What is the interplay between states’ resource adequacy power per the Federal Power Act and the RTO’s Reliability Coordinator role?

Is a state Integrated Resource Plan necessary anymore?

How does the wholesale market accommodate state, regional, and national subsidies for select resources?

WPUI
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Regionalization of the electric grid, creation of wholesale electric markets and transmission development have expanded the responsibilities of the Federal Regulatory Energy Commission (FERC) and created an increasing role of RTOs/ISOs.

States retain jurisdiction over generation facilities and retail markets. In recent years, interest has increased by some state policy makers to pursue policies that prioritize certain resources or resource attributes.

Achieving policy goals and serving customers reliably and economically requires balancing interests and authority of state, regional and federal organizations. Varying regional solutions will likely be needed.
Resource Adequacy

- **Resource Adequacy** – Ensuring sufficient resources are secured to meet future loads reliably.

- “**One day in ten years**” criterion used to forecast reserve margins so that the expected frequency of loss of load due to inadequate resources does not exceed 0.1 events per year.
Federal Water Power Act - enacted in 1920 to coordinate the development of hydroelectric projects within the United States. The Act also created the Federal Power Commission (FPC) as the licensing authority for these projects.

In 1935, Congress amended and renamed the Act the Federal Power Act and expanded the FPC’s jurisdiction to include:

- the transmission of electricity in interstate commerce;
- its sale in interstate commerce for resale; and
- all facilities used for the sale or transmission of electricity in interstate commerce.
Public Utility Regulatory Policies Act of 1978 (PURPA)
- Required electric utilities to buy the energy generated by "Qualifying Facilities" at the utilities' "avoided cost"

- Reduced regulatory burden for Exempt Wholesale Generators and required FERC to open the nation’s electric transmission grid to wholesale suppliers on a case-by-case basis

- FERC to oversee the reliability of the transmission grid
- FERC can assess penalties of up to $1 M per day
- FERC authorization required before a public utility acquires electric generating facilities over $10 Million
Federal Power Act - Key Objectives

- Economic Regulation
  - Only to the extent permitted by the statute; many entities are not “jurisdictional” or are only partially subject to the Federal Power Act by design.

- Infrastructure Regulation
  - Only to the extent permitted by the statute; certain issues are reserved to the states.
FERC

- Jurisdiction over transmission of electric energy and wholesale sales of electric energy in interstate commerce
  - Ensure that rates under its jurisdiction are just and reasonable and not unduly discriminatory

- Jurisdiction does not generally apply to facilities used for the generation of electric energy or facilities used in local distribution or only for the transmission of electric energy in intrastate commerce

- FERC’s rate authority provides it with jurisdiction over RTO market tariffs
NERC

- Develops Reliability Standards that maintain or improve the reliability of the Bulk Electric System (BES), subject to FERC approval.

- Monitor for compliance to the Reliability Standards and apply penalties for non-compliance, subject to FERC approval.

- Perform other duties as needed (event Analysis, studies, etc.) to maintain the reliability of the BES.
RTO Reliability Coordinator Role

- Entity with a high level of responsibility for reliable operations
  - Wide area view of the BES
  - Operating tools, procedures to prevent or mitigate emergency operating situations
  - Broad purview that enables the calculation of interconnection reliability operating limits that may be beyond other operators’ vision

- Core functions performed:
  - Outage coordination
  - Day-ahead operational planning analysis
  - Real-time assessment
  - Real-time monitoring and analysis
  - System restoration coordination

- Must meet certain NERC standards
Other RTO Functions

- **Calculation of planning reserve margin**: Approximately 14-17% in recent years for MISO
- **Interconnection of new generation**: Transmission system upgrades identified in order to interconnect new resources
- **Analysis of generation retirements**: Potential for resources to be needed to stay online to maintain reliability
State Resource Adequacy Power

- Federal Power Act
  - Order retail utility to construct and/or own generation
  - Order retail utility to purchase of wholesale electricity
  - Determine power supply mix for retail customers
  - Facilities used in the local distribution of electric energy
  - Transmission line siting
Interplay Between States and RTO

Goal – work in a complementary manner to assure the ability to adequately protect and provide for the wholesale and retail consumers of electric power.

Interplay differs markedly between states that retain control over resource adequacy versus and those that rely on markets.

Key Issues: 1) RTO/ISO role in ensuring sufficient resources; and 2) Participation of state ordered generation in centralized capacity markets.
RTOs/ISOs with Traditional Vertically-Integrated Utility Model

- **Examples:** SPP, CAISO and MISO
- Utilities procure resources on behalf of customers typically through a cost-minimizing or reasonable-cost process known as integrated resource planning (IRP)
- Less reliant on market mechanisms
- RTO/ISO in an administrative role
- Use of bilateral markets

The responsibility for achieving resource adequacy in MISO rests with load serving entities ("LSEs"), with oversight by states, as applicable by jurisdiction.
MISO Construct Overview

- **Annual Obligation for LSE’s**
  - Planning Year - June 1st to May 31st

- **Locational requirements**
  - Amount of capacity that must be secured from resources within each zone

- **Planning Resource Auction**
  - Residual Auction - allows buyers and sellers to balance resource portfolio prior to short-term (prompt) Planning Year

- **Fixed Resource Adequacy Plan (FRAP)**
  - Ability to demonstrate achievement of assigned planning reserve margin requirement outside the auction
RTOs/ISOs with Deregulated Generation

- Examples: NYISO, ISO-NE, PJM
- Capacity to meet obligations for customers procured through a capacity market
- Provide incentives for long-term resource investment (retirement or new entry) by providing a basis for forward price expectations
- Market structures vary by RTO/ISO

Capacity markets have been contentious and have continued to change over time
PJM Reliability Pricing Model

- Procurement of capacity three years before it is needed through a competitive auction
- Locational pricing for capacity that varies to reflect limitations on the transmission system
- Variable resource requirement curve used
- Capacity Performance Product
- Fixed Resource Requirement Alternative (FRR) (opt-out)
Integrated Resource Plan (IRP)

Flow Chart for Integrated Resource Planning

1. Load Forecast
2. Identify Goals
3. Existing Resources
4. Need for New Resources
   - Supply
   - Demand
   - T & D
   - Rates
5. Define Suitable Resource Mixes
   - Social Environmental Factors
6. Define Suitable Resource Mixes
   - Uncertainty Analysis
   - Public Review/PUC Approval
7. Action Plans
8. Acquire Resources
9. Monitor
IRPs continue to provide a comprehensive decision support tool and road map for meeting a company's objective of providing reliable and least/reasonable-cost electric service to all customers while addressing the substantial risks and uncertainties inherent in the electric utility business.

Needs by state vary.

RTOs processes help provide transparency, information and understanding.
Regional surpluses and potential resources are sufficient for all zones to serve their deficits while meeting local requirements.

Positions include reported inter-zonal transfers, but do not reflect other possible transfers between zones.

Exports from Zone 1 were limited by the zone’s Capacity Export Limit to 0.6 GW.

Results include load, but not identified resources, from some non-jurisdictional load in Zone 5.

Exports from Zones 8, 9, and 10 were limited by the Sub-regional Power Balance Constraint to 1.2 GW.
Challenge: Interaction with Wholesale Markets and State Policy Goals

**FERC/RTO**
- Operate wholesale markets that select resources according to least-cost principles
- Historically wholesale markets have been agnostic as to resource types and environmental externalities
- Driven by market forces and provide appropriate compensation based on the value of services provided

**States**
- May support generation resources that advance states’ legitimate policy interests, including environmental protection (e.g. grant loans, subsidies, tax credits)
- Incentives can impact prices in wholesale markets
- Want to avoid second guessing of resource decisions

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States may support generation resources that advance states’ legitimate policy interests, including environmental protection (e.g., grant loans, subsidies, tax credits). Incentives can impact prices in wholesale markets. Want to avoid second guessing of resource decisions.
Two day technical workshop held in May 2017

Range of challenges to the capacity market constructs in PJM, ISO-NE and NYISO were the focus

5 potential paths forward

No consensus on a path forward and what a particular path should entail
Path 1 – Limited or No Minimum Offer Price Rule

- Either not apply the Minimum Offer Price Rule (MOPR) to state-supported resources, or limit application of the MOPR to only state-supported resources where federal law preempts the state action providing that support.

MOPR not likely to be abandon altogether.
Path 2 – Accommodation of State Actions

- Accommodate state policies that provide out-of-market support with the operation of the wholesale markets by allowing state-supported resources to participate in those markets and, when relevant, obtain capacity supply obligations, subject to adjustments necessary to maintain certain wholesale market prices consistent with the market results that would have been produced had those resources not been state-supported.

This could entail two-tiered capacity auctions that would clear subsidized resources separately.
Path 3 – Status Quo

- Rely on existing tariff provisions applying the MOPR to some state-supported resources, and continuing case-by-case litigation over the specific line to be drawn between categories of state actions that may, or may not, result in a state-supported resource being subject to the MOPR.

Could result in piecemeal regulation as well as regulatory uncertainty.
Path 4 – Pricing State Policy Choices

- State policies, to the extent possible, value the attributes (e.g., resilience) or externalities (e.g., carbon emissions) that states are targeting in a manner that can be readily integrated into the wholesale markets in a resource-neutral way.

  - For those state policies that cannot be readily valued and integrated into the wholesale markets, Path 4 would also require consideration of what, if anything, the Commission should do to address the market impacts of these state policies. For instance, other approaches for these state policies may include accommodation, application of the MOPR, or an exemption from the MOPR.

Example with this approach is a carbon price adder.
Path 5 – Expanded Minimum Offer Price Rule

- Minimize the impact of state-supported resources on wholesale market prices by expanding the existing scope of the MOPR to apply to both new and existing capacity resources that participate in the capacity market and receive state support.

Could increase the risk for double payment of capacity.
Recent Court Decisions

- **Maryland (2016)**
  - Supreme Court struck down incentive for the construction of a natural-gas plant because it required the generator to bid capacity into PJM’s power market in order to receive the subsidy.

- **New York (2017)**
  - Federal judge dismissed challenge to Zero Emission Credit Program (ZEC) program tied to zero-emissions energy, not the generator’s participation in wholesale markets.
  - Determined “critically different” from the Maryland case.

- **Illinois (2017)**
  - Federal judge dismissed challenge to ZEC Program.

- **Connecticut (2017)**
  - Circuit court upheld the state’s renewable energy procurement program and renewable portfolio standard.
Current Issue - Resilience

- DOE proposed grid resilience rule
  - The purpose of the proposed rule was to provide full recovery of costs for certain generation units that make the grid “reliable and resilient”

- FERC rejected the Proposed Rule outright, but required ISOs/RTOs to submit information as to the ways in which they support resilience practices

- FERC opened an additional docket to further examine the issue of resilience
Conclusion

- MISO is generally in a better position than other ISOs/RTOs given the regulatory structure and the role of its resource adequacy process.

- FERC’s key decision will be to determine whether it should:
  - actively accommodate state policy preferences,
  - move to preempt state policies that are inconsistent with interstate markets, or
  - remain silent on a potential conflict between state policy and federal policy.

- There is likely no one-size-fits-all approach to addressing the tensions between state regulation and federal regulation.

- RTO markets and processes will continue to evolve and change.
Questions