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### Day 2: Thursday, August 5, 2004: Xcel Energy Lookout Dispatch Center

Doug Larson

United States. Department of Energy

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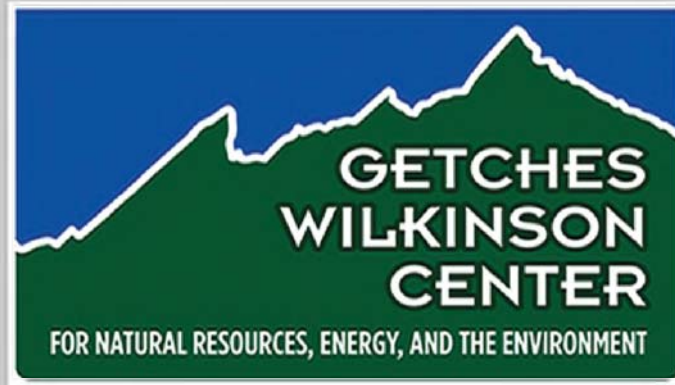
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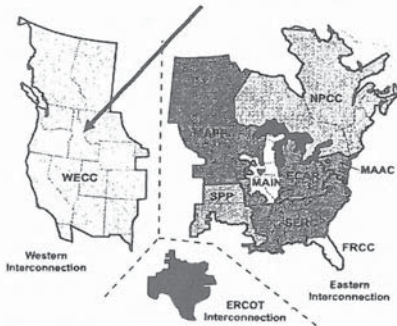
# Electric Transmission in the West

Doug Larson  
Western Interstate Energy Board

## Outline of Remarks

- Context
- Issues
  - Reliability
  - Resource adequacy
  - Market monitoring
  - Transmission planning & expansion
  - Transmission permitting
- Congressional checklist

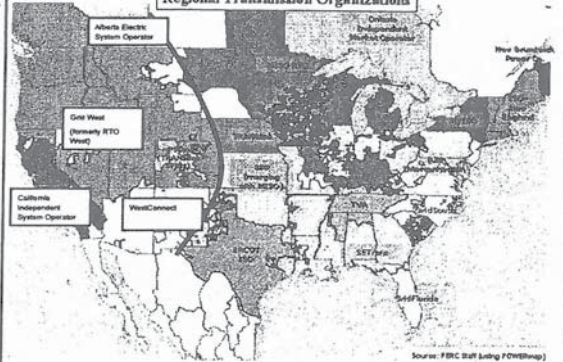
## Geographic Context



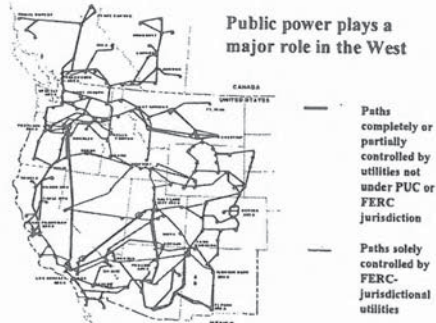
## Institutional Context

- Committee on Regional Electric Power Cooperation (CREPC)
  - WIEB committee of all PUCs and energy agencies in states/provinces in the Western interconnection
- Western Electricity Coordinating Council (WECC)
  - Grid-wide
  - Hybrid stakeholder/non-affiliated Board
- Regional Transmission Organizations (RTOs)
  - Existing "RTOs" - California ISO and Alberta Electric System Operator
  - RTOs under discussion - WestConnect and Grid West (formerly RTO West)
  - Seam Steering Group-Western Interconnection (SSG-WI)
    - Coordinating body among proposed RTOs

## Regional Transmission Organizations



## Public power plays a major role in the West



## Issues

- Reliability
- Resource adequacy
- Market monitoring
- Transmission planning & expansion
- Transmission permitting

## Reliability

- Western blackouts in 1996
- Stoppgap Reliability Management System
  - Based on parties voluntarily entering into contracts to subject themselves to penalties for non-compliance with standards
  - Most, but not all control areas signed contracts
- Western industry and Western Governors have been lobbying for federal reliability legislation for seven years
  - Delegation and deference to interconnection-wide standards
  - Authorize regional advisory bodies

## Resource Adequacy

- Inadequate generation and lack of demand response were factors in 2000-2001 Western electricity crisis
- No resource adequacy standard in the West
- On-going work to develop standard by CREPC and WECC
  - DOE via Lawrence Berkeley Lab is helping

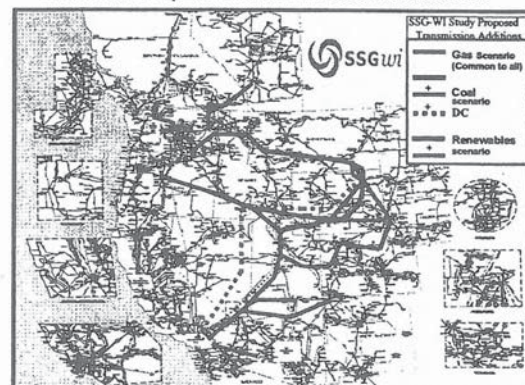
## Market monitoring

- Critical to avoiding repeat of 2000-2001 crisis
- Existing monitoring
  - FERC's Office of Market Oversight and Investigations
  - California ISO market monitor
- Existing efforts not sufficient
  - Need interconnection-wide market monitor
  - Need to promote market transparency
  - Need sharing of information between market monitors and states

## Transmission Planning & Expansion

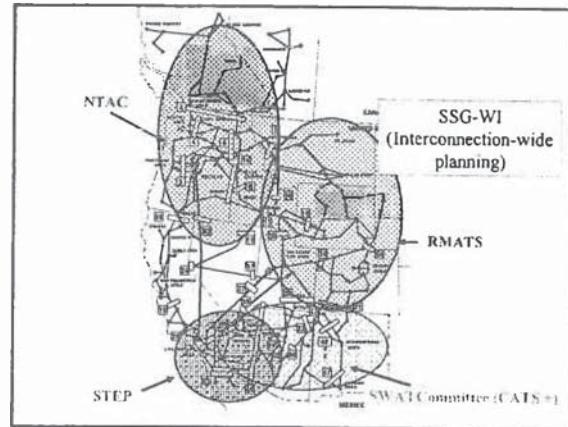
- May 2001 Governors ask what transmission is needed
  - No response from industry
  - Crash effort to do conceptual transmission plan for Western Interconnection
- August 2001
  - Conceptual transmission plans report
  - Governors ask that pro-active transmission planning effort be institutionalized
- SSG-WI
  - First broad stakeholder process
  - First transmission planning to use public data base
  - Interconnection-wide planning report in October 2003

Transmission Expansion in SSG-WI Generation Scenarios



## Sub-Regional Transmission Planning

- Need to supplement interconnection-wide plans with sub-regional plans
- Four sub-regional planning efforts underway
- Underlying premises:
  - Open planning process will identify needed projects and cause potential sponsors to coalesce and propose a project (CATS and STEP examples)
  - Open process will facilitate regulatory approvals for cost recovery and siting



## Key Elements of RMATS Process

- Launched by WY and UT governors
- Stakeholder driven
- Public database (same as used in SSG-WI and STEP work)
- Consideration of cost allocation and cost recovery

## Tentative Recommendations from RMATS



## Transmission Permitting: Context

- No state in the Western Interconnection has ever denied a permit for an interstate transmission line
- Major challenge is permitting on federal lands
- Western power market is becoming more regional requiring more collaboration in permitting interstate transmission
- 12 Western governors, Alberta and 4 federal agencies (DOI, DOE, USDA, CEQ) signed WGA Transmission Permitting Protocol

## Features of the Western Protocol (1)

- Goal is collaborative review of interstate transmission proposals
- Does not preempt existing authorities of any state or agency
- Applies to proposed interstate transmission lines

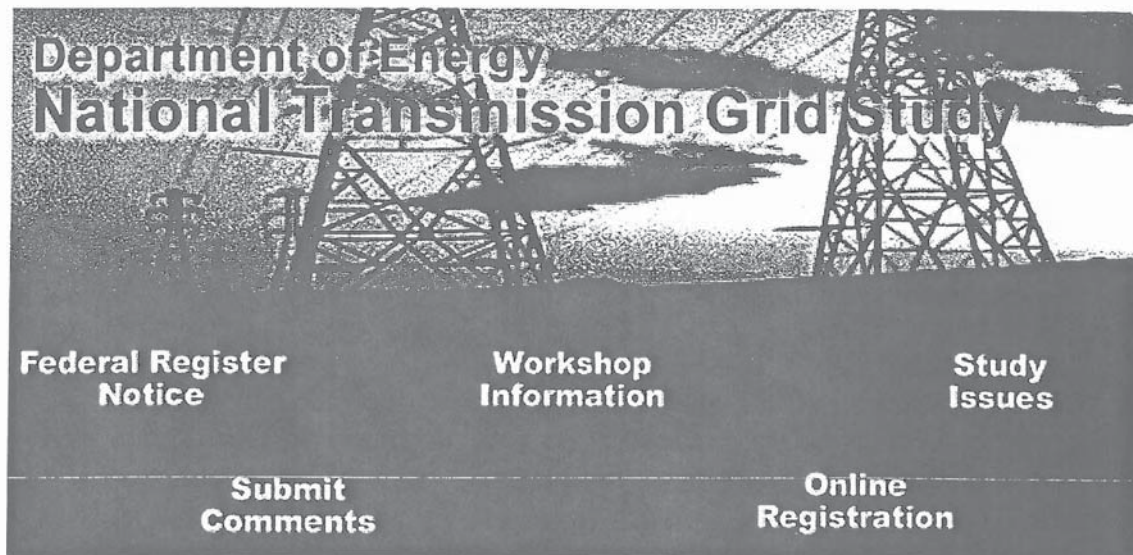
## Features of the Western Protocol (2)

- **Permit review process**
  - Designate Project Teams
  - Develop information to allow decisions on “need”
  - Joint activities, records, environmental reviews, timelines, information requests
  - Transparency of information
- Web site -- <http://www.westgov.org/wieb/>

## Congressional Checklist

- ✓ Enact mandatory reliability standards in pending energy legislation
  - Key elements of legislation: federal law backstop for standards; deference/delegation; authorize regional advisory bodies
- ✓ Resources to DOE for technical assistance to West on:
  - Tools/approaches to resource adequacy standards
  - New models to evaluate need for transmission expansion; and
  - New transmission technologies
- ✓ Support greater transparency in electricity markets
- ✓ Resources to BLM and Forest Service on corridor cataloging and designation

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## Energy Secretary Abraham Announces Recommendations to Modernize the Nation's Electric Transmission System

*National Transmission Grid Study Released*

[View the Documents](#)

WASHINGTON, DC – Secretary of Energy Spencer Abraham today recommended ways to facilitate investment in the Nation's transmission infrastructure to improve reliability and reduce electricity costs to consumers.

The recommendations contained in the National Transmission Grid Study were developed in response to the President's National Energy Policy directive to Secretary Abraham to study the Nation's transmission system, identify transmission bottlenecks and identify measures to eliminate those bottlenecks.

"Our objective is simple: to provide our citizens with a reliable supply of electricity at the lowest possible cost," Secretary Abraham said in remarks before the Secretary of Energy Advisory Board (SEAB) public meeting on Wednesday afternoon. "We will work to unleash innovation and strengthen our markets to allow entrepreneurs to develop a more advanced and robust transmission system that meets growing energy demand in the years ahead."

Over the past 10 years, competition has been introduced into wholesale electricity markets with the goal of reducing costs to consumers. Today, wholesale electricity sales save consumers nearly \$13 billion annually. However, the Nation's outdated transmission system was not designed to support today's regional, competitive electricity markets. Investment in the transmission system has not kept pace with the growth in generation and the increasing demand for electricity. Transmission bottlenecks threaten reliability and cost consumers hundreds of millions of dollars each year.

The National Transmission Grid Study contains 51 specific recommendations including:

- In an open public process, DOE will assess the nation's electricity system every two years to identify national-interest transmission bottlenecks.
- Regional Transmission Organizations (RTOs) should be responsible for maintaining the reliability of the grid and ensuring that transmission bottlenecks are addressed.
- DOE will work with the Federal Energy Regulatory Commission (FERC) and stakeholders to develop objective standards for evaluating the performance of RTOs and will collect the information necessary for this assessment.
- DOE will work with National Governors Association (NGA), regional governors' associations, National Association of Regulatory Utility Commissioners (NARUC), and other appropriate state-based organizations to promote innovative methods for recovering the costs of new transmission-related investments. These methods should consider situations where rate freezes are in effect and also examine incentive regulation approaches that reward transmission investments in proportion to the improvements they provide to the system.
- Entrepreneurial efforts to build merchant transmission lines that pose no financial risk to ratepayers and that provide overall system benefits should be encouraged.
- DOE, working with FERC, will continue to research and test market-based approaches for transmission operations, including congestion management and pricing of transmission losses and other transmission services.
- DOE will continue to work with NGA, regional governors' associations, and NARUC to remove regulatory barriers to voluntary customer load-reduction programs, and targeted energy-efficiency and distributed-generation programs that address transmission bottlenecks and lower costs to consumers.
- Federal legislation should make compliance with reliability standards mandatory.
- Penalties for noncompliance with reliability rules should be commensurate with the costs and risks imposed on the transmission system, generators, and end users by noncompliance. Penalties collected should be used to reduce rates for consumers.
- DOE will work with FERC, state Public Utility Commission (PUC), and industry to ensure the routine collection of consistent data on the



frequency, duration, extent (number of customers and amount of load affected), and costs of reliability and power quality events, to better assess the value of reliability to the nation's consumers.

- FERC and DOE should work with states, pertinent federal agencies, and Native American tribes to form cooperative regional transmission siting forums to develop regional siting protocols.
- DOE will work with NGA, regional governors' associations, NARUC, and other appropriate state-based organizations to develop a list of "best practices" for transmission siting.
- All federal agencies with land management responsibilities or responsibilities for oversight of non-federal lands should assist FERC-approved RTOs in the development of transmission plans.
- Congress should grant FERC limited federal siting authority that could only be used when national-interest transmission bottlenecks are in jeopardy of not being addressed and where regional bodies have determined that a transmission facility is preferred among all possible alternatives.
- DOE will work with industry to develop innovative programs that fund transmission-related research and development, with special attention to technologies that are critical to addressing transmission bottlenecks.
- DOE and the national laboratories will continue to develop cost-effective technologies that improve the security of, protect against, mitigate the impacts of, and improve the ability to recover from disruptive incidents within the energy infrastructure.
- DOE will continue to provide training in critical infrastructure protection matters and energy emergency operations to state government agencies and private industry.
- DOE will create an Office of Electric Transmission and Distribution.

More information about the National Transmission Grid Study can be found on the Department of Energy Web site [www.energy.gov](http://www.energy.gov).

### **National Transmission Grid Study**

- **Screen version**  
PDF Format, 1.98 MB, 108 pages
- **Print version**  
PDF Format, 17.83 MB, 108 pages