



Running Power Transmission Lines Across America: Opportunities and Challenges

NCSL Task Force on Energy Supply

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French Proverb

The more things change, the more they stay the same.



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- The current paradigm for renewable energy and transmission will not accelerate the current rate of renewable development; that will require policy or technology changes, or greater incentives
- Transmission expansion is not the first order of business. That would be having the right mix of generation sources. To do that, you have to define the policy boundaries (outcomes)
- It isn't hard to oppose a project when you have no sense of its importance to the overall system



The Existing Paradigm for Renewables

- Proximity to load centers
- Local development, local use, smaller projects
- Close to transmission
- Easy access (roads already available)
- Best if federal land can be avoided
- Purchase Power Agreement in place prior to development
- Minimal lands and environmental issues
- Mostly independent functionaries (renewable development companies)



Changing the Paradigm

- Renewable energy will only expand as fast as entrepreneurs see a future where renewables are viable or required
- Something other than status quo has to spur major expansion of renewable energy
 - Greenhouse gas emissions reduction requirements*
 - Renewable Portfolio Standards*
 - Price signals
 - Technology breakthrough

*Western Governors have stated there is a need to reduce greenhouse gases using market mechanisms, but have not specified reduction goals or a preference for a particular mechanism. Western Governors do not have a policy supporting a national renewable portfolio standard.



Economics and Policy

- When does the economic benefit accruing to the state from energy development outweigh costs to ratepayers?
- The Visible Hand
 - If states, utilities, NGOs, developers only act in their own self interest, how are we going to meet regional goals?
- Avoiding policy by Tinker Bell



State Perspectives

- Most states would prefer to use in-state sources of renewable energy before considering out of state sources because of the economic benefits associated with green energy
- There are states with tremendous export potential who would like to see transmission developed in a way that would allow them to market their renewable energy



Regional Perspective

- Every entity with an interest in a project expects their concerns to be satisfied (States, PUCs, utilities, developers, NGOs, land owners, financiers)
- It is critical not to see individual projects in isolation, but to understand the larger implications of not doing a project. Sooner or later we will need to build new transmission.
- If you take a regional perspective, it may be that there are not limitless combinations to meet any potential greenhouse gas emission limits, maintain reliability, meet demand, keep prices reasonable, and protect natural resources and wildlife



Regional Transmission Plans

- The need to build new transmission has to be driven by the outcomes related to environmental, natural resource, price, and engineering considerations agreed upon by policy/decision makers
- In other words, generation decisions need to precede transmission decisions, and generation decisions need to be based on more than just demand, system reliability and congestion management



New Inclusions in Transmission Planning

- Water supply, allocation and consumption
- Wildlife sensitivity
- Cultural and historical areas



What We Really Need to Know

- How do we design a generation and transmission system in 2020, 2030, and 2050 that
 - Meets greenhouse gas emission limits
 - Doesn't consume all the water the West has
 - Works given wildlife sensitivities
 - Meets demand
 - Is reliable
 - Is reasonably priced
 - Passes muster with the NIMBY and BANANA crowds
 - Meets the objectives of states, IOUs, NGOs, FERC



WREZ Phase 2 – WREZ Hubs

- Interviews with 25 utilities and 11 PUCs to learn views on collaborating on development of WREZ hubs
- Utilities are mainly interested in geographically close resources, or at least resources that already have transmission
- The myriad of policies and regulations impede more than facilitate development
- RPS is driving development, in general
- Transmission will be sufficient for the next 10 years



WREZ Phase 3 – Integrating Variable Generation

- The June 2012 WGA report on integrating variable generation identifies nine actions to lower costs to consumers of integrating variable generation.
 - ✦ Expand subhourly dispatch & scheduling,
 - ✦ Facilitate dynamic transfers between balancing authorities,
 - ✦ Implement an energy imbalance market,
 - ✦ Improve weather, wind and solar forecasting,
 - ✦ Take advantage of geographic diversity of resources,
 - ✦ Improve reserves management,
 - ✦ Retool demand response to complement variable generation,
 - ✦ Access greater flexibility in the dispatch of existing generating plants, and
 - ✦ Focus on flexibility for new generating plants.



WREZ Phase 3 – Siting and Permitting

- Federal agencies created Rapid Response Team for Transmission to coordinate federal approvals across state lines. Modeled after California's MOU with BLM and CEC.
- Seven projects, five in the West
- WGA to engage the states and coordinate with federal agencies for siting transmission.



State/County Permitting Processes

- WGA has retained Aspen Environmental and Keyes and Fox to report on how to make permitting more efficient with regard to multi-state projects. Report to the governors June 2012
- Western Electricity Industry Leaders are working with WGA to identify ways of reducing wind and solar integration costs to consumers
 - Cooperation between utilities
 - Energy Imbalance Markets



Project Issues

- “If it’s on my property or I can see it from my property, we might have problems.”
- By 2020, without the construction of certain transmission lines, maintaining reliability and managing congestion will be difficult
- Efficiency of current permitting systems
- Threat of lawsuits keeps the process moving slowly
- One-time versus annuity payments
- Local benefit



Goal: Shorten Permitting Process

- Where are the barriers? Are they statutory or administrative? **How can the governors effect change?**
- Tangible results that current state administrations can leave as a legacy.
- Opportunity for the states and counties to learn from each other and coordinate efforts.
- Document an efficient process that could be codified with an updated Protocol.



An Approach to State-Federal Coordination on Multi-State Transmission Projects

- Need for inter-state coordination on proposed multi-state transmission projects in the West
 - Coordination with the RRTT
 - Collaboration among the various states with jurisdiction over projects
- This will be complex, and it will take time to develop an effective process
- In view of current RRTT activities, time is of the essence to get this process started



The Benefits of Such an Effort

- Will streamline the permitting process for new transmission lines
- Will identify/address siting challenges and issues
 - *As between a given state and the federal government*
 - *As among the different states that would have jurisdiction*
- Will facilitate integration of state-level efforts with the coordinated, RRTT-led federal effort
- States will be able to learn from each other's experiences



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