy efficiency or demand-side management. The process used by the regional entity should assure that these alternative solutions are given fair and proper consideration.

Third, the criteria for planning and decision making should take into account the values of society, not just the direct costs and benefits of potential solutions.

Finally, the implementation of solutions should allocate costs in a neutral way and align the incentives for producers, transmitters, distributors, and customers.

With these principles in mind, the remainder of this report describes the short history and background of regional entities and explains their status in the eastern interconnection.

NGA's Multi-State Entities

In 2002, the National Governors Association Task Force on Electricity Infrastructure issued its (undated) "Interstate Strategies for Transmission Planning and Expansion,"² which proposed that states form "Multi-state Entities" to "facilitate state coordination on transmission planning, certification, and siting at the regional level."

² <http://www.nga.org/cda/files/INTERSTATESTRATEGIESPLANNING.pdf>

As proposed, an MSE would have these features:

- The MSE should be established through a Memorandum of Understanding among the states in a region;
- Governors should designate a state official to serve on the MSE as the state’s lead contact;
- The MSE should facilitate a strong state role in planning by the Regional Transmission Organization;
- The MSE should establish an Interstate Protocol to coordinate the review and permitting of interstate transmission facilities among effected states;
- The MSE should form Project Teams comprising states within the region that will be affected by interstate transmission projects proposed by RTO plans;
- The MSE should endorse a set of best practices for transmission planning, siting and permitting and integrate them with the Interstate Protocol;
- The MSE should:
 - Facilitate regional negotiation and conflict resolution processes;
 - Encourage the use of low impact technologies and existing corridors to enhance or expand the grid in ways that minimize environmental and land-use burdens;
 - Explore ways to mitigate inequitable allocation of costs;
 - Evaluate ways to bar states that do not participate or that block important regional projects from obtaining benefits otherwise available through regional efforts;
 - Promote electricity as a “common good.”

The principal purpose of MSEs would be to coordinate transmission planning and to facilitate transmission siting, which is under state jurisdiction, even though it often has a regional sweep.

In October, 2002, the NGA amended its Comprehensive Energy Policy, embraced MSEs, and asked Congress to direct FERC to recognize MSEs “designed to address transmission planning, certification of need, and siting of facilities. The MSEs should also be designed to seek regional solutions to issues that may fall under federal, state, or shared jurisdiction.”³ Thus, the NGA

³ NGA Energy Policy Section 18.5.1

made it explicit it wants MSEs to transcend traditional state jurisdictional transmission siting and certification and address regional issues.

FERC's Regional State (Advisory) Committees

On July 31, 2002, the Federal Energy Regulatory Commission (FERC) issued its Notice of Proposed Rulemaking known as Standard Market Design (SMD).⁴ The FERC proposed the establishment of Regional State Advisory Committees to “advise” RTOs and others for the following functions:

- Resource adequacy standards;
- Transmission planning and expansion:
 - Identifying beneficiaries;
 - Proposing pricing.
- Rate design and revenue requirements;
- Market power and market monitoring;
- Demand response and load management;
- Distributed generation and interconnection;
- Energy efficiency and environmental issues;
- RTO management issues and budget review.

After strong opposition to SMD, including criticism by many state regulators and officials over the term “advisory,” the FERC, on April 28, 2003, issued “White Paper: Wholesale Power Market Platform.”⁵ The White Paper dropped “Advisory” and mentioned the following functions for Regional State Committees:

- Cost allocation;
- Access rates;
- Transmission planning;
- Resource adequacy.

⁴ <http://www.ferc.gov/industries/electric/indus-act/smd/nopr/08-12-03-nopr.pdf> FERC Docket No. RM01-12-000.

⁵ http://www.ferc.gov/industries/electric/indus-act/smd/white_paper.pdf

The White Paper did not explicitly mention or omit the other functions listed above in the SMD NOPR.

The FERC has posted⁶ several publications on the subject of regional state committees.^{7,8,9,10,11}

Regional Reliability Advisory Bodies

Federal reliability legislation, in energy bills in both houses of Congress and now being reconciled in conference, would authorize regional “Reliability Advisory Bodies.” At this writing, the legislation would also delay FERC from implementing SMD until 2007.

***Ad Hoc* Regional Organizations**

In some cases, regional organizations or collaboratives have been organized around regional or sub-regional system planning issues. A recent example is the Rocky Mountain Area Transmission Study (RMATS) process underway in Utah and Wyoming. These groups typically lack any formal basis for operation, but are undertaken by utilities and other stakeholders, often with the support and participation of state government and regulators. In many ways, the nature and scope of these efforts reflect the pragmatic necessities driven by the current lack of jurisdictional and functional clarity under the current Federal-State scheme.

Thus far, in the absence clear legislative direction that requires the formation of well-defined regional entities, the states and the FERC have wrestled with ways to satisfy regional needs within the existing federal-state construct. In an on-going jurisdictional tug-of-war, states have resisted FERC pre-emption in this area, arguing that these functions are better fulfilled at the state level or through state-organized regional organizations or forums. In this state-based model, states are left in many cases to rely on FERC deference to their regional solutions. In order to be sustainable, however, the states must “earn” FERC’s deference by demonstrating that regional needs are, in fact, being met by such an approach. To be successful, states must focus on the functional requirements of the system and the public interest, rather than on the jurisdictional lines.

Regional Entities in the Eastern Interconnection

The Eastern Interconnection consists generally of these regions, defined by Regional Transmission Organizations (RTOs): PJM, New York, New England, the Midwest, the

⁶ <http://www.ferc.gov/industries/electric/indus-act/rto/examples/reg-pres.asp>

⁷ Wood, III, Pat. 2003. State regional committees. FERC. June 5. Atlanta, GA.

⁸ FERC. Guidelines for Regional State Committees.

⁹ FERC Staff Paper on regional choices for implementing elements of the white paper. July 7, 2003.

¹⁰ Patton, Paul E. February 24, 2003. Regional partnerships for progress. NARUC.

¹¹ Anonymous. 2003. Partnerships in energy regulation: Of regional state committees, multi-state entities, and models of regional cooperation. NARUC Winter Committee Meetings. Washington, DC.

Southeast, and Florida.¹² See Attachment 1 for a summary of how regional functions are performed in each.

PJM

In 1998, a Memorandum of Understanding between PJM Interconnection LLC and the Mid-Atlantic Conference of Regulatory Utilities Commissions, Inc. was signed by the president of PJM and the commission chair in each of the following states: Pennsylvania, New Jersey, Maryland, Delaware, Virginia, and the District of Columbia¹³. It provided that:

- MACRUC has established a committee to serve as liaison to the PJM board of directors. The committee would collect information, monitor events, and consider proposals related to the operations and functions of PJM;
- PJM will meet with the liaison committee at least once a year and state PUC staff would meet with PJM staff more frequently;
- The purpose of the meetings is to increase communications and facilitate working relationships;
- Member commissions would not be precluded from acting independently.

Though not an organization or a regional entity *per se*, the MOU is active and is being considered for revisions in light of developments over the last five years, e.g. FERC orders and the expansion of the PJM footprint (in 2002, PJM added Allegheny Power's five-state system, which added Ohio and West Virginia). There is no concerted effort to form a regional entity beyond MACRUC and this MOU and there is no functioning organization of governors representing this region.

New York

A regional entity for the New York ISO is undeveloped at this time. But state government is fully engaged with the RTO and is performing many of the functions envisioned for regional entities.

New England

New England consists of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. On September 8, 2003, a proposal¹⁴ was submitted to the New England Governors

¹² On October 15, 2003, the Southwest Power Pool (<http://www.spp.org/>), which covers parts or all of seven states, filed with FERC to become an RTO. The application indicates interest in the formation of a Regional State Committee.

¹³ Memorandum of Understanding between PJM Interconnection LLC and Mid-Atlantic Conference of Regulatory Utilities Commissions, Inc. 1998.

¹⁴ A Proposal to the New England Governors Conference to create a Regional State Committee on Electricity Policy, <http://www.ferc.gov/industries/electric/indus-act/rto/examples/rsc-final08-15.pdf>

Conference by its Power Planning Committee¹⁵ to establish a new Regional State Committee to give policy advice to the FERC. The Power Planning Committee declined to take the advice in FERC's White Paper to establish a committee to advise the New England ISO, believing, while it "is independent of market participants and is a highly competent operator of the system, ... [the ISO] lacks the political representation and accountability needed to legitimately balance various public policy objectives...." The Governors Conference adopted the recommendation the same day.¹⁶

The proposal lists these functions as lying within the scope of the new committee:

- Resource adequacy standards;
- Transmission planning and expansion;
- Interstate transmission siting;
- Rate design and revenue requirements;
- Market power and market monitoring;
- Demand response and load management;
- Distributed generation and interconnection policies;
- Energy efficiency and environmental issues;
- Review of management and budget of system operator.

Except for interstate transmission siting (an MSE issue), this is essentially the list from the FERC SMD NOPR (see page 6 of this paper). The Power Planning Committee recommends that the top priority issues would be resource adequacy and system planning and expansion.

The recommendation explicitly does not seek decision-making authority for interstate transmission siting for the proposed committee, and leaves for future consideration whether the MSE will facilitate inter-state transmission projects.

The Power Planning Committee recommends a two-vote mechanism which would prevent the small states from imposing their will on the majority of the region's consumers and prevent any one state from blocking the other five. The first vote would be "one state, one vote," with four votes required for passage. The second vote would be taken on a "proportionate consumption"

¹⁵ The Committee includes representation from the region's six states' PUCs, energy policy offices, and environmental agencies.

¹⁶ <http://www.ferc.gov/industries/electric/indus-act/rto/examples/rsc-09-08-03.pdf>

basis; in this case the threshold of success would be a percentage of regional demand equal to 99% less the largest state's share of demand.¹⁷

Southeast

In December, 2001, the bylaws of the SeTrans RTO (not yet approved by the FERC) established a stakeholder advisory committee.¹⁸ Its purpose is to:

- Help with the organic documents for the formation of SeTrans;
- Participate in the selection of the system administrator;
- Provide ongoing advice to the system administrator.

The Southeast Energy Board, established in 1960 as the Southern Interstate Nuclear Board, has a Task Force on Electric Utility Restructuring.¹⁹

Florida

The FERC, in provisionally approving GridFlorida as the RTO for Florida on January 10, 2001²⁰, deferred action on the makeup of a stakeholder advisory committee.

Midwest

On June 3, 2003, an organizational meeting established the Organization of MISO States,²¹ now the most advanced Regional State Committee. The initiative was taken by the region's public utility commissions, with no active role by the governors, although the Midwestern Governors' Conference was informed and supportive.

The purpose of OMS is to promote the public interest and social welfare by:

- Maintaining an organization;
- Acting in concert on:
 - Issue analysis

¹⁷ Massachusetts has about 46% of the region's demand.

¹⁸ Bylaws of SeTrans Stakeholder Advisory Committee. December 14, 2001. <http://www.setransgrid.com/docs/bylaws.pdf>

¹⁹ <http://www.sseb.org/index.html>

²⁰ <http://www.gridflorida.com/Docs/10-16%20Filing/FERC%20Order%20RT01-67.00b%201-10-01.pdf> FERC Docket No. RTO1-67-000.

²¹ Articles of Incorporation Midwest Multi-state Organization, Inc. 2003. Organization of MISO States, Inc. Bylaws. June 11, 2003. http://www.psc.state.mo.us/publications/miso/OMS_bylaws.pdf; <http://www.psc.mo.gov/miso.asp>

- Policy formulation
- Advice and consultation
- Decision-making and
- Advocacy.

The OMS member states (and province) are: Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Manitoba, Montana, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, and Wisconsin.

Membership in OMS is open to state and provincial regulatory authorities that regulate retail electricity or distribution or transmission siting. Associate membership is available to agencies involved with energy planning, environmental issues, or consumer advocacy.

Voting is one vote per state. Any policy statements adopted by OMS are referred to the member states for concurrence or dissent.

Funding is provided by MISO. For the period June 15 to December 15, 2003, MISO agrees to pay OMS \$500,000. Future funding would be based on requests from OMS to MISO.

OMS has established the following working groups:²²

- Transmission Planning and Siting
- Congestion Management and FTR Allocation
- Resource Adequacy and Capacity Markets
- Market Monitoring and Market Power Mitigation
- Market Rules and Implementation Timelines
- Seams Issues.

The OMS board of directors meets once a month and is in the process of hiring an executive director.

Functions with Regional Characteristics

Recall from page 4 the importance of considering the electricity functions with regional characteristics. Here is a list of candidate functions for an MSE:

²² http://www.psc.mo.gov/publications/miso/OMS_Working_Groups.xls

Coordination. The goal of coordination is to harmonize some function or activity. At its core is effective communication. Under the current make-up of regional entities, it is often accomplished through the regional associations of public utility commissions.

Research and analysis is done by a variety of entities (universities, think tanks, consultants, and others), seldom on a regional basis, except on a case-by-case basis.

Siting of transmission lines is by definition spatially linear and often interstate, i.e. involves a proposed facility in more than one state. Its state jurisdictional nature has been criticized as lending itself to parochialism.²³

Transmission planning by RTOs was required by FERC in its Order 2000.²⁴ The regional nature of transmission planning and its relationship to many public interest values make it a prime candidate for oversight and involvement by regional entities.

Resource adequacy means having sufficient resources (supply and demand) to make the system reliable and to prevent shortages under reasonably expected circumstances.

Market monitoring is aimed at detecting and preventing the abuses which have plagued wholesale electricity markets. It will be most effective with close coordination of state, regional, and federal entities.

Congestion monitoring is the duty of RTOs, but might require some oversight by government entities in addition to the FERC.

Coordination with natural gas supply recognizes the interdependence of the electricity and natural gas sectors as a result of the recent trend of building natural gas-fired generators. Electricity planners need to understand the dynamics of the natural gas markets to fully evaluate system reliability and to plan infrastructure enhancements.

Transmission price regulation, including rate design and revenue requirements, is the responsibility of the FERC. It could be in retail customers' interest if state regulators advised the FERC on the best way to do it.

Transmission cost allocation could be socialized (rolled in) or based on cost-causation. In its White Paper,²⁵ the FERC asks the regions to decide the best approach for each.

Demand response and load management are customer-based resources acquired and dispatched by an RTO, especially to address regional or local shortages or high spot market prices. They require support and participation by utilities and state commissions, perhaps acting regionally. The effectiveness of these resources can be enhanced with energy efficiency programs.

²³ Brown, Ashley. 2003. "Vision Without Site; Site Without Vision." The Electricity Journal. October. Vol. 16. Issue 8. pp. 23-34.

²⁴ 2000. Regional Transmission Organizations. Order No. 2000. 65 Fed. Reg. 809 (January 6, 2000).

²⁵ Ibid.

Distributed generation and generation interconnection are integral to superior regional system performance. Fair access rates and other terms for interconnection are important for cost-effective implementation.

Environmental policies and programs are regional because of the nature of watersheds and air sheds. An example in the east is the Ozone Transport Assessment Group, a federal-state partnership.²⁶

Credit or attribute trading and tracking are as regional as the electricity associated with them. RTOs are in the best position to track renewable energy and emissions so the market for their credits will be robust. A regional entity could help an RTO accomplish this.²⁷

RTO oversight is provided by the FERC. In the case of the California market dysfunction of 2000-2001, the FERC might have been more effective with help from a regional entity.

Because the best level of reliability and the ways it is provided affects and is paid for by the public, there could be some public reliability oversight.

Attachment 1 summarizes, for each of the eastern interconnection sub-regions, how these functions are performed.

Each of these functions, like the electricity services they provide, has a public interest component. Therefore, for each function, the public, through its electricity regulators and policy makers, should ask many important questions, including:

- Who is doing it?
- How well?
- Who should be doing it?
- How should they do it?
 - Based on what principles?
 - Using what methods?
- Is accountability to the public (government) adequate?
- Is there proper alignment between authority and responsibility?
- Is the function sustainable?
 - Politically?

²⁶ <http://www.epa.gov/ttn/naaqs/ozone/rto/rto.html>

²⁷ This is not meant to cover the issue of emissions credits under US EPA regulations.

- Legally?
- Technically?
- Does the entity performing the function have adequate resources?
 - Funding, free of strings?
 - Staff?

What are the bases (authorities) for establishing regional entities?

- Informal;
- Agreements (MOUs) among states;
- Formal, incorporated, willing members;
- Delegation by or deference by FERC;
- FERC-state joint boards;
- Interstate compact (endorsed by Congress);
- Congressional mandate (delegation).

The answers to these questions will lead to informed decisions, not only about whether or not to form regional electricity entities, but how the important electricity functions with regional characteristics should be performed.

Conclusion

Regional entities, both industry and governmental, have existed for decades and continue to form and evolve. Their future depends on how well these institutions and new ones perform functions with regional and public interest characteristics. In the West, the dialogue about those functions is likely to take place at CREPC, but also at WECC, WIEB, WGA, NPPC, SSG-WI, the RTOs, and in legislatures, energy offices, and governor's offices. In the course of that dialogue, it will be important to prioritize the functions that are the most in need of improvement and oversight and to answer the questions above.

Attachment 1 — Electric system regional functions

PJM region

Function	Who	How	Responsibility/ Authority
Coordination	MACRUC		PJM MOU
Research, analysis	PJM	staff	
Siting	States	dockets	state statutes
Transmission planning	PJM	Staff, stakeholder committees	
Resource adequacy	PJM	Staff, stakeholder committees	PJM
Market monitoring	PJM	Market monitor staff separate from other staff	PJM Market Monitoring Unit
Congestion monitoring	PJM	Operating staff	
Gas supply coordination			
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management	PJM	Programs	PJM, load serving entities (utilities and retail energy suppliers)
DG, interconnection	?	?	?
Environment	MARAMA	State environmental staff	federal & state statutes
Credit trading & tracking	states		
RTO oversight	FERC		Order 2000
Reliability oversight	MAAC, ECAR	standards	voluntary

New York

Function	Who	How	Responsibility/ Authority
Coordination	State		PUC, NYSERDA, NYPA, other state entities
Research, analysis	NY-ISO, NYSERDA		
Siting	State	dockets	state statute
Transmission planning	NY-ISO with state	Staff, stakeholder committees	
Resource adequacy	State with NY-ISO	Staff, stakeholder committees	
Market monitoring	NY-ISO	Market monitor staff separate from other staff	ISO Market Monitoring Unit
Congestion monitoring	NY-ISO	Operating staff	
Gas supply coordination	NYSERDA	Energy office monitoring	
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management	ISO	Programs	ISO, Load Serving Entities (utilities, ESCOs) and Curtailment Service Providers
DG, interconnection	?	?	?
Environment	EPA, DEC, NYSERDA		federal & state statutes
Credit trading & tracking	PSC with NY-ISO	Contract path	
RTO oversight	FERC		Order 2000
Reliability oversight	NPCC	standards	voluntary

New England

Function	Who	How	Responsibility/ Authority
Coordination	NECPUC		
Research, analysis	ISO-NE		
Siting	states		state statutes
Transmission planning	ISO-NE	Staff, stakeholder committees	
Resource adequacy	ISO-NE	Staff, stakeholder committees	ISO
Market monitoring	ISO-NE	Market monitor staff separate from other staff	Market monitor
Congestion monitoring	ISO-NE	Operating staff	
Gas supply coordination	ISO-NE	Commission studies	
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management	ISO	Programs	ISO, load serving entities (utilities and retail suppliers)
DG, interconnection	?	?	?
Environment	NESCAUM		federal & state statutes
Credit trading & tracking	NEPOOL	GIS system with ISO data	APX contracted to NEPOOL
RTO oversight	FERC		Order 2000
Reliability oversight	NPCC	standards	voluntary

Southeast

Function	Who	How	Responsibility/ Authority
Coordination	SEARUC, SSEB		
Research, analysis			
Siting	states		state statutes
Transmission planning	Utilities		
Resource adequacy	Utilities		
Market monitoring	FERC		Office of Market monitoring
Congestion monitoring	Utilities		
Gas supply coordination			
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management			utilities
DG, interconnection	?	?	?
Environment			federal & state statutes
Credit trading & tracking			
RTO oversight	FERC		Order 2000
Reliability oversight	SERC	standards	voluntary

Florida

Function	Who	How	Responsibility/ Authority
Coordination	state		
Research, analysis			
Siting	state		state statute
Transmission planning	Utilities		
Resource adequacy	Utilities		
Market monitoring	FERC		Office of Market monitoring
Congestion monitoring	utilities		
Gas supply coordination			
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management			
DG, interconnection	?	?	?
Environment			federal & state statutes
Credit trading & tracking			
RTO oversight	FERC		Order 2000
Reliability oversight	FRCC	standards	voluntary

Midwest

Function	Who	How	Responsibility/ Authority
Coordination	OMS		
Research, analysis	MISO		
Siting	States with input from OMS		state statutes
Transmission planning	MISO, OMS		
Resource adequacy	OMS, MISO		
Market monitoring	MISO		MISO Market Monitoring Unit
Congestion monitoring	OMS		
Gas supply coordination			
Transmission price regulation	FERC	dockets, tariffs	Federal Power Act
Transmission cost allocation	FERC	dockets	Federal Power Act
Demand response, load management	MISO	Programs	MISO, utilities
DG, interconnection	?	?	?
Environment			federal & state statutes
Credit trading & tracking			
RTO oversight	FERC		Order 2000
Reliability oversight	MAPP, MAIN, ECAR	standards	voluntary