

Valuing Reliability Resources

NARUC Summer Meeting

July 12, 2004

Lawrence J. Reilly
Senior Vice President and General Counsel
National Grid USA
lawrence.reilly@us.ngrid.com



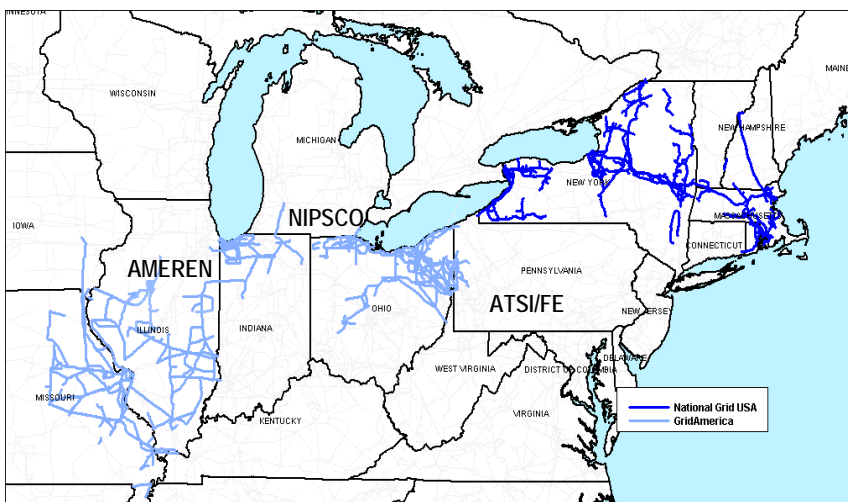
National Grid

National Grid Overview

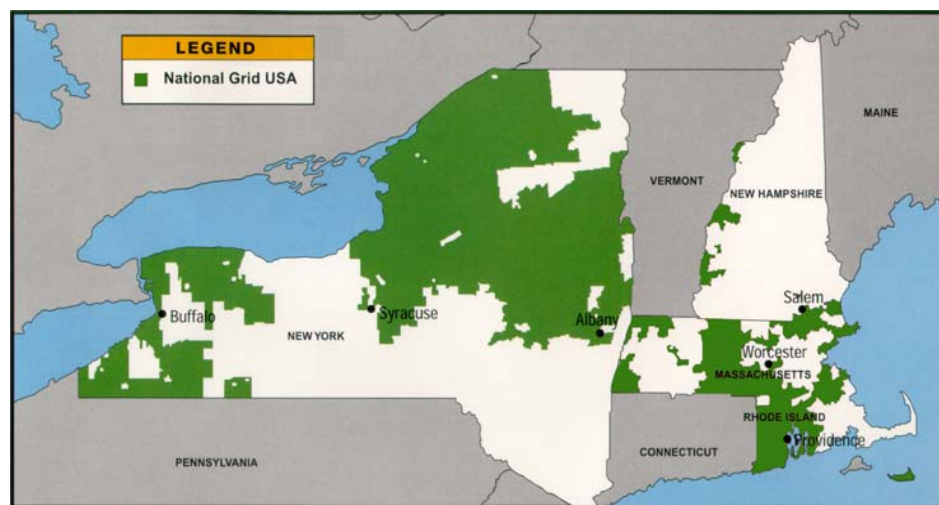
- ◆ **One of the world's largest investor owned utilities**
 - \$23 billion market capitalization
 - Focused on ownership and operation of large complex networks
 - \$2.8 billion capital budget
- ◆ **One of the 10 largest utilities in the US**
 - 3.2 million electric customers in New England and New York
 - 550 thousand gas customers in New York
 - 9,000 mile electric transmission system in the Northeast
 - GridAmerica – independent transmission company in the Midwest
 - Providing transmission planning and asset management services to three major companies within MISO

National Grid Overview

Transmission Operations

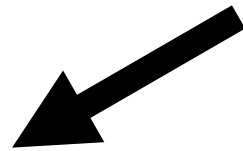


Distribution Service Territory



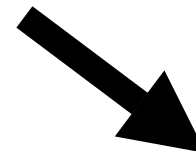
How much is Reliability worth to customers?

- ◆ **Answer no doubt differs by customer**
- ◆ **Important to consider two separate elements of reliability**



Resource Adequacy

- Is there sufficient generation available to meet demand?



Transmission and Distribution Network

- Is the necessary delivery infrastructure in place?

How much is Reliability worth to customers?

◆ Resource Adequacy

- Shortfalls in capacity very disruptive
 - Rolling blackouts within a region
- In fully functional power markets, prices will reflect value of resource adequacy
- ICAP markets can value resource adequacy
 - Need to get design right

◆ Transmission System

- Outages impacting customers are rare, but can have wide-spread consequences
- Reliable transmission systems avoid service interruptions and reduce congestion costs in power markets
- Investments to improve reliability can provide economic benefits ... and vice-versa

◆ Distribution System

- Impact of outages generally local
- Public service obligation to provide acceptable level of service

How much is Reliability worth to customers?

- ◆ **Final report on the August 2003 Blackout estimates the total cost of the Blackout in the US to be between \$4 and \$10 billion**
 - This compares with estimated annual operating revenues of \$36 billion for the investor owned utilities in the region
 - Transmission related revenue requirements are estimated to account for less than 4% of that figure

- ◆ **Additional investment in transmission infrastructure can increase reliability and provide economic benefits at relatively low cost**

Who should pay for Reliability?

◆ **Resource Adequacy**

- Costs should be included in market price of power
 - Inclusion of generation costs in regulated rates precludes efficient competition in States with retail access

◆ **Transmission**

- Costs of regional network shared among all users
- Beneficiaries of incremental investments should pay, but counter productive if carried to extreme

◆ **Distribution**

- All customers pay for share of system through regulated rates
- Customers have individual options to enhance reliability
 - Second feeders
 - Uninterruptible Power Supply systems
 - Backup generation
- Or receive credit for accepting service interruptions

Can there be too much Reliability?

◆ **Resource Adequacy**

- Yes – if over supply is the result of ISO intervention in capacity markets to stay in “comfort zone”
 - Long-term negative consequences for competitive markets

◆ **Transmission and Distribution network**

- In theory yes, but not a practical concern
 - Significant underinvestment in transmission to date
 - Lack proper incentives and business focus
 - Difficult to site new transmission
 - Lack of effective regional planning
 - Regulatory oversight of investments
 - Required demonstration of need and cost effectiveness
 - Distribution customers seeking improved power quality

What needs to be considered in providing Reliable Service to Customers?

◆ **Markets and Incentives work**

- Rely on markets, not re-regulation of generation, to ensure resource adequacy
- Small share of congestion cost reductions will go a long way to fund transmission system enhancements
- FERC policy to encourage transmission investment with ROE adjustments extremely helpful

◆ **Continued Regulatory Oversight**

- Mandatory reliability standards for transmission
- Service quality standards for distribution

◆ **Provide customers as much choice as possible**

- Individual investments to enhance reliability
- Compensation for decisions to interrupt service