



NRRI Colloquium  
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Right of First Refusal;  
Wind Integration Costs

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# ROFR Paper – Scope

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- February 2013 NRRI Board Meeting Questions:
  - Which States have adopted statutory ROFR?
  - Do State ROFRs raise Commerce Clause Concerns?

- States Adopting ROFR

Full ROFR

North Dakota (2011)

South Dakota (2011)

Minnesota (2012)

Partial ROFR

Indiana (2013)

Oklahoma (2013)

- Dormant Commerce Clause

- “the Congress shall have Power...to regulate Commerce...among the several states” Art. I, §8
- Negative aspect denying states power unjustifiably to discriminate against or burden interstate flow of articles of commerce; denied economic protectionism



# ROFR Paper - Conclusion

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## Legal Standard

- Facially Discriminatory Laws receive “Strict Scrutiny”
  - *per se* invalid unless
    - ✦ Justified by factor other than economic protectionism
    - ✦ No other means to advance a legitimate state interest
- Neutral Laws with discriminatory effects receive “Pike” Scrutiny

## Conclusion

- Statutes examined are facially discriminatory
- Factors other than economic protectionism include:
  - Obligation to serve
  - Reliability
  - Knowledge, familiarity, economies of scale, experience, access to funds
- States are encouraged to analyze the competitive solicitation model envisioned in FERC Order 1000 balanced against the incumbent preference model
- Such an analysis could help ROFR statute withstand court scrutiny



# Further Considerations

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## I. Federal v. State Jurisdiction

- SCE&G Order 1000 Compliance Order, FERC Docket No. ER13-107-001 (April 18, 2013), striking right-of-way language in contradiction with FERC Order 1000
- MISO, PJM March 22<sup>nd</sup> Orders striking references to state ROFR laws and indicating that ROFR agreements were not protected by *Mobile-Sierra* doctrine
- ISO New England May 17, 2013 Order invalidating ROFR agreement as within *Mobile-Sierra* but violating public interest standard
- Commissioners Clark and Moeller Dissents (litigation between state law and federal rules)

## II. 7<sup>th</sup> Circuit US Court of Appeals Decision upholding MVP, April 10, 2013

- Contains reference to Michigan state RPS “violating the Commerce Clause of Article I of the Constitution, discriminate against out-of-state renewable energy.”
- Issue not before court in this case, but this language could be seen in challenges to state ROFR statutes

## III. Future Research

- Analysis under Supremacy Clause of U.S. Constitution
- “Matching” Requirement under traditional ROFR agreements
- Narrow line of cases upholding statute even under strict scrutiny (quarantine)



# Wind Integration Cost Challenges

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- I. Overview of FERC Order 764 and 764-A
  - A. Intra-hour Scheduling
  - B. Provision of Forecasting Data
  - C. Guidance on Regulation Charges
- II. Discussion of Wind Integration Cost Studies
  - A. Cost Drivers
  - B. Six Service Territories
  - C. Organized Market Regions
  - D. Energy Imbalance Market
- III. Regulatory Challenges in BPA Region
  - A. Dispatch/Curtailment protocols
  - B. Reciprocity
- IV. Conclusions and Recommendations



# FERC VER Integration Orders

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## Intra-hour Scheduling:

- FERC adopted ancillary services schedules in Orders 888 and 890.
  - Schedule 3 – Regulation & Frequency Response
  - Schedule 4 – Energy Imbalance Service
  - Schedule 9 – Generator Imbalance Services
- Adopting intra-hour scheduling rule will enable transmission customers to mitigate these ancillary services charges

## Data and Forecasting Reform

- Accuracy of wind power forecasts is directly connected to the amount of balancing energy needed and hence the cost of wind power integration
- Meteorological data requirements from wind/solar:
  - Wind - temperature, wind speed, wind direction, and atmospheric pressure
  - Solar - temperature, atmospheric pressure, and irradiance
- New definition of VER: energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

## Generator Regulation Service

- Proposed Schedule 10 - generic rate schedule Generator Regulation and Frequency Response Service
- Proposed Schedule 10 would have provided a mechanism through which TPs could recover the costs of providing regulation reserves associated with the variability of generation resources



# Wind Integration Cost Studies

- Variations in cost drivers across service territories include:
  - Availability of transmission and types of generation;
  - Market conditions
  - Ancillary service cost determinations
- Paper looked at Six service territories:

Company	Penetration Level	Cost Model	Integration Cost
Idaho Power	670-800 MWs	Systems Operations Model (internally-developed)	\$16.70/MWh
	800-1000 MWs		\$22.42/MWh
	1000-1200 MWs		\$49.46/MWh
Portland Gas & Electric	850 MW	Mixed-Integer Programming (MIP)-based Optimization Model	\$11.04/MWh \$915/MWh
Puget Sound Energy		AURORA Model Ancillary Valuation Model	\$2.70/kW-month \$2.08/kW-month (reg. service for exports)
Bonneville Power Administration	5,100 MWs (approx.)		\$1.23.kW-month
Public Service Company of Colorado	1140 MW 2000 MW 3000 MW	Couger Unit Commitment & Dispatch Model	\$4.32/MWh
PacifiCorp	2126 MW	Planning & Risk (PaR) Production Cost Model	\$2.55/MWh



# Regulatory Challenges in BPA

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- **Procedural History**

- ✦ 2011 Wind Coalition Complaint against Environmental Re-dispatch Protocol
- ✦ December 7 2011, FERC grants petition under FPA Section 211A
- ✦ BPA requests rehearing
- ✦ March 2012 BPA files compliance with Oversupply Management Protocol
- ✦ December 20, 2012, FERC denies rehearing and conditionally accepts OMP
- ✦ February 2013, BPA petitions 9<sup>th</sup> Circuit for review of Dec 7 & Dec 20 orders
- ✦ March 2013, BPA filed revised OMP

- **Regulatory Concerns**

- ✦ ERP and OMP
- ✦ Dispatcher Standing Order 216
- ✦ Unilateral Amendments to LGIA
- ✦ Risk of Reserve Capacity Procurement
- ✦ Curtailment Practices

- **Reciprocity**

- ✦ Petition for Reciprocity (2012) Under Order 888 “Safe Harbor” provision
- ✦ Wind coalition asserts that December 7 2011 Order requires jurisdictional OATT under FPA 211A
- ✦ BPA asserts that reciprocity request and OMP matters should be handled separately





# Recommendations and Conclusions

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## VER Integration Orders

Compliance deadline – November 12, 2013

- Impacts of Order 764 reforms on VER integration costs known after:
  - state regulatory commissions take up dockets
  - investigating integration cost recovery proposals
  - accounted for the cost impacts of the Order 764 reforms
- Balanced approach that adopts regulatory reforms but also compensates TPs for ancillary services they provide:
  - “intra-hour scheduling will allow [TPs] to rely more on planned scheduling and dispatch procedures, and less on reserves, to maintain overall system balance” [Order 764, ¶22]
  - “forecasting tools...provide [TPs] to manage the variability of VER generation through the unit commitment and dispatch process, rather than.....through the deployment of reserve services” [Order 764 ¶45]
- Additional subject areas that may more accurately identify and/or moderate costs:
  - Forward market Structure & Reliability Commitment
  - Balancing Area Coordination/Consolidation
  - Capacity Market Reform
  - Re-dispatch and Curtailment Protocols



## Recommendations and Conclusions

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### Wind Integration Cost Calculations

- Wind integration cost calculations are difficult undertakings
  - few metrics that lend themselves to meaningful comparisons across service territories
  - States/regions left to conduct studies based on tools, proprietary models & market data available to them
  - Comparisons between regions within and outside of organized markets add additional complexity
- Further Research could include:
  - Comprehensive look at cost models used to calculate integration costs
  - Purpose to extract usable metrics that can be compared against one another in a meaningful way
  - Collaborative effort among regulatory commissions, power companies and public utilities
  - Goal to identify at least some metrics across states and regions that could be standardized
  - providing state regulatory commissions a basis from which to evaluate integration cost figures placed before them for approval
  - Finally, state commission access to proprietary computer models that drive integration costs calculations and training on how to use the models and interpret their results



## Recommendations and Conclusions

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### Regulatory Challenges in BPA Region (Takeaways)

- **Balancing of benefits of reciprocity against sacrifices**
  - Benefits: transparent, predictable, stable OATT; facilitates transmission across interchanges
  - Responsibilities: provision of any service to another TP that the nonpublic utility provides or is capable of providing on its system
  
- **Will reciprocity require abandoning certain dispatch/curtailment protocols?**
  - Exposure under Clean Water Act and Endangered Species Act
  - Unilateral Amendments to LGIA and DSO 216
  
- **Challenge to applicability of FERC Comparability Principles**

*OR*
  
- **Achievement of Balanced Operations: Reliable, Environmentally Responsible and Comparable**



# Proposed New Research

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- **Order 1000 Interregional Compliance Filings**  
(Compliance Filings due July 10, 2013)
  - ✦ Interregional coordination and cost allocation
  - ✦ Look at iterative process within/across regions to provide context to tariff provisions
  - ✦ Focus on Southeast Regional Transmission Planning Region (SERTP)
  
- **Topics of Interest in NARUC Committee on Electricity**  
(April 19, 2013 Call with Chair Boyd)
  - ✦ Penetration of new resources at the distribution level and its impacts on the utility (economic and reliability consequences)
  - ✦ Hardening of the grid's infrastructure in anticipation of snow storms, hurricanes, etc.
  - ✦ The application of PURPA and its enforcement by FERC in certain states
  - ✦ Gas & Electric coordination
  - ✦ Cyber-security and how new NERC standards will impact utility rate-structures
  - ✦ Whose job is it to educate consumers about new rate structures, costs, tools, etc?