Federal Energy Regulatory Commission

Latin American Energy Organization (OLADE) International Seminar

"To Regulate or Deregulate: the U.S. Electricity Experience"

William L. Massey, Commissioner

U.S. Federal Energy Regulatory Commission

Quito, Ecuador

September 10, 2001

LESSONS FROM THE CALIFORNIA EXPERIENCE

- **Regulators must insist on good market design**
- **Grid operation and planning must be done by Regional Transmission Organizations**
- **Regulators must have sharp market intervention tools and use them quickly and decisively**

WHAT IS THE FERC?

- **U.S. Government Agency**
  - **Independent Executive Branch Agency**
  - **Decisions subject to review by U.S. Courts**

- **5 Voting Commissioners**
  - **Appointed by the President**
  - **Confirmed by the Senate**
  - **Five Year Terms**

- **1250 Employees**
  - **Engineers, Technical Specialists**
  - **Lawyers**
  - **Economists**

ROLE OF THE FERC

- **Regulation of Natural Gas Transportation (130 Pipelines Subject to FERC Jurisdiction)**
  - **rates and services of interstate pipelines**
  - **licensing of pipeline construction**
- **Regulation of Electric Industry**
  - **Wholesale Sales of Electricity**
  - **Interstate Electric Transmission (174 jurisdictional transmission owning electric utilities and independent system operators)**
- **Hydroelectric Licensing (over 1700 hydroelectric projects)**
- **Regulation of Interstate Oil Pipelines**

TWO LEVELS OF ENERGY REGULATION

Federal	State
• FERC	• 50 State Regulatory Commissions
• Wholesale Transactions	• Retail Transactions
• Rates, terms and conditions of interstate transmission service	• Rates, terms and conditions of local distribution

U.S. ELECTRICITY POLICY

- **FERC is committed to competitive wholesale markets**
- **About half of the 50 states committed to competitive retail markets**

REASONS FOR TRANSITION TO MARKETS

- **High cost excess generating capacity**
- **Technological change**
  - **Scale economies in generation declined**
  - **Transmission over greater distances**

FERC POLICIES IN THE 1990s

- **Market based pricing for generation service**
- **Open access to the transmission grid (Order No. 888)**
  - **Open access tariff**
  - **Unbundling: transmission service separated from generation service**
  - **System information and service requests in Internet bulletin board**

RECENT CHANGES IN U.S. ELECTRICITY INDUSTRY

- **Grid users multiply**
- **Growing number of non-utility generators**
- **Some states adopt retail choice**
- **Utility divestiture of generation**
- **Mergers**
- **Grid regionalization**
- **Well structured regional wholesale markets, such as PJM**

MARKET DESIGN ELEMENT: Appropriate Hedging Instruments

- **Do not over rely on volatile spot markets**
- **Must have balanced portfolio of supply instruments – futures and forward contracts**

MARKET DESIGN ELEMENT: Assurance of Adequate Generating Capacity

- **Avoid significant fluctuations of price and availability**
- **Ex ante reserve requirements on load serving entities**
- **Allow adequate new generation to be sited**

MARKET DESIGN ELEMENT: Uniform Interconnection Standards

- **Location decisions should be based on economics**

MARKET DESIGN ELEMENT: Congestion Management

- **Promote efficient use and location decisions**
- **Locational marginal pricing works well**

MARKET DESIGN ELEMENT: Demand Responsiveness

- **Mitigates price increases and market power**
- **Customers must:**
  - **See prices before making consumption decisions**
  - **Have reasonable means to adjust consumption in response to prices**
- **Demand side bidding (“negawatts”)**

MARKET DESIGN ELEMENT: Ex Ante Price Mitigation

- **A circuit breaker on extreme price increases**
- **Example: bid mitigation under certain conditions**

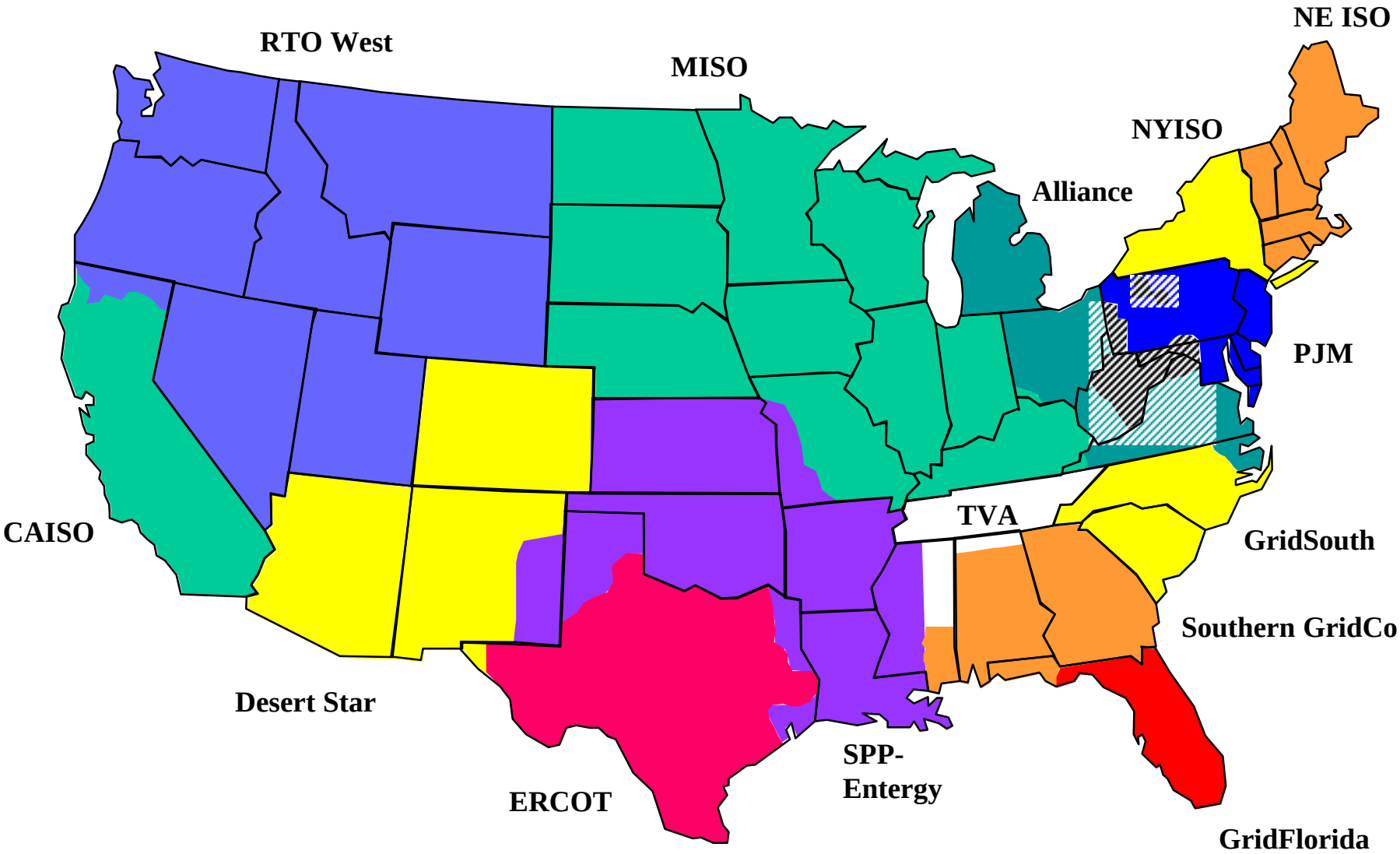
GRID MANAGEMENT PROBLEMS IN THE UNITED STATES

- **Vertically integrated grid operators**
  - **Conflict of interest in providing access; discrimination**
- **Grid management is fractured among more than 100 operators**
  - **Markets are regional but grid management is sub-regional**
  - **Multiple transmission rates keep markets too small**

REGIONAL TRANSMISSION ORGANIZATIONS (RTOs)

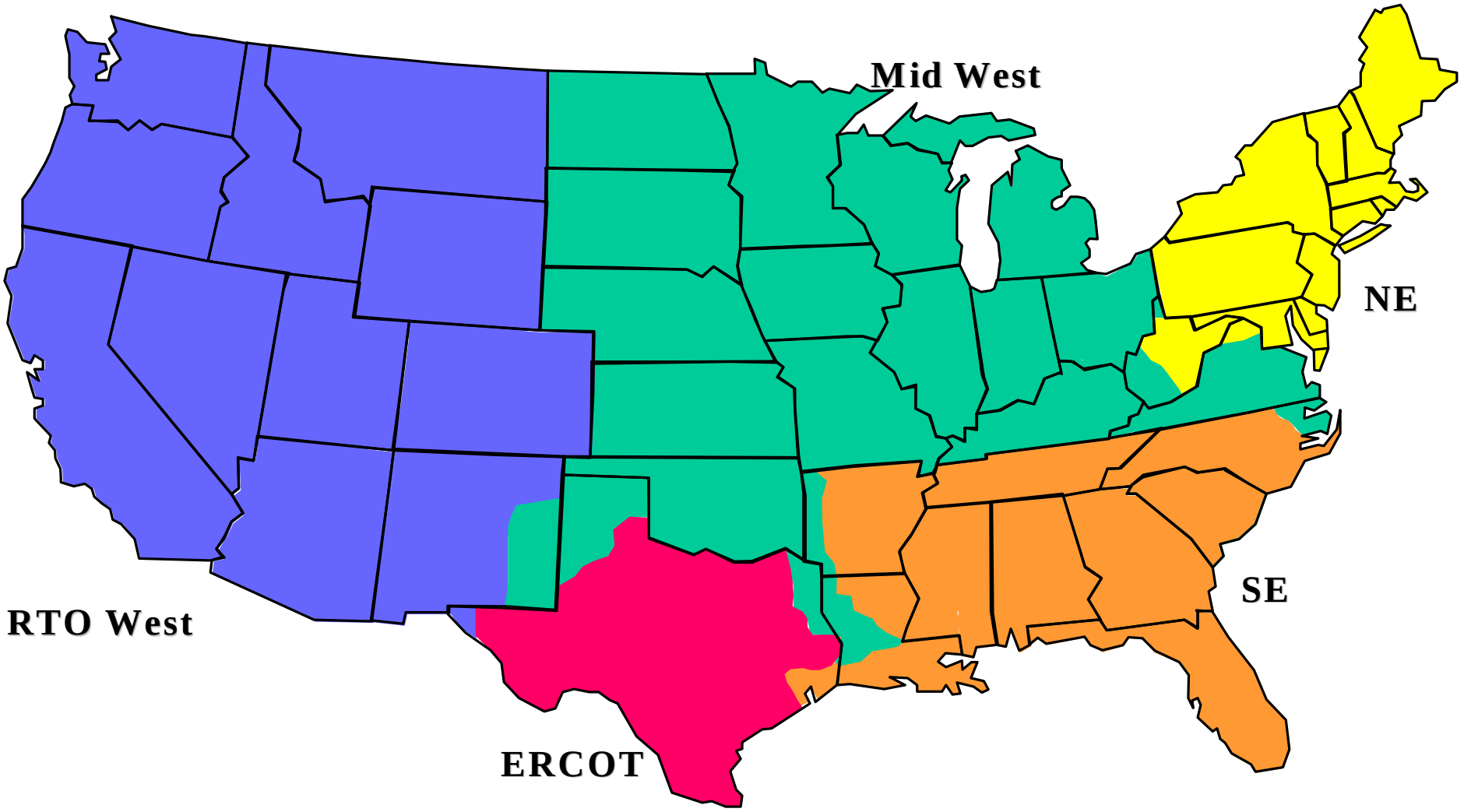
- **Grid manager for large region that is independent of merchant generation interests**
- **Benefits**
  - **Eliminate conflicting incentives**
  - **Streamline interconnection procedures**
  - **Enlarge markets through improved transmission pricing and congestion management**
- **Must be regional in scope – large and well-shaped**

Proposed RTOs



September 10, 2001

Possible Consolidated RTOs



REGULATORY INTERVENTION

- **Regulators must have sophisticated analytic tools**
- **Regulators must develop clear standards of acceptable behavior**
- **Regulators must intervene aggressively when markets are dysfunctional**