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Transmission Grid Issues

Presentation to Senate ETIC
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Some grid history and background

- Transmission was originally built by utilities to carry power from their generators to their loads
- Later interconnections for economy transactions and reliability
- Coordinated construction related to jointly developed generators
- Recent: 3rd party use, open access

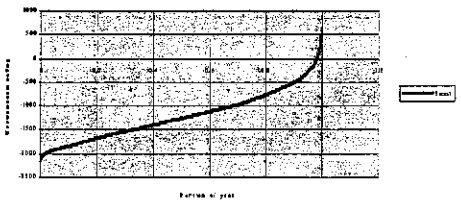
Grid management

- Simple rules worked in pasts:
- Contract path
- Physical rights to transmission capacity
- Congestion management by limiting use and curtailing schedules
- Non-firm access to unused space
- Physical flow different than scheduled flow

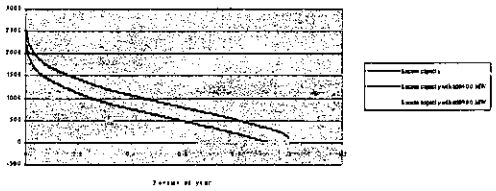
Results

- Most capacity fully allocated
- Little or no firm capacity available
- However actual loadings follow a loading curve
- Lots of space available much of the time on most paths but not accessible

Typical Loading Curve



Excess Capacity



Expansion

- High voltage lines expensive, difficult to site
- Can't be built in small increments
- Lead times: planning, siting, ROW
- BPA spent hundreds of millions to expand WOH path to accommodate new generation project.

Challenges: Efficient Management

- Efforts to put grid under regional mgmt
- Manage actual congestion
- FERC orders: 888, 2000, SMD
- Grid West would make existing capacity available for firm use
- Opposition: cost, difficulty, preserving rights
- BPA "semi-firm" product

Challenges: Expansion

- RTO Information on efficient expansion
- RTO backup construction authority
- Uncertainty about future RTO construction

Lots of Activity and Interest

- RMATS, NTAC planning studies
- Current interest from resource developers
- Proposals for alternate funding arrangements
- Proposals for state bonding (Trans Authority)
- Interstate highway model/allocated costs
- Proposal – expanded WAPA authority
- Proposal – reduce regulatory oversight
- NWE subscription MT-ID expansion
- Northern Lights proposal

Some Balancing Concerns

- Efficient expansion (RTO) would balance interests of generators and consumers
- Focus on capacity expansion without consideration of consequences may can harm consumers and landowners
- Example: unintended consequences of removing siting oversight