

THE POLITICS OF U.S. OIL PIPELINES: THE FIRST BORN STRUGGLES TO LEARN FROM THE CLEVER YOUNGER SIBLING

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Synopsis: The regulatory treatment of oil pipelines in the United States has been on the move, as the Federal Energy Regulatory Commission (FERC) attempts to square what it knows about regulating gas pipelines as a highly competitive transport business with its oil pipeline duties. Despite some useful action, however, the FERC has not been very successful: the difficulties facing the placement and construction of new oil pipelines have fueled history's third boom in oil shipments by rail (despite the greater cost and risk of that mode of oil transport) and also led to a major legal and international dispute regarding the placement of a new oil pipeline (Keystone XL). The core problem for the regulation of the U.S. oil pipeline industry that frustrates the FERC's efforts is its maladapted original regulatory legislation—written in 1906 on a railroad model and ill-suited to the technology and related industrial organization of pipelines. The FERC created a masterpiece of competition and regulatory restraint in its treatment of U.S. gas pipelines, which has helped to save U.S. consumers half a trillion dollars in their gas bills compared to Europeans in just the past six years. Burdened by that 1906 statute, however, and in a country where major legislative interventions in the oil and gas industry are rare, it seems unlikely that the FERC can mimic in oil transport the kind of competitive and regulatory success it has had in gas.

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I. INTRODUCTION

The legal and institutional arrangements covering U.S. oil pipelines represent a long and tortured story. How could it be otherwise, when today’s oil pipeline legislation was crafted in the very early years of the last century to deal with a highly public dispute between Teddy Roosevelt and John D. Rockefeller? Burdened with such an ancient and anachronistic statute, the U.S. oil pipeline industry has had a rough few years—making new pipeline construction an uncertain contest (e.g., Keystone XL), spurring huge lawsuits, and failing to keep pace with expanded U.S. unconventional oil production (hence the veritable explosion—*figuratively*—of oil rail cars).

At the same time, however, the oil pipeline industry’s younger gas pipeline sibling has performed splendidly—readily and efficiently investing to adapt to the growth in the market for high-technology shale gas (and associated exports) while effectively self-regulating. It has contributed to the high-tech rise of unconventional gas production—“a ‘bridge fuel’ to a lower-carbon future”¹ that at the same time has saved U.S. consumers more than half a trillion dollars for the gas they have consumed compared to their European counterparts.² Can the clever youngster instruct the first born? It can, but only with great difficulty. Little possibility exists that the older sibling can mimic its success, for the railroad-inspired 19th century rules by which the U.S. oil pipeline industry must abide greatly restrict its ability to learn and adapt to modern fuel markets.

II. REGULATING OIL PIPELINES LIKE RAILROADS

Monopolization, politics, and pipeline economics came together in the early 20th century as President Theodore Roosevelt and his allies in Congress sought, in the era before effective antitrust enforcement, to break the monopolistic abuses of the Standard Oil Company. Because the courts found it difficult to deal with Standard Oil, the Roosevelt administration encouraged Congress to confer on the Interstate Commerce Commission (ICC) additional powers to deal with the company—particularly its pipelines.³ Ultimately, Congress extended the ICC’s jurisdiction to oil pipelines in the 1906 “Hepburn Amendment” to the Interstate Commerce Act (ICA) of 1887.⁴

1. In 2013, Ernest Moniz—now celebrated for his role in the Iran nuclear deal, but then Director of the MIT Energy Initiative—spoke about shale gas as a “game changer” and a “bridge to a lower carbon planet.” See Brad Plumer, *Is Fracking a ‘Bridge’ to a Clean Energy Future? Ernest Moniz Thinks So*, WASH. POST: WONKBLOG (Mar. 4, 2013), <https://www.washingtonpost.com/news/wonk/wp/2013/03/04/is-fracking-a-bridge-to-a-clean-energy-future-ernest-moniz-thinks-so/>.

2. See Jeff D. Makhholm, *Regulation of Natural Gas in the United States, Canada, and Europe: Prospects for a Low Carbon Fuel*, 9 REV. ENVTL. ECON. & POLICY 107, 108 (2015) (discussing the gas price differences between Europe and the United States over the past six years).

3. ARTHUR M. JOHNSON, *PETROLEUM PIPELINES AND PUBLIC POLICY, 1906-1959*, 23-24 (Ralph W. Hidy ed., 1967).

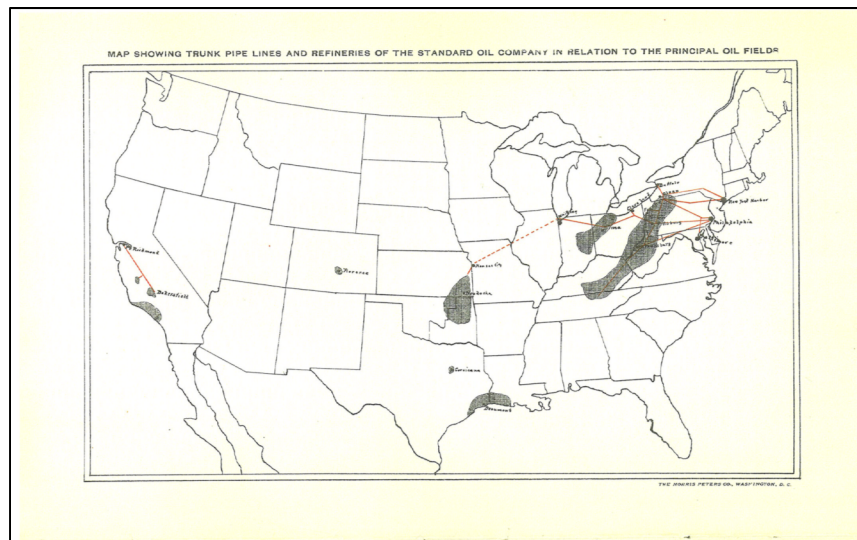
4. Pub. L. No. 59-337, 34 Stat. 584 (1906).

But Congress had little regulatory experience upon which to draw. Effective public utility regulation at either the state or federal levels was unknown. There was no generally acceptable accounting procedure for regulatory purposes (that would come in the 1930s⁵), no defined administrative practices (they arrived by legislation in the 1940s⁶), and no unambiguous guide for applying the U.S. Constitution's protections from confiscatory rates for the use of private property in providing public service (that would begin with Supreme Court action 1923 and conclude in 1944⁷). Anyone pursuing regulatory remedies regarding oil pipelines had only the railroad regulatory practices as a guide—practices patterned loosely after 19th century legal principles embedded in common law applied to railroads and canals in the U.K.⁸

A. Response to Abuse in the Industry

A signal feature of American politics is that Congress is loath to inject its will into private enterprise. It acts when it has no alternative given prevailing public opinion. Such was the case with Standard Oil Company, the owner of all of the oil pipelines in the early 20th century, as shown in the map below.

Figure 1: U.S. Oil Pipelines in 1904 before the Hepburn Amendment⁹



5. Congress's Natural Gas Act of 1938 was the first legislation to mandate the Uniform System of Accounts, although the Federal Power Commission first prescribed what led to that accounting system in 1937. See Nat. Gas Act, Pub. L. No. 75-687, 52 Stat. 821 (1938); see also Fed. Power Comm'n, Order No. 42, Prescribing a System of Accounts for Pub. Utilities and Licensees Under the Fed. Power Act (1936).

6. Admin. Procedure Act, Pub. L. No. 79-404, 60 Stat. 237 (1946).

7. Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679, 693-94 (1923); Fed. Power Comm'n v. Hope Nat. Gas Co., 320 U.S. 591 (1944).

8. THEODORE E. KEELER, RAILROADS, FREIGHT AND PUBLIC POLICY 22-24 (1983).

9. Report of the Commissioner of Corporations of the Transport of Petroleum, Government Printing Office, Washington, D.C. (May 2, 1906), facing page 45.

The map comes from a report requested by Congress in 1905 as public opinion turned strongly against Standard Oil with the exposé by Ida Tarbell, who pioneered the field of investigative journalism in her well-documented analysis of the business methods of Standard Oil and John D. Rockefeller himself.¹⁰ The resulting “Garfield Report,” with more than 500 pages of data and maps, provided an impressive study of how the nation’s rail and pipeline systems operated and how they and the transportation of petroleum were controlled by Standard Oil. It found that Standard Oil had absorbed almost all the major American oil pipelines “by means of unfair competitive methods during years of fierce industrial strife.”¹¹ In detailed investigations, complete with fold-out facsimiles of secret invoices from some of the “special agreements,” the Garfield Report systematically documented how Standard Oil successfully worked to monopolize the transport of oil through pipelines and rail shipments. Combined with public opinion aroused by Tarbell, the Garfield Report overcame Standard Oil’s influence in Congress and gave Roosevelt and his allies the chance to pass federal legislation regulating the industry.

B. Lack of Regulatory Alternatives

While public opinion was behind these efforts, Congress faced two problems in 1906 that would essentially scuttle the effectiveness of its legislative actions related to Standard Oil’s pipelines: (1) the regulatory methods and institutions needed to deal with such businesses had not yet been invented; and (2) the real remedy for Standard Oil’s abuse of the market was effective antitrust enforcement aimed at horizontal breakup, not regulation aimed at pipeline practices within a dominant vertically-integrated enterprise.

With respect to regulation generally, 1906 was a pivotal year in the United States. It was the year that two states, Wisconsin and New York, decided for the first time to pass legislation to regulate utilities at the state level; other states followed soon after, following those two examples.¹² But none of the economic and regulatory reasoning regarding *how* to regulate private industry (accounting, constitutional limits, and administrative practices) existed to guide Congress. All Congress had to rely upon was its own attempt to regulate the railroad industry in its Interstate Commerce Act (ICA) of 1887—not a particularly useful guide. Indeed, as prominent economists have concluded since, the ICA did more to hasten the development of interregional railroad cartels than to promote efficient or competitive rail transport.¹³ Congress simply did not have the tools to regulate any American transport industry.

10. Ida Tarbell virtually reinvented investigative reporting with her history of the Standard Oil Company, which was serialized in nineteen installments by McClure’s magazine between 1902 and 1904 before being published in book form. See IDA M. TARBELL, *THE HISTORY OF THE STANDARD OIL CO.* (The Macmillan Co. 1925).

11. JAMES R. GARFIELD, U.S. BUREAU OF CORP., *REPORT OF THE COMMISSIONER OF CORPORATIONS ON THE TRANSPORTATION OF PETROLEUM XX* (1906).

12. Wisconsin’s statute was drafted by economist John R. Commons at the request of Gov. Robert LaFollette. New York’s was largely the work of Gov. Charles Evans Hughes, later Chief Justice of the U.S. Supreme Court. See JOHN R. COMMONS, *MYSELF: THE AUTOBIOGRAPHY OF JOHN R. COMMONS* 120-25 (1963) (discussing Commons’ work on Wisconsin’s statute); see also MERLO J. PUSEY, *CHARLES EVANS HUGHES* 201-09 (1952) (discussing Hughes’ work on New York’s statute).

13. See LANCE E. DAVIS & DOUGLASS C. NORTH, *INSTITUTIONAL CHANGE AND AMERICAN ECONOMIC GROWTH* 160-62 (1971).

With respect to Standard Oil in particular, sharp minds in Congress also saw that the company's overall dominance of the industry made effective regulation of pipeline transport impossible. Senator Chester Long (R-Kansas) saw practical problems in light of Standard Oil Company's as-yet unbroken dominance in refining and marketing. He argued on the floor of the Senate that Standard Oil could easily work around pipeline regulation by permitting affiliate operations to take possession of the oil in other affiliates' pipelines.¹⁴ As a result, Senator Long effectively opposed what in other circumstances would have been a useful restriction—prohibiting pipelines from owning the fuel they carried—arguing that such a prohibition (called the “commodities clause” in its application to railroads) at that time would wreck the independent oil business. He convinced his colleagues not to apply such restrictions.¹⁵

In the end, public opinion against Standard Oil arose too soon for Congress to pass informed and effective regulation aimed at the nation's pipelines shown in Figure 1. The effective remedy to the problem of Standard Oil's dominance of the oil industry happened only in 1911, when the Supreme Court issued its first major decision under the Sherman Antitrust Act, breaking Standard Oil into ten common carrier pipelines and three partially or wholly integrated oil companies. But in 1906, Congress saddled the industry and its users with the Hepburn Amendment—a well-meaning, but essentially simplistic and counterproductive, response to the problems presented by Standard Oil.

C. *Stuck in a Rut: Vertical Integration and Ineffective Regulation 1906-1978*

The most remarkable story of the regulation of the oil pipeline industry under the ICC was its utter ineffectiveness. Not only was the ICC far more interested in dealing with railroads, but it had neither the mandate nor the expertise to understand the workings of the pipeline industry. And when it needed help, the ICC turned to the industry trade organization (the American Petroleum Institute) for advice—further setting the stage for futility.¹⁶

The story of those 72 years of ineffective regulation has been told elsewhere with considerable detail by business historians, lawyers, and economists.¹⁷ In short, the essential elements of those years are the following:

- Not accustomed to regulation, Standard Oil and its succeeding companies (post-breakup) spent the years 1906-1914 opposing ICC

14. 40 Cong. Rec. S9253 (daily ed. June 26, 1906) (statement of Sen. Long).

15. *Id.* Representative Oscar Gillespie (D-Tex.) summed up the general mood in both houses of Congress on the matter of oil pipelines and the commodities clause in a short speech that perhaps typifies better than any other how Congress formed its oil pipeline legislation: “Mr. Speaker, I want to record my dissent to the proposition that in divorcing the carrying business from the ownership of products carried by the carrier that we should make an exception of oil pipe lines. We should make no such exception, in my opinion. . . . I believe this report is about the best compromise of all differences that could be reached, and therefore I shall vote for it.” [Applause]. 40 Cong. Rec. H9584 (daily ed. June 28, 1906) (statement of Rep. Gillespie).

16. Business historian Arthur M. Johnson documents at length the participation of the American Petroleum Institute in the attempts by the ICC to regulate the oil pipeline industry. *See generally* JOHNSON, *supra* note 3.

17. *See* JOHNSON, *supra* note 3; GEORGE S. WOLBERT, JR., U.S. OIL PIPE LINES (1979); JEFF D. MAKHOLM, THE POLITICAL ECONOMY OF PIPELINES: A CENTURY OF COMPARATIVE INSTITUTIONAL DEVELOPMENT (2012).

jurisdiction in the courts. Justice Oliver Wendell Holmes delivered the verdict that gave the ICC authority over pipeline rates.¹⁸

- After confirmation of the Sherman Act dissolution in 1911, Standard Oil's successors split the pipelines into independent units—fearing more intrusive regulatory forays into their core oil businesses. But over the next twenty years (1911-1931), with one notable exception (Buckeye Pipeline), the industry completely re-integrated into pipeline transport without any objection from the ICC.
- From 1931-1941, during the Great Depression, the pipeline industry reported soaring profitability (up more than 25% from 1923-31) and huge dividend payouts while at the same time denying service to small, independent producers. Representative Sam Rayburn of Texas called for a Garfield-like economic study, which demonstrated the market abuse and prompted interest from the Department of Justice to split pipelines from integrated oil companies.¹⁹
- In 1940, an energetic Assistant Attorney General (Thurman Arnold) filed suit against twenty-two major oil companies and the American Petroleum Institute alleging a conspiracy to fix the price of pipeline transport, prior to Pearl Harbor. Under executive pressure, all parties signed the “Consent Decree” settlement on December 23, 1941 under the wartime exigency.²⁰
- Under the Consent Decree, the industry built the first great intercontinental pipelines in response to U-boats, which in early 1942 were sinking up to a dozen oil tankers a month on the east coast of the U.S. Those were the first large diameter, long distance petroleum pipelines in the world. Called “Big Inch” and “Little Big Inch,” they pushed both the legal and technological envelope for pipelines.²¹
- The Consent Decree capped dividends at 7% on *total* ICC valuation, not *equity* valuation. The integrated oil companies easily evaded the cap by loading their pipeline affiliates with debt.
- In 1978, faced with continued unrest in the industry and complaints by the Department of Justice (DOJ), Congress turned the ICC's oil pipeline regulatory duties over to the newly-renamed Federal Energy Regulatory Commission (FERC).

The most evident feature of the entire era from 1906 to 1978 was the absence of new Congressional legislation to replace or substantially revise the Hepburn Amendment despite the fecklessness of the ICC, the inability somehow to promote

18. “Availing itself of its monopoly of the means of transportation the Standard Oil Company refused, though its subordinates, to carry any oil unless the same was sold to it or to them, and through them to it, on terms more or less dictated by itself. In this way it made itself master of the fields without the necessity of owning them” *United States v. Ohio Oil Co.*, 234 U.S. 548, 559 (1914).

19. MAKHOLM, *supra* note 17, at 110-11.

20. *United States v. Atlantic Refining Co.*, Civil No. 14060 (D.D.C. 1941).

21. But at the end of the war, the oil industry chiefs could not get rid of this cooperative project fast enough. Thus, the two pipelines that so contributed to the war effort became wartime surplus. Eventually, the newly-formed Texas Eastern Gas Pipeline Company won the bid to acquire the assets and convert them to natural gas—and they are in use today.

an independent oil pipeline sector and the ability of integrated oil pipelines to evade profitability caps. As with the damaging effect of the ICA regarding railroads (which did more to obstruct efficient rail markets and ultimately cripple the industry it was designed to regulate), the Hepburn Amendment to the ICA evidently contributed nothing to efficiency or productivity in the oil pipeline industry. Of course, the FERC was not armed to deal with oil pipelines in 1978. Not only were the essential problems with the Hepburn Amendment complicated and obscure, but the agency was in the middle of a gas industry crisis.²² Before the FERC could work through its new problems with oil pipelines, it had to get its traditional gas regulatory house in order.

III. REGULATING GAS PIPELINES LIKE UTILITIES

There was no federal regulation of gas pipelines up to the 1930s—they had escaped inclusion in the Hepburn Amendment by the indefatigable efforts on the floor of the Senate in 1906 of the junior senator of Ohio, Joseph P. Foraker. Elected in 1896, Foraker was not an ally of Ohio's more powerful and well-known Senators—John Sherman (of the Sherman Antitrust Act of 1890) among them. Foraker's interest in gas pipelines stemmed from efforts of the gas company in Cincinnati (Foraker's political base) to secure gas from West Virginia to displace manufactured gas for city lighting purposes and to supply Cincinnati industry. The 300-mile gas pipeline project was said to cost \$5,000,000, and the gas company in Cincinnati was attempting to secure financing at the very moment that the Senate was debating the Hepburn bill.²³ Foraker was more effective in preventing the Hepburn Act from applying to gas pipelines. In dozens of debates on the Senate floor, Foraker outlasted his opponents and they passed an amendment to the bill excluding gas pipelines on May 4, 1906—the day in history when U.S. oil and gas pipelines embarked on separate evolutionary paths.²⁴

Gas pipelines were free of any sort of federal regulation from 1906 to 1938—a period during which the industry rapidly concentrated.²⁵ In 1936, an economist examined the costs and organization of long-distance gas pipelines, finding that no federal or state agency gathered data on gas pipeline construction. Using an assortment of publicly available data from industry directories and investment ad-

22. The U.S. Department of Energy calculated that, at the time when Congress passed the oil pipeline business to the FERC, gas shortages attributed to regulatory problems cost consumers between \$2.5 and \$5.0 billion per year in the form of increased energy costs and lost industrial production. MacAvoy, using a supply/demand model, estimated that consumers as a group lost more than \$20 billion over the period 1968-1977. See Richard J. Pierce, *Reconstituting Natural Gas From Wellhead to Burnertip*, 9 ENERGY L.J. 1, 10 (1988); see also PAUL W. MACAVOY, *THE NATURAL GAS MARKET: SIXTY YEARS OF REGULATION AND DEREGULATION* 14-15 (2000).

23. It was a 185-mile, 20 inch line, completed in 1909 as a combined venture of the Cincinnati Gas Transportation Company, the Union Gas & Electric Company, and the Columbia Gas & Electric Company. See Walter C. Beckjord, President, Cincinnati Gas & Elec. Co., Address During 1951 Dinner of the Newcomen Society of England (Apr. 20, 1951), in "THE QUEEN CITY OF THE WEST"—DURING 110 YEARS! A CENTURY AND 10 YEARS OF SERVICE BY THE CINCINNATI GAS & ELECTRIC COMPANY (1841-1951) at 19 (1951).

24. 40 Cong. Rec. S6371 (daily ed. May 4, 1906) (statement of Sen. Foraker).

25. EMERY TROXEL, *ECONOMICS OF PUBLIC UTILITIES* 164, 170 (1947).

visory services, he found that more than 60% of “trunk” gas pipelines were controlled by the nation’s five largest utility holding companies.²⁶ Others found that by 1935 almost 80% of the gas pipeline mileage in the United States was part of nine major holding companies’ systems, with extensive vertically integrated holdings in both gas production and distribution.²⁷

A. Congressional Response to Abuse

Therein lay the trouble. The abuses of those holding companies became a highly public and political affair, particularly after Samuel Insull’s utility holding company empire famously collapsed in late 1931 and early 1932—not unlike the controversy surrounding the unexpected collapse of Enron seventy years later.²⁸ The holding companies’ primary abuse of power involved pyramiding control over regulated franchises; they allowed excessive returns at the top, in conjunction with great risk of financial collapse at the bottom with even the slightest non-performance by the regulated franchises. State commissions could not effectively regulate the organization of holding companies related to their own local public utilities.

Between 1906 and 1935, the mantle of corporate reform passed from the Republicans, led by Theodore Roosevelt, to the Democrats, led by his distant (fifth) cousin Franklin Roosevelt. It was Sam Rayburn (D-Texas) whose committee asked for the investigation into the holding companies. In February 1928, at Congress’ request, the Federal Trade Commission (FTC) conducted another Garfield-like investigation into public utility holding companies—this time producing a massive report in 1934 and 1935, ultimately comprising ninety-six volumes. Congress had the information it needed to break up and regulate the industry, passing the Public Utility Act in 1935.²⁹ Title I of that Act (known as the Wheeler-Rayburn Act or the Public Utility Holding Company Act of 1935) gave the Securities and Exchange Commission (SEC) jurisdiction over public utility securities with the ultimate power to break up the companies along state and federal jurisdictional lines and oversee the securities transactions of any holding companies that remained.³⁰ An economist of the era called the Act “the most stringent, corrective

26. C. Emery Troxel, *Long-Distance Natural Gas Pipe Lines*, 12 J. LAND & PUB. UTIL. ECON. 344, 347 (1936).

27. RICHARD W. HOOLEY, *Financing the Natural Gas Industry* 31 (1968).

28. See Hon. 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 (2005).

29. Public Utility Holding Company Act of 1935, 15 U.S.C. § 79 (repealed 2005). Title I of the act declared utility holding companies to be “affected with the national interest,” which required federal regulation. On June 11, 1935, the Senate passed the Public Utility Holding Company Act by a vote of 56-32, despite fierce campaigning against the bill by utility holding company owners and managers. The Act was repealed in 2005 by the Energy Policy Act (EPA) of 2005 (section 1263) when significant changes in the electric and gas industry prompted change and after the gas pipeline transport system in the U.S. had become fully competitive. See Markain M.W. Melnyk & William S. Lamb, *PUHCA’s Gone: What is Next for Holding Companies?*, 27 ENERGY L.J. 1 (2006).

30. The breakup authority was known as the “death sentence clause.” But whether the clause actually had teeth in breaking up holding companies was questionable until the Supreme Court used the clause in *North American Co. v. Securities and Exchange Commission*, 327 U.S. 686 (1946). In this case, the Supreme Court found in favor of the SEC against North American, a holding company. See William H. Anderson, *Public Utility Holding Companies: The Death Sentence and the Future*, 23 J. LAND & PUB. UTIL. ECON. 244 (1947).

legislation that ever was enacted against an American industry. . . . [A] remedy [well] suited to the patient.”³¹

The industry resisted the breakup. John Foster Dulles, then a senior lawyer at Sullivan and Cromwell, thought that Congress had overreached and that the Act was unconstitutional and therefore unenforceable. He advised his clients to fight: “Do not comply; resist the law with all your might, and soon everything will be all right.”³² Dulles was wrong—the Act survived legal challenge.³³ By the early 1950s the SEC had completed most of its holding company restructurings and only a few holding companies remained, subject to the SEC’s oversight.³⁴

B. *Tools for Effective Regulation*

Unlike the situation Congress faced when debating the Hepburn Amendment in 1906, Congress could draw upon known tools needed to ensure effective regulators, including licensing, accounting and administration. Still, negotiations over a final gas pipeline legislation consumed three more years. The final bill proposal was introduced in January 1937.³⁵ That bill placed regulatory responsibility with the Federal Power Commission (the FPC, the FERC’s predecessor). It exempted end-use industrial sales (as opposed to sales-for-resale gas distributor sales) from the jurisdiction of federal regulators, thereby removing one of the pipeline companies’ key objections. It also included accounting regulation and cost determination. Finally, the bill included a component to limit FPC certification to those cases where a pipeline would serve a market already served by an existing pipeline, a provision ostensibly protecting interstate pipelines from “destructive competition.” The pipelines were satisfied with the accounting rules and pushed for the licensing provisions. The Cities Alliance (a group of 100 Midwestern city and town governments, which had organized in the mid-1930s to lobby for gas pipeline regulation) wanted to both cap the price of gas delivered to cities and foster competition between pipelines in order to lower prices and provide better service. But the Cities Alliance yielded, and the Natural Gas Act (NGA) passed the House and Senate in June 1938.³⁶

C. *Seemingly Inevitable March Toward Competitive Transport*

Like any new piece of comprehensive regulation applied to a new industry, the NGA contained some glaring problems that would only reveal themselves over time. Like the story of the seventy-two years of ineffective ICC regulation of oil pipelines, the story of the sixty-two years that passed between adoption of the

31. TROXEL, *supra* note 25, at 172.

32. NANCY LISAGOR & FRANK LIPSUS, *A LAW UNTO ITSELF: THE UNTOLD STORY OF THE LAW FIRM SULLIVAN & CROMWELL* 115 (1988).

33. *North Am. Co. v. Sec. & Exch. Comm’n*, 327 U.S. 686, 710-11 (1946).

34. Heather Curlee, *Examining EPCAct 2005: A Prospective Look at the Changing Regulatory Approach of the FERC*, 63 WASH. & LEE L. REV. 1649, 1658 (2006).

35. C. Emery Troxel, *Regulation of Interstate Movements of Natural Gas*, 13 J. LAND & PUB. UTIL. ECON. 20, 30 Author’s Note (1937).

36. M. ELIZABETH SANDERS, *THE REGULATION OF NATURAL GAS: POLICY AND POLITICS, 1938-1978*, 42 (1981).

NGA and resolution of the rules for competitive gas pipeline transport can be condensed into some important unscripted choices and changes. Neither Congress nor its advisors could foresee a type of pipeline market that economists had not yet themselves conceived.³⁷ The important points are these:³⁸

- Congress' choice to regulate gas pipelines as public utilities was problematic, as the existing pipeline companies were not natural monopolies but semi-rivals who bought gas in the production fields, racing to win new licenses. The problem, according to Professor Alfred Kahn "was that the 'upward thrust' of prices in the fields was driven by the necessity of finding uncommitted fields under the pressure of the race to obtain certification."³⁹
- The NGA originally required pipelines to obtain a license when entering a market already served by another.⁴⁰ However, in 1942, the Act was amended to require pipelines to obtain a license or Certificate of Public Convenience and Necessity (CPCN) for all new construction, extension, or acquisition.⁴¹
- There was never any chance that the gas distributors or successors to the Cities Alliance would permit pipeline companies free reign to purchase gas under those circumstances—and indeed the Supreme Court, in the landmark 1954 *Phillips Petroleum Company* case, directed the FPC to regulate all gas prices, even those at arm's length between pipelines and producers.⁴²
- Regulating gas prices was not a solution. Though the FPC was reliable in regulating cost-based pipeline prices, it proved poor at regulating the price of gas. Costly shortages or surpluses in volatile gas markets were inevitable.⁴³

37. The gas pipeline capacity market as we know it today owes its existence, in large part, to concepts popularized by Nobel Laureate Ronald H. Coase known as the "Coase Theorem." The Coase Theorem states that optimal allocation of rights—in this case, rights to pipeline capacity—will occur if transaction costs are low enough and property rights are well-defined. This idea and the theory of transactions cost economics emerged and developed after 1938. It took until the last decade or so of the 20th century for the application of these ideas to reach the gas pipeline capacity market and for the FERC's actions to ensure such a market. Jeff D. Makholm, *Gas Pipeline Capacity: Who Owns It? Who Profits? How Much?*, 132 PUB. UTIL. FORT. 17, 18-19 (1994); See also S.Scott Gaille, *Allocation of International Petroleum Licenses to National Oil Companies: Insights from the Coase Theorem*, 31 ENERGY L.J. 111 (2010) (discussing the application of the Coase Theorem to other parts of the oil and gas industry).

38. MAKHOLM, *supra* note 17, at 151-52.

39. *Id.* at 136. Kahn maintained that securing reserves sufficient to enable pipeline promoters to get FPC certification was for them a "license to coin money," which conferred great market power on the producers who were in a position to lease large blocks of reserves. *Id.* at 232 n. 56.

40. The Natural Gas Act of 1938 gave the FPC authority to judge the economic need of interstate gas pipelines proposing to enter a market already served by another. Natural Gas Act of 1938, ch. 556, § 7(c), 52 Stat. 781, 828 (current version 15 U.S.C. § 717m (1988)). The Natural Gas Policy Act of 1978 allows an interstate pipeline to transport gas on behalf of an intrastate pipeline or local distribution company without prior FERC approval. Similarly, an intrastate pipeline company may transport gas for an interstate pipeline or local distribution company without prior FERC approval. FERC exempts facilities constructed thusly from Section 7(c) certificate requirements. 15 U.S.C. § 3371 (1978).

41. 15 U.S.C. § 717f(c)-(e).

42. *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672, 689-90 (1954).

43. See, e.g., *Pierce*, *supra* note 22, at 10-14.

- Freeing gas prices from federal regulation required pipeline companies to exit the gas business and provide transport only—no easy task, as that had never been a mode of business for pipeline companies anywhere.
- Serendipitously, the same volatile gas market that had caused expensive shortages also threatened the gas pipeline companies. By 1986, the financial exposure of U.S. gas pipeline companies to “take-or-pay” charges of gas producers totaled approximately \$11.7 billion, threatening their financial integrity.⁴⁴ The problem allowed the FERC to offer financial incentives for pipeline companies *volunteering* to adopt the new open-access mode of business.⁴⁵
- Open access was one thing; competitive transport quite another. It took about fifteen years of steady work and litigation (from 1985 to 2000) to accomplish the transition.⁴⁶ Shipper rights needed better definition, a clearer cost basis, and the ability to sell without friction in transparent sub-let markets without pipeline company interference. There was very little economic theory in the transition, turning pipeline contracts into tradable property reflecting a bundle of specific legal entitlements—just practical operational and accounting work overseen by the FERC, making sure that long-term pipeline “tenants” could exercise their contract rights efficiently.
- By 2000, the FERC had nailed down the requisite practical elements of competitive contract carriage among shippers on interstate gas pipelines (through various versions of FERC Order No. 637) along with a framework that would permit competitive additions to the interstate system by pipeline companies through “incremental pricing.”⁴⁷

As a result of these moves, “the gas pipeline industry had been transformed into a competitive business for both the daily use and construction of transport capacity.”⁴⁸ Gas pipelines transitioned from “the dominant buyers and sellers of gas in the United States to owning none of the gas they shipped in interstate commerce.”⁴⁹ For its part, the FERC’s main job had once been regulating gas pipeline

44. *Id.* at 11.

45. Under FERC Order No. 436, pipelines offering transportation services were required to provide such services on a non-discriminatory basis. Order No. 436 offered a means for pipelines to spread part of their take-or-pay liabilities through fixed surcharges to their customers, if those pipelines embraced open access. Order No. 436, *Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, 50 Fed. Reg. 42,408 (Oct. 18, 1985) (to be codified at 18 C.F.R. pts. 2, 157, 250, 284, 375, 381). A succeeding Order No. 500, was required to address legal obstacles to the implementation of this policy, offering pipeline companies a mechanism to recover roughly half of their uneconomic gas costs. Order No. 500, *Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, 52 Fed. Reg. 30,334 (Aug. 14, 1987) (to be codified at 18 C.F.R. pts. 2, 2840).

46. Order No. 636, *Pipeline Service Obligations and Revisions to Regulations Under Part 284; Regulation of Natural Gas Pipelines after Partial Wellhead Decontrol*, 59 F.E.R.C. ¶ 61,030 (1992); Order No. 637, *Regulation of Short-Term Natural Gas Transportation Service, and Regulation of Interstate Natural Gas Transportation Services*, 90 F.E.R.C. ¶ 61,109 (2000). See also MAKHOLM, *supra* note 17, at 140-149.

47. Policy Statement, Certification of New Interstate Natural Gas Pipelines, 64 Fed. Reg. 51,309, 51,315 (Sept. 22, 1999).

48. MAKHOLM, *supra* note 17, at 140.

49. *Id.*

entry and cost-based rates. Now it has another task—preserving the value of tradable entitlements for those who hold them and making sure they trade effectively.⁵⁰

The U.S. gas market has adapted to the FERC's gas pipeline regulation through tremendous effect—embracing advanced technology to spur the entry of shale gas; tilting the competitive electricity generation mix away from coal; pouring investment into new competitive pipeline links; and driving the competitive gas price away from oil prices—down to levels not seen since the 1970s.⁵¹

IV. THE FERC TRIES TO APPLY ITS LEARNING TO OIL PIPELINES

While the FERC was working through its gas pipeline reforms in the 1980s and 1990s, it was struggling with oil pipelines. This was not surprising, as the Hepburn Amendment gave the FERC no authority over accounting regulation or the ability to certify new capacity—the agency's two main regulatory levers regarding gas pipelines.⁵² So the FERC acted where it could: (1) deregulating many pipelines; (2) grandfathering the question of pipeline values given the ICC's obscure valuation methods; (3) using indexed prices to deal with traditional accounting and valuation problems; and (4) trying to convey future intentions regarding rates without the ability to issue a CPCN to the siting of new projects, as it can through its gas licensing authority (which, in oil, would include overriding state and local eminent domain concerns).

A. Streamlining Regulation Where It Could

Partly in response to the ICC's history of ineffective regulation, in 1984 the DOJ released a report on competition in the oil pipeline industry, which it finalized in 1986.⁵³ Using an analysis that employs what has since become a standard method of measuring market concentration for pipeline “origin” and “destination” markets, the DOJ did not find that crude oil pipelines presented a clear case for continued regulation.⁵⁴ For refined products pipelines, it recommended a case-by-case examination to determine which were sufficiently competitive to make a case for deregulation.

50. For example, to enhance competition in the secondary capacity release market, in 2008 the FERC removed the rate ceiling on short-term capacity release transactions of one year or less. Order No. 712, *Promotion of a More Efficient Capacity Release Market*, 123 F.E.R.C. ¶ 61,286 at P 1 (2008).

51. See also Makholm, *supra* note 2, at 111.

52. BRANDON J. MURRILL, CONG. RESEARCH SERV., R44432, PIPELINE TRANSPORTATION OF NATURAL GAS AND CRUDE OIL: FEDERAL AND STATE REGULATORY AUTHORITY 7-8 (2016).

53. CHARLES J. UNTEIT ET AL., U.S. DEP'T OF JUSTICE, OIL PIPELINE DEREGULATION vii-xi (1986).

54. *Id.* at ix, 9, 13. The 1986 DOJ report has heavily influenced the analysis of pipeline markets in the U.S. since. It employed the familiar Herfindahl-Hirschman Index (HHI), which is the sum of the squares of the market shares, measured on a scale of 0 to 100, within “origin markets” and “destination markets.” Employing a rule-of-thumb that oil cannot be shipped economically outside a seventy-five mile radius, the study used standard U.S. statistical regions to calculate HHIs for the origin and destination market of all major U.S. oil pipelines. For those pipelines with an HHI of less than 2,500 (representing four equally sized lines, or four times 625), the DOJ did not recommend the continuation of standard cost of service regulation. The DOJ continues to use these definitions of competition in origin and destination markets when evaluating prospective mergers that involve pipeline companies.

Around the same time, in two judicial review of rate cases before the Court of Appeals for the District of Columbia, the court guided the FERC towards a cost-based rate standard for oil pipelines. The court remanded the first (*Farmers Union I*) back to the FERC, to allow the agency the opportunity to determine the justness and reasonableness of the proposed rates.⁵⁵ Four years later, the FERC's 1982 Opinion 154 in *Williams Pipe Line Company* left rate determinations to market forces.⁵⁶ This case was taken to the Court of Appeals where that court determined that the FERC had contravened its statutory obligation to ensure that oil pipeline rates are just and reasonable. In that case (dubbed *Farmers Union II*), the court of Appeals outlined basic guidelines for the FERC to follow in ensuring oil pipeline rates are set within a "zone of reasonableness," and any departure from such must be duly justified by non-cost factors.⁵⁷ In compliance with the court's instructions, the FERC issued Opinion 154-B, providing rules for determining cost-based rates.⁵⁸

In 1992, Congress passed the Energy Policy Act (EPAct 1992). Its goal was to simplify oil pipeline rate regulation by directing the FERC to issue a rule defining generally applicable rate methodology in accordance with the "just and reasonable" standard, to streamline procedures regarding ratemaking to avoid unnecessary regulatory costs and delays. Finally, the EPAct 1992 deemed all unprotested rates established before October 24, 1992 as just and reasonable (grandfathered rates). In response, the FERC issued several orders, including Order No. 561 that established cost-of-service based rates for new services (or some other rate supported by a non-affiliated shipper). The FERC also established a generic oil pipeline index for rate changes.⁵⁹ Because of these FERC actions and the DOJ study, crude oil pipeline prices have transitioned to a "light-handed" pricing regime where prices are allowed to increase vis-à-vis the general cost index plus an *ad-hoc* adjustment determined in five-year proceedings, unless the increased "index rate change substantially diverges from the pipeline's cost changes."⁶⁰ Those grandfathered rates establish the baseline rates for many pipelines, unless a challenger of the rate demonstrates "substantially changed circumstances" from the grandfathered rate.⁶¹ Further, the case-by-case examination of the market power of refined products pipelines led to deregulation of more than a dozen oil pipelines' rates.

In addition, the FERC's regulation of oil pipelines since 1978 has somewhat steadily sorted out the regulatory mess it inherited from the ICC, including the settling of the property inherent in each oil pipeline's tariff base. The FERC has

55. *Farmer's Union Cent. Exch. v. FERC*, 584 F.2d 408, 410, 424 (D.C. Cir. 1978).

56. *Williams Pipe Line Co.*, 21 F.E.R.C. ¶ 61,260, at p. 61,636 (1982).

57. *Farmer's Union Cent. Exch., Inc. v. FERC*, 734 F.2d 1486, 1501 (D.C. Cir. 1984).

58. *Williams Pipe Line Co.*, 31 F.E.R.C. ¶ 61,377 (1985).

59. Christopher J. Barr, *Growing Pains: FERC's Responses to Challenges to the Development of Oil Pipeline Infrastructure*, 28 ENERGY L.J. 43, 57 (2007).

60. Final Order, *Five-Year Review of the Oil Pipeline Index*, 18 C.F.R. pt. 342, n.7 (2015).

61. The FERC has determined that substantially changed circumstances existed when revenues exceeded costs by 20-25%, but not when revenues exceeded costs by 10% or less or other "similarly low number." *SFPP, L.P.*, 111 F.E.R.C. ¶ 61,334 at P 36 (2005).

tried to lessen the risk of financing new common carrier lines through the advance approval of key rates and tariff issues before construction.⁶²

B. The Persistent Problem Without Federal Licensing of Oil Pipelines

One defining feature of the oil transport business is that the federal authorities have never been given the power to provide CPCNs for oil pipelines, as later developed to cover public utilities and gas pipelines.⁶³ Thus, developers of oil pipelines still deal with individual states and landowners in securing rights-of-way, even for major interstate projects on a continental scale, such as bringing Alberta crude oil to the United States Gulf Coast for refining or export.⁶⁴ Also, as common carriers with a need to set aside capacity for “walk-up” service, oil pipelines cannot sell the kinds of exclusive long-term capacity contracts that finance interstate gas pipelines. Both are problematic regarding the specification and placement of new oil pipelines—with newsworthy results, both regarding intermodal competition and the entry of new oil pipelines generally.⁶⁵

1. The Boom in Oil Tank Cars

There have been three “booms” in the use of railroad tank cars to move America’s crude oil. Only two made sense. The first occurred when the industry displaced the transport of oil in 42-gallon wooden barrels loaded in railroad box cars (Standard Oil had about 10,000 tank cars in 1904).⁶⁶ As Figure 2 shows, the second occurred in 1942 when U-boats became the scourge of the Atlantic seaboard—the principal oil route to the East Coast from Texas. Given the war emergency, rail tank cars delivered one million barrels per day to the East Coast by the middle of 1943 (from almost nothing in 1941).

62. Barr, *supra* note 59, at 51.

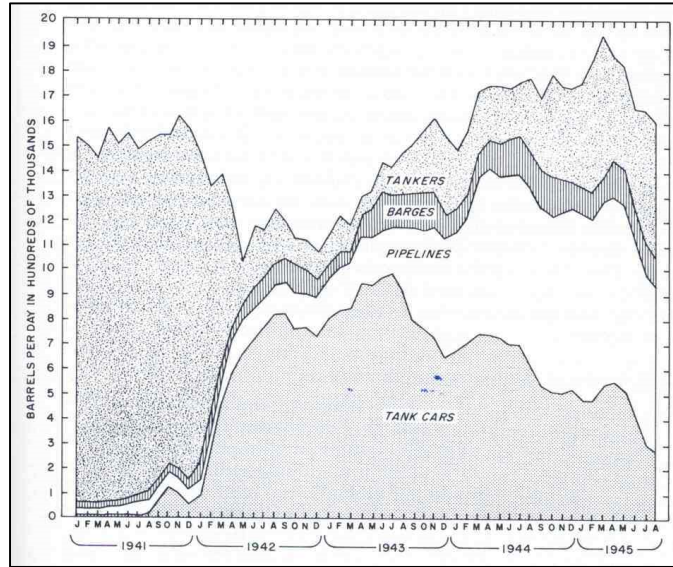
63. MURRILL, *supra* note 52, at 2.

64. Colin P. O’Rourke, *Oil Pipeline Regulation: The Current Patchwork Model and an Improved National Solution*, LSU J. ENERGY L. & RES. CURRENTS (2016), <http://jelr.law.lsu.edu/2016/02/02/oil-pipeline-regulation-the-current-patchwork-model-and-an-improved-national-solution/>

65. The lack of federal capacity certification as the basis for Coasian markets and competitive pipeline entry in gas is hard to overstate. The literature on the importance of such “regulation” in freeing competitive forces given the technology of pipelines reflects as much. See Harvey L. Reiter, *Is the Pipeline’s Certificate Obligation an Impediment to Competition in the Natural Gas Industry?*, 5 J. ENERGY L. & POL’Y 217 (1984).

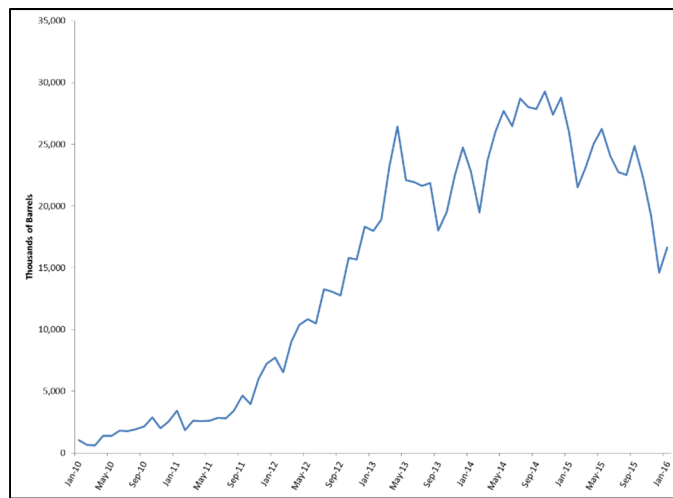
66. GARFIELD, *supra* note 11, at 37.

Figure 2: Deliveries of Oil to the U.S. East Coast 1941-1945, the Second Explosion of Oil Rail Cars⁶⁷



The third boom started in 2011, shown in Figure 3, with rapidly increasing unconventional oil production in North Dakota and Alberta and a 10-fold expansion of the use of such oil tank cars

Figure 3: Monthly U.S. Crude Oil Movements by Tank Cars, January 2010 to January 2016⁶⁸



67. Johnson, *Petroleum Pipelines and Public Policy*, Harvard, 1967, p. 327.

68. Energy Information Administration, *US Movements of Crude Oil by Rail, January 2010-January 2016* <http://www.eia.gov/petroleum/transportation/#tabs-summary-1>

Without FERC licensing authority over new oil pipelines, the business of expanding America's oil pipeline system is litigious, uncertain, and highly political. Safety considerations provide further support for reexamining the reasons for rail transport of oil. Oil tank cars exploded in March 2015 in northern Illinois (following a similar scene a month earlier in West Virginia), in the Ontario wilderness a week before that, in Lynchburg, Virginia in 2014, and in Lac-Mégantic, Ontario in 2013 (which killed forty-seven). Rail shipments of oil are at least twice as costly, and more dangerous, than the movement of oil by modern pipelines. Yet more than 40,000 new oil tank cars have appeared on the rails since 2011.⁶⁹

2. The Problems of Shipping Canadian Oil Sands Crude

The crude oil transportation business has changed rapidly in the past five years as new oil sands and oil shale plays have been developed in Alberta, the North Dakota Bakken region, and West Texas. In the past, imported crude oil came by tanker to the Texas Gulf Coast refineries before being piped north, as refined products, throughout America's heartland. As with North American natural gas—where unconventional development from the Marcellus field has changed traditional pipeline flows—the new sources of crude oil created a new demand for crude oil pipeline capacity flowing south to those same Texas refineries to displace imported tanker cargoes. But the FERC cannot apply its expertise to licensing oil pipelines, for it has no authority. That is, where the FERC's licensing authority over gas pipelines (combining its analysis with that of the Environmental Protection Agency and the Army Corps of Engineers) provides an expert and tested method for determination over economic need, and careful treatment of all environmental, safety, economic need and eminent domain issues, it has no such authority over oil pipelines.⁷⁰ Oil pipelines are on their own to contend with other pipelines, affected state and local landowners, and eminent domain issues, to be the first mover in providing new pipeline routes.⁷¹

This lack of FERC authority was evident in the back-up of Canadian crude in Cushing, Oklahoma. The lack of a pipeline from Cushing heading south to the Gulf Coast caused oil to pile up in tank farms; a glut that drove the U.S. domestic price index—West Texas Intermediate (WTI)—nearly \$20/barrel below the world price of similar crude oil (priced at the Brent index). Given the inability of the FERC to use its gas industry methods to sort out the question, which company or consortium would be the first mover to link Cushing southward to those Texas Gulf Coast refineries and capture that spread was up for grabs.

Energy Transfer Partners (ETP) and Enterprise Products Partners entered into an unwritten partnership in April 2011 to market the construction of a new pipeline making the link, attracting major oil company Chesapeake Energy Corp. to sign onto their venture. Almost simultaneously, Enterprise announced the dissolution of that venture to pursue a similar project with Enbridge, Inc. ETP immediately

69. JOHN FRITTELLI ET AL., CONG. RESEARCH SERV., R43390, U.S. RAIL TRANSPORTATION OF CRUDE OIL: BACKGROUND AND ISSUES FOR CONGRESS 7 (2014).

70. As O'Rourke notes, an oil pipeline can be built without the FERC even knowing about it until the company approaches the regulator for rate-setting, which creates uncertainty in the industry. O'Rourke, *supra* note 64, at 11.

71. See generally MURRILL, *supra* note 52, at 7-8; O'Rourke, *supra* note 64.

filed suit in Texas court to recover damages due to Enterprise's breach of fiduciary duty in abandoning the original pipeline venture, and a jury ordered Enterprise to pay ETP \$319 million in damages (computing the size of the award on the "anchor tenant" value of the Chesapeake commitment) for violating "the corporate version of a common law marriage."⁷² The whole dispute arose because of the "wild west" rush to be the first mover in new oil pipeline links—a rush that the FERC's legislative licensing role works to avoid for gas pipelines.

The lack of expert agency review and licensing is also seemingly apparent in the high political drama attending the Keystone XL pipeline—a decision that eventually wound up on the desk of Secretary of State John Kerry. For natural gas pipelines, the FERC reviews and approves requests for presidential permits for border crossing facilities if it determines that those facilities are in the *public interest* and the facilities receive favorable recommendation from the State and Defense Departments. However, the State Department retains the authority to review applications for presidential permits for border-crossing oil pipeline facilities and approves such applications if it determines the project would serve the *national interest*.⁷³ Keystone XL became a political decision—ostensibly to preserve the U.S. position in international negotiations on global warming, about which the State Department is the expert. The situation somewhat mystified Canadians, as their National Energy Board provides federal CPCNs for both gas and oil lines that override Provincial and local eminent domain issues. The extent of the delay and politicization of the Keystone project had never attended the siting and licensing of gas pipelines or other oil pipelines.

C. "Contractualizing" Oil Pipelines

Recent attempts to shift towards a system of regulation akin to gas pipelines is reflected by the number of new oil pipeline projects requesting and receiving FERC approval to offer contract carriage options and priority service for new capacity projects for which the pipeline conducts open seasons.⁷⁴ The FERC received seventy-four petitions for such orders between 2011 and the end of 2015.⁷⁵ The ability to contract for guaranteed or priority service on oil pipelines at contract rates ensures access to capacity in situations where that capacity is constrained. Without such priority service, shippers are subject to prorationing along with uncommitted shippers that typically allocate capacity based on each shipper's history of usage. As it does for firm, reserved capacity for natural gas transport, priority oil and oil products transport service benefits both the shippers—as capacity is assured even during periods of oversubscription—and the pipeline—as revenue to

72. NERA, *The First Alberta Oil to the Texas Gulf Coast: NERA's Role in Energy Transfer Partners vs. Enterprise Product Partners and Enbridge Inc.*, <http://www.nera.com/publications/archive/case-project-experience/the-first-alberta-oil-to-the-texas-gulf-coast-neras-role-in-en.html> (last visited Sept. 17, 2016) (quoting the Dallas Morning News (March 4, 2014)). As of the writing of this paper, the decision is still under appeal in Texas appellate court.

73. Murrill, *supra* note 52, at 10.

74. Christopher J. Barr, *Unfinished Business: FERC's Evolving Standard for Capacity Rights on Oil Pipelines*, 32 ENERGY L.J. 563, 580, 588 (2011).

75. FERC e-Library search for unique dockets regarding Petitions for Declaratory Order in Oil between January 1, 2011 and December 18, 2015.

support the investment is also secure. The result is efficient investment as those shippers that value such service provide the financing for that new capacity.

While upholding the restrictions imposed by the Hepburn Amendment, the FERC, by allowing such contract carriage, has shown that it is amenable to contractualizing new oil pipeline capacity and to limits on common carrier obligations of new pipelines. The Commission opined in several of its orders that shippers making long-term commitments to pipelines underpin significant financial investment for new facilities, which warranted access to service not subject to prorationing provisions, provided that this service carries a premium of at least \$0.01 more than the uncommitted rate.⁷⁶ In a similar vein, the FERC's allowance of Shell's tariff structure with transferable shipment histories on proposed pipelines approaches a kind of secondary market for pipeline capacity in natural gas.⁷⁷ However, the FERC's denial of another pipeline's petition to provide priority service on its *existing* system shows that the FERC's shift to contract carriage is limited in scope to new pipelines that conduct open seasons.⁷⁸

V. CONCLUSION

Pipelines are uniquely efficient means by which to transport oil and gas. But they consume great quantities of capital in immobile capital assets that cross national, state, and local boundaries. That sunk-cost technology is a problem. Pipelines are at the opposite end of the industrial transport spectrum from the mobile capital of airline transport—which Alfred Kahn, who, as Chairman of the Civil Aeronautics Board oversaw the deregulation of the air transport business, called “marginal costs with wings.”⁷⁹ Pipelines are *marginal costs with a ball and chain*—both literally (since pipelines cannot be moved) and figuratively (since they tie up great quantities of capital). Kahn could usefully promote the lifting of price regulation and abolition of that regulatory agency, with winged capital providing the means both for competitive entry and exit from particular markets and routes. The technology of pipelines extends no such freely competitive option to inland transport in the oil and gas industries. The technology of pipelines permit them, once laid, to bar entry and seek monopoly returns unless somehow regulated—prompting governments around the world either to own pipelines directly or to subject them to rate regulation.

Congress has twice crafted legislation to deal with the evident problems that arise with unregulated U.S. pipeline systems and the problems they caused (evident enough to fuel widespread public opinion against the industry). The first was in 1906 as it extended a pre-existing rail regulatory statute to cover oil pipelines (the Hepburn Amendment). Congress dealt with gas pipelines (which had escaped regulation in 1906) with the NGA of 1938. Between these two dates, both state and federal regulation grew up—reflected in the NGA's exacting accounting, procedural and certification rules that were lacking in 1906. The new rules had their

76. See, e.g., *Oxy Midstream Strategic Development, LLC*, 141 F.E.R.C. ¶ 61,005 at P 8 (2012); *Sunoco Pipeline L.P.*, 141 F.E.R.C. ¶ 61,212 at P 8 (2012); *Kinder Morgan Pony Express Pipeline LLC*, 141 F.E.R.C. ¶ 61,249 at P 10 (2012).

77. *Shell Pipeline Co. LP*, 141 F.E.R.C. ¶ 61,017 at P 1 (2012).

78. See generally *Colonial Pipeline Co.*, 146 F.E.R.C. ¶ 61,206 (2014).

79. PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* 526 (1985).

own problems dealing with a volatile fuel market, but they proved to be adaptable to development of a competitive gas industry. That adaptation came from regulatory tools embedded in the NGA: tight and transparent accounting and administrative rules combined with federal transport capacity certification and eminent domain (which focused and streamlined the job of building new interstate lines). The result is that FERC-regulated interstate gas pipelines provide the means for a freely competitive resale market in the transit capacities held by contract shippers: where both the use of existing capacity and rivalry in creating new FERC-certificated and regulated capacity is genuinely competitive.

In the 1980s and 1990s the FERC wrestled with oil pipeline regulation it inherited from the ICC in 1978. It deregulated rates for some lines and simplified rate regulation for others. More recently it tried to incorporate some of the methods that have worked so well for gas pipelines—tying rates to contract commitments and permitting some degree of resale rights of contracted pipeline capacity. But there are aspects of regulation under the NGA that the older Hepburn Amendment does not permit for oil: the creation of a transparent and easily-traded system of property rights (consisting of bundles of specific legal entitlements) for point-to-point fuel transport in the interstate system. The FERC created the competitive gas transport market through orderly certification of highly-specific point-to-point pipeline capacity in conjunction with exacting accounting, rate regulation, and rules for electronic trading.

The basic structure of the Hepburn Amendment obstructs the creation of such property rights in oil transport—which is the necessary economic foundation of a market in such rights. Unless amended in its basic features (particularly the lack of federal licensing authority and imposition of common carriage), it will probably continue to frustrate those who would like to see the most competitive use and expansion of the nation's extensive existing oil pipeline system.