

*Electricity Law*  

---

*Effective Regulation*

Seminar Topics  
Available  
from

Scott Hempling  
Attorney at Law LLC

**[www.scotthemplinglaw.com](http://www.scotthemplinglaw.com)**

**(301) 754-3869**

**417 St. Lawrence Drive  
Silver Spring, MD 20901**

**[shempling@scotthemplinglaw.com](mailto:shempling@scotthemplinglaw.com)**

## I. Fundamentals of Electricity Law

*This Fundamentals segment provides a grounding in all aspects of electricity law, including industry players, corporate structure and market structure, transactions, history, jurisdiction, and current issues. A student in this class will develop a mental filing cabinet helpful in storing and organizing whatever challenges arise.*

### A. Overview

1. Why is electricity regulation so complicated?
2. Historical forces leading to today's industry
3. Jurisdiction over the electric industry: Who does what to whom?

### B. Monopolies, Competition, or Both? The Law of Market Structure

1. What is a "traditional utility"? The seven straws in a utility's rights-and-obligations bundle
2. Conversion: from retail monopoly model to competitive models
3. Competition models: wholesale generation competition
4. Monitoring the competitiveness of immature markets: structure and behavior

### C. Sales and Pricing of Power

1. Wholesale and retail
  - a. Retail sale of electricity (state jurisdiction)
  - b. Wholesale sale (sale for resale) of electricity (FERC jurisdiction)
2. Cost-based pricing under federal and state law
  - a. The annual revenue requirement and its conversion to rates
  - b. The "just and reasonable" standard
  - c. Undue discrimination
  - d. Filed rate doctrine
  - e. Retroactive ratemaking
3. Market-based pricing under federal law
  - a. The courts allow deviations from embedded-cost pricing
  - b. FERC's methodologies for determining the appropriateness of market-based pricing

4. Legal principles unique to the Federal Power Act
  - a. Interstate commerce
  - b. The *Mobile-Sierra* doctrine: Parties must live with their contracts
  - c. The boundaries of FERC's subject matter authority: What does the "public interest" entail?

**D. Sales and Pricing of Transmission Service**

1. Transmission access before 1992
2. Transmission access under the Energy Policy Act of 1992
3. FERC Order No. 888 (1996)
4. Interconnection service: Order 2003
5. Regional transmission organizations: Order 2000
6. Siting of transmission facilities
7. Pricing of transmission service: "incentives"
8. "Native load" obligations

**E. Who Can Own What? The Law of Corporate Structure**

1. Two views of corporate structure: static and dynamic
2. The role and repeal of the Public Utility Holding Company Act of 1935
3. The federal regulatory infrastructure eliminated by PUHCA repeal (via the Energy Policy Act of 2005)
4. Surviving and new features of the federal regulatory infrastructure (via the Energy Policy Act of 2005)
5. State options for replacing the regulatory infrastructure after PUHCA repeal
6. Choosing among the options: multidisciplinary analysis

## II. Competition and Market Power

*From the early 1980s to the present, electricity-industry policymakers and participants have experimented with ways to introduce competition into a historically monopolistic industry. Not all these experiments have succeeded; much shaping continues today. From bulk power generation to household meters, the debate over who should sell what continues. This segment provides a foundation in the concepts of “effective competition” and “market power,” then describes the multiple efforts, up to the present, to use competition as a means to advance the public interest.*

### A. Prerequisites for Wholesale Generation Competition

1. Generation entry
2. Transmission access
3. Bulk power reliability

### B. FERC's Market Power Policies: How Well Do They Work?

1. Market-based pricing: Do FERC's methodologies ensure justness and reasonableness?
2. Interaffiliate transactions at market-based rates

### C. The *Mobile-Sierra* Doctrine: How Much "Sanctity" Do Contracts Deserve?

1. The *Mobile-Sierra* presumption: FERC will not intervene in parties' private contracts
2. The "public interest" exception warranting regulatory intervention
3. The U.S. Supreme Court revisits the doctrine, twice in three years

### D. Capacity Adequacy: Can FERC Impose Costs That Retail Customers Bear?

1. Capacity markets defined
2. Transition: from cooperative decisionmaking to disputes over wholesale market design
3. The imposition of utility-by-utility capacity obligation
4. The state–federal tension
5. The Court of Appeals rules

### E. Demand Response, Retail Aggregators, FERC, and the States: Conflict or Cooperation?

1. Demand response defined
2. FERC Order 719: States can prohibit retail aggregators
3. State options

### III. Reliability

*For most of the last century, the electric industry's "reliability" was a product of 50 states' quality-of-service regulation and hundreds of utilities' voluntary actions. The introduction of competition brought new sellers, long-distance transactions, and a growing interconnectedness, in terms of commercial markets and physical electrical relationships. That interconnectedness, coupled with an increase in competition among utilities, made reliability cooperation more important but less inevitable. After several multistate outages, Congress responded in 2005 by creating a federal role in "bulk power" reliability—authorizing a national "electric reliability organization" to establish and enforce mandatory standards. This segment describes these events, then addresses the difficult legal and practical relationship between state and federal regulation of reliability actions.*

#### **A. Reliability and Resource Adequacy: Federal and State Chefs in the Infrastructure Kitchen**

1. What is "reliability" and what is "resource adequacy"?
2. Reliability regulation before 2005
3. Energy Policy Act of 2005: FERC's new reliability authority
  - a. "Bulk power system"
  - b. "Users, owners, and operators"
  - c. "Reliability standards"
  - d. "Electric reliability organization"
  - e. Regional entity
  - f. FERC-ERO relationship
  - g. ERO-RE relationship
  - h. FERC-state relationship
  - i. No FERC authority to order construction or enlargement
4. NERC as electric reliability organization: accountability through registry
5. State commission authority: Does the new federal role leave room?

#### **B. Capacity Adequacy: Can FERC Impose Costs That Retail Customers Bear?**

1. Capacity markets defined
2. Transition: from cooperative decisionmaking to disputes over wholesale market design
3. The imposition of utility-by-utility capacity obligation
4. The state-federal tension
5. The Court of Appeals rules

## IV. The Federal-State Jurisdictional Relationship

*Our electric industry lives with two historical legacies: the Founders' 1789 decision to embed in our Constitution separate governmental structures at the federal and state levels; and Congress's 1935 decision, in the Federal Power Act, to create a "bright line" between FERC's regulation of wholesale sales and states' regulation of retail sales. Yet neither the laws of physics, as applied to electricity, nor the profit motives of electricity sellers and buyers are constrained by political boundaries. The introduction of competition and the growing electrical and commercial interconnectedness across state lines have injected multiple tensions and unpredictabilities into what used to be a calm, amicable, and unremarkable jurisdictional relationship. This segment lays out the legal fundamentals of the federal–state regulatory relationship, discusses today's multiple jurisdictional awkwardnesses, and then offers some solutions for discussion and debate.*

### **A. The FERC-State Challenge: Can 53 Separately Acting Jurisdictions Create a Consistent National Electricity Policy?**

1. Generation entry
2. Reliability
3. Transmission
4. Mergers and acquisitions
5. Competitive markets
6. Rate design
7. Planning

### **B. The Federal Power Act: General Principles**

1. Jurisdictional subjects
2. Interstate commerce

### **C. State Review of Utility Purchases Under FERC-Authorized Wholesale Contracts: Does the Federal Power Act Preempt?**

### **D. Unbundling: How Does It Change Jurisdiction?**

### **E. Capacity Adequacy: Can FERC Impose Costs That Retail Customers Bear?**

1. Capacity markets defined
2. Transition: from cooperative decisionmaking to disputes over wholesale market design
3. The imposition of utility-by-utility capacity obligation
4. The state–federal tension

## **V. Generation: Do We Have Enough? Who Decides?**

*Many of our states face billion-dollar decisions over generation. These decisions have multiple components: market structure (Should the local utility build or buy?); technology (Which—nuclear, coal, gas, or renewables? New construction or repowering?); timing (Build big now as a hedge against future price hikes, or build small now until we can see the future more clearly?); financial (Whose dollars should finance the construction, and when? Who should bear the economic risks of suboptimal outcomes?); and prudential (How do we ensure that the total cost reflects only prudent costs?) This segment provides background to aid regulatory decisions on each of these subjects.*

### **A. A New Generation of Generation: What Technologies Suit Your State?**

1. Generation-mix decisions arise in all states
2. Generation-mix decisions address multiple uncertainties
3. The nine characteristics of generation
4. The interaction of old and new generation technologies in planning decisions: the role of portfolio analysis
5. What state procedures will best accommodate this multi-factor, multi-option analysis?

### **B. Evaluating Nuclear Generation: Is the Law of Regulation Ready?**

1. Regulatory principles are unsettled: four examples
2. Regulatory institutions are unprepared: five examples

### **C. Pre-Approval Commitments: When and Under What Conditions Should Regulators Commit Ratepayer Dollars to Utility-Proposed Capital Projects?**

1. Triggering actions
2. Pre-approval orders that do not constrain future regulatory decisions
3. Cost deferrals
4. Public-interest conditions

## VI. Transmission: Do We Have Enough? Who Decides?

*In 1988, a landmark FERC decision conditioned its approval of the Utah Power & Light-PacifiCorp merger on the companies' accepting an obligation to carry their competitors' electricity products. That decision spurred industry actors to press for universal transmission access, culminating in FERC's next landmark: Order 888, issued in 1996, requiring transmission owners to file tariffs making transmission service available to others on a nondiscriminatory basis. That event then led to FERC's Order 2000, encouraging transmission owners to form "regional transmission organizations," seven of which now exist to control transmission facilities and sell transmission service over large regions.*

*These events have caused our industry transmission highways to play a dual role: to the traditional, primary purpose of enabling local utilities to serve their intrastate loads, we've added the new purpose of connecting markets over vast multistate territories. Accompanying this change—literally the regionalization of once-local transmission policy—has been a host of challenges and questions over construction prudence, cost responsibility, siting, pricing, ownership, and jurisdiction. This segment establishes the fundamental law and principles, then addresses the frontier questions.*

### A. Transmission Fundamentals

1. Terminology: What is "transmission"?
  - a. Transmission facilities
  - b. Transmission service
  - c. Transmission owner
  - d. Transmission operator
  - e. Transmission provider
  - f. Transmission regulator
  - g. Transmission vs. distribution
  - h. Transmission vs. interconnection
  
2. Ten features of transmission policy: all in flux
  - a. Obligation to serve
  - b. Operational control
  - c. Reliability role
  - d. Market-making role
  - e. Ownership
  - f. Cost recovery
  - g. Cost allocation
  - h. Siting
  - i. Obligation to plan
  - j. "Native load" vs. "competitive load"
  - k. Regulatory jurisdiction

3. Technical concepts
  - a. Alternating current vs. direct current
  - b. Voltage support
  - c. Reactive power
  - d. Loop flow (sometimes called parallel flow)
  - e. Regulation service
  - f. Congestion

**B. The Transmission Transition: From Local Monopoly to Regional Markets**

1. Overview: How did we evolve from in-state service provided by a vertically integrated, for-profit utility, to multi-state regional service provided by an independent, nonprofit "regional transmission organization"?
2. Origins
  - a. Transmission provider is a vertically integrated utility
  - b. Utility owns and controls the assets
  - c. Utility provided "bundled" generation and transmission to retail customers
3. Step 1: Utility retains control, but "unbundles" transmission from generation
  - a. Vertically integrated utility still owns and controls the assets
  - b. Vertically integrated utility still provides bundled service at retail
  - c. "Functional" unbundling is required by FERC Orders 888 and 889 (1996)
  - d. Interconnection (2003)
  - e. "Corporate" unbundling occurs via state divestiture orders or utility voluntarism
  - f. FERC–state jurisdictional relationship
4. Step 2: Regional transmission organizations receive operational control
  - a. Rationales for regionalization of transmission policy
  - b. Minimum characteristics of an RTO
  - c. Required functions of an RTO
  - d. Vertically integrated utility still owns the assets
  - e. RTO provides regional service, subject to Orders 888 and 889, over utility-owned assets

- f. Vertically integrated utility buys transmission service from RTO and then "rebundles" it with generation
  - g. FERC–state jurisdictional relationship
5. Policy forces stimulating the transition
    - a. Independence: for competitive neutrality
    - b. Regionalization: for economics and reliability
    - c. Market making: for competitive efficiency
  6. What's next?

**C. Transmission Friction Points: Challenges and Solutions**

1. Cost recovery
  - a. What are the relative state and federal roles?
  - b. Prudence: What is it and who determines?
  - c. "Incentives" (e.g., ROE adders, CWIP, recovery of abandoned plant, and hypothetical capital structures): Is there a limit?  
*Connecticut Department of Public Utility Control v. FERC* (2010)
2. Cost allocation: Postage-stamp pricing meets Judge Posner and loses: Will we ever agree on transmission cost allocation? What principles, what evidence?
3. Siting: Who has jurisdiction? Is there anything left to FERC's "backstop" authority? *Piedmont Environmental Council, et al. v. FERC*
4. Reliability: Who has responsibility, and who has jurisdiction?
5. Planning
  - a. Who has responsibility, and who has jurisdiction?
  - b. Remote generation: Who pays for the transmission?
  - c. Intermittent generation: How do we integrate it?
6. New forms of transmission ownership: "transco" or "merchant" owners

## **VII. Regional Resource Planning for Generation, Transmission, and Demand-Side Options: How Well Do We Mesh the State and Federal Roles?**

*Alert industry participants recognize that all electricity infrastructure is regional infrastructure. Electrical interconnectedness, multistate markets, and regional transmission organizations make acknowledgement unavoidable. These factors, and the recognition that electricity assets are expensive, have led to multiple initiatives to plan our electric systems regionally. There is no binding, legal way to do so systematically, since legal jurisdiction resides in FERC and state commissions. Outside of the Northwest there is no regional legal body that can bind states to major electricity project decisions. Yet clarity in regional decisionmaking is essential to finding economies of scale and avoiding both overbuilding and underbuilding. This segment discusses the steps that FERC and states are taking to mesh the state and federal legal roles with regional realities.*

### **A. Who Does What Today? The Players and Their Roles in Seven Areas of Responsibility**

1. Determine the boundaries of the planning region
2. Determine the reasonable requirements of the planning region
3. Determine cost and availability of resources
4. Determine market structure
5. Determine economically efficient rate design
6. Determine cost allocation for the infrastructure
7. Select resources

### **B. Special Problems**

1. Retail demand response in wholesale markets
2. Integration of renewable energy with grid operations
3. Resource adequacy
4. Regional planning processes
5. Market monitoring

### **C. FERC's Proposed Regional Planning Rule: Small Step, Giant Leap, or Both?**

### **D. Assessment: Are Regulatory Responsibilities Rationally Allocated? Who Should Do What, Optimally?**

## VIII. Mergers, Acquisitions, and Corporate Structure: Who Should Own What?

*Should utilities be large or small? Single state or multistate? Single business or conglomerates? Should their asset ownership be confined to integrated assets, or should they be allowed to own dispersed assets? What about foreign ownership? In short, for life-preserving electricity, what kind of company should we depend on? For 70 years, the federal Public Utility Holding Company answered these questions by limiting most utilities to a “single integrated public utility system.” By repealing the statute in 1935, Congress left these questions to the states. Each state can take its own path. Many states have taken no path—continuing to rely on their own legacy statutes.*

*Meanwhile, corporate strategies among utilities differ radically. Some have made no change, retaining a single-state status and a predictable corporate future. Others have sought to acquire their neighbors but largely remained in “single integrated system” status. Still others have engaged in long-distance acquisitions, seeking to own assets ranging from the Southeast to the Midwest and from the Midwest to the Northwest.*

*This segment describes the major principles of corporate structure regulation, the role of federal law, and the options states have to ensure that their utilities align their corporate structure strategies with their customers’ best interests.*

### **A. Overview: The Role and Repeal of the Public Utility Holding Company Act of 1935**

1. PUHCA's statutory principle: the "single integrated public utility system"
2. Section 203 of Federal Power Act
3. The repeal of the 1935 PUHCA and the addition of 2005 PUHCA

### **B. FERC's PUHCA Rule**

1. Books and records
2. Allocation of costs of nonpower goods or services
3. Cross-subsidization and encumbrances of utility assets
4. Exempted entities
5. Previously authorized activities

### **C. FERC's Merger Rule**

1. Horizontal market power
2. Vertical market power
3. Other competition issues
4. Effect on rates
5. Effect on regulation

**D. State Options for Replacing the Regulatory Infrastructure after PUHCA Repeal**

1. Expansion of utility business
2. Divestiture or spinoff
3. Mixing of utility and nonutility businesses
4. Use of utility assets for nonutility business
5. Interaffiliate transactions
6. Issuance of debt or equity
7. Limit on utility's ability to file for bankruptcy due to affiliate actions

**E. Current Challenges**

1. Jurisdiction: What is the right mix of state and federal regulatory authority over corporate structure events?
2. Multidisciplinary analysis: What staffing?
3. Private equity buyouts of public utilities

## **IX. Renewable Energy, Smart Grid, Demand Response, and Integrated Resource Planning**

*Electricity supply planning is no longer confined to nuclear vs. coal vs. gas vs. oil. Technological improvements and customer awareness now make renewable energy, smart grid, and demand response all necessary parts of the planning picture. Yet no systematic regulatory policy exists to bring all these options under a unified analysis that will select the best mix. The challenges include jurisdiction (Who has the authority to make power supply decisions?), economic risk-sharing (With untested technologies, who should bear the risks of disappointing outcomes?), federal–state relations (How do we get wholesale and retail markets to work together efficiently?), and technology (How do we integrate newer energy forms with conventional ones?). This segment describes the legal underpinnings of these topics at the state and federal levels, then engages the attendees in solving the practical problems we face.*

### **A. Renewable Energy**

1. Renewable energy policy in flux: ten objectives, four programs, and nine differences
  - a. Ten-plus policy objectives
    - (1) Emissions reduction
    - (2) Global sustainability
    - (3) Fuel diversity to reduce supply risk
    - (4) Fuel diversity to reduce cost volatility
    - (5) Competitive discipline
    - (6) Supplier diversity
    - (7) National economic development
    - (8) State-level economic development: industry and jobs
    - (9) Cost minimization: short-term and long-term
    - (10) Customer choice: "going green"
  - b. Four renewable energy programs
    - (1) PURPA: National law requiring utilities to purchase from "qualified facilities" (renewables and co-generators) at utility's avoided cost
    - (2) Net Metering: State laws requiring utilities to allow retail meters to "run backwards" when retail customer produces
    - (3) Renewable Portfolio Standards: State laws requiring utilities to purchase a specified percentage of their customers' usage from specified renewable sources
    - (4) Feed-in Tariffs: State laws (only a few) requiring utilities to buy all output from qualifying entities under price, terms, and conditions stated in the tariff

c. Nine differences among the programs

- (1) eligible supplier
- (2) eligible fuel source
- (3) price determination
- (4) total cost determination
- (5) total quantity determination
- (6) capacity cap per supplier
- (7) regulatory jurisdiction
- (8) linkage to utility system planning
- (9) seller responsibility for transmission cost

2. The Public Utility Regulatory Policy Act: renewable energy's federal law promotion—and its diminution
3. Renewable energy transmission: "Trunklines" authorized by state commissions can win exemption from FERC's "abandoned plant" disallowance policy
  - a. Original FERC order
  - b. FERC's order on rehearing
4. Renewable energy pricing in state-level feed-in tariffs: federal law limitations and possible solutions
5. Feed-in tariff design: options and obstacles

**B. Smart Grid**

1. What are the smart state commission strategies?
2. Can broadband support smart grid? Eight jurisdictional challenges

**C. Demand Response, Retail Aggregators, FERC, and the States: Conflict or Cooperation?**

1. Demand response: What is the justification for regulatory intervention?
2. FERC Order 719: States can veto "aggregators of retail customers"

**D. IRP: Can We Bring Demand-Side Initiatives (Energy Efficiency, Demand Response and Dynamic Rates-) into the Integrated Resource Planning Tent?**

1. Fundamentals of energy efficiency and demand management
2. The new complexities
  - a. Non-utility franchised providers
  - b. Aggregators of retail customers
  - c. Interaction with regional markets
  - d. Customer acceptance and usage
  - e. Skill sets (at utilities and commissions)
3. Rate design
  - a. Dynamic rates: purposes and options
  - b. Implementation decisions
  - c. Can options combine?

## **X. Effective Regulation: How Do Some People Get So Good at It?**

*Effective regulators have attributes, and take actions, that cause them to lead rather than preside. Regulation is already complicated because of its multijurisdictional, multidisciplinary nature. Electricity regulation magnifies these complexities because of the many areas of law, actors, fora, transactions, and subject matters. This segment analyzes the characteristics of effective regulators and regulatory agencies, using audience experiences for illustrations.*

### **A. Why is Electricity Regulation So Complicated?**

1. Ten areas of the law
2. Nine actors to regulate
3. Seven types of forum
4. Six types of transactions
5. Five subjects to regulate
6. Seven professional disciplines
7. Five types of legal intervention
8. Ten historical events

### **B. High-Quality Regulators: How Do They Differ from the Rest of Us?**

1. Prerequisites: attributes and actions of effective regulators
  - a. Purposefulness
  - b. Education
  - c. Decisiveness
  - d. Independence

2. Impediments: six factors that weaken regulation

### **C. Utility Regulation Today: Why Is It So Difficult?**

1. The mismatch between structure and law
  - a. Rules get made in at least seven different, non-communicating fora
  - b. Few big decisions are accepted as final
  - c. Every decision involves multiple professional disciplines
  - d. On most significant regulatory issues, there are tensions
  - e. More interest groups are entering the regulatory arena
2. Changes in the factual and legal landscape add complexity
  - a. Statutory change and market structure change
  - b. Utility strategy uncertainties, global concerns

3. Issues of profound importance remain unresolved
  - a. Competition, regulation, or a mixture?
  - b. Electric reliability
  - c. Industry consolidation
  - d. Utility performance
  - e. Jurisdictional responsibility: Who regulates what?
4. How can we make regulatory practice worthy of its responsibilities?

**D. Utility Regulation's Expanding Universe: What Does "Public Interest" Mean?**

1. Traditional utility regulation
  - a. Rationales for regulation
  - b. Delegating powers to commissions
  - c. Traditional goals
2. Expansive goals, roles, and criteria
  - a. Defining goals, roles, and criteria
  - b. Patterns of litigation
  - c. Policy goals
  - d. Commission roles
  - e. Decision-making criteria

I wish to acknowledge the role played by the National Regulatory Research Institute. Although I developed most of my expertise on these topics prior to my tenure as its Executive Director (2006–2011), I added to that expertise during that tenure. Some of the topics listed here are covered in course books developed by me during that period. For information on obtaining those course books, please contact NRRI.