Regional Transmission Planning: Current Issues

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Public Service Commission of Wisconsin

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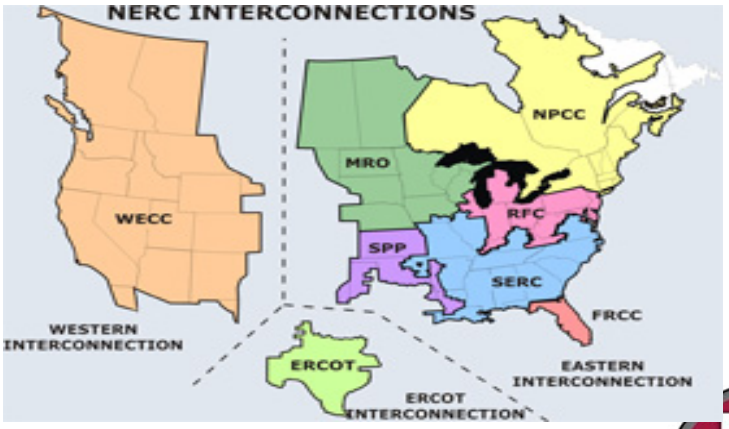
Why is multi-state transmission planning a good idea?

The Electric Interconnections



Renewable Portfolio Standards/ Renewable Energy Standards

- ~ 30 states already have RPS
- Congress is considering federal RPS
- Renewable Fuel Sources:
  - Resource often located far from electricity customers

CO2 Limitations

- US EPA:
  - Endangerment Finding for Carbon Emissions
- Congress:
  - Possible cap-and-trade program (House ACES bill passed – current debate in Senate)
- Regional Initiatives:
  - Northeastern RGGI
  - Midwest Governors GHG Accord

Multi-State Transmission Planning is Now a Necessity

Policies will require rapid transformation of electric industry

- CO_2 limitations
- Increased renewable generation

Regional transmission planning (and perhaps construction) will occur…with or without state involvement.

- ARRA funding makes transmission planning a priority
- $ 80 million for transmission planning in the three interconnections.

Transmission Planning – The Basics

Approach 1: reliability focus

Approach 2: reliability + resource focus

Transmission Planning – Approach #1: Reliability

Step 1: Demand Forecasts:

Utilities predict how much power is needed in the future for their customers

Step 2: If Demand > Supply

Either build generator near customers

- or -

Build transmission to customers

Transmission Planning – A period of transition

- **Political mandates require building tremendous amounts of new generation, some of which may not be located near the demand**
- **Transformation of the generation portfolios must happen over a short period of time.**

Transmission Planning – Approach #2: Reliability + Resource Focus

Build Generation:

- To comply with political mandates for renewables and carbon reduction
- **Not** primarily for customer need

Build Transmission:

- To connect politically mandated generation to customers
- Renewable and low-carbon generation may be located far away from customers

States' Role in the Transformation of the Electric Industry

Transmission Planning – Approach #2: Reliability + Resource Focus

How Will We Meet Political Mandates?

- New Generation and Storage
- Retirements of Existing Generators
- Demand Reduction Initiatives
- A Combination Of All Of These

Should state-level policymakers help define those actions?

Transmission Planning – Approach #2: Reliability + Resource Focus

New Generation and Storage

- How Much?
- What Type?
- Where?

Renewables: some far from customers

Nuclear: requires water (current technology)

Is it best to build near your state's customers, or far away and build transmission?

Transmission Planning – Approach #2: Reliability + Resource Focus

Retirements of Existing Generators

- How Much?
- What Type?
- Where?

Is carbon capture and sequestration an option for your state?

Transmission Planning – Approach #2: Reliability + Resource Focus

Demand Reduction Initiatives

Energy Efficiency

How much EE can your state achieve?

Distributed Generation

Is distributed generation viable in your state?

Smart Grid

Is your state transitioning to a smart grid?

Plug-In Electric Vehicles

Are plug-in electric vehicles viable for your state?

Feds Fund Interconnection-Wide Planning

ARRA Funding – The Basics

- **ARRA** devoted significant funding to interconnection-wide planning:
  - "for the purpose of facilitating the development of regional transmission plans" and
  - "to conduct a resource assessment and an analysis of future demand and transmission requirements."
- **DOE Funding Opportunity Announcement** – divided funding
  - Topic A (Planning/Analysis – the "Engineering")
  - Topic B (Cooperation Among States on Priorities – the "Policies")
- **Interconnection-wide planning** = a new scope and scale for planning. Will be important and insightful.

States Propose to Take Leadership Role in Eastern Interconnection Planning

EISPC Funding Proposal – Snapshot

- **EISPC** = Eastern Interconnection States' Planning Council
- **$14,800,000** requested in 9/14/09 grant proposal
- **Voting Representatives Per State** = 2
  - one identified by Commission and
  - one by Governor

EISPC - Development

May 15 – Washington, DC

- 20 Commissioners -OPSI, OMS, NECPUC, NYISO, SEARUC, SPP-RSC
- DOE Presentation – encouraged state participation

June 29/30 – Washington, DC

- Representatives from 33 of the 41 "states"
- Decision to apply for Topic B funds
- Established 3 working groups
  - Proposal Group – Lauren Azar, President OMS
  - Negotiations Group – Doug Nazarian, President OPSI
  - Governance Group – Jon McKinney, Chair MACRUC

Various Teleconferences

- Proposal submitted September 14th – seeking $14.8 million
- 38 of the 41 "states" submitted commitment letters indicating support of the funding request

EISPC – Substantive Tasks

1. Identify Eastern Energy Zones
2. Develop Modeling Inputs for the Topic A Planning (construction costs, future scenarios)
3. Participate in Other Topic A Activities including identifying participants in Topic A Steering Committee
4. Develop Studies and Whitepapers to Guide Decision-Making
   - Integration of renewables into the grid
   - Availability of baseload renewables and low-carbon resources
   - Other studies needed for states for interconnection-wide planning
5. Articulate Economic and Environmental Implications of the resource and transmission alternatives used in Topic A Planning
6. Others?

Questions

- **Questions?**

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