

Regulating New Haven’s Electric Utility

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Table of Contents

I. Introduction	1
II. Historical and Theoretical Background	5
A. History of Electricity in New Haven	5
B. Public Utility Regulation: History and Theory.....	12
III. Regulatory History	22
A. Corporate Structure	23
1. Expansion of Government Regulation.....	24
2. UI’s Ability to Limit its Exposure to Regulatory Control	26
3. From Collaboration to Conflict	29
B. Infrastructure	31
1. Increasing Government Control Over New Infrastructure Projects	32
2. The Impact of Regionalization and Restructuring	36
3. Greater Sensitivity to the Environmental Impact of Electric Utilities	42
C. Rates.....	48
1. Heightened Tension over Retail Rates.....	49
2. Increasing Importance of Wholesale Rate Regulation	52
D. Service	55
1. UI’s Ongoing Obligation to Provide Service.....	55
2. Reliability Regulations Ratcheted up in Response to Blackouts	57
E. Competition	60
IV. Drivers of Past Regulatory Change	65
V. Predictions for the Future of Electricity Regulation.....	72

I. INTRODUCTION

This paper explores how the United Illuminating Company (UI), the electric utility that serves a number of communities in southwestern Connecticut, including New Haven,¹ has been regulated over the course of its history. By studying laws and regulations from the local, state, and federal government that affect various aspects of UI's operations—including its corporate structure, its decisions regarding infrastructure, its retail and wholesale rates, the service it provides to its customers, and the level of competition it faces—one consistent theme emerges: the level of regulation that UI is subject to has increased dramatically over the course of its history. The paper explores the factors that drove this continual increase in regulation. These factors include (1) electricity's evolution from a luxury to an essential service, (2) the attenuation of UI's connections to local civic life, (3) technological developments, (4) regionalization of the electric grid, (5) changes in the affordability of electric power, (6) the lasting impact of crises, and (7) trends in public regulation theory. The paper concludes by considering what this history tells us about the future of electricity industry regulation.

UI is pervasively regulated. The Federal Energy Regulatory Commission (FERC) controls the rate of return on equity for the company's transmission lines and ensures that the rules for the market in which UI buys and sells power in bulk comport with the Federal Power Act.² FERC also sets rules about the company's

¹ UI's service territory stretches from North Branford in the east to Easton and Fairfield in

² Federal Power Act, 16 U.S.C. §§ 791a-825r (2012); Avangrid, Inc., Annual Report (Form 10-K) 13 (Apr. 1, 2016), <http://phx.corporate->

leadership positions, accounting methods, and reporting obligations³ and can review the company's books under the Public Utilities Holding Company Act of 2005.⁴ Both FERC and the Commodity Futures Trading Commission have the authority to impose penalties on UI if it engages in market manipulation.⁵ UI is a partial owner of several nuclear power plants, the operations and safety of which are regulated by the Nuclear Regulatory Commission.⁶ FERC and the North American Electric Reliability Corporation establish grid reliability standards and can impose penalties for violations.⁷

UI is also subject to numerous federal environmental laws. Its applications for federal permits may be trigger the need to prepare Environmental Impact Statements.⁸ The Environmental Protection Agency regulates UI's use of polychlorinated biphenyls (PCBs) under the Toxic Substances Control Act⁹ and its handling of hazardous waste is covered by the Resource Conservation and Recovery

ir.net/External.File?item=UGFyZW50SUQ9NjI4NDMzfENoaWxkSUQ9MzMxMTgwFR5cGU9MQ==&t=1 [hereinafter 2016 Annual Report].

³ 16 U.S.C. § 825 (2012); 2016 Annual Report, *supra* note 2, at 13.

⁴ Public Utility Holding Company Act of 2005, 42 U.S.C. §§ 16451-16463 (2012); 2016 Annual Report, *supra* note 2, at 14.

⁵ Prohibition of Energy Market Manipulation, 18 C.F.R. § 1c (2016); Prohibition Against Manipulation, 17 C.F.R. pt. 180 (2016); 2016 Annual Report at 14.

⁶ 42 U.S.C. §§ 5841-5854 (2012).

⁷ 16 U.S.C. § 824o (2012); Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing, 116 FERC ¶ 61,062 (2006).

⁸ *See* National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq. (2012).

⁹ 15 U.S.C. §§ 2601-2629 (2012).

Act.¹⁰ UI can be held responsible for contamination of sites it owned under the Comprehensive Environmental Response, Compensation, and Liability Act¹¹ and it is required to provide information about hazardous materials that it uses under the Emergency Planning and Community Right-to-Know Act.¹²

At the state level, the Connecticut Public Utilities Regulatory Authority (PURA) has control over the rates UI charges its customers, the terms and conditions it can impose on service, its operations and accounting procedures, and its ability to issue securities, to buy or sell assets, and to engage in certain mergers.¹³ PURA also oversees UI's development of renewable energy resources and its compliance with the state's laws encouraging the use of renewable energy¹⁴ and requires periodic management audits.¹⁵ When UI wants to build new transmission lines, it must win the approval of the Connecticut Siting Council.¹⁶ Similarly, when UI wants to build new transmission facilities in New Haven, the local board of aldermen retains the right to review the proposal and assess whether the project is

¹⁰ 42 U.S.C. § 6901 et seq. (2012); 2016 Annual Report, *supra* note 2, at 17.

¹¹ 42 U.S.C. § 9601 et seq. (2012).

¹² 42 U.S.C. § 11001 et seq. (2012); 2016 Annual Report, *supra* note 2, at 19.

¹³ CONN. GEN. STAT. ANN. § 16-1 et seq. (West 2017); 2016 Annual Report, *supra* note 2, at 14.

¹⁴ *See, e.g.*, CONN. GEN. STAT. ANN. § 16-244r (West 2017) (establishing rules for long-term contracts with zero-emission generators, solicitation of renewable energy projects, and renewable energy credits); *id.* § 16-245a (renewable portfolio standard); 2016 Annual Report, *supra* note 2, at 17.

¹⁵ CONN. GEN. STAT. ANN. § 16-8 (West 2017); 2016 Annual Report, *supra* note 2, at 25.

¹⁶ CONN. GEN. STAT. ANN. § 16-50l (West 2017); 2016 Annual Report, *supra* note 2, at 14.

“in accordance with the public convenience and welfare.”¹⁷ The Connecticut Department of Energy and Environmental Protection regulates UI’s impact on the environment and recently required the company to remediate environmental damage at the site of the old English Station power plant in New Haven.¹⁸

This paper will tell the story of how the regulation of UI got to this point, providing a holistic historical account of the relationship between UI and various governmental entities that exert influence over its affairs. After providing a brief history of electricity in New Haven and an overview of relevant utility regulation theory, this paper will dive into the specifics of UI’s regulatory history on a subject-by-subject basis. The paper will cover regulation of UI’s corporate structure, its infrastructure and facilities, the rates it charges, the level of service it provides, and the terms on which it competes with other energy companies. Following this descriptive account, the paper will explore various factors that help explain the changes in regulation over time. The paper concludes by considering how this history can help inform predications about the future of the electricity industry.

¹⁷ CODE OF THE CITY OF NEW HAVEN, CONNECTICUT § 120(a) (Aug. 31, 2016), https://www.municode.com/library/ct/new_haven/codes/code_of_ordinances.

¹⁸ *State Officials: Agreement Provides Framework for Environmental Clean-up at New Haven’s English Station*, OFFICE OF THE ATTY GEN. (Sept. 17, 2015), <http://www.ct.gov/ag/cwp/view.asp?A=2341&Q=570858>; 2016 Annual Report, *supra* note 2, at 20.

II. HISTORICAL AND THEORETICAL BACKGROUND

In order to fully understand the regulatory evolution detailed later in this paper, this Part provides a brief overview of the history of electric power in New Haven and a summary of major strands of public utility regulation theory.

A. History of Electricity in New Haven

After much experimentation with electricity in the early and mid-nineteenth century, the first electric lighting system debuted in London in 1875.¹⁹ Four years later, San Francisco became the first American city with an electric system.²⁰ New Haven was close behind, with a group of sixteen men from New Haven and Hartford successfully incorporating the New Haven Electric Light Company (NHELCo) on April 12, 1881.²¹ With its dynamos set up on Orange Street between George and Crown Street, the company's main business was offering arc lights to be used in the interior of stores in the downtown business district.²² In 1882, the company changed

¹⁹ H.S. BENNION, *THE ELECTRIC ERA DAWNS UPON AMERICA: THE 1870S AND 1880S*, at 9 (1953).

²⁰ *Id.* at 9.

²¹ JOHN D. FASSETT, *UI: HISTORY OF AN ELECTRIC COMPANY: A SAGA OF PROBLEMS, PERSONALITIES AND POWER POLITICS* 17 (1990); HENRY H. TOWNSEND, *THE U.I.C. IN RETROSPECT* 3 (July 1, 1938). This paper owes a considerable debt of gratitude to Fassett's comprehensive study of the history of UI. As a former CEO of the company, Fassett's work provided invaluable insight. However, his account focuses on events that occurred before and during his tenure at the company, which ended in 1985 (check). This paper builds on Fassett's account by focusing on and analyzing the regulatory developments described in his work and by accounting for changes in the three decades since Fassett left the company.

²² FASSETT, *supra* note 21, at 21; TOWNSEND, *supra* note 21, at 4-5; *see also* CARLETON BEALS, *OUR YANKEE HERITAGE: THE MAKING OF GREATER NEW HAVEN* (1951) (noting that the company supplied about 50 stores with light during its first year).

its name to the Connecticut Electric Lighting Company.²³ But after struggling to draw customers away from gas lighting and becoming embroiled in a payment dispute with its equipment supplier, the United States Electric Light Company, New Haven's first electric company folded in August 1883.²⁴

But New Haven was not without electric service for long. Herrick P. Frost—vice president of the original company—bought the old company and its assets and on October 17, 1883 a new version of the New Haven Electric Light Company was formed.²⁵ One of the six original shareholders of the new firm was James English, who would go on to serve as president from 1895 to 1937.²⁶ Aided by more affordable and reliable incandescent lights and dynamos²⁷—operated out of a building “in the rear of Meyers & Hertz Shoe Factor on the west side of Temple Street between George and Crown Streets”²⁸—the reconstituted company found more success than its predecessor.²⁹ In 1884, NHELCo secured a contract with the

²³ FASSETT, *supra* note 21, at 23; TOWNSEND, *supra* note 21, at 5.

²⁴ TOWNSEND, *supra* note 21, at 4-6; WILLIAM COOPER, HISTORICAL HIGHLIGHTS OF UNITED ILLUMINATING 2 (1973).

²⁵ FASSETT, *supra* note 21, at 26-27; TOWNSEND, *supra* note 21, at 6.

²⁶ COOPER, *supra* note 24, at 2; FASSETT, *supra* note 21, at 32.

²⁷ FASSETT, *supra* note 21, at 27-28, 54.

²⁸ TOWNSEND, *supra* note 21, at 7.

²⁹ TOWNSEND, *supra* note 21, at 9.

city of New Haven for 31 streetlights³⁰ and 1887 the company obtained a charter from the Connecticut General Assembly.³¹

Figure 1: UI's Current Service Area³²



In 1889, NHELCo merged with the Bridgeport Electric Light Company and companies serving smaller towns to become the United Illuminating Company.³³ The company expanded to cover other nearby communities,³⁴ ultimately leading to a company with a service territory that covers a considerable portion of southwestern

³⁰ COOPER, *supra* note 24, at 3; FASSETT, *supra* note 21, at 40; TOWNSEND, *supra* note 21, at 7.

³¹ 1887 Conn. Spec. Acts 648; FASSETT, *supra* note 21, at 76; TOWNSEND, *supra* note 21, at 9.

³² Adapted from *Map of UI Service Territory*, UIL HOLDINGS CORP., https://www.uinet.com/wps/wcm/connect/36da6e0041384665b0d5f07a239a91d1/Appendix+B_UI+Service+Map.pdf?MOD=AJPERES&CACHEID=36da6e0041384665b0d5f07a239a91d1.

³³ FASSETT, *supra* note 21, at 120-21; TOWNSEND, *supra* note 21, at 9.

³⁴ FASSETT, *supra* note 21, at 126-27.

Connecticut, as shown in Figure 1. UI also embarked on important infrastructure projects early on – undergrounding many of its distribution wires and building a new power plant on Grand Avenue in 1893.³⁵ Demand increased as UI improved the reliability and affordability of its service.³⁶ UI built new power plants to meet this demand – the first unit at Steel Point Station in Bridgeport came online in 1923 while English Station in New Haven was completed in 1929.³⁷ Demand dipped during the Great Depression, but picked up again during World War II and continued to rise during the post-war period thanks to increased used of electricity for home appliances and home heating.³⁸

Despite an early preference for isolation, the company gradually became integrated into the regional power grid. Early in its history, the company coordinated with other Connecticut utilities on technological development and policy matters through the Connecticut Electric Lighting Association.³⁹ But UI avoided getting involved with the 1920s trend of consolidation and interconnection.⁴⁰ Indeed, UI's own Bridgeport and New Haven systems were only connected to one another in 1941.⁴¹ Eventually the company relented, agreeing to

³⁵ COOPER, *supra* note 24, at 3-4; FASSETT, *supra* note 21, at 86; TOWNSEND, *supra* note 21, at 11

³⁶ COOPER, *supra* note 24, at 4; TOWNSEND, *supra* note 21, at 12.

³⁷ COOPER, *supra* note 24, at 5; FASSETT, *supra* note 21, at 179, 183.

³⁸ FASSETT, *supra* note 21, at 172-73, 227, 229, 277, 299. 324-27.

³⁹ FASSETT, *supra* note 21, at 94-99.

⁴⁰ FASSETT, *supra* note 21, at 187-195.

⁴¹ COOPER, *supra* note 24, at 6; FASSETT, *supra* note 21, at 211, 300.

add an emergency connection to Connecticut Light & Power in 1942⁴² and expanding that agreement to cover non-emergency power exchanges in 1951.⁴³ This arrangement gave UI a market to support the addition of a large-for-its time 75 MW generator at its new Bridgeport Harbor Station in 1957.⁴⁴

In 1964, UI agreed to join the Connecticut Valley Electric Exchange (CONVEX), a power pool that coordinated the dispatch of power plants from four companies to more efficiently meet demand.⁴⁵ In the wake of the November 9, 1965 northeast blackout, UI joined the National Electric Reliability Council, a voluntary industry standard-setting group that was formed to ward off federally imposed coordination.⁴⁶ UI also helped spearhead the 1971 creation of the New England Power Pool (NEPOOL), which conducted centralized dispatch and generation planning for the entire New England region.⁴⁷ UI's new plant at the old Coke Works site in New Haven became the first jointly owned NEPOOL unit when it started operations in 1972.⁴⁸ UI also joined with other utilities to develop a nuclear power plants, including a prototype in Peach Bottom, Pennsylvania in 1958,⁴⁹ the Connecticut Yankee plant in Haddam Neck, Connecticut in 1968,⁵⁰ a unit of the

⁴² FASSETT, *supra* note 21, at 305.

⁴³ FASSETT, *supra* note 21, at 339-40.

⁴⁴ FASSETT, *supra* note 21, at 344-47.

⁴⁵ COOPER, *supra* note 24, at 7-8; FASSETT, *supra* note 21, at 387-88.

⁴⁶ FASSETT, *supra* note 21, at 395-400.

⁴⁷ FASSETT, *supra* note 21, at 454-58.

⁴⁸ FASSETT, *supra* note 21, at 469

⁴⁹ COOPER, *supra* note 24, at 7.

⁵⁰ COOPER, *supra* note 24, at 9; FASSETT, *supra* note 21, at 363-64.

Millstone Power Station in Waterford, Connecticut in 1986, and Seabrook Station in Seabrook, New Hampshire in 1990.

With the exception of a temporary uptick in rates in the wake of WWI,⁵¹ UI had been able to continuously cut its rates for service in real terms until 1971, when new taxes and increased fuel and construction costs led it to seek and receive a rate increase from the Connecticut public utilities commission.⁵² The 1970s also saw an increased environmental regulation, including a spate of federal regulation and a Connecticut rule limiting the sulfur content of fuel,⁵³ which prompted UI to request an adjustment to its rates to reflect the increased cost of fuel.⁵⁴ Those fuel costs rose dramatically in the early 1970s as a result of the 1973 oil crisis—which had a disproportionate impact on the oil-intensive New England electric industry⁵⁵—leading to further rate increases.⁵⁶

The oil crisis underscored the need for conservation and competitive alternatives to the fossil fuel-fired generators relied on by traditional electric utilities. At the wholesale level, the Public Utility Regulatory Policies Act of 1978 required utilities like UI to buy electricity from renewables and cogeneration

⁵¹ FASSETT, *supra* note 21, at 373.

⁵² FASSETT, *supra* note 21, at 451-52.

⁵³ FASSETT, *supra* note 21, at 430.

⁵⁴ FASSETT, *supra* note 21, at 430-31.

⁵⁵ FASSETT, *supra* note 21, at 500-05.

⁵⁶ FASSETT, *supra* note 21, at 508-15.

systems when it is cheaper than what the utility would otherwise use.⁵⁷ A 1996 Federal Energy Regulatory Commission order required UI and other utilities to make their transmissions systems open to independent power producers at non-discriminatory rates.⁵⁸ This order led utilities in the region to create of the Independent System Operator of New England (ISO-New England), which handles the operation of the power grid in the six New England states and operates competitive wholesale markets for electricity in the region.⁵⁹ FERC authorized ISO-New England to act as the regional grid operator in 1997.⁶⁰

The state of Connecticut also embraced competition, allowing consumers to choose their suppliers starting in 2000 and requiring UI to separate its transmission and distribution business from its ownership of power generation (other than its partial stake in nuclear plants).⁶¹ UI has sold off its non-nuclear power plants and now acts as the “supplier of last resort” for customers who don’t

⁵⁷ 16 U.S.C. § 824a-3(d) (2012); Steven Ferrey, 1. L. of Indep. Power § 7:1 (2016); David B. Spence & Robert Prentice, *The Transformation of American Energy Markets and the Problem of Market Power*, 53 B.C. L. REV. 131 (2012).

⁵⁸ Order No. 888: Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 75 FERC ¶ 61,080 (1996).

⁵⁹ *Our History*, ISO-NEW ENGLAND, <https://www.iso-ne.com/about/what-we-do/history>.

⁶⁰ New England Power Pool, 79 FERC ¶ 61,374 (1997).

⁶¹ Conn. Pub. Act. 98-28; Kaye Scholer LLP, *State Analysis and Survey on Restructuring and Reregulation: Final Report*, MD. PUB. SERV. COMM’N 25 (Dec. 1, 2008), http://www.psc.state.md.us/wp-content/uploads/Kaye-Scholer_Final-Report_State-Analysis-and-Survey-on-Restructuring-and-Reregulation-for-the-MD-PSC.pdf.

opt for a competitor, purchasing electricity through long-term contracts.⁶² In recent years, the state has also required UI to procure renewable generation.⁶³

UI's status as an independent local utility came to an end in December 2015 when it was acquired by Iberdrola, a major energy company based in Spain.⁶⁴ UI and other U.S. energy companies are now units of a new Iberdrola subsidiary known as Avangrid.

B. Public Utility Regulation: History and Theory

The first regulatory commission in the United States, the Rhode Island Commission was founded in 1839 with the goal of regulating railroads.⁶⁵ Other states followed suit, with Connecticut's General Assembly creating a Railroad Commission in 1853.⁶⁶ However, these state commissions were hampered by regulatory capture dynamics and the limits of the dormant Commerce Clause. To address these shortcomings, the federal government got into the regulation game in 1887 with the creation of the Interstate Commerce Commission⁶⁷ (although this

⁶² Kay Sholer LLP, *supra* note 61, at 27; *DPUC Review of the United Illuminating Company's Divestiture Plan Phase I – Sale of NonNuclear Generating Plants*, CT DPUC Docket No. 98-10-07 (Mar. 5, 1999) at 1.

⁶³ Kay Sholer LLP, *supra* note 61, at 30.

⁶⁴ Katherine Tweed, *Iberdrola USA and UIL Merge to Form Utility Giant Avangrid*, GREENTECH MEDIA (Dec. 18, 2015), <https://www.greentechmedia.com/articles/read/Iberdrola-USA-and-UIL-Merge-to-Form-Utility-Giant-Avangrid>.

⁶⁵ RICHARD J. PIERCE, JR. & ERNEST GELLHORN, *REGULATED INDUSTRIES* 75 (1999).

⁶⁶ 1853 Conn. Pub. Acts 132, 135.

⁶⁷ Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887); PIERCE & GELLHORN, *supra* note 65, at 76-77.

agency was also in due course accused of acting as a protector of incumbent railroads⁶⁸).

While the state and local governments were involved with the electric utility business early on through the granting of charters and permits for construction of facilities, Connecticut did not create a public utilities commission until 1911.⁶⁹ The Federal Power Commission—the forerunner to the current Federal Energy Regulatory Commission (FERC)—was created in 1920 through the Federal Power Act, although it initially focused on hydropower projects.⁷⁰ The FERC’s role was expanded in 1935 to address the inability of state public utility commissions to regulate interstate sales of electricity, a dilemma known as the *Attleboro* gap.⁷¹ As concerns began to mount about the impact of industry on the environment, both the state of Connecticut and the federal government created regulatory agencies that influence UI’s operations, including the U.S. Environmental Protection Agency (founded in 1970),⁷² the Connecticut Department of Environmental Protection

⁶⁸ See, e.g., Anthony Johnstone, *Captive Regulators, Captive Shippers: The Legacy of McCarty Farms*, 70 MONT. L. REV. 239 (2009) (“In time, the Interstate Commerce Commission showed that regulators, as well as shippers, could be captured by railroads.”); George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3, 17 (“So many economists, for example, have denounced the ICC for its pro-railroad policies that this has become a cliché of the literature.”); Samuel P. Huntington, *The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest*, 61 YALE L.J. 467 (1952).

⁶⁹ Conn. Pub. Acts. ch. 128 (1911); FASSETT, *supra* note 21, at 163.

⁷⁰ Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920).

⁷¹ JOSEPH P. TOMAIN & RICHARD D. CUDAHY, ENERGY LAW 374 (2011); see also Pub. Utils. Comm’n of R.I. v. Attleboro Steam & Elec. Co., 273 U.S. 83 (1927).

⁷² Reorganization Plan No. 3 of 1970, 3 C.F.R. 199 (1970) (Dec. 2, 1970), reprinted in 5 U.S.C. app. at 643 (2006), and in 84 Stat. 2086 (1970).

(founded in 1971, now the Department of Energy and Environmental Protection),⁷³ the Power Facility Evaluation Council (founded in 1971, now the Connecticut Siting Council).⁷⁴ Developments in the power sector also gave rise to new federal agencies – the advent of nuclear power led to the creation of the Atomic Energy Commission in 1946⁷⁵ (superseded by the Nuclear Regulatory Commission in 1974) while the North American Electric Reliability Corporation gained regulatory powers regarding reliability standards in the wake of the 2003 Northeast blackout.⁷⁶

One of this paper’s main projects is to explore changes over time in which subjects have been treated as proper targets for government regulation. As such, it is useful to pause at this juncture to consider the theoretical underpinnings of public utility regulation and its alternatives.

The threshold question is whether the government *can* regulate businesses like electric utilities. *Munn v. Illinois*, a landmark 1876 case, upheld state regulation of prices charged by grain elevators on the grounds that the elevators were, like common carriers, “affected with a public interest.”⁷⁷ This standard was significantly relaxed in the federal context with the New Deal-era Court’s dismantling of *Lochner*-ian substantive due process.⁷⁸ The modern interpretation of

⁷³ 1971 Conn. Pub. Acts 1927.

⁷⁴ 1971 Conn. Pub. Acts 926.

⁷⁵ Atomic Energy Act of 1946, ch. 724, 60 Stat. 755.

⁷⁶ Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing, 116 FERC ¶ 61,062 (2006).

⁷⁷ 94 U.S. 113, 130 (1876).

⁷⁸ PIERCE & GELLHORN, *supra* note 65, at 78.

the Commerce Clause allows for federal regulation of interstate sales of electricity so long as there is a rational basis for such regulation and it is not confiscatory.⁷⁹

With fairly low standards regarding the permissibility of government regulation, the question then becomes one of advisability: whether the government *should* regulate businesses like electric utilities. The dominant view is that government intervention is a departure from the general rule that businesses have the right to direct their own affairs. The basic assumption is that well-functioning competitive markets will be able to secure the most socially beneficial outcomes (i.e., the largest producer and consumer surplus).⁸⁰ Another major justification is the idea that minimizing government intervention will encourage investment in private enterprises, leading to overall economic growth.⁸¹ Government may set the ground rules to ensure fair competition,⁸² for instance by enforcing antitrust law and by providing a court system that addresses abuses through criminal law and private law. More extensive government intervention represents a departure from the norm of free competition and is only justified to the extent it addresses a market failure.⁸³

⁷⁹ See *West Coast Hotel v. Parrish*, 300 U.S. 379 (1937); *Nebbia v. New York*, 291 U.S. 502 (1934); PIERCE & GELLHORN, *supra* note 65, at 78-79.

⁸⁰ MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* (1962); CHARLES F. PHILLIPS, JR., *THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE* (1988); PIERCE & GELLHORN, *supra* note 65, at 19.

⁸¹ PIERCE & GELLHORN, *supra* note 65, at 7.

⁸² FRIEDMAN, *supra* note 80, at 27 (“The role of government just considered is to do something that the market cannot do for itself, namely to determine, arbitrate, and enforce the rules of the game.”); PIERCE & GELLHORN, *supra* note 65, at 19-20.

⁸³ FRIEDMAN, *supra* note 80, at 27 (“We may also want to do through government some things that might conceivably be done through the market but that technical or similar conditions render it difficult to do in that way.”); RICHARD J. PIERCE, JR., *ECONOMIC REGULATION: CASES AND MATERIALS 1* (1994) (“We regulate a particular market because we

Scholars generally agree that there are three possible approaches to market failure: (1) accepting market imperfections as a cost of private ownership, (2) public regulation of private firms, and (3) public ownership.⁸⁴ Government regulation is often presented as the most moderate option, preserving more opportunities to reap the efficiency benefits associated with the private enterprise model.⁸⁵ Indeed, some scholars have noted that certain electric utility executives lobbied for regulations as an alternative to public ownership.⁸⁶

There are several forms of market failure that may be grounds for government regulation.⁸⁷ One important variety is the idea that certain industries are natural monopolies.⁸⁸ In such industries, economies of scale are so substantial that it is most efficient to have a single supplier.⁸⁹ This idea traces back to

perceive imperfections in that market that cause it to produce socially unacceptable results.”); PIERCE & GELLHORN, *supra* note 65, at 9.

⁸⁴ See, e.g., FRIEDMAN, *supra* note 80, at 28 (“When technical conditions make a monopoly the natural outcome of competitive market forces, there are only three alternatives that seem available: private monopoly, public monopoly, or public regulation.”); PIERCE & GELLHORN, *supra* note 65, at 22.

⁸⁵ See, e.g., William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614, 1616 (presenting public utility regulation as a “third way” between fully public and fully private ownership).

⁸⁶ Robert L. Bradley, Jr., *The Origins of Political Electricity: Market Failure or Political Opportunism?*, 17 ENERGY L.J. 59, 77 (1996) (noting that “utility executives spearheaded regulation as the lesser evil compared to government ownership”); Richard D. Cudahy & William D. Henderson, *From Insull to Enron: Corporate (Re)Regulation After the Rise and Fall of Two Energy Icons*, 26 ENERGY L.J. 35, 46 (2005).

⁸⁷ See PIERCE & GELLHORN, *supra* note 65, at 48-74.

⁸⁸ A.J.G. PRIEST, PRINCIPLES OF PUBLIC UTILITY REGULATION: THEORY AND APPLICATION 1 (1969); Rick Geddes, *Public Utilities*, in ENCYCLOPEDIA OF LAW & ECONOMICS 1162, 1165 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000); Joseph P. Tomain, *The Past and Future of Electricity Regulation*, 32 ENVTL. L. 435, 444 (2002).

⁸⁹ PIERCE & GELLHORN, *supra* note 65, at 48.

England's Lord Chief Justice Matthew Hale, who used the concept when defending government regulation of seaports in a 1670 treatise.⁹⁰ This concept of natural monopoly is often put forward as the core justification for the pervasive regulation of electric utilities.⁹¹ This theory assumes that within a given geographic area, a single firm will be able to most efficiently produce and distribute electric power. Indeed, electricity service the main criteria that often give rise to natural monopolies: it is a network industry that involves substantial sunk costs due to the high costs of infrastructure.⁹²

Under this theory, a monopoly is inevitable, so government intervention is needed to prevent monopoly abuses. Government regulators determine the rates that electric utilities can charge in order to ensure that the utility can make a reasonable return on its investment without charging excessively high rates.⁹³ The government also prevents discrimination by imposing service requirements within the utility's monopoly territory.⁹⁴ This leads to a regulatory "compact":

[A] monopoly on service in a particular geographical area (coupled with state-conferred rights of eminent domain or condemnation) is granted to the utility in exchange for a regime of intensive regulation, including price regulation, quite alien to the free market. ... Each party to the compact gets something in the bargain. As a general rule, utility investors are provided a level of

⁹⁰ MATTHEW HALE, *DE PORTIBUS MARIS* (1670); see also Tomain, *supra* note 88, at 447. Tomain notes that the idea was first applied to public utilities by John Stuart Mill in 1848's *The Principles of Political Economy*. *Id.*

⁹¹ See sources cited *supra* note 88.

⁹² See Geddes, *supra* note 88, at 1162.

⁹³ Tomain, *supra* note 88, at 445.

⁹⁴ *Id.* at 445; George J. Stigler & Claire Friedland, *What Can Regulators Regulate? The Case of Electricity*, 5 *J. Law & Econ.* 1, 4 (1962).

stability in earnings and value less likely to be attained in the unregulated or moderately regulated sector; in turn, ratepayers are afforded universal, non-discriminatory service and protection from monopolistic profits through political control over an economic enterprise.⁹⁵

The fundamental assumptions of this model came under attack in the 1960s. In an influential 1968 article, Harold Demsetz challenged the “natural monopoly” rationale for public utility regulation on the grounds that “it fails to reveal the logical steps that carry it from scale economies in production to monopoly prices in the market place.”⁹⁶ Instead, Demsetz argued, even when there are economies of scale that favor consolidation, the monopoly supplier faces potential competition from other bidders so long as (1) the inputs for production are widely available and (2) the costs of collusion among bidders are high.⁹⁷ Demsetz seemed to argue that those conditions were satisfied in the electricity industry, highlighting pre-regulation competition among electric companies as support for his critique.⁹⁸

Demsetz’s questioning of the natural monopoly rationale spurred vigorous debate about the theoretical justification for public utility regulation. Some scholars developed a substantial literature exploring which sectors involved “contestable” natural monopolies and might thus be ripe for de-regulation.⁹⁹ But others took issue with Demsetz’s assumptions regarding the potential for competition in the electric

⁹⁵ *Jersey Cent. Power & Light Co. v. FERC*, 810 F.2d 1168, 1189 (D.C. Cir. 1987) (Starr, J., concurring); *see also* Boyd, *supra* note 85, at 1643 n.106; Tomain, *supra* note 88, at 445-46.

⁹⁶ Harold Demsetz, *Why Regulate Utilities?*, 11 *J. L. & Econ.* 55, 56 (1968).

⁹⁷ *Id.* at 58.

⁹⁸ *Id.* at 59.

⁹⁹ *See* Geddes, *supra* note 88, at 1167.

sector.¹⁰⁰ By upsetting the traditional natural monopoly rationale for public utility regulation, Demsetz also opened the door to a number of new economic justifications for government interventions. This category includes arguments that regulation prevents duplicative and thus wasteful investment¹⁰¹ and makes sense given that transaction costs preclude coordination among consumers.¹⁰² George Priest's argument that state regulation was driven by contracting problems with municipal regulation might also fit into this category.¹⁰³

These various economic justifications all fit within the general “public interest” model of regulation, which assumes that government intervenes to correct market failures that would harm the public.¹⁰⁴ Some scholars have adopted a different frame entirely, advancing “public choice” theories that see regulation as the product of advocacy by interested parties.¹⁰⁵ George Stigler's influential 1971 article, *The Theory of Economic Regulation*, was the groundbreaking work in this category, positing that government regulation could be understood as a commodity

¹⁰⁰ See, e.g., Tomain, *supra* note 88, at 448 (arguing that Demsetz erred in his assumption that the inputs needed to enter production were widely available because history demonstrates high barriers to entry).

¹⁰¹ *Id.* at 445 (“A specific service area needs only one set of electric or telephone wires; the investment in any other set of wires is wasteful.”).

¹⁰² *Id.* at 448.

¹⁰³ See George L. Priest, *The Origins of Utility Regulation and the “Theories of Regulation” Debate*, 36 J. L. & ECON. 289 (1993).

¹⁰⁴ See Tomain, *supra* note 88, at 444.

¹⁰⁵ *Id.* at 444.

that was supplied based on interest group demand.¹⁰⁶ Other theorists focused on competition among interest groups—including both consumers and producers—regarding regulation¹⁰⁷ or on the capacity of incumbent firms to “capture” their regulators.¹⁰⁸ One variant on this model is the theory that the industry succeeded in convincing the government that electricity was a product that was important to the public interest and thus its growth should be promoted through regulation that allowed for reasonable rates of return, which made utilities attractive bets for investors.¹⁰⁹

This ongoing theoretical debate about the rationale for government regulation of utilities led to normative questions about whether the government should continue in its traditional regulatory role. An influential 1962 empirical study by George J. Stigler and Claire Friedland found that regulation was not effective in reducing prices for consumers,¹¹⁰ which set the stage for questioning the necessity of rate regulations. Some scholars argued that the social costs of

¹⁰⁶ George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971); see also George L. Priest, *The Origins of Utility Regulation and the “Theories of Regulation” Debate*, 36 J. L. & ECON. 289 (1993).

¹⁰⁷ Sam Peltzman, *Toward a More General Theory of Regulation* (Nat’l Bureau of Econ. Research, Working Paper No. 133, 1976).

¹⁰⁸ See William A. Jordan, *Producer Protection, Prior Market Structure and the Effects of Government Regulation*, 15 J. L. & ECON. 151 (1972).

¹⁰⁹ See Joseph P. Tomain, *Electricity Restructuring: A Case Study in Government Regulation*, 33 TULSA L.J. 827, 831 (1998).

¹¹⁰ George J. Stigler & Claire Friedland, *What Can Regulators Regulate? The Case of Electricity*, 5 J. Law & Econ. 1 (1962).

regulation outweigh its benefits,¹¹¹ for instance by creating incentives for building unnecessary and expensive infrastructure.¹¹² Theorists also began scrutinizing different aspects of the electricity system separately, independently analyzing whether generation, transmission, or distribution could be good candidates for deregulation.¹¹³

However, there has been some pushback against this drive toward deregulation. Recently, some scholars have argued that the debate over rate regulation that started in the 1960s has largely proceeded along economic lines, ignoring the broader goals of public utility regulation.¹¹⁴ According to William Boyd, the New Deal public utility regulation “was of a piece with the broader effort aimed at devising working rules for the social control of business, an exercise viewed as much in social and political terms as in economic ones.”¹¹⁵ There is some hint of this conception even in Demsetz’s work, which notes that one alternative justification for public utility regulation was the desire to block “the capture of *windfall* gains by utility companies.”¹¹⁶ This seems to indicate that there has long been a sense that electricity is such an important aspect of modern life that we cannot fully trust the

¹¹¹ See, e.g., Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 Stan. L. Rev. 548, 625 (1969).

¹¹² Harvey Averch & Leland L. Johnson, *The Firm under Regulatory Constraint*, 52 Am. Econ. Rev. 1052 (1962); Tomain, *supra* note 109, at 834.

¹¹³ See, e.g., Geddes, *supra* note 88, at 1163-64); Robert Crandall & Jerry Ellig, *Economic Deregulation and Customer Choice: Lessons for the Electric Industry*, CTR. MKT. PROCESSES 7 (1997), https://www.mercatus.org/system/files/MC_RSP_RP-Deregulation_970101.pdf.

¹¹⁴ Boyd, *supra* note 85, at 1620.

¹¹⁵ *Id.* at 1650.

¹¹⁶ Demsetz, *supra* note 96, at 61.

market to produce acceptable outcomes. This broader conception of the need for regulation seems to undergird the contemporary idea that government intervention in the electricity sector is justified to advance public policy goals, such as the promotion of renewable energy, improved reliability, and technological innovation.¹¹⁷

It is worth emphasizing that the foregoing discussion has largely focused on the debates over regulation of utility rates and service obligations. The rationale for environmental regulations that apply to electric utilities are somewhat distinct. Those regulations are largely based on the idea that the pollution is a negative externality whose value is not fully captured by markets and tort law doctrines like trespass and nuisance. Under this view, pollution will exceed optimal levels because utilities do not bear the full cost of the pollution they create. Pollution can also be understood as a “public goods” problem: clean air is a non-rival and non-excludable good, so collective action problems and free-riding will result in an under-supply of the good unless the government intervenes.

III. REGULATORY HISTORY

Having established the general background of electricity service in New Haven and public utility regulatory theory, this Part will delve into the details of UI’s regulatory history. This section attempt to analyze give different categories of regulations: (1) regulations related to UI’s corporate structure, (2) infrastructure

¹¹⁷ See, e.g., Boyd, *supra* note 85; Sidney A. Shapiro & Joseph P. Tomain, *Rethinking Reform of Electricity Markets*, 40 WAKE FOREST L. REV. 497, 498 (2005).

regulations, (3) governmental control of UI's retail and wholesale rates, (4) regulations related to reliability and terms of service, and (5) regulatory initiatives that influence the level of competition that UI faces. Although this paper aims to present a comprehensive assessment of the ways in which UI has been regulated over time, it addresses only those regulatory actions that apply to UI *as an electric utility*. It does not cover government actions broadly applicable to all businesses, such as labor laws and regulations of companies with publicly traded stock.

A. Corporate Structure

Both the state and federal government have created regulatory regimes that influence UI's corporate structure, including its ability to continue as a private rather than public entity, the geographic scope of its service territory, its ownership structure, and its ability to merge with other companies. While government involvement in this area has generally increased over time, for most of its history UI has been able to limit its exposure to government intervention in this area thanks to its limited interest in geographic expansion and its preference for local control. These preferences have changed in recent years, leading to increased opportunities for governmental oversight. The increased activity in this area in recent years also demonstrates a shift to a more confrontational relationship between UI and its regulators than was evident in the early years.

1. Expansion of Government Regulation

UI's corporate structure has been the subject of government regulation from its earliest days. For most of its history UI has operated under a state-granted charter stipulating the services it is empowered to provide. The original New Haven Electric Lighting Company in 1881 obtained a charter from the Connecticut General Assembly authorizing it "to manufacture, use, and sell electricity within the city or town of New Haven."¹¹⁸ This initial charter laid out the company's basic legal rights (such as the right to buy and sell property and patents and the right to sue and be sued) and set rules regarding its capital stock and directors.¹¹⁹ It also made it a misdemeanor to "unlawfully and intentionally inure or destroy" the company's property.¹²⁰ The reformed New Haven Electric Company did not immediately seek a charter but instead operated as a joint stock company.¹²¹ Within a few years, however, the company decided it would be advisable to obtain a charter in order to solidify its legal rights and it did so in 1887.¹²² This history suggests that although a state-granted charter was not strictly necessary in order to do business, it did afford protection by clarifying the company's legal rights.

Government involvement in this area quickly expanded beyond the charter, with state and federal regulatory bodies assuming authority to review potential mergers and acquisitions. When the Connecticut General Assembly formed the

¹¹⁸ 1881 Conn. Spec. Acts 209; FASSETT, *supra* note 21, at 17.

¹¹⁹ 1881 Conn. Spec. Acts 209.

¹²⁰ *Id.* § 11.

¹²¹ FASSETT, *supra* note 21, at 31.

¹²² 1887 Conn. Spec. Acts 648; FASSETT, *supra* note 21, at 76.

state's Public Utility Commission in 1911, it gave that body authority to approve mergers and acquisitions.¹²³ Similarly, the Federal Power Commission (the predecessor to FERC) was granted authority to review mergers involving “public utilities” under the Federal Power Act of 1935.¹²⁴

The federal government assumed a far more aggressive role in regulating the ownership structure of utilities with the Public Utility Holding Company Act of 1935 (PUHCA).¹²⁵ Passed in response to the abuses associated with the wave of utility mergers during the 1920s and early 1930s,¹²⁶ this law required holding companies to register with the U.S. Securities and Exchange Commission, which had the power to determine whether company structures should be simplified.¹²⁷ While PUHCA arguably marks the high point of government control over utility corporate structure, it also now stands for an example of the influence of deregulatory forces. PUHCA was repealed by the Energy Policy Act of 2005 and

¹²³ 1911 Conn. Pub. Acts 1387; FASSETT, *supra* note 21, at 163.

¹²⁴ 16 U.S.C. § 824b(a)(1).

¹²⁵ Public Utility Holding Company Act of 1935, ch. 687, 49 Stat. 803.

¹²⁶ These mergers often created holding companies that used pyramid structures to retain control of utilities despite controlling a relatively small share of their stock. Markian M.W. Melnyk & William S. Lamb, *PUHCA's Gone: What Is Next for Holding Companies?*, 27 ENERGY L.J. 1, 4 (2006). A study by the Federal Trade Commission in the late 1920s and mid-1930s “found many systemic abuses including: the issuance of securities to the public based on unsound asset values or on paper profits from intercompany transactions; the extension of holding company ownership to disparate, nonintegrated operating utilities throughout the country without regard to economic efficiency or coordination of management; the mismanagement and exploitation of operating subsidiaries through excessive service charges, excessive common stock dividends, upstream loans and an excessive proportion of senior securities; and the use of the holding company to evade state regulation.” *Id.* at 4-5.

¹²⁷ *Id.* at § 11; Comment, *Federal Regulation of Holding Companies: The Public Utility Act of 1935*, 45 YALE L.J. 468, 483 (1936).

replaced by PUHCA 2005, which imposed some minimal recordkeeping requirements to be administered by FERC (rather than the SEC).¹²⁸

2. UI's Ability to Limit its Exposure to Regulatory Control

In the face of this general trend toward increasing levels of government regulation, UI has been able to limit its exposure to the most potentially intrusive forms of government oversight.

On the most fundamental level, it is important to note that UI has been able to remain a private entity over the full course of its history. As discussed above,¹²⁹ public ownership can be understood as the most dramatic form of government intervention. Early on in the history of electricity in Connecticut, there was some interest in the public ownership approach. The Connecticut Socialist Party, for instance, was a proponent of municipal ownership of electric systems.¹³⁰ While the Connecticut legislature did consider municipal ownership of electric utilities in its 1893 session, the proposal was ultimately rejected.¹³¹ Ninety years later, the Connecticut General Assembly directed the PUC to study potential public ownership (at the state, regional, or local level) of the state's major electric utilities,

¹²⁸ Public Utility Holding Company Act of 2005, Pub. L. 109-58, 119 Stat. 972 (codified as amended at 42 U.S.C. §§ 16451-16463 (2012)); *see also Repeal of the Public Utility Holding Company Act of 1935 and Enactment of the Public Utility Holding Company Act of 2005 Pursuant to the Energy Policy Act of 2005*, KIRKLAND & ELLIS (Oct. 2005), https://www.kirkland.com/siteFiles/kirkexp/publications/2316/Document1/Public_Utility_Holding_Company_Act_of_2005.pdf.

¹²⁹ *See supra* Part II.B.

¹³⁰ FASSETT, *supra* note 21, at 167.

¹³¹ FASSETT, *supra* note 21, at 96-97.

UI and Northeast Utilities.¹³² Completed in 1985, this study found that public ownership could result in a nine percent decrease in rates, but would face significant organizational and legal challenges.¹³³ The federal government has supported public power through the Rural Electrification Administration, created in 1935 to promote rural electric cooperatives.¹³⁴ The federal government has also become directly involved in the industry through the creation of federal power marketing administrations and the Tennessee Valley Authority, but these entities operate outside of New England.¹³⁵ While some municipal utilities continue to operate in Connecticut,¹³⁶ UI has never faced serious threats of a public takeover.

UI was able to avoid the full brunt of federal regulation in this area thanks to its limited interest in geographic expansion and its willingness to constrain its operations to avoid federal oversight. Although UI did expand its service territory to cover other communities in southwestern Connecticut, the company avoided participating in the 1920s trend of utility company consolidations, even creating a

¹³² 1983 Conn. Spec. Acts 43; FASSETT, *surpa* note 21, at 671.

¹³³ David Fink, *Study Finds Savings in Public Takeover of Electric Service*, HARTFORD COURANT, Jan. 11, 1985, at B2.

¹³⁴ FASSETT, *surpa* note 21, at 208.

¹³⁵ *U.S. Federal Power Program*, AM. PUB. POWER ASS'N (Jan. 2017), http://publicpower.org/files/PDFs/U.S.%20Federal%20Power%20Program_1485899414686_3.pdf; *Federal Power Marketing Administrations Operate Across Much of the United States*, U.S. ENERGY INFO. ADMIN. (June 12, 2013), <http://www.eia.gov/todayinenergy/detail.php?id=11651>.

¹³⁶ The Connecticut Municipal Electric Energy Cooperative provides wholesale power to six in-state municipal utilities. CONN. MUN. ELEC. ENERGY COOP., <https://cmec.com/> (last visited Apr. 26, 2017).

voting trust to fend off potential acquirers.¹³⁷ Thus while the Federal Power Act of 1935 gave the Federal Power Commission authority to review mergers involving “public utilities,”¹³⁸ due to its isolationist approach, UI did not fall within that Act’s definition of a “public utility” until the 1960s.¹³⁹ Similarly, at the time that the Public Utility Holding Company Act of 1935 (PUHCA) was enacted, UI itself was not a holding company for the purposes of the Act.¹⁴⁰ However, the voting trust that UI had adopted in 1931 as a protective measure against acquisition attempts was disbanded in 1940 in order to avoid being subject to SEC jurisdiction.¹⁴¹

Recently, however, UI has demonstrated an increasing willingness to subject itself to regulatory scrutiny in order to make desired changes in its corporate structure. In 2000, UI decided to transition to the holding company structure, making itself subject to PUHCA and requiring approval from the Connecticut Department of Public Utility Control.¹⁴² UI has also become a more active participant in mergers in recent years. In 2010, UI bought up two major Connecticut natural gas companies.¹⁴³ Five years later, UI itself was purchased by Spanish energy company Iberdrola, becoming part of the company’s Avangrid unit,

¹³⁷ FASSETT, *supra* note 21, at 194, 196-97.

¹³⁸ 16 U.S.C. § 824b(a)(1).

¹³⁹ *See* FASSETT, *supra* note 21, at 305, 340, 400.

¹⁴⁰ FASSETT, *supra* note 21, at 208.

¹⁴¹ FASSETT, *supra* note 21, at 196-97, 208, 280-81; *Utility Will Drop Two of Its Units*, N.Y. TIMES, Aug. 21, 1940, at 29.

¹⁴² Press Release, UI Shareowners Approve New Holding Company Proposal (Mar. 17, 2000).

¹⁴³ Luther Turmelle, *UI Parent Makes Big Buy of Gas Companies*, NEW HAVEN REGISTER (May 25, 2010), <http://www.nhregister.com/article/NH/20100525/NEWS/305259901>.

which includes other gas and electric utilities in the Northeastern United States.¹⁴⁴

Both of these transactions required approval from Connecticut public utility regulators¹⁴⁵ and the 2015 deal also required approval by the Federal Energy Regulatory Commission.¹⁴⁶

3. From Collaboration to Conflict

This recent merger activity demonstrates how much the relationship between UI and state regulators has changed since the company's early days. While early state actions affecting UI's ability to merge with other companies demonstrated a decidedly collaborative spirit, the more recent history demonstrates increased levels of confrontation.

Early on, UI's charter was repeatedly amended to provide it more opportunities for expansion. The New Haven Electric Lighting Company's 1887 charter was substantially similar to the 1881 version, although it did give NHELCo the right to "do[] the business of electric lighting in the town *and county* of New Haven,"¹⁴⁷ a change which allowed the company to expand its potential geographic

¹⁴⁴ Luther Turmelle, *UI-Iberdrola Deal Closes*, NEW HAVEN REGISTER (Dec. 16, 2015), <http://www.nhregister.com/article/NH/20151216/NEWS/151219633>.

¹⁴⁵ See Dan Haar, *Regulators OK Gas Companies' Sale: United Illuminating Parent to Buy Firms in Connecticut, Massachusetts*, HARTFORD COURANT, Nov. 11, 2010, at A11; Luther Turmelle, *UI-Iberdrola Deal Closes*, NEW HAVEN REGISTER (Dec. 16, 2015), <http://www.nhregister.com/article/NH/20151216/NEWS/151219633>.

¹⁴⁶ Iberdrola, S.A., 151 FERC ¶ 62,148 (2015); Todd Griset, *FERC Approves Iberdrola-UI Merger*, ENERGY POLICY UPDATE (June 2, 2015), <http://energypolicyupdate.blogspot.com/2015/06/ferc-approves-iberdrola-uil-merger.html>.

¹⁴⁷ 1887 Conn. Spec. Acts 648 § 1 (emphasis added).

reach.¹⁴⁸ Later charter amendments allowed for further expansion of the company's service territory.¹⁴⁹ In 1899, NHELCo secured amendments to its charter that authorized it to "consolidate, to make common stock, or merge" with other electric companies,¹⁵⁰ setting the stage for its merger with the Bridgeport Electric Light Company later that year. These amendments allowed the company to merge with other electric utilities,¹⁵¹ allowing it purchase the "franchises, privileges and charter rights" of the electric companies in West Haven, Bridgeport, and Stratford later that year.¹⁵² In the following years, UI acquired electric companies serving Milford, North Haven, Fairfield, Wallington, Derby, Shelton, and Ansonia.¹⁵³

This 1899 amendment of NHELCO's charter also removed constraints on capitalization and gave the company's board more discretion regarding financing.¹⁵⁴ This leeway regarding financing was further enhanced in 1940s charter amendment, which allowed the company to double its shares of stock¹⁵⁵ and clarified its authority "subject to such approval of the public utilities commission as

¹⁴⁸ FASSETT, *supra* note 21, at 91.

¹⁴⁹ *See, e.g.*, 1917 Conn. Spec. Acts 811 (authorizing UI to sell electricity in parts of the town of Trumbull); 1939 Conn. Spec. Acts 224 § 1 (authorizing UI to sell electricity in Trumbull and Easton).

¹⁵⁰ 1899 Conn. Spec. Act 528 § 1.

¹⁵¹ *See supra* note 150 and accompanying text.

¹⁵² FASSETT, *supra* note 21, at 120.

¹⁵³ FASSETT, *supra* note 21, at 126, 287, 369.

¹⁵⁴ FASSETT, *supra* note 21, at 119, 161-62.

¹⁵⁵ 1941 Conn. Spec. Acts 705; FASSETT, *supra* note 21, at 313.

is required by law, from time to time to issue bonds and debentures or other evidences of indebtedness.”¹⁵⁶

These early charter amendments thus show that the state of Connecticut was willing to work with UI to allow it to expand its service territory and operate with increasing levels of financial flexibility. By contrast, recent state review of UI’s proposed merger with Ibedrola was much more confrontational, demonstrating the willingness of state regulators to use their control over UI’s corporate structure as leverage to achieve other policy goals. The Connecticut Office of Consumer Counsel used the 2015 merger proposal as an opportunity to obtain UI’s agreement to remediate environmental damage at the site of the company’s old English Station power plant on New Haven Harbor.¹⁵⁷

B. Infrastructure

A study of laws and regulations affecting UI’s decisions regarding infrastructure¹⁵⁸ also shows a pattern of increasing levels of government control, with the state government playing a particularly active role. This section explores several manifestations of this trend toward increasing government control over infrastructure decisions. It begins by discussing increases in government authority

¹⁵⁶ 1943 Conn. Spec. Acts 218; FASSETT, *supra* note 21, at 330.

¹⁵⁷ See 2016 Annual Report, *supra* note 2, at 11.

¹⁵⁸ There are three main categories of electric utility infrastructure: (1) generation facilities that produce power, (2) transmission facilities that allow for the transport of electric power over long distances, and (3) distribution networks that bring electricity into the homes and business of individual consumers. While each category has its own unique dynamics, this section will discuss all three together since they have each been the site of expanded government control and many government initiatives influence all three categories.

over decisions about the need for and siting of new facilities. It then highlights how regionalization of the New England electricity grid created more opportunities for government oversight and the way in which retail restructuring has actually increased the role of the state in resource procurement decisions. The section concludes by highlighting the ways in which increased sensitivity to the environmental impact of electric power facilities led to considerable expansion of government regulation.

1. Increasing Government Control Over New Infrastructure Projects

At the outset, the company enjoyed considerable leeway in terms of decisions to add new facilities. NHELCo's initial 1881 charter gave the company the right to "erect such buildings, poles fixtures or other works necessary to carry on the business of said corporation" on the condition "that before said corporation shall set any poles or run any wires through the streets or public grounds of [New Haven] the consent of the court of common council of said city shall first be obtained, and *provided* that all such structures shall be erected and maintained subject to the ordinances and by-laws of said city concerning streets."¹⁵⁹ The 1887 charter for the reformed NHELCo contained similar provision without the conditions regarding local consent.¹⁶⁰

¹⁵⁹ 1881 Conn. Spec. Acts 209.

¹⁶⁰ 1887 Conn. Spec. Acts 648, § 3 ("Said corporation ... shall have the right to carry, build, maintain, and operate wires or electrical conductors necessary for its business on, over, through, or under all the streets, avenues, lanes, and other highways of the city and town of

The new company made its own decisions about the advisability of building new power plants and transmission lines.¹⁶¹ Indeed, the company's earliest permanent power plant was located squarely in the middle of downtown New Haven, at George and Temple Streets.¹⁶² This free wheeling approach soon brought the company into conflict with its neighbors, who complained about "noise, vibration, smoke and soot"¹⁶³ and sued for damages based on air pollution caused by the plant.¹⁶⁴

The city of New Haven soon became involved with siting decisions. The preface to the 1890 revision of the Charter and Ordinances notes that since the previous revision in 1883, "owing to the rapid and enormous increase of electric light, telegraph and telephone wires, new and more stringent Ordinances became necessary regulating their use, to secure better protection for life and property."¹⁶⁵ That edition contained a number of new provisions about the proper placement and orientation of electric wires.¹⁶⁶ The 1898 revision of the Charter and Ordinances further expanded the city's oversight authority, creating the office of "Superintendent of Fire-Alarm Telegraph and Electrical Construction ... to inspect

New Haven, and may establish and erect such buildings, fixtures, poles, conduits, or other works as may be necessary or convenient to the transaction of its business.").

¹⁶¹ See FASSETT, *supra* note 21, at 21, 32, 77, 146, 150, 152, 179.

¹⁶² FASSETT, *supra* note 21, at 53.

¹⁶³ FASSETT, *supra* note 21, at 151; TOWNSEND, *supra* note 21, at 10.

¹⁶⁴ FASSETT, *supra* note 21, at 78; TOWNSEND, *supra* note 21, at 11. The suit was settled for \$4,625. FASSETT, *supra* note 21, at 79.

¹⁶⁵ CHARTER AND ORDINANCES OF THE CITY OF NEW HAVEN at ii (1890)

¹⁶⁶ *Id.* at §§ 171-175.

electrical plants, and the use and construction of wires on which electricity is conducted within [the] city”¹⁶⁷ and asserting that the court of common council had the power “to regulate the use and construction of electrical plants and wires on which electricity is conducted within [the] city.”¹⁶⁸ The city retains a degree of control over transmission facility construction – section 120 of the current New Haven code says that electric utilities must obtain permission from the board of alderman before building overhead transmission lines or towers.¹⁶⁹

The state of Connecticut soon also took on an expanded role in overseeing infrastructure decisions. The 1911 act that created the PUC gave it the power to require the relocation of electric poles and wires “whenever public convenience or necessity requires such change.”¹⁷⁰ The 1911 act said that towns and cities in which utilities operated had the right to “bring a written petition to the commission alleging that the plant or equipment of such company is inadequate or unsuited to the public need.” If the commission finds that there is a need for more infrastructure, it had the power to order the company to build it.¹⁷¹ The PUC was also able to influence UI’s infrastructure decisions by determining whether the company should be allowed to include specific projects when calculating its allowed rate of return on equity. The PUC has used also used UI rate increase requests as

¹⁶⁷ CHARTER AND ORDINANCES OF THE CITY OF NEW HAVEN 28 (1898).

¹⁶⁸ CHARTER AND ORDINANCES OF THE CITY OF NEW HAVEN 54 (1898).

¹⁶⁹ CODE OF THE CITY OF NEW HAVEN, CONNECTICUT (Aug. 31, 2016), https://www.municode.com/library/ct/new_haven/codes/code_of_ordinances.

¹⁷⁰ Conn. Pub. Acts. ch. 128 (1911); FASSETT, *supra* note 21, at 163.

¹⁷¹ 1911 Conn. Pub. Acts 1387, 1394.

opportunities to instruct the company to reevaluate its infrastructure.¹⁷² The state has also acted to expand UI's power to build infrastructure – in its 1951 charter amendment, the General Assembly granted UI the power the right to exercise eminent domain “as shall be necessary or convenient in the exercise of its rights, powers and privileges.”¹⁷³ But on the whole, the story is definitely one of increased state control of decisions regarding the need for and siting of new infrastructure.

While the federal government became directly involved in UI's decisions regarding infrastructure expansion during World War II, that assumption of authority turned out to be temporary. The National Power Policy Committee, founded by President Roosevelt,¹⁷⁴ held discussions with Connecticut utilities—including UI—in 1939 about their capacity to meet wartime demand.¹⁷⁵ But in the run-up to U.S. involvement in WWII, UI and its state regulators retained control over the decision to add new capacity, with UI committed to adding a new 25-megawatt generator at its Bridgeport plant based on an internal study of company needs.¹⁷⁶ As the war became a reality, though, the federal government assumed a more assertive role. The Federal Power Commission directed UI to install 80

¹⁷² FASSETT, *supra* note 21, at 581-82 (discussing the PUC's 1978 decision directing UI to reevaluate its investments in nuclear plants).

¹⁷³ 1951 Conn. Spec. Acts 348; FASSETT, *supra* note 21, at 334.

¹⁷⁴ Letter from Franklin D. Roosevelt, President, to Harold L. Ickes, Sec'y of the Interior, on Establishing the National Power Policy Committee (July 5, 1934), <http://www.presidency.ucsb.edu/ws/?pid=14719>.

¹⁷⁵ FASSETT, *supra* note 21, at 252-53; Arthur C. Wimer, *Eight Conn. Firms to Be Represented: Spokesmen of Utilities Will Meet with National Power Policy Committee Dec. 8*, HARTFORD COURANT, Dec. 2, 1939, at 2.

¹⁷⁶ FASSETT, *supra* note 21, at 297-98.

megawatts of new generating capacity by 1944¹⁷⁷ and the War Production Board denied UI's installation of the planned 25-megawatt generator, approving a new 7-megawatt "topping unit" instead.¹⁷⁸

However, after the War the federal government relinquished this interventionist role, leaving Connecticut as the primary overseer of UI's resource adequacy and siting decisions. The terms of the Federal Power Act, states like Connecticut continue to retain primary authority over decisions relating to the need for and siting of new electric facilities.¹⁷⁹ In 2005, the Federal Energy Regulatory Commission was granted "backstop" authority over the siting of transmission projects,¹⁸⁰ but this power been limited by the courts and has not been used in practice.¹⁸¹

2. The Impact of Regionalization and Restructuring

Starting in the early 1940s, UI's willingness to coordinate with other local utilities was encouraged by government officials and created new opportunities for

¹⁷⁷ FASSETT, *supra* note 21, at 303.

¹⁷⁸ FASSETT, *supra* note 21, at 307, 319.

¹⁷⁹ 16 U.S.C. § 824 (2012) (reserving to states authority "over facilities used for the generation of electric energy or over facilities used in local distribution or only for the transmission of electric energy in intrastate commerce, or over facilities for the transmission of electric energy consumed wholly by the transmitter."); *see also* Lawrence R. Greenfield, *An Overview of the Federal Energy Regulatory Commission and Federal Regulation of Public Utilities in the United States*, FERC 11 (Dec. 2010), <https://www.ferc.gov/about/ferc-does/ferc101.pdf>.

¹⁸⁰ 16 U.S.C. § 824p (2012).

¹⁸¹ Alexandra B. Klass, *The Electric Grid at a Crossroads: A Regional Approach to Siting Transmission Lines*, 48 U.C. DAVIS L. REV. 1895, 1918 (2015) (noting that "the statutory provisions have not resulted in a single federal approval of a transmission line").

regulatory control. In more recent years, UI has been subject to “deregulation” at both the wholesale and retail level. While deregulation implies less government control over the electricity sector, in UI’s case it seems clear that this restructuring has in fact created increased opportunities for government control over infrastructure decisions.

State and federal regulators facilitated UI’s first moves toward regional coordination. Early in its history, UI took a decidedly isolationist approach, refusing to participate in the wave of utility mergers and declining to connect its transmission system to those of neighboring electric companies. In the early 1940s, Connecticut PUC encouraged UI to establish an interconnection with the neighboring Connecticut Light and Power Company to create the ability to share electricity during emergencies, a move that UI made after securing assurances from FPC that it would not become subject to regulation as a “public utility” under the Federal Power Act.¹⁸² After the war, UI gradually became involved with efforts in regional planning for infrastructure needs. In 1954, UI reached an agreement with other Connecticut utilities to sell some of the power from the new generator it planned to build at Bridgeport Harbor Station.¹⁸³ This agreement was reached only after securing support from the Connecticut PUC¹⁸⁴ and an order from the FPC stating that the deal would not make UI subject to FPC jurisdiction.

¹⁸² The United Illuminating Co., 3 F.P.C. 678 (1942); The United Illuminating Co., 7 F.P.C. 980 (1948) (expanding connection beyond emergency exchanges); FASSETT, *supra* note 21, at 303-04.

¹⁸³ FASSETT, *supra* note 21, at 345.

¹⁸⁴ FASSETT, *supra* note 21, at 344

UI became more deeply enmeshed with regional planning for generation needs when it joined centralized dispatch systems—first the Connecticut Valley Electric Exchange in 1963,¹⁸⁵ then the New England Power Pool (NEPOOL) in 1971.¹⁸⁶ NEPOOL provided a structure for determining a regional plan for generation expansion.¹⁸⁷ For instance, UI's new power plant on the former site of the Coke Works plant in New Haven became the first jointly owned NEPOOL unit when it was completed in 1972.¹⁸⁸ NEPOOL also helped coordinate major transmission projects, including a 600-megawatt tie line to bring in hydropower from Quebec into NEPOOL, a project that required state and federal permits, including an approval from the Connecticut DPUC.¹⁸⁹ UI also coordinated with other electric utilities on the construction of nuclear power plants, which made UI subject to the jurisdiction of the federal Atomic Energy Commission.¹⁹⁰ By becoming a member of NEPOOL, UI got involved with a broader range of infrastructure projects across the region, all of which required regulatory approval. NEPOOL membership thus increased the number of opportunities for government control of UI's infrastructure decisions.

The move toward competition in the electricity industry, discussed in more detail below in Part III.E, compounded this trend toward regionalization and

¹⁸⁵ *State Power Firms Join New Electrical Pool*, HARTFORD COURANT, Nov. 8, 1963, at 20.

¹⁸⁶ *Electric Systems Sign Agreement on Power Pool*, HARTFORD COURANT, Nov. 6, 1971, at 31; FASSETT, *supra* note 21, at 457-58.

¹⁸⁷ FASSETT, *supra* note 21, at 530-31.

¹⁸⁸ FASSETT, *supra* note 21, at 469.

¹⁸⁹ FASSETT, *supra* note 21, at 657-49.

¹⁹⁰ FASSETT, *supra* note 21, at 362-64, 467.

changed the paradigm regarding infrastructure planning and ownership. Although this shift is often referred to as “deregulation,” it actually resulted in increased opportunities for government control of UI’s infrastructure decisions.

At the wholesale level, the Federal Energy Regulatory Commission’s (FERC) landmark 1996 order requiring open access to transmission facilities encouraged the development of “independent system operators” (ISOs) to provide non-discriminatory access to transmission services.¹⁹¹ In the wake of this order the New England Power Pool took on the role of an ISO, becoming ISO-New England in 1997 and providing a regional wholesale electricity market two years later.¹⁹² In 2008, ISO-New England held its first forward capacity market to procure generating resources to fulfill the region’s future needs.¹⁹³ Connecticut’s public utility commission has played an active role in influencing the rules for that market, but those rules are ultimately subject to approval by FERC.¹⁹⁴ FERC further advanced the regional approach to infrastructure planning in 2011, when it issued an order requiring regional transmission planning.¹⁹⁵ Thus restructuring at the wholesale level has been accompanied in substantial increases in FERC’s authority regarding determinations of the need for new generation resources as well as new transmission facilities.

¹⁹¹ FERC Order No. 888: Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 75 FERC ¶ 61,080 (1996).

¹⁹² *Our History*, ISO-NEW ENGLAND, <https://www.iso-ne.com/about/what-we-do/history>.

¹⁹³ *Id.*

¹⁹⁴ Kaye Scholer LLP, *supra* note 61, at 34.

¹⁹⁵ Order No. 1000: Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 136 FERC ¶ 61,051 (2011).

The state of Connecticut has also spearheaded restructuring at the retail level. Like restructuring of the wholesale market by the federal government, UI's experience shows that in many ways this initiative has in fact resulted in increased government involvement in infrastructure decisions. As part of its restructuring law, the Connecticut General Assembly in 1998 required UI and other electric utilities to divest their non-nuclear generation.¹⁹⁶ UI accordingly sold off its two fossil-fuel power plants, Bridgeport Harbor and New Haven Harbor, in 1999¹⁹⁷ and sold its interest in the Seabrook nuclear plant in 2002.¹⁹⁸ However, UI remains responsible for acting as a "supplier of last resort" for customers who do not sign up to be served by one of UI's competitors. In order to provide service to these customers, UI must enter into contracts with third-party electricity suppliers.¹⁹⁹ In 2006, the Connecticut Department of Public Utility Control required UI and other utilities to hold regular auctions for such contracts.²⁰⁰ This level of state control over contracting demonstrates that "deregulation" has not in fact resulted in reduced state government control over resource adequacy decisionmaking.

¹⁹⁶ Conn. Pub. Act 98-28.

¹⁹⁷ *An End of an Era; UI Finalizes Sale of Power Plants Today*, BUSINESS WIRE (Apr. 16, 1999).

¹⁹⁸ UIL Holdings Corp., Annual Report (Form 10-K) (Mar. 1, 2004), https://www.sec.gov/Archives/edgar/data/1082510/000108251004000104/uil_10k2003.txt.

¹⁹⁹ Kevin E. McCarthy, *Electric Restructuring Prospects*, CONN. GEN. ASSEMBLY (Sept. 27, 2002), <https://www.cga.ct.gov/2002/olrdata/et/rpt/2002-R-0793.htm>; Kaye Scholer LLP, *supra* note 61, at 26-27.

²⁰⁰ *Connecticut Restructuring Active*, U.S. ENERGY INFO. ADMIN (May 2010), <http://web.archive.org/web/20150718033059/http://www.eia.gov/electricity/policies/restructurering/connecticut.html>.

Additionally, concerns about the robustness of the competitive market for electricity have led the state to take on an even more active role in infrastructure planning in recent years. In 2005, the state directed the public utilities commission to solicit proposals for long-term projects to reduce electricity prices in the state.²⁰¹ This led the public utilities commission to direct UI and Connecticut Light and Power to enter into contracts with seven new generation projects in 2007 and 2008.²⁰² Two of these projects were new peaking plants in Devon and Middletown that were proposed, built, and owned by GenConn, a joint partnership of UI and NRG, a competitive power supplier.²⁰³ The state in 2007 required UI and CL&P to return to their prior practice of preparing integrated resource plans²⁰⁴ and in 2011 required the Department of Energy and Environmental Protection to begin preparing biannual statewide integrated resource plans.²⁰⁵ A 2015 law directed DEEP to undergo a new round of resource procurements to bring new renewable and natural gas resources into the system.²⁰⁶ While the natural gas procurement process was cancelled, DEEP announced in October 2016 that it had selected five potential large-scale renewables projects and had directed the developers of those

²⁰¹ Conn. Pub. Act 05-1.

²⁰² Kaye Scholer LLP, *supra* note 61, at 32-34.

²⁰³ *United Illuminating; GenConn Energy Awarded Additional 200 MW Peaking Project in Connecticut*, ENERGY & ECOLOGY (Oct. 24, 2008).

²⁰⁴ Corina Rivera, *Connecticut Utilities Resume Use of Integrated Resource Plans*, SNL ENERGY FIN. DAILY (Jan. 3, 2008).

²⁰⁵ Conn. Pub.

²⁰⁶ Conn. Pub. Act 15-107; *Affordable and Reliable Electricity Procurement*, CONN. DEP'T OF ENERGY & ENVTL. PROT., http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=570416&deepNav_GID=2121.

projects to enter into negotiations with UI and CL&P for long-term power purchase contracts.²⁰⁷ Nearly two decades after Connecticut began restructuring the electricity sector, the state remains more involved than ever in infrastructure decisions.

3. Greater Sensitivity to the Environmental Impact of Electric Utilities

The other major factor driving the trend toward increasing regulation of UI's infrastructure decisionmaking has been increased sensitivity to the impact of electric utilities and other industries on the environment. Starting in the 1960s, this led to a host of new laws and regulations at both the state and federal level that shape how UI manages and expands its facilities.

State environmental regulation of UI began in 1967, when the Connecticut PUC held hearings on air and water pollution caused by regulated utilities, including UI, and “direct[ed] the electric utilities to prepare plans to utilize low sulphur fuel or natural gas” during certain weather conditions.²⁰⁸ In 1971, the Connecticut General Assembly created the Power Facility Evaluation Council (PFEC, the precursor to the current Connecticut Siting Council), which was tasked with evaluating the environmental impact of and need for new facilities.²⁰⁹ The

²⁰⁷ *DEEP Announces Action on Energy Procurement RFPs: Natural Gas RFP Canceled, Clean Energy Projects Selected to Move to Next Stage*, CONN. DEP'T OF ENERGY & ENVTL. PROT. (Oct. 25, 2016), <http://www.ct.gov/deep/cwp/view.asp?Q=587122&A=4808>.

²⁰⁸ FASSETT, *supra* note 21, at 421-43; E. Joseph Martin, *11% of Air Pollution from Electric Firm*, HARTFORD COURANT, Jan. 25, 1967, at 8.

²⁰⁹ 1971 Conn. Pub. Acts 926; FASSETT, *supra* note 21, at 428-30.

PFEC also required UI to begin preparing regular reports on anticipated peak load starting in 1972.²¹⁰ In 1971, Connecticut consolidated a number of environmental agencies—including the Clean Air Commission, the Water Resources Commission, and the Department of Health’s Waste Program—into the Department of Environmental Protection.²¹¹ In order address air pollution concerns, Connecticut PUC in 1971 set limits on the sulfur content of fuels sold in Connecticut.²¹² New state environmental laws also required UI to seek approval from the Connecticut Department of Environmental Protection for transmission lines that would cross rivers.²¹³

Around this same time, the federal government ramped up its role in environmental regulation. In 1970, President Nixon created the U.S. Environmental Protection to administer a number of federal environmental laws.²¹⁴ Many of these laws had implications for utilities like UI. The 1970 Clean Air Act set limits on the emissions of a number of pollutants produced by power plants,²¹⁵ the 1972 Clean Water Act required permits for discharges into many bodies of water,²¹⁶

²¹⁰ FASSETT, *supra* note 21, at 476.

²¹¹ 1971 Conn. Pub. Acts 1927; *Department of Environmental Protection*, CONN. STATE LIBRARY, http://libguides.ctstatelibrary.org/ld.php?content_id=11021898.

²¹² *Clean Air Panel Puts Limits on Sulfur Emission*, HARTFORD COURANT, Sept. 3, 1970, at 50; FASSETT, *supra* note 21, at 430, 500.

²¹³ FASSETT, *supra* note 21, at 471-73.

²¹⁴ Richard Nixon, *Special Message from the President to the Congress About Reorganization Plans to Establish the Environmental Protection Agency and the National Oceanic and Atmospheric Administration* (July 9, 1970), <https://archive.epa.gov/epa/aboutepa/reorganization-plan-no-3-1970.html>.

²¹⁵ 42 U.S.C. § 7401 et seq. (1970).

²¹⁶ 33 U.S.C. § 1251 et seq. (1972).

and the 1976 Resources Conservation and Recovery Act set rules for the handling and disposal of hazardous waste.²¹⁷ The EPA quickly promulgated regulations under these laws that directly impact electric utilities like UI, including performance standards for new fossil-fuel generating units²¹⁸ and limits on discharges into bodies of water.²¹⁹ The 1990 amendments to the Clean Air Act set limits on sulfur dioxide and nitrogen oxide emissions in order to address the problem of acid gas and created a novel system of allowance trading as the mechanism for the electric industry to control its emissions.²²⁰ In recent years, efforts to control mercury emissions,²²¹ interstate air pollution,²²² and the performance of cooling water intake structures²²³ led to major regulations that impacted companies like UI that own generation plants.

²¹⁷ 42 U.S.C. § 6901 et seq. (1976).

²¹⁸ New Stationary Sources Performance Standards; Electric Utility Steam Generating Units, 44 Fed. Reg. 33580 (June 11, 1979).

²¹⁹ Effluent Guidelines and Standards; Steam Electric Power Generating Point Source Category, 39 Fed. Reg. 36186 (Oct. 8, 1979).

²²⁰ 1990 Clean Air Act Amendment Summary: Title IV: Acid Deposition Control, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-iv>.

²²¹ National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012).

²²² Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_x SIP Call, 70 Fed. Reg. 25162 (May 12, 2005).

²²³ National Pollution Discharge Elimination System—Final Regulations To Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Amend Requirements at Phase I Facilities, 79 Fed. Reg. 48300 (Aug. 15, 2014).

The 1970s also saw increasing government intervention regarding the type of fuel used by UI and other electric utilities. This new regulatory activity was spurred by both environmental and cost considerations. Initially, UI used coal for its power plants²²⁴ But UI added oil storage tanks in the late 1940s and started to burn oil during periods when labor disputes at coalmines made it difficult to obtain coal.²²⁵ UI became increasingly dependent on oil in 1971, when the Connecticut PUC set limits on the sulfur content of fuels sold in Connecticut.²²⁶ Unfortunately, this shift occurred on the eve of the 1973 oil crisis, exacerbating problems in the already heavily oil-dependent New England region. Congress responded by passing the Emergency Petroleum Allocation Act of 1973, which created the Federal Energy Office to equitably distribute oil across the various regions of the country.²²⁷ While the Federal Energy Administration (the successor to the Federal Energy Office²²⁸) at one point planned to direct UI to stop using oil at its Bridgeport Harbor units, it relented after received pushback from the company and from Connecticut state officials.²²⁹ UI did ultimately decide to convert the plant from oil to coal, a move that required it to secure approvals from the Connecticut DPUC, the Connecticut

²²⁴ FASSETT, *supra* note 21, at 184.

²²⁵ FASSETT, *supra* note 21, at 328, 335.

²²⁶ *Clean Air Panel Puts Limits on Sulfur Emission*, HARTFORD COURANT, Sept. 3, 1970, at 50; FASSETT, *supra* note 21, at 430, 500.

²²⁷ Pub. L. 93-159, 87 Stat. 627 (1973).

²²⁸ Roger Anders, *The Federal Energy Administration*, U.S. DEP'T ENERGY 2 (Nov. 1980), <https://www.energy.gov/sites/prod/files/FEA%20History.pdf>.

²²⁹ David S. Barrett, *FEA Order to Convert Withdrawn*, HARTFORD COURANT, July 2, 1977, at 24; FASSETT, *supra* note 21, at 565.

Siting Council, the Connecticut Department of Environmental Protection, and the U.S. EPA.²³⁰

The trends of increased environmental regulation and greater government control over utility fuel use decisions have come together in recent years thanks to increased concern about global warming and greenhouse gas emissions. As part of its law restructuring the electric industry, Connecticut established a renewable portfolio standard (RPS) in 1998.²³¹ The RPS—which called on electric suppliers and distributors to obtain increasing amounts of electricity from renewable resources—has been repeatedly ramped up in the ensuing years.²³² The restructuring law also required electric companies to disclose their fuel mix and emission rates to customers.²³³ In 2004, Connecticut began requiring reporting of greenhouse gas (GHG) emissions and set a goal of reducing GHG emissions to 1990 levels by 2010.²³⁴ The next year, Connecticut agreed to join the Regional Greenhouse Gas Initiative’s carbon market.²³⁵ The Connecticut General Assembly followed up in 2008, setting additional emissions reduction goals for 2020 and 2050. In 2013, Connecticut passed a law allowing for large-scale procurement of

²³⁰ Steve Grant, *Utility Receives 1st State Permit to Convert Plant to Coal*, HARTFORD COURANT, Apr. 28, 1983, at C9; FASSETT, *supra* note 21, at 625-26.

²³¹ Conn. Pub. Act. 98-28.

²³² See *Renewables Portfolio Standard: Program Overview*, DSIRE (June 17, 2015), <http://programs.dsireusa.org/system/program/detail/195>.

²³³ *Fuel Mix and Emissions Disclosure: Program Overview*, DSIRE (Dec. 17, 2014), <http://programs.dsireusa.org/system/program/detail/239>.

²³⁴ Conn. Pub. Act. 04-252.

²³⁵ <https://rggi.org/design/history/mou>; Conn. Gen. Stat. § 22a-200c.

renewable energy.²³⁶ In 2015, the state legislature give the Department of Energy and Environmental Protection the authority to solicit and select proposed renewable energy projects to meet winter electricity demand.²³⁷

The local and national government have played a more limited role. While the city of New Haven has committed to reducing its greenhouse gas emissions,²³⁸ it does not appear to have taken any direct action to reduce UI's emissions. The federal government provides support for renewable energy through research initiatives and tax credits and tracks GHG emissions, but has thus far been unsuccessful in directly limiting GHG emissions from the electricity sector. The Obama administration made a significant effort to pass national climate change legislation in 2010, but was ultimately unsuccessful.²³⁹ The 2015 Clean Power Plan was thus a major step, setting forth carbon dioxide emissions guidelines for existing power plants.²⁴⁰ However, the Supreme Court stayed the rule in February 2016

²³⁶ Conn. Pub. Act. 13-303.

²³⁷ Conn. Pub. Act. 15-107.

²³⁸ Lucy Gellman, *City Pledges to Cut Greenhouse Emissions by 80%*, NEW HAVEN INDEP. (Jan. 26, 2017), http://www.newhavenindependent.org/index.php/archives/entry/city_climate_change/.

²³⁹ Daniel J. Weiss, *Anatomy of a Senate Climate Bill Death*, CENT. FOR AM. PROGRESS (Oct. 12, 2010), <https://www.americanprogress.org/issues/green/news/2010/10/12/8569/anatomy-of-a-senate-climate-bill-death/>.

²⁴⁰ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64662 (Oct. 23, 2015).

pending review at the D.C. Circuit²⁴¹ and its fate is at best uncertain under the new Trump administration.²⁴²

Taken as a whole, the increased sensitivity to the environmental impact of electric utilities like UI has resulted in a dramatic proliferation of both state and federal regulations. These regulations profoundly affect how UI is able to operate its existing plants and to build new facilities.

C. Rates

As was the case in the arenas of corporate structure and infrastructure, government authority over UI's rates has increased over the course of the company's history. In the context of retail rates, the state public utilities commission has exercised control over the rates that UI charges its customers since its inception. However, increases in the cost of electricity and skepticism about UI's infrastructure investment decisions has led to increasingly hostile rate case proceedings. At the wholesale level, restructuring has significantly expanded the scope of the Federal Energy Regulatory Commission's influence over rates.

²⁴¹ *West Virginia v. EPA*, 577 U.S. __ (Feb. 9, 2016) (order in pending case), <http://www.scotusblog.com/wp-content/uploads/2016/02/15A773-Clean-Power-Plan-stay-order.pdf>.

²⁴² See Chelsea Harvey, *Trump Has Vowed to Kill the Clean Power Plan. Here's How He Might—and Might Not—Succeed*, WASH. POST (Nov. 11, 2016), https://www.washingtonpost.com/news/energy-environment/wp/2016/11/11/trump-has-vowed-to-kill-the-clean-power-plan-heres-how-he-might-and-might-not-succeed/?utm_term=.4354710a7c2f. President Trump recently signed an executive order directing EPA to review the Clean Power Plan and related regulations. Exec. Order No. 13,783, 82 Fed. Reg. 16,093 (Mar. 31, 2017).

1. Heightened Tension over Retail Rates

As with infrastructure, UI had considerable discretion regarding rates early in its history. The New Haven Electric Company's initial rates (40 cents per lamp per night) were decided at an 1881 shareholder meeting.²⁴³ The company's board had the power to update rates.²⁴⁴ The company entered into personal annual contracts with new customers and rates could be highly individualized.²⁴⁵ Before the company began using meters, its "employees regularly observed customers' usage and any uses beyond contract provisions were reported to the office," which would instruct the customer to reduce his use.²⁴⁶

UI lost its untrammelled freedom regarding rates in 1911 when the Connecticut General Assembly created the state's public utility commission and gave it authority over the rates and conditions of service.²⁴⁷ The 1911 act establishing the condition said that towns and cities in which utilities operated had the right to petition the commission to argue that the rates charged were unreasonable or that the service provided was inadequate, as did individual

²⁴³ FASSETT, *supra* note 21, at 21.

²⁴⁴ FASSETT, *supra* note 21, at 25, 64, 132.

²⁴⁵ FASSETT, *supra* note 21, at 54-55 (noting that daily rates for interior lighting "varied depending on the candlepower of the lamp provided").

²⁴⁶ FASSETT, *supra* note 21, at 58.

²⁴⁷ 1911 Conn. Pub. Acts 1387; 1394; FASSETT, *supra* note 21, at 162-63.

customers.²⁴⁸ The PUC was also given the right to inspect utility meters for accuracy.²⁴⁹

However, this newly established state oversight was not an immediate burden on UI because the company was able to consistently reduce its rates in the years following the creation of the PUC.²⁵⁰ In the 1930s, UI obtained PUC approval to make changes to its methodology for determining certain rates, including the addition of a fuel adjustment clause in 1939.²⁵¹ The PUC in 1941 and 1946 informally requested that UI reduced its customers' bills and the company complied on both occasions.²⁵² During World War II, the federal Office of Price Administration assumed authority over rates, which required UI to obtain approval from that body in order to implement the fuel adjustment clause in 1943.²⁵³

After the state imposed a new tax on the revenue of utilities, UI broke with its tradition of consistently decreasing rates, initiating its first formal rate case proceeding at the PUC in 1961 to request an increase in rates.²⁵⁴ The PUC rejected this rate hike request and struck the fuel adjustment clause in UI's rates.²⁵⁵ The

²⁴⁸ 1911 Conn. Pub. Acts 1387; 1394.

²⁴⁹ 1911 Conn. Pub. Acts 1387; 1393.

²⁵⁰ FASSETT, *supra* note 21, at 174 (noting some exceptions in 1918 and 1920 due to increased coal costs); *id.* at 220; TOWNSEND, *supra* note 21, at 12 (“[T]he Company has been able to reduce rates consistently, never failing to give the best possible service at all times to its customers.”).

²⁵¹ FASSETT, *supra* note 21, at 221, 278.

²⁵² FASSETT, *supra* note 21, at 311, 316.

²⁵³ FASSETT, *supra* note 21, at 308-09.

²⁵⁴ FASSETT, *supra* note 21, at 372-73.

²⁵⁵ *United Illuminating Co. Loses Plea for Rate Hike*, HARTFORD COURANT, Dec. 28, 1961, at 5; FASSETT, *supra* note 21, at 373.

PUC changed course in 1971, though, allowing UI to re-adopt the fuel adjustment clause and allowing a \$6.6 million increase in annual revenue, roughly 71% of UI's requested rate increase.²⁵⁶ In August of that year President Nixon implemented a wage and price freeze to be administered by the Price Commission,²⁵⁷ which rejected UI's request to apply the clause retroactively.²⁵⁸ This freeze represented an unprecedented (and unrepeated) federal intervention into UI's retail rates.

As prices for electricity increased, UI's rate proceedings became more formalized and more contentious. Following the price hikes associated with the oil crisis of 1971, the Connecticut General Assembly passed a law establishing procedural rules for fossil fuel adjustment clauses and creating a consumer counsel to advocate for ratepayers.²⁵⁹ Starting the late 1970s, UI's rate case proceedings became a major site of controversy about its investments in nuclear power plants.²⁶⁰ The Connecticut General Assembly has also intervened directly on this issue, passing laws limiting how much UI could recover based on its investments in the Millstone and Seabrook nuclear units²⁶¹ and limiting its recover of Seabrook

²⁵⁶ FASSETT, *supra* note 21, at 430-31; 451-52, 462-63.

²⁵⁷ Executive Order No. 11615.

²⁵⁸ *Higher Fuel Cost to Boost Power Bills up to 17%*, HARTFORD COURANT, Nov. 19, 1971, at 19.

²⁵⁹ Conn. Pub. Act. 74-216; FASSETT, *supra* note 21, at 514-15.

²⁶⁰ FASSETT, *supra* note 21, at 590, 598 (noting that UI sold off half of its interest in the Seabrook plant after the PUC directed UI to reconsider its nuclear investments in its 1979 rate case order).

²⁶¹ Conn. Pub. Act 83-239; Conn Pub. Act 83-343; Conn. Pub. Act 85-519; FASSETT, *supra* note 21, at 671.

decontamination costs.²⁶² In UI's most recent rate case, the Public Utilities Regulatory Authority approved about 58% of UI's requested increase.²⁶³

This history shows that although state regulation of retail rates has long been a feature of UI's relationship with the government. However, since the 1970s, cost increases and skepticism new technological advances (specifically nuclear power) ratcheted up the tension in this area.

2. Increasing Importance of Wholesale Rate Regulation

As UI has been faced with increasingly contentious retail rate proceedings at the state level, the wholesale rates it charges and pays have also become increasingly influenced by federal regulation. By mandating a shift to an open access transmission system, FERC created significant new opportunities for commercial activity – all of which are subject to its jurisdiction.

Federal regulation of wholesale rates has taken on increasing importance for UI over time as it has become part of an integrated and competitive regional market. The Federal Power Act of 1935 gave the Federal Power Commission jurisdiction over the rates charged for “the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce.”²⁶⁴ The Act gave the FPC authority to ensure that such rates—as well as

²⁶² Conn. Pub. Act 87-92.

²⁶³ Andrew Coffman Smith, *3-Year Rate Hike for United Illuminating Approved but Reduced by Nearly \$41M*, SNL ENERGY POWER DAILY (Dec. 19, 2016).

²⁶⁴ 16 U.S.C. § 824 (2012).

“al rules and regulations affecting or pertaining to such rates”²⁶⁵—were “just and reasonable”²⁶⁶ and non-discriminatory.²⁶⁷ However, UI avoided becoming subject to FERC jurisdiction thanks to its isolationist stance in the early 20th century. Since it was not connected to other utility systems, UI did not engage in wholesale sales or purchases that would be subject to FERC jurisdiction. Indeed, UI made efforts to stay outside the federal ambit, obtaining assurances that it would not become subject to FPC jurisdiction before moving forward with an emergency tie line with Connecticut Light and Power in 1942.²⁶⁸ However, UI’s independence from FPC review ended when it joined regional coordinated dispatch systems.²⁶⁹

While the FPC (and, later, its successor, FERC) had jurisdiction over the “rates, charges, bulk power service and interconnections embodied in the [New England Power Pool] Agreement,”²⁷⁰ the Commission’s influence expanded considerably with the advent of deregulation. In 1996, FERC issued an order requiring utilities to make their transmission facilities available for use by competitive suppliers at non-discriminatory rates.²⁷¹ This order required utilities to file Open Access Transmission Tariffs with FERC and gave the Commission

²⁶⁵ 16 U.S.C. § 824d(a) (2012).

²⁶⁶ 16 U.S.C. § 824d(a) (2012).

²⁶⁷ 16 U.S.C. § 824d(b) (2012).

²⁶⁸ *See supra* note 182 and accompanying text.

²⁶⁹ *See* NEPOOL Power Pool Agreement at 1, 16, No. E-7690, 1972 WL 13728 (F.P.C. Sept. 21, 1972) (listing UI as one of the 28 signatories that are FPC jurisdictional parties).

²⁷⁰ *Id.* at 14.

²⁷¹ Order No. 888: Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 75 FERC ¶ 61,080 (1996).

jurisdiction to review the rates charged for transmission service.²⁷² This means that FERC controls the return on equity that UI is allowed to earn on its transmission facilities.²⁷³ The move to an open access transmission system has meant that there are more opportunities for companies to buy the right to use UI's service and all such transactions are subject to FERC regulation. As such, the restructuring of the wholesale transmission sector can be understood as representing an increase in FERC's influence over transmission-owning utilities like UI.

In order to facilitate the move toward open access to transmission, the New England Power Pool took on the role of “independent system operator” for the region in 1997 as ISO-New England.²⁷⁴ Because FERC has jurisdiction over wholesale electricity and transmission rates as well as all “rules and regulations affecting or pertaining to such rates or charges,”²⁷⁵ it has authority to review ISO-NE's market rules. In the ensuing years, ISO-New England has added a number of markets—including day-ahead and real-time power markets, a market for reserves, and auctions to secure generating capacity for three years in the future—all of which are subject to FERC regulation.²⁷⁶

As competitive wholesale markets have become more established – and revealed their vulnerabilities – the federal government has assumed additional authority over market manipulation. In the wake of the California Energy Crisis,

²⁷² *Id.*

²⁷³ See 2016 Annual Report, *supra* note 2, at 13.

²⁷⁴ *Our History*, ISO-NEW ENGLAND, <https://www.iso-ne.com/about/what-we-do/history>.

²⁷⁵ 16 U.S.C. § 824d (2012).

²⁷⁶ *Id.*

FERC established rules of conduct for companies like UI that participate in wholesale markets, which included a prohibition on market manipulation.²⁷⁷ FERC's anti-manipulation enforcement authority was augmented by the Energy Policy Act of 2005²⁷⁸ and the Commodity Futures Tradition Commission also has some authority to punish manipulation of electricity markets under the Commodity Exchange Act.²⁷⁹

D. Service

The state and federal government has imposed certain minimum requirements on the service that UI provides to customers in its service territory. These requirements include the obligation to provide service on a non-discriminatory basis, restrictions on its ability to terminate customers, and the imposition of mandatory reliability standards. As in other areas, the regulatory requirements imposed on UI related to its provision of electric service have increased over the years.

1. UI's Ongoing Obligation to Provide Service

While UI has long had a duty to provide service to individuals within its franchise territory, the state of Connecticut in recent years has imposed limits on its ability to terminate customers due to non-payment.

²⁷⁷ Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, 105 FERC ¶ 61,218 (2003).

²⁷⁸ *FERC & EPAct 2005: Meeting Milestones*, FED. ENERGY REG. COMM'N (Aug. 8, 2006), <https://www.ferc.gov/legal/fed-sta/ferc-and-epact-2005.pdf>.

²⁷⁹2016 Annual Report, *supra* note 2, at 14.

From the earliest days of state utility regulation, UI has been subject to a duty to provide electricity service within its franchise territory. The 1911 act establishing the Public Utilities Commission stated that “[i]f any water, gas, electric, or telephone company shall unreasonably fail or refuse to furnish adequate service at reasonable rates to any person within the territorial limits within which such company has, by its charter, authority to furnish such service,” that person could bring a complaint to the Commission.²⁸⁰ If the Commission found that the utility had “unreasonably failed or refused to furnish such person with adequate service at reasonable rates,” it had the power order the company to provide such service.²⁸¹ This reflects part of the core idea of the public utility regulatory compact: in exchange for giving electric companies like UI the legal right to operate as monopolies within the franchise territories specified in their charters, the 1911 required such companies to provide service within those territories on a non-discriminatory basis. This obligation to provide service persists despite Connecticut’s shift to a “deregulated” retail electricity market since UI is required to act as a “supplier of last resort” for customers who do not choose to be served by a competing distribution company.²⁸²

While utilities like UI have the right to terminate service based on a customer’s failure to pay, Connecticut has established laws that limit how UI can

²⁸⁰ 1911 Conn. Pub. Acts 1394-95.

²⁸¹ *Id.*

²⁸² Kay Sholer LLP, *supra* note 61, at 27; *DPUC Review of the United Illuminating Company’s Divestiture Plan Phase I – Sale of NonNuclear Generating Plants*, CT DPUC Docket No. 98-10-07 (Mar. 5, 1999) at 1.

exercise that right. A 1983 law established a number of rules regarding the termination of utility customer accounts.²⁸³ Under the terms of this law, electric utilities like UI cannot “terminate or refuse to reinstate” a residential customer due to his or her failure to pay his account during the winter months if that customer qualifies as a “hardship case.”²⁸⁴ The law defines “hardship cases” to include customers who receive public assistance, are unemployed, are seriously ill, or earn less than 125% of the poverty level.²⁸⁵ Additionally, utilities must give delinquent customers “an opportunity to enter into a reasonable amortization agreement” and cannot terminate service during or shortly before weekends or holidays.²⁸⁶

2. Reliability Regulations Ratcheted up in Response to Blackouts

UI has faced increasingly strict regulations related to the reliability of its service in recent years, with large-scale blackouts inspiring government intervention.

UI started out with considerable discretion regarding the reliability and consistency of its service. Early on, service was unreliable and only available during afternoon and evening hours.²⁸⁷ Company records show that customers frequently

²⁸³ 1983 Conn. Pub. Acts 682.

²⁸⁴ *Id.* The winter months cover the period from November 1st to April 15th.

²⁸⁵ 1983 Conn. Pub. Acts 683. It also covers customers “whose circumstances threaten a deprivation of food and the necessities of life for himself or dependent children if payment of a delinquent bill is required.”

²⁸⁶ *Id.*

²⁸⁷ TOWNSEND, *supra* note 21 (“[T]he service was not absolutely reliable and was only from 3 p.m. to 1 a.m.”)

complained about the quality of UI's service and asked for rebates on their bills.²⁸⁸ Company officials granted such rebates requests at their discretion.²⁸⁹ As discussed above, when the PUC was created in 1911, it was given control over the quality of service provided by utilities like UI.²⁹⁰ The 1911 enabling act also gave the PUC power to "fix the initial efficiency of electric lamps furnished by electric companies, and to investigate and make orders regarding ... the voltage at which electricity, shall be distributed."²⁹¹ However, the commission did not appear to take an active role early on. Records show that a fire at UI's Congress Street Station in Bridgeport left the plant out of service for several weeks in 1921²⁹² while a 1938 hurricane caused half of UI's customers to lose service,²⁹³ but neither incident appears to have sparked PUC oversight. Both the PUC and the Federal Power Commission put informal pressure on UI to establish a tie line with Connecticut Light & Power in order to ensure reliability during emergency periods, a move the company consented to in 1942.²⁹⁴

The minimalist approach to government oversight came to an end after the November 9, 1965 northeast blackout, which left much of New York and New

²⁸⁸ FASSETT, *supra* note 21, at 25, 71.

²⁸⁹ FASSETT, *supra* note 21, at 62.

²⁹⁰ See *supra* notes 247–248 and accompanying text.

²⁹¹ 1911 Conn. Pub. Acts 1387, 1393.

²⁹² FASSETT, *supra* note 21, at 178.

²⁹³ FASSETT, *supra* note 21, at 233.

²⁹⁴ FASSETT, *supra* note 21, at 303-05.

England without power for up to 13 hours.²⁹⁵ UI was actually able to continue serving most of its customers, thanks to a quick-witted supervisor at the Steel Point Station in Bridgeport,²⁹⁶ but the blackout created increased government scrutiny of electric system reliability. The Connecticut PUC held hearings on the blackout,²⁹⁷ recommended more robust interconnections, and required biannual studies of reliability issues.²⁹⁸ Pursuant to an order by President Lyndon Johnson, the FPC released a report on the incident in 1967, which called for greater regional coordination on infrastructure and operating practices.²⁹⁹ In 1968, UI agreed to join the Northeast Power Coordinating Council—one of nine voluntary regional reliability groups organized through a new industry group, the National Electric Reliability Council (NERC)³⁰⁰—in order to reduce the risk of more forceful government regulation regarding reliability.³⁰¹

²⁹⁵ The Learning Network, *Nov. 9, 1965: Northeast is Hit by Blackout*

²⁹⁶ FASSETT, *supra* note 21, at 395.

²⁹⁷ E. Joseph Martin, *PUC Is Investigating Electric Power Delays*, HARTFORD COURANT, Nov. 11, 1965, at 1.

²⁹⁸ *Automatic Panic Button Seen as Power Safeguard*, HARTFORD COURANT, June 9, 1966; FASSETT, *supra* note 21, at 389-99.

²⁹⁹ *Prevention of Power Failures*, FED. POWER COMM'N (July 1967), http://blackout.gmu.edu/archive/pdf/fpc_67_v1.pdf; FASSETT, *supra* note 21, at 399.

³⁰⁰ *History of NERC*, N. AM. ELEC. RELIABILITY CORP. 1 (Aug. 2013), <http://www.nerc.com/AboutNERC/Documents/History%20AUG13.pdf>.

³⁰¹ FASSETT, *supra* note 21, at 400. In 1967, Congress considered but did not enact a law that would have created a federal commission on power coordination. *History of NERC*, *supra* note 300, at 1.

A similar pattern of crisis followed by regulatory intervention occurred after the 2003 northeast blackout.³⁰² A 2004 report prepared in part by the Department of Energy recommended making NERC's reliability standards mandatory.³⁰³ Accordingly, the Energy Policy Act of 2005 gave the Federal Energy Regulatory Commission authority to establish reliability standards and certify a dedicated "Electric Reliability Organization."³⁰⁴ FERC approved NERC to act as the Electric Reliability Organization in 2006.³⁰⁵ NERC is responsible for setting enforceable Reliability Standards, subject to FERC approval, and both FERC and NERC can investigate and punish violations of such standards.³⁰⁶

E. Competition

Perhaps the most important trend in utility regulation in recent years has been the rise of laws and regulations aim to facilitate competition within both the retail and wholesale electricity markets. Such laws have had a profound effect on how utilities like UI do business.

³⁰² See Jams Barron, *The Blackout of 2003: The Overview; Power Surge Blacks Out Northeast, Hitting Cities in 8 States and Canada; Midday Shutdowns Disrupt Millions*, N.Y. TIMES (Aug. 15, 2003); *History of NERC*, *supra* note 300, at 3.

³⁰³ *Final Report on the August 14, 2003 Blackout in the United States and Canada: Cause and Recommendations*, U.S. DEPT OF ENERGY & CAN. MINISTRY OF NAT. RES. 3 (Mar. 31, 2004), <https://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/BlackoutFinal-Web.pdf>.

³⁰⁴ *Energy Policy Act of 2005*, FED. ENERGY REG. COMM'N 2 (Aug. 8, 2006), <https://www.ferc.gov/legal/fed-sta/epact-fact-sheet.pdf>.

³⁰⁵ North American Electric Reliability Corp., 116 FERC ¶ 61,062 (2006).

³⁰⁶ See *Reliability Primer*, FED. ENERGY REG. COMM'N (2016), <https://www.ferc.gov/legal/staff-reports/2016/reliability-primer.pdf>.

Large consumers of electricity have always had the option of installing and using their own generating units. For instance, the Winchester Repeating Arms Company and Yale University were two notable New Haven institutions that chose to build their own plants rather than obtain electricity from UI.³⁰⁷ But recent years have seen a dramatic increase in governmental support for competition in the electric sector. The change began in the wake of the 1971 oil crisis, which inspired the Public Utility Regulatory Policy Act of 1978 (PURPA).³⁰⁸ This law required utilities like UI to buy electricity from renewables and cogeneration systems when it is cheaper than what the utility would otherwise use.³⁰⁹ The Connecticut General Assembly added to the scope of competition in 1988 when it passed a law directing the Department of Public Utility Control to establish procedures for considering whether the “capacity needs of electric public service companies may be met through the provision of electricity conservation and demand management measures by private power providers, in addition to or in lieu of electricity generating facilities.”³¹⁰ Thus even before the process of deregulating and restructuring the electricity industry got underway in earnest, both the federal and state government had implemented policies that challenged the ability of utilities like UI to build new infrastructure (which they would be able to earn a return on

³⁰⁷ FASSETT, *supra* note 21, at 63.

³⁰⁸ Pub. L. 95-617, 92 Stat. 3144.

³⁰⁹ 16 U.S.C. § 824a-3(d) (2012); Steven Ferrey, 1. L. of Indep. Power § 7:1 (2016); David B. Spence & Robert Prentice, *The Transformation of American Energy Markets and the Problem of Market Power*, 53 B.C. L. REV. 131 (2012).

³¹⁰ Conn. Pub. Acts 88-196.

investment for) by forcing them to compete with small independent generators, conservation initiative, and demand-side management programs.

The Energy Policy Act of 1992³¹¹ can be seen as the first major step toward deregulation. This law directed FERC to establish rules that would require transmission owners to allow independent power producers to “wheel” power over their transmission systems.³¹² In 1996, FERC issued Order No. 888, which required transmission-owning utilities like UI to provide open access to their transmission systems at non-discriminatory rates.³¹³ The New England Power Pool created a new entity, ISO New England, to serve as the independent system operator for transmission owners in the region. Under this regime, independent power producers can make use of UI’s transmission facilities based on the terms dictated by ISO New England’s Open Access Transmission Tariff. These federal laws and regulations gave rise to competitive markets for electricity generation, including the markets run by ISO New England.

In recent years, FERC promulgated important orders that further advance the competitiveness of the wholesale electricity markets. Order No. 1000, issued in 2011, required utilities to participate in regional transmission planning and develop a process for jointly funding transmission projects that are deemed to satisfy

³¹¹ Pub. L. No. 102-486, 106 Stat. 2776 (1992).

³¹² See Jeffrey D. Watkiss & Douglas W. Smith, *The Energy Policy Act of 1992: A Watershed for Competition in the Wholesale Power Market*, 10 YALE J. ON REG. 447, 449 (1993).

³¹³ Order No. 888: Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 75 FERC ¶ 61,080 (1996).

regional needs.³¹⁴ While FERC-approved open access transmission tariffs traditionally granted incumbent utilities the “right of first refusal” when there was a need to construct new transmission facilities in their territories, Order No. 1000 said that such a right would not apply to regionally planned transmission projects.³¹⁵ The order thus gave a boost to independent transmission developers, who are able to submit applications in response to requests for proposals issued by ISO New England.³¹⁶ 2011 also saw FERC issue Order No. 745, which directed market operators like ISO New England to set rules that would allow demand response resources to participate in wholesale markets.³¹⁷ These resources are large customers (or aggregations of numerous smaller customers) who are paid to cease or curtail their usage of electricity when called on by the ISO during periods of high demand. In 2012, FERC issued an order requiring wholesale market operators like ISO New England to allow generators to submit schedules on a 15-minute (rather than hourly) basis, which makes it easier for renewable resources whose output can fluctuate dramatically over the course of an hour to compete in the markets.³¹⁸

Restructuring also occurred on the state level, with the Connecticut General Assembly passing a law in 1998 aimed at creating a competitive market for electric

³¹⁴ Order No. 1000: Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 136 FERC ¶ 61,051 (2011).

³¹⁵ *Id.* at ¶ 7.

³¹⁶ See *Competitive Transmission Projects*, ISO NEW ENGLAND, <https://www.iso-ne.com/system-planning/transmission-planning/competitive-transmission-projects>.

³¹⁷ Demand Response Compensation in Organized Wholesale Markets, 134 FERC ¶ 61,187 (2011).

³¹⁸ Integration of Variable Energy Resources, 139 FERC ¶ 61,246 (2012).

suppliers.³¹⁹ While the state recognized that electric distribution systems remain a natural monopoly, it believed that competition for electricity generation could be created by allowing independent companies to serve customers while using the distribution systems of incumbent utilities like UI. In order to achieve this goal, the law directed UI to separate or sell off its generation business. UI complied with this law by selling its two fossil-fuel power plants, Bridgeport Harbor and New Haven Harbor, in 1999³²⁰ and selling its interest in the Seabrook nuclear plant in 2002.³²¹ The company is also required to act as a provider of last resort for consumers who do not choose an independent supplier, procuring electricity under long-term contracts with power marketers. As of June 2011, 45% of UI's residential customers had chosen a competitive supplier.³²² The state has also encouraged competition with traditional utility-scale generation by passing laws that provide support for distributed generation (such as rooftop solar) and microgrids.³²³

³¹⁹ Conn. Pub. Act. 98-28.

³²⁰ *An End of an Era; UI Finalizes Sale of Power Plants Today*, BUSINESS WIRE (Apr. 16, 1999).

³²¹ UIL Holdings Corp., Annual Report (Form 10-K) (Mar. 1, 2004), https://www.sec.gov/Archives/edgar/data/1082510/000108251004000104/uil_10k2003.txt.

³²² Kevin McCarthy & Lee R. Hansen, Office of Leg. Research, *Status and Impact of Electric Competition*, CONN. GEN. ASSEMBLY (Oct. 4, 2011), <https://www.cga.ct.gov/2011/rpt/2011-R-0274.htm>.

³²³ See Conn. Gen. Stats. Ann. §§ 16-243i to 16-243l (West 2017) (measures supporting distributed generation); Conn. Gen. Stats. Ann. § 16-243y (West 2017) (grants and loans for distributed generation and microgrids); Conn. Gen. Stats. Ann. § 16-244u (provision on virtual net metering, which helps make distributed generation economically viable); Eric Merrill, *The Disneyworld of Electricity Distribution: Energy Improvement Districts in Connecticut* (Dec. 17, 2010).

IV. DRIVERS OF PAST REGULATORY CHANGE

Across the various topics explored in Part III, one theme is consistent: there has been considerable and consistent expansion of regulatory oversight of UI, particularly at the state and federal levels. While this trend undoubtedly reflects the general rise of the regulatory state in 20th century America,³²⁴ it is worth considering the specific factors that seem to have driven the proliferation of regulations in the electricity sector. The Part explores several factors that help explain this evolution, including electricity's shift from luxury service to everyday necessity, the attenuation of UI's connections to local civic life, technological developments, changes in the affordability of electricity, regionalization of the New England electric grid, regulatory responses to crises, and changes in public utility regulation theory.

One important change is that electricity started out as a luxury service but soon became seen as a necessity of modern life. The service offered by the original New Haven Electric Lighting Company was more expensive than gas lighting and only available during limited hours.³²⁵ The company's early customers were major retailers, the city of New Haven (which switched some of its street lights to gas), and some "prosperous homeowners."³²⁶ The switch to incandescent lights did help make NHELCo more competitive, but even as of 1888, commentators were skeptical

³²⁴ See, e.g., Edward L. Glaeser & Andrei Shleifer, *The Rise of the Regulatory State*, 41 J. ECON. LIT. 401 (2003).

³²⁵ FASSETT, *supra* note 21, at 53.

³²⁶ FLOYD SHUMWAY & RICHARD HEGEL, *NEW HAVEN IN 1884* (1984); FASSETT, *supra* note 21, at 40.

that electricity would ever displace gas for indoor lighting.³²⁷ But as more New Haveners became electricity users, the city took a more active interest in regulating the company, with the 1890 edition noting that new regulations were necessary due to “the rapid and enormous increase of electric light ... wires.”³²⁸ The state of Connecticut soon followed suit, creating the Public Utilities Commission in 1911. UI’s customer base and the average demand per customer grew steadily during the early to mid 20th century, spurred on by active efforts by the company to promote the use of electric home appliances.³²⁹ Electricity also became more essential to the industrial sector, leading to extensive federal government controls being imposed during World War II even though no such measures had been deemed necessary a few decades earlier during World War I. The pattern across the local, state, and federal levels suggests that as electricity became an essential service rather than a luxury product, government officials came to see it as too important to leave solely to the whims of the free market. This trend can be seen as providing support for William Boyd’s assessment that public utility regulation arose as a way to impose “social control of business” in certain critical industries.³³⁰

Another important trend is the attenuation of UI’s organic connections to local civic life. The early investors in New Haven’s electric utility were prominent local figures with deep ties to the community and the state and local government.

³²⁷ FASSETT, *supra* note 21, at 54-55 (citing commentary by Edward Atwater).

³²⁸ CHARTER AND ORDINANCES OF THE CITY OF NEW HAVEN at ii (1890).

³²⁹ FASSETT, *supra* note 21, at 172-73, 222, 257, 289, 299, 318, 324, 325-27, 347, 352, 404, 412.

³³⁰ See Boyd, *supra* note 85.

Connecticut Governor Hobart B. Bigelow was an early investor in NHELCo and was elected its first chairman in 1881.³³¹ James English, who served as president of the company from 1895 to 1937, was the nephew of James E. English, who served as Governor of Connecticut from 1867 to 1869 and as a U.S. Senator for the state from 1875 to 1877.³³² In addition to his role at UI, English also served on the boards of other important local businesses, including Southern New England Telephone Company, New Haven Water Company, and Merchants National Bank.³³³ The local leadership of the electric company and other utilities seems to have helped engender local support and led Henry H. Townshend to wax rhapsodically:

None of these utilities were born under the evil star of foreign parentage or absentee landlordism. No bar sinister of selfish greed or watered stock or undue self-aggrandisement appears on their uscutcheons. It has been a clean, wholesome tale that I have been able to bring you, of initiative, courage and faith untainted by corruption or unworthy ambitions.³³⁴

The desire to retain local control was one of the main driving forces behind UI's efforts to resist the wave of mergers and consolidations that swept through the electric industry in the 1920s and 1930.³³⁵ However, this long history of local control came to an end with the 2015 acquisition by Spain-based Iberdrola. While many in

³³¹ FASSETT, *supra* note 21, at 17-18. Bigelow resigned in 1883. *Id.* at 25.

³³² FASSETT, *supra* note 21, at 47-49.

³³³ FASSETT, *supra* note 21, at 147-49.

³³⁴ Henry Hotchkiss Townshend, *The Formative Years of New Haven's Public Utilities*, in INVESTORS AND ENGINEERS OF OLD NEW HAVEN (Richard Shelton Kirby ed. 1939).

³³⁵ FASSETT, *supra* note 21, at 196-97.

UI's current leadership maintain close ties to the local community,³³⁶ the company has shown an increasing willingness to bring in outside talent.³³⁷ This attenuation of local connections may help explain why UI has come to be seen less as a “clean, wholesome” company that can be trusted to keep local interests at the forefront of its decisionmaking and more like a self-interested profit-seeker whose activities must be closely regulated in order to protect the public interest.

Technological changes have also spurred shifts in regulatory policy over time. The rise of nuclear generation, for instance, ushered in a new type of power plant that was much more expensive to construct and presented a much higher risk of catastrophic failure. These dynamics help explain why the federal government was closely involved with the development and licensing of nuclear power plants from the get-go and why state regulators took an active role in parsing the acceptability of investments in nuclear power plants. Technological advances also helped create the necessary conditions to pursue regulatory reforms aimed at introducing competition into the electricity industry. Technological advances improved the efficiency of smaller power plants, allowing independent power producers with less capital to offer a viable alternative to the large plants that incumbent utilities were able to finance.³³⁸ Similarly, advances in distributed generation and microgrids are

³³⁶ 2016 Annual Report, *supra* note 2, at 44-45 (noting that Avangrid CEO James P. Torgerson is a trustee of the Yale-New Haven Hospital and that United Illuminating Holdings President John J. Prete is a graduate of the University of Bridgeport and the University of New Haven).

³³⁷ FASSETT, *supra* note 21, at 725-28 (describing extensive search for new CEO, which resulted in the selection of George W. Edwards from Georgia Power Co.).

³³⁸ PIERCE & GELLHORN, *supra* note 65, at 51.

presenting new forms of competition and have prompted legislative support at the state level.³³⁹ More robust computing power made it possible to run the highly complex dispatch simulations that are necessary for market operators like ISO New England to determine which resources should be selected to run at a given time.³⁴⁰ Thanks to technological advancements, renewable energy resources are increasingly able to compete with traditional power generators on price, creating an economic impetus for new regulations that allow them to compete in wholesale electricity markets.

As the electricity industry became more established, it quickly became clear that interconnection provided significant efficiency benefits. Although UI resisted this trend through the 1930s, it too eventually became a key player in the story of the regionalization of the New England electricity sector. Beginning with its 1942 tie line with Connecticut Light and Power and continuing through its participation in CONVEX, the New England Power Pool, and ISO New England, UI's history can be understood as one of increasing reliance on regionally coordinated systems. By becoming part of the integrated regional grid and participating in wholesale electricity markets, UI has opened itself up to regulation by the Federal Energy Regulatory Commission. This trend of regionalization thus helps explain the minimal role of local control and the increasing influence of federal regulators.

³³⁹ See sources cited *supra* note 323.

³⁴⁰ See, e.g., Andrew L. Ott, *Evolution of Computing Requirements in the PJM Market: Past and Future*, IEEE (Sept. 30, 2010), <http://ieeexplore.ieee.org/document/5589842/> (discussing the computing needs of another market operator, the PJM Interconnection).

Trends in the price of electricity also help explain the level regulatory activity. While electric service was initially priced as a luxury, UI was able to consistently cut its rates until the 1960s.³⁴¹ While state regulators sometimes nudged UI to implement rate reductions, there was less need for regulatory oversight in light of the downward trend in prices. When taxes and capital investments caused UI to begin requesting rate increases in the 1960s, it began facing increasing scrutiny from the public utilities commission through formal rate case proceedings. The level of regulatory intervention became even higher after the 1971 oil crisis, which drove up consumer prices dramatically, setting the stage for pro-competition regulatory initiatives like the Public Utility Regulatory Policies Act and closer scrutiny of big-ticket nuclear projects.

Another important lesson from UI's history is that regulatory oversight increases in response to crises. The federal government's initial intervention into the electricity sector, the Public Utility Holding Company Act of 1935, occurred in the wake of scandals associated with the wave of utility mergers and consolidations. Federal activity increased dramatically during World War II, with the Water Production Board micro-managing infrastructure decisions and the Office of Price Administration assuming authority over rates. A similar pattern is evident in terms of reliability. The 1966 northeast blackout prompted congressional interest in federal regulation of electric system reliability, which in turn spurred on voluntary industry action with the creation of NERC. The 2003 northeast blackout convinced

³⁴¹ See *supra* Part III.C.1.

congress that voluntary standards were insufficient, leading to the Energy Policy Act of 2005, which provided a path to make those standards mandatory and enforceable. The same dynamics are at play with the trend toward regulations aimed at increasing competition within the electric industry. The initial law that set the stage for competition, the Public Utility Regulatory Policies Act of 1978, was inspired by the 1971 oil crisis and the problems it revealed regarding the electricity sector's dependence on foreign oil. This pattern is generally consistent with the theory advanced by Michael E. Levine & Jennifer L. Florence, which predicts that regulators are less likely to be captured by special interests when the relevant issue has been moved "onto the public agenda."³⁴² By increasing the salience of a specific issue, crises like the ones discussed above may help move the question onto the public agenda and produce regulations that increase government control of the electricity sector.

The final important factor is the impact of changes in regulatory theory. Increased sensitivity to the problem of negative externalities helped drive the push for increased environmental regulation at both the state and federal level in the 1960s and 1970s. Economic theories that treated electricity as a natural monopoly long provided justification for state regulation of electric utility retail rates. However, an embrace of market-based competition starting in the 1960s led theorists and then regulators to challenge the traditional paradigm, separating out the different components of the electricity industry to identify which aspects were

³⁴² Michael E. Levine & Jennifer L. Florence, *Regulatory Capture, Public Interest, and the Public Agenda: Toward a Synthesis*, 6 J.L. ECON. & ORG. 167, 193 (1990).

true natural monopolies and which were not.³⁴³ In UI's case, this has led to the introduction of competition from independent power producers, competitive retail suppliers, and distributed generation and microgrids.

V. PREDICTIONS FOR THE FUTURE OF ELECTRICITY REGULATION

Studying of the history of how UI has been regulated over time may help us understand what regulatory changes may be in store for electric utilities.

The first major lesson is that regulatory authority accumulates over time. New regulatory bodies are frequently added and existing commission are routinely given new powers. While some circumstances-limited agencies (like the War Production Board and Nixon's Price Commission) do relinquish control and agencies frequently change names and organizational structure, regulatory authority is fairly sticky. This helps explain the situation described in the Introduction: UI now exists as a company subject to pervasive regulation at the local, state, and federal level.

When Angus Gordon resigned as President and Chairman of UI in 1975, he cited frustration with this trend as the reason for his departure, writing that increasingly strict regulation of rates and environmental impact:

Has at all levels of government led to a proliferation of stifling regulations, time-consuming reports and burdensome hearings requiring the same issues to be retheshed time after time in various forums. ... This massive governmental involvement in all aspects of our operations, which greatly increases the time and effort necessary to do the job and also threatens our

³⁴³ See *supra* Part II.

ability to succeed in serving our customers, the reason for my current disenchantment with job I used to enjoy.”³⁴⁴

The level of regulation has only increased since Gordon resigned. CEO disenchantment notwithstanding, we should not expect a departure from extensive regulation of the electricity sector any time soon. Many of the trends that drove increased regulatory activity in the past—including electricity’s status as an essential service, attenuated ties to local civic life, technological advances, and regional integration—continue to be characteristic of the electricity industry in general and UI in particular. As such, a safer prediction would be for continuing increases in regulatory control.

While the pro-competition measures embraced by state and federal regulators are often described as “deregulation,” UI’s history shows that in many ways that is a misnomer. The push to introduce competition into the electricity sector has in fact resulted in a proliferation of state and local regulations aimed at ensuring that the competitive markets for generation and residential service operate on a fair basis, provide sufficient infrastructure, and accommodate environmental concerns by making room for renewable energy and demand-side resources. Thus while economic debates questioning the traditional premises of public utility regulation have been hugely influential, state and federal regulators will continue to play an important role in determining the ground rules for and background conditions of competitive electricity markets. Rather than assuming that deregulation is a way to let politically neutral market forces determine

³⁴⁴ FASSETT, *supra* note 21, at 538.

outcomes in the electricity sector, it is important to emphasize the role that government policy continues to play in setting the rules that determine the terms of competition. Doing so allows us to interrogate whether those ground rules advance socially desirable policies or improperly serve the goals of special interest groups.³⁴⁵

The second major takeaway is the shift away from local control. While the city of New Haven acted as UI's first regulator, its primacy was soon displaced by the state public utilities commission. The federal government was last to enter the fray, but it has taken on increasing importance with the rise of federal environmental laws and regional wholesale electricity markets, which are the exclusive province of the Federal Energy Regulatory Provision. While both the state and federal government continue to play important roles, there are some indications that the trend of decreasing local control may manifest itself as more thorough federalization of electricity regulation. Recent FERC orders setting rules regarding regional transmission planning and the participation of demand-side resource in wholesale markets have challenged the traditional balance between state and federal jurisdiction but have been upheld as consistent with the Federal Power Act.³⁴⁶ This shift towards federal control may make sense considering the

³⁴⁵ *Cf.* Boyd, *supra* note 85, at 1670-71 (noting that “introducing competition requires quite a bit of regulation and ongoing oversight” and that “in all of these markets the process of market design has emerged as an intense object of interest for market participants,” meaning that “[r]ent-seeking behavior thus seems to have moved from the more open, public process of rate cases to the highly technical and possibly less transparent process of developing rules for how these markets will work.”).

³⁴⁶ *See* Order No. 1000: Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 136 FERC ¶ 61,051 (2011); *S.C. Pub. Serv. Auth v. FERC*, 762 F.3d 41 (D.C. Cir. 2014); Order No. 745: Demand Response Compensation in

increasingly regional scale of the electricity industry in New England,³⁴⁷ but it may create tension between UI and its customer base to the extent that federal policy diverges from local political preferences (a possibility that seems plausible under the Trump administration).

While this historical account may help inform our predictions about how UI and other electric utilities will be regulated in the future, it also shows us the perils of prediction. Former UI CEO John D. Fassett's excellent account of the company's history, published after the passage of the Public Utilities Regulatory Policies Act of 1978 and just two years before the Energy Policy Act of 1992, says virtually nothing about regulatory interest in introducing competition into the electricity industry, instead arguing that the development of a national energy policy should be the next major regulatory initiative.³⁴⁸ It can be difficult to predict how government regulation of the electricity sector will evolve—even as we are living in the midst of such changes.

Wholesale Energy Markets, 134 FERC ¶ 61,187 (2011); FERC v. Elec. Power Supply Ass'n, 136 S. Ct. 760 (2016).

³⁴⁷ Cf. Christopher R. Knittel, *The Adoption of State Electricity Regulation: The Role of Interest Groups*, 54 J. INDUS. ECON. 201 (2006) (positing that the shift from municipal to state regulation may reflect the fact that “technological advances during this time period increased the transmission capabilities of electricity networks” and created incentives for utilities to operate in multiple cities, making unified state regulation more efficient than regulation by various municipalities).

³⁴⁸ FASSETT, *supra* note 21, at 737.