Transforming the Grid to Revolutionize Electric Power in North America
“If the electricity infrastructure of this country is inadequate or in some way excessively costly, it will undermine economic growth, and is therefore a major issue that must be addressed.”

Alan Greenspan
Chairman of the Federal Reserve Board
January 26, 2001
Electricity Market Facts

- ~$1 trillion total asset value
- $247 billion annual revenues
- 131 million customers
- 3200 utilities

Without electric power the $10.4 trillion U.S. economy would come to a halt

Transmission and distribution are essential to the electric market supply chain
Recent Major Blackouts

- Texas ‘03
- Detroit ‘00
- Northern California ‘01
- San Francisco ‘00
- Delaware ‘99
- New Orleans ‘99
- Chicago ‘99
- New York ‘99
- West Coast ‘96
- Atlanta ‘99
“...It is a plan to modernize our electricity delivery system. It is a plan which is needed now. It is needed for economic security. It is needed for national security...”

George W. Bush February 6, 2003
Office of Electric T&D

Director

RD&D

Analysis

Electric Systems RD&D
- Transmission Systems
  - Including high capacity conductors
- Distribution and Integration
  - Including interconnection of distributed energy
- Electricity Storage
- Superconductivity

Electric Power Systems Operations and Analysis
- Electricity Policy Modeling and Analysis
  - Provide Check/Balance to the FERC
- Electricity Restructuring
- Electricity Exports
  - Including Presidential Permits
- Power Marketing Administration Liaison
A competitive marketplace for expanding the use of clean, efficient, reliable, and affordable energy resources

Policy analysis, modeling, and data development

Coordination of Federal, Regional, and State Agencies

Energy RD&D

The Ultimate Goal

An Integrated Approach
National Electric System Vision and Roadmap Process

Participation is Paramount!

Vision |
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Roadmap |
Implementation |

Technologies |
Markets |
Policies |

Goals |
Action |
Agenda |

RD&D |
Regulations |
Market Designs |

Partnerships |

Industry Today |

Next Step: National Electric System Roadmap Meeting
July 8-9, 2003 (Washington, DC)

Industry Tomorrow |

April 2-3, 2003
“Grid 2030” – A National Vision

Vision

“Grid 2030” energizes a competitive North American marketplace for electricity. It connects everyone to abundant, affordable, clean, efficient, and reliable electric power anytime, anywhere. It provides the best and most secure electric services available in the world.

Draft proceedings and vision documents can be downloaded from www.energetics.com/electric.html
National Electric Backbone

For coast-to-coast power exchange
Regional Interconnections

Backbone plus interconnected regional networks
Local Grid

Backbone, interconnected regions, plus local and micro-mini-grids
Resulting in a National Grid

Plus integrated communications and controls architecture
“We will work to unleash innovation and strengthen our markets to allow entrepreneurs to develop a more advanced and robust transmission system that meets growing energy demand in the years ahead.”

Secretary of Energy Spencer Abraham, May 8, 2002