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# ELECTRICITY MARKETS DEVELOPMENT PROGRAM- GEMTP II



# Transmission Planning

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# Key Transmission Policy Questions

- When should regulators intervene in the market to provide additional transmission resources?
  - Economic upgrades
  - Reliability upgrades
- Who should pay for such upgrades?
- Should other types of resources be procured to meet “transmission needs”?

# Economic Characteristics of Transmission

- Large, lumpy (i.e., large economies of scale), sunk investments
- Difficult to define property rights
- Issues of free-ridership due to positive externalities
- Cannot separate generation from transmission; that is what LMPs are all about

# Fundamental Conflict

- Transmission is both a complement and a competitor to generation and load resources
  - Complements are products tend to be used together
    - e.g., cameras and film
- Generation and load management are procured competitively but transmission, for the most part, is procured via regulation
- How to connect markets with transmission expansion policies?



# Planning Process Principles

- Holistic Integrated Regional Planning Process
  - Integrate all needs and all solutions
  - Involve stakeholders
  - Stay focused on the states
- Fully Integrated Planning, Markets, and Operations
- Infrastructure Management as an Integrated System – Single Entity Decision-Making
  - Well defined cost allocation / cost recovery
  - Perform risk assessments
  - Develop an aging infrastructure strategy

# Transmission Planning

## Integrated Resource Planning

- Weighing costs and benefits of alternative solutions
- Predetermined criteria
- Overall societal benefits vs. ratepayer benefits
- Reliability, Operations, Regulatory Approvals Tied to IRP Approval

# Transmission Planning

## Transmission Planning for Reliability

- Solving for Reliability Violations
- Transmission as Primary Resource vs. Transmission as a Competitive Alternative
- Long Term Planning Horizon---15-20 Years

# Transmission Planning

## Generator Interconnection

- “First Come/First Served”
- Identification of Most Needed Projects
- “Build It and They Will Come” Model

# Transmission Planning

## Transmission Planning for Economics

- Accelerating/Right Sizing Reliability Projects
- Consideration of Alternatives
- Importance of Assumptions and Revisiting the Plan

# Transmission Rate Recovery

## Cost Allocation Tools

- Power Flow Based methodology
- Socialization of High Voltage Facilities
- License Plate Rates
- Highway/Byway Plans

# Transmission Rate Recovery

- Cost plus Investment
- Incentive Rates of Return
- Valuation Based on Shared Savings
- Mixed Public/Private Partnerships

## Public Involvement in the Planning Process

- Openness
- Transparency
- Regulatory Review
- Customer Participation