



ELECTRIC TRANSMISSION 101: Regulation

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Obligatory Disclaimer

Any views expressed in this presentation are my own, and do not necessarily represent the views of the Federal Energy Regulatory Commission or the United States Government.

U.S. Electricity Regulation: Who is Responsible for What?

Federal Regulation (FERC)

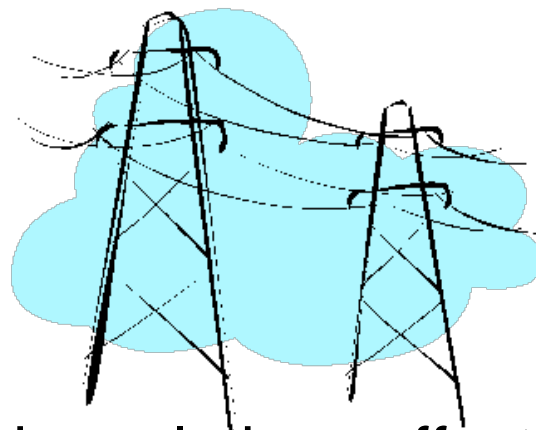
- Wholesale sales of electricity for resale in interstate commerce
- Transmission of electricity in interstate commerce
- (Very) Limited transmission siting authority
- Permitting of hydro plants
 - Otherwise, no generation planning or facility siting authority
- Reliability of transmission grid

State Regulation (PUCs)

- Retail sales to end users
- Low-voltage distribution
- Siting of power plants and transmission lines
- Resource planning; *i.e.* the generation types (coal, natural gas, renewable) used by a utility to serve customers

Transmission Regulation Overview

- Transmission is regulated by a mix of federal, regional, state, and local rules
 - Ratemaking
 - Operation
 - Planning
 - Siting
 - Reliability
- Collectively, transmission-related regulations affect the ongoing reliability of the system, the economic efficiency of delivering energy to consumers, and the ability to add new generation to the overall mix of electricity resources
- A robust national electric grid is key to competitive markets and achievement of public policy goals at the federal and state level (such as the addition of renewable resources like wind and solar)



Transmission Ownership/Operation

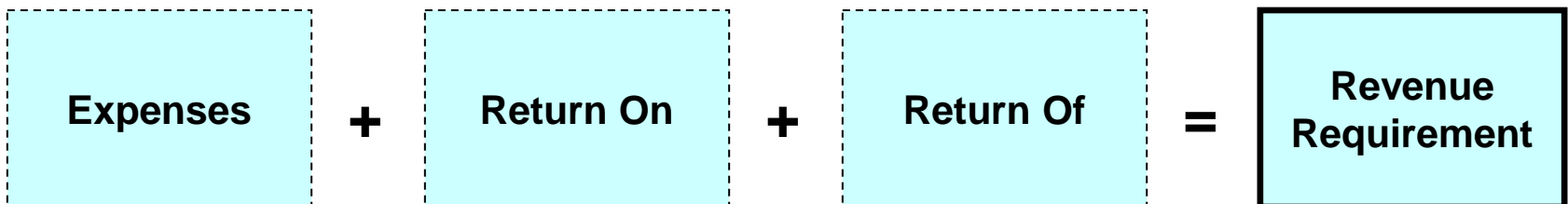
- **Ownership of the transmission grid is fragmented - hundreds of discrete owners**
 - Roughly two-thirds of U.S. transmission is owned by investor-owned utilities; roughly one-third is owned by public entities
 - Ownership affects regulatory jurisdiction
- **Many transmission owners have turned operational control over to independent regional operators**
 - Independent regional operators serve roughly two-thirds of electricity consumers in the United States
 - Operational control also affects regulatory jurisdiction

Federal Regulation

- **A number of federal entities have authority over transmission-related matters depending on location and market structure, including:**
 - Federal Energy Regulatory Commission
 - regulation of “public utilities” under FPA - corporate matters, rates and terms of service
 - approval of reliability standards for broader set of utilities
 - Department of Energy
 - policy, data collection and analysis, R&D
 - Department of Agriculture/Forest Service, Department of Interior/ Bureau of Land Management
 - rights of way and land use management
 - Federal Utilities
 - ownership and operation of federally-owned facilities

FERC Authority

- Federal Energy Regulatory Commission regulates interstate transmission rates, terms and conditions of service for public utilities
- **General Ratemaking Principles** assure rates for service are just and reasonable and not unduly discriminatory
 - Largely driven by embedded system costs, not cost of serving the next user
 - Based on “cost of service” principles
 - Revenue requirement is the amount needed to cover operating expenses, taxes, interest, and a reasonable rate of return



FERC Authority (cont'd)

- **FERC requires “open access” to jurisdictional transmission facilities**
 - Basic principle: treat others as you treat yourself
 - Non-discriminatory access by generation seeking to deliver to the market
 - Open access applies to transmission used in interstate commerce (including unbundled retail transmission, but not bundled retail transmission)
 - Transmission planning subject to open and transparent rules
 - Must have transparent cost allocation methods in place for regional and interregional projects

- **Adopts and enforces reliability standards**
 - Standards are developed by the North American Electric Reliability Corporation (NERC); apply to all users, owners and operators

Regional Operators

- **Regional Transmission Organizations and Independent System Operators have been created by regional stakeholders in response to FERC's Orders 2000 and 888, respectively, to:**
 - Facilitate competition among wholesale suppliers
 - Provide non-discriminatory access to transmission by scheduling and monitoring the use of transmission
 - Perform planning and operations of the grid to ensure reliability
 - Manage the interconnection of new generation
 - Oversee competitive energy markets to guard against market power and manipulation
 - Provide greater transparency of transactions on the system
- **RTOs and ISOs are subject to FERC jurisdiction**
 - Participation by public entities in an RTO or ISO results in FERC jurisdiction over RTO/ISO-related activities
 - RTO/ISO market structure can affect state jurisdiction (e.g., resource adequacy)

Order No. 1000

- **Regional Transmission Planning Requirements**
 - Establish open and transparent processes to identify projects that can meet regional needs more efficiently or cost effectively than locally-planned alternatives
 - Processes must allow for input by stakeholders (including users of the system, state policymakers, and other affected entities)
- **Planning for Public Policy Requirements**
 - Establish procedures to consider transmission needs driven by local, state or federal public policy requirements (RPS, carbon, etc.), and potential solutions to those needs, in transmission planning processes
- **Requirements for Coordination Between Regions**
 - Regions must share information on transmission needs, and develop procedures to jointly evaluate interregional projects that may be more efficient or cost effective solutions to each region's individual needs.

Order No. 1000 cont.

- **Cost Allocation Requirements**
 - Establish regional cost allocation methods for new transmission projects selected under the regional planning process
 - Methods must satisfy six principles
 - Basic requirement: those who benefit must share in costs, and those who do not benefit may not be assigned costs
- **“Non-Incumbent” Transmission Developer Reforms**
 - Promotes competition in transmission development by removing barriers to participation by new entrants
- **Compliance Process**
 - Filings to comply with regional planning requirements made; Commission has reviewed nearly all of them
 - Filings to comply with interregional planning requirements due July 10

Other FERC Authority

- Monitors energy markets to protect customers from market manipulation
- Authorizes public utility asset dispositions and mergers over \$10MM
- Oversees issuance of certain securities
- Resolves disputes among market participants
- Limited backstop siting authority for “national interest electric transmission corridors”

State Regulation

- A number of state entities play a role in transmission issues:
 - Public Service/Public Utility Commissions (retail rates, siting)
 - Environmental agencies (land use, siting, environmental standards)
 - Legislatures
 - Local Authorities (siting)
- States rules and requirements for transmission siting are not uniform and there are no formal compacts; many states have no siting rules and may be governed by local authorities (counties)
- Most states regulate retail electric rates that end use customers pay, including the collection of transmission revenues
- Land use, contracts, corporate matters (e.g., public utility status) eminent domain are usually under state law
- There are entities that are not under state regulation, such as municipal utilities, cooperative utilities and others