



# INFORMATION, REGULATION AND LIABILITY

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# THE GOOD OLD DAYS

- The Traditional Utility:
  - Vertically Integrated
  - Generation Dispatch was relatively simple
  - Transmission and Distribution monitoring was rudimentary
  - Customers mostly on monthly billing
  - Basic Accounting and Financial data
  - Predictable Regulatory Environment
    - Rate Cases every few years
    - Standard FERC Forms
- Being CIO was a relatively stress free existence

## BRAVE NEW WORLD - Uncertainty Is the Norm

- What's Your Corporate Structure?
- What's Your Regulatory Environment?
- What Are Your New Technologies?
- What's Your Environmental Policy?
- Having Fun with SarbaneS-Oxley?
- Are You Ready for Cyber-Terrorism?

# What's Your Corporate Structure?

- Vertically Integrated – that's relatively easy
- Divestiture:
  - T&D Utility
    - Got to interact with generators, retailers
    - Transaction data – conduit between MPs
  - Generator – signals from dispatch, trading desk
  - Retailer – back office, trading desk
- Holding Company
  - Code of conduct – “chinese walls”
  - Operational separation – data control
- Competitive affiliates in other states – integration problems

# What's Your Regulatory Environment?

- What's Your Regulatory Environment?
  - Traditional or ISO/RTO & FERC & State
    - ISO requires additional data flows
    - Coordination of control areas
    - Generator bids, load bids, settlement
  - State mandated divestiture?
    - Myriad of rules
  - Retail Competition
    - Native customers, competitive access

# What's Your New technologies

- Smart Grid
  - Data flows up and down the wires
  - More efficient operation, faster response requires data to be available through the firm
- AMI
  - Millions of meters with 15 minute or hourly data
  - Utility has to collect and transmit
  - Utility manages data or must interface with ISO to send data for settlement
  - Third party operator? – one more interface
- Combined Cycle Units, Wind, DC lines, DG, Storage
  - Changes in operations, dispatch, software

# What's Your Environmental Policy?

- Renewable Portfolios
  - Got to keep state and federal regulators happy
  - More data to collect, reports to generate
  - More complexity in generation, contracting
- Carbon Tax/Cap
  - Another layer of complexity on top of NOx, SOx, Mercury, Particulate, Water Quality, etc.
  - Offsets require another set of contracts to negotiate, monitor, report
- Energy Efficiency & Demand Response
  - Administer programs, sell services
  - Still another set of reports, monitoring, settlement, M&V activities

# Having Fun with Sarbanes-Oxley?

- Monitoring and Reporting Requirements have exploded
- Both a Curse and Opportunity – If You Got to Do It Anyway:
  - Well designed systems can put data at CFO's fingertips
  - Value at Risk can be automated all over the firm (traders, operators, etc.)
  - As utilities grow in size and scope, need to integrate financial data with operations data

# Are You Ready for Cyber-Terrorism?

- It May Come From All Directions
  - Al Quada has used engineers as bombers, Internet for recruitment, what's their next move?
  - Extortionists from Moscow, Russia to Moscow, Idaho
  - Kids just "having fun" with their computers
  - Foreign countries could employ cyber-terrorism, what if there is a Taiwan crisis, how many software engineers live in Pakistan, Iran, etc.
- Every data and control system is a potential target – every interface a potential gateway

# Have You Discussed Enterprise Liability with Counsel?

- Negligence = Culpability
  - What qualifies as “good faith” effort
  - Can’t tell the regulator or judge  
“the server farm ate my data”  
(adult equivalent to “the dog ate my homework”)
- Bet the Company Risks
  - Someone crashes your generators
  - Someone overloads your transmission
  - A trader goes amok without supervision
  - Customer data is captured by cyber-bandits

# BRAVE NEW WORLD

- Data Complexity and Volume
- Operational and Computational Complexity
- Security
  - Multiple Access
  - Multiple Actors
  - Multiple Vendor
  - Consumer Access (two way)
- IT Infrastructure Must Evolve or Die
  - The “Soviet” Centralized Model – Nyet
  - Distributed and Interconnected
  - Flexible and Open



Questions?