BENEFICIARIES OF TRANSMISSION EXPANSION
Who, Where, When and How Much?

Doug Jaeger
Vice President, Transmission
Xcel Energy
Northern States Power Company - Minnesota

Electric Customers: 3.3 million
Gas Customers: 1.8 million

Northern States Power Company - Wisconsin

Public Service Company of Colorado

Southwestern Public Service

5th Largest Combination Electric and Gas Utility (based on customers)
Electric Customers: 3.3 million
Gas Customers: 1.8 million
The New Transmission Directive

- Build it fast, cheap and out of my visual sight after having an exhaustive, transparent planning process...
- Make sure power is at my outlets 24x7 and of high-grade quality...
- Prevent every possible terrorist attack scenario and comply with the 1000+ requirements underlying the 83 mandatory reliability standards...

- Access those vast remote renewables, and while you're at it, use advanced technologies...
- Get a higher ROE with incentives, but don't disrupt the base rates...
- But more importantly, don't designate me as a beneficiary...
The New Transmission Directive

Can transmission be expanded under this rubric?
YOU BET IT CAN!

- Build it fast, cheap and out of my visual site after having an exhaustive, transparent planning process...
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- Prevent every possible terrorist attack scenario and comply with the 1000+ requirements underlying the 83 mandatory reliability standards...
- Access those vast remote renewables, and while you're at it, use advanced technologies...
- Get a higher ROE with incentives, but don't disrupt the base rates...
- But more importantly, don't designate me as a beneficiary...

PLEASE READ THE FINE PRINT: But everyone's got to give to get
Framing the Rubric...

Not since the 1970s, has the US collectively pursued an energy infrastructure build-out.

Regional markets pool resources and economize expansion projects.

Investors and utilities want regulatory certainty expansion projects.

The consequences:
- Expensive congestion
- Declining transmission capacity per MW-mile

The drivers:
- Reliability
- Economics
- Resource expansion (including renewables)
- Security

The hurdles:
- Cost recovery
- Interstate siting
- Overbuilds for future load and supply growth
What Hurdles Have Been Cleared?

- **EPAct 2005**
  - National Interest Electricity Corridors
  - Backstop siting authority
  - Transmission incentives
  - Mandatory reliability standards including cyber security

- **FERC**
  - EPAct Provisions
  - Order 890 OATT reform
  - Order 2003 & 2006
  - CA ISO financing mechanism proposal
  - Fuel neutral with a thumb on the scale for renewables
What Remains…

- Cost recovery/ regional pricing
- State coordination on regional transmission siting

These are not insurmountable, but they are peppered with political and regulatory landmines.
## Cost Recovery/Regional Pricing

### The Issues

<table>
<thead>
<tr>
<th>Classification</th>
<th>Determining reliability, economic, or generator outlet</th>
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<tbody>
<tr>
<td>Beneficiaries</td>
<td>Assessing expansion benefits to retail versus wholesale and subregion versus subregion</td>
</tr>
<tr>
<td>Payments</td>
<td>Divorcing investment from native load repayment obligation</td>
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</tbody>
</table>
Cost Recovery -- Classification

Perception:
Each project is EITHER reliability, economic OR generator outlet

Reality – all projects cross lines into 2 or all 3 classifications

Reality – projects can be classified for one purpose locally, a different purpose subregionally, and yet another across the region

Reality – project can benefit a single entity or subregion while causing constraints two states away

Reality – classifications can change over time: “reliability today, economic tomorrow”
Cost Recovery -- Classifications

**Pros / Benefits**
- Models promote construction as entities race to build in order to spread their costs.
- Transmission projects generally benefit a region or portions of a region.

**Cons / Challenges**
- An entity with limited need for new transmission may pay more for others’ projects.
- Entities still subject to uncertainty in cost recovery.
- “Beneficiaries” may dispute RTO determinations.
- Benefits or beneficiaries change over time while classification is determined at a single point in time.
Cost Recovery – Beneficiaries

**Perception:** Models are scientific and impartial enough to appropriately allocate cost to beneficiaries

**Reality** – Some positive movement with beneficiary models
- Have promoted transmission as costs are split with a portion spread with a postage-stamp rate
- Have had both state and FERC regulatory participation which is leading towards the necessary regulatory certainty
Perception: Models are scientific and impartial enough to appropriately allocate cost to beneficiaries

Reality – Some unintended consequences with spreading of costs
- Entities that have aggressively constructed in years past will see more costs put to their customers
- Entities with small transmission asset base and large load requirements will also see more costs put to their customers
- If an entity is facing a major build-out, its native load will not have to bear the full burden
## Cost Allocation Case Studies

<table>
<thead>
<tr>
<th>Reliability projects</th>
<th>SPP</th>
<th>Midwest ISO</th>
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<tbody>
<tr>
<td></td>
<td>33% postage stamp</td>
<td>20% postage stamp</td>
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<tr>
<td></td>
<td>67% subregional allocation</td>
<td>80% subregional allocation</td>
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<table>
<thead>
<tr>
<th>Economic projects</th>
<th>100% direct assigned</th>
<th>20% postage stamp</th>
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<tbody>
<tr>
<td></td>
<td>Currently under study</td>
<td>80% subregional allocation</td>
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</table>

<table>
<thead>
<tr>
<th>Generator Outlet</th>
<th>100% generator</th>
<th>50% generator*</th>
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<tbody>
<tr>
<td>0% reliability spread</td>
<td>50% reliability spread</td>
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<thead>
<tr>
<th>Model</th>
<th>Megawatt Mile</th>
<th>Line Outage Distribution Factor Studies (LODF)</th>
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<tr>
<th>Weaknesses</th>
<th>External SPP inputs</th>
<th>Use of Summer Peak</th>
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<tr>
<td></td>
<td>Time horizon</td>
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<tr>
<td></td>
<td>Projects fall into multiple buckets</td>
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<tr>
<th>Current debate</th>
<th>Highway/byway</th>
<th>Continue License Plate rates for existing facilities</th>
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<tr>
<td></td>
<td>Expand postage stamp</td>
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Cost Allocation – Regional Pricing

**Perception:**
- FERC approval of RTO allocation methods ends the cost allocation debate

**Reality** – States may not allow retail ratepayers to pay for 3rd party upgrades through...
  - ...postage stamp rates – including the non-generator funded allocation
  - ...subregional allocations – including the non-generator funded allocation

**Reality** – Generators cannot afford the generator outlet proposal

**Reality** – States may not allow retail rate payers to pay for transmission that moves power from one state to another
Regional Pricing Illustration

Retail/Wholesale Recovery Illustration: Pre- & Post-RECB

Assumptions
345-kV Line
$100MM Investment
$16.5MM ATRR

ATRR Allocation:
20% Postage Stamp
$3.3MM
80% Subregional Allocation
$13.2MM

Revenue Collected:
$16.5 MM
Paid back to VITO

<table>
<thead>
<tr>
<th>Investment Allocation</th>
<th>Pre-RECB I - ATRR</th>
<th>RECB I - ATRR</th>
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<tr>
<td></td>
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Retail Wholesale Other
MISO TOs

100% VITO
Postage Stamp
Subregional Allocation
How Do We Advance The Ball?

**Resolve the cost-recovery debate**

**Short-term:**
- Land on acceptable classification process – K.I.S.S.
- Resolve the generator-funding issue related to distributed, renewable resources – *accept the inevitable over-build*
- Lean toward higher allocation to postage stamp, reduced allocation to beneficiary
- Eliminate the seams between states and FERC

**Long-term:**
- State support for rolled in pricing w/ postage stamp approach for new regional, high-voltage investments
- Clear methodology on beneficiary allocation for local load-serving projects