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Essay: Historical Flow of Hydroelectric Regulation: A Brief History

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ESSAY: HISTORICAL FLOW OF HYDROELECTRIC REGULATION: A BRIEF HISTORY

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TABLE OF CONTENTS

I. INTRODUCTION

Roughly six percent of our nation's electricity is generated by hydroelectric plants, with a considerable amount of that generation occurring at federal facilities.[1] Today, hydroelectric

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1. *See generally* KELSI BRACMORT ET AL., CONG. RESEARCH SERV., HYDROPOWER: FEDERAL AND NONFEDERAL INVESTMENT (2012), http://www.fas.org/sgp/crs/misc/R42579.pdf (discussing numbers in 2014). In February 2016, the Energy Information Administration (EIA) projected that hydroelectric generation would increase by approximately 5% in 2016 as a consequence of higher water levels attributable to El Nino. PERRY LINDSTROM & TYLER HODGE, U.S. ENERGY INFO. ADMIN., TODAY IN ENERGY: ELECTRICITY GENERATION FROM RENEWABLE SOURCES EXPECTED TO GROW 9% THIS YEAR (Feb. 2, 2016), https://www.eia.gov/todayinenergy/detail.cfm?id=24792. Yet, in 2015, the difference in total wind and conventional hydroelectric power generation was only about 60,000 thousand megawatt hours, with wind generation gaining about 20,000 megawatt hours a year since 2007. U.S. ENERGY INFO. ADMIN., ELECTRIC POWER MONTHLY: TABLE 1.1A NET GENERATION FROM RENEWABLE SOURCES: TOTAL (ALL SECTORS), 2006-AUGUST 2016 (Feb. 26, 2016), http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_1_01_a.

power enjoys the seemingly envious position of producing what the industry claims is clean energy. Yet, it provokes a level of controversy possibly second only to that of energy produced from coal-fired plants. For some, hydroelectric energy "is not cheap and clean but costly and damaging."[2] And whether it offers a promise for reducing greenhouse gas emissions at little other environmental cost remains a lively topic.[3] For others, it offers unique opportunities for stabilizing grid operations—providing such benefits as peaking power (quickly accessible energy to meet high demand periods during the day), reserve generation, and balancing. While the era of constructing large dams is long past—and, indeed, effectively vanished in the 1970s with the emergence of the environmental movement and President Carter's "hit" list for large federal water projects[4]—few believe that many of the existing large hydroelectric dams will be removed.[5] The latest struggle to remove dams along the Klamath River is a testament to the challenges of removal.[6] This same dialogue is unfolding on

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2. TIM PALMER, LIFELINES: THE CASE FOR RIVER CONSERVATION 61 (1994).

3. *See, e.g.,* Daniel Cusick, *Hydro: An Answer to Climate Change or a "False Solution"?*, E&E NEWS: CLIMATEWIRE (July 25, 2016), http://www.eenews.net/climatewire/stories/1060040720/feed.

4. President Carter portrayed large dams as wasteful and environmentally unsound. *See, e.g.,* Jimmy Carter, President of the U.S., Water Resource Projects—Statement Announcing Administration Decisions (Apr. 18, 1977), *in* THE AMERICAN PRESIDENCY PROJECT, http://www.presidency.ucsb.edu/ws/?pid=7364; Jimmy Carter, President of the U.S., Federal Water Policy Message to Congress (June 6, 1978), *in* THE AMERICAN PRESIDENCY PROJECT, http://www.presidency.ucsb.edu/ws/?pid=30912; *see also* United Press Int'l, *President Carter's Project Hit List: Bitter Conflicts Surround Any Water Project,* LODI NEWS-SENTINEL,14, (May 18, 1977).

5. *See generally* Christine A. Klein, *On Dams and Democracy*, 78 OR. L. REV. 641 (1999).

6. *See generally* HOLLY DOREMUS & A. DAN TARLOCK, WATER WAR IN THE KLAMATH BASIN: MACHO LAW, COMBAT BIOLOGY, AND DIRTY POLITICS (2008). *See also* Thomas P. Schlosser, *Dewatering Trust Responsibility: The New Klamath River Hydroelectric and Restoration Agreements*, 1 WASH. J. ENVTL. L. & POL'Y 42 (2011); Michael A. Swiger & Sharon L. White, *Rebuttal in Defense of the Klamath Hydroelectric Settlement Agreement*, 2 WASH. J. ENVTL. L. & POL'Y 297 (2011). After Congress failed to fund the settlement, the Obama administration in early 2016 agreed with the primary settlement parties that they would try to jointly secure approval to remove the dams from the Federal Energy Regulatory Commission. *See* Bettina Boxall, *Klamath River Dams Moving Toward Removal Despite Congressional Barriers*, L.A. TIMES (Feb. 3, 2016), http://www.latimes.com/local/lanow/la-me-klamath-river-dams-20160203-story.html. Most recently, California is in the process of studying the benefits of removing the San Clemente Dam. *See Calif. Learns Lessons As Dam*

the international level as well.[7] And so today, as hydroelectric projects built decades ago continue to operate and secure necessary, subsequent relicenses to operate, it is worth considering the continued role of hydroelectric generation as well as the historical and regulatory context surrounding that emerging role. After all, several older projects recently demonstrated how licensees can settle long-standing disputes surrounding a project by either including a nearby Native American tribe in the project's

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Falls, E&E NEWS: GREENWIRE (Mar. 7, 2016), http://www.eenews.net/greenwire/2016/03/07/stories/1060033546. Benefits from removing the dam in the Elwha watershed have proved successful. *See After World's Largest Dam Removal, Elwha Watershed Thriving*, E&E NEWS: GREENWIRE (Feb. 16, 2016), http://www.eenews.net/greenwire/2016/02/16/stories/1060032443. *See* Adell L. Amos, *Dam Removal and Hydropower Production in the United States—Ushering in a New Era*, 29 J. ENVTL. L. & LITIG. 1 (2014) (presenting an overview of the dam removal question); *see also* Michael C. Blumm & Viki A. Nadol, *The Decline of the Hydropower Czar and the Rise of Agency Pluralism in Hydroelectric Licensing*, 26 COLUM. J. ENVTL. L. 81 (2001); Dan Tarlock, *The Legal-Political Barriers to Ramping Up Hydro*, 86 CHI.-KENT L. REV. 259 (2010); Gina S. Warren, *Hydropower: It's A Small World After All*, 91 NEB. L. REV. 925 (2013). For an interesting alternative to just removing dams, Dave Owen and Collin Apse present an innovative trading concept. *See* Dave Owen & Colin Apse, *Trading Dams*, 48 U.C. DAVIS L. REV. 1043 (2015).

7. *See* Howard Schneider, *World Bank Turns to Hydropower to Square Development with Climate Change*, WASH. POST (May 8, 2013), https://www.washingtonpost.com/business/economy/world-bank-turns-to-hydropower-to-square-development-with-climate-change/2013/05/08/b9d60332-b1bd-11e2-9a98-4be1688d7d84_story.html; Coco Liu, *Climate Change Evaporates Part of China's Hydropower Production*, E&E NEWS: CLIMATEWIRE (Nov. 8, 2011), http://www.eenews.net/stories/1059956097. In Brazil, as of June 2014, hydroelectric power provided over 75% of that nation's electric energy. KEVIN LILLIS, U.S. ENERGY INFO. ADMIN., TODAY IN ENERGY: HYDROPOWER SUPPLIES MORE THAN THREE-QUARTERS OF BRAZIL'S ELECTRIC POWER (June 17, 2014), https://www.eia.gov/todayinenergy/detail.cfm?id=16731; *see also* Vanessa Dezem, *Brazil Narrows Budget Gap with $4.5 Billion Hydropower Action*, BLOOMBERG: BUSINESS (Nov. 24, 2015), http://www.bloomberg.com/news/articles/2015-11-24/brazil-sets-rules-for-4-6-billion-hydropower-auction. However, the effects of climate change and the potential for increasing droughts have threated hydroelectric development. *See* Jan Rocha, *Brazil Eyes Solar as Drought Squeezes Hydropower Resources*, CLIMATE HOME: NEWS (June 4, 2014), http://www.climatechangenews.com/2015/04/06/brazil-eyes-solar-as-drought-squeezes-hydropower-resources/. And a recent study suggests that Brazil's dams "pose an extinction threat for thousands of species." *Dams Threaten Species, Ecosystems in Amazon-Study*, E&E NEWS: GREENWIRE (Mar. 21, 2016), http://www.eenews.net/greenwire/2016/03/21/stories/1060034338.

revenue stream or, even, turning over facility ownership to a tribe.[8] Additionally, the Obama administration included expanding hydroelectric generation at *existing* dams as a component of the 2013 Climate Action Plan.[9]

This essay, therefore, briefly reviews the history surrounding the development of our modern regulatory regime governing hydroelectric generation. Part II chronicles the forces animating the passage of the nation's first energy legislation—the 1920 Federal Water Power Act. Part III then explores, briefly, how hydroelectric generation became subsumed within the nation's evolving environmental consciousness throughout the 1960s and 1970s, effectively ending any potential capacity for significant expansion. Part IV selectively surveys some recent notable changes to the regulatory program for hydroelectric generation.[10] This essay concludes that efforts to reform the regulatory program for hydroelectric generation will undoubtedly continue, and that, quite possibly, technological advances might someday transform the generation resource—with the principal question being: whether any such advances retard or promote its continuation?

II. THE GENESIS OF THE 1920 FEDERAL WATER POWER ACT

Our modern energy grid first evolved as the nation witnessed how water could be harnessed to produce electric energy. Early on, falling water helped promote early industrialization efforts,

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8. *Montana Tribe Takes Control of Dam Within Reservation Boundary*, INDIANZ (Sept. 9, 2015), http://www.indianz.com/News/2015/09/09/montana-tribe-takes-control-of.asp?print=1.

9.

> The Administration is also taking steps to encourage the development of hydroelectric power at existing dams. To develop and demonstrate improved permitting procedures for such projects, the Administration will designate the Red Rock Hydroelectric Plant on the Des Moines River in Iowa to participate in its Infrastructure Permitting Dashboard for high-priority projects.

EXEC. OFFICE OF THE PRESIDENT, THE PRESIDENT'S CLIMATE ACTION PLAN 7 (June 2013).

10. For instance, this essay does not address alternative forms of hydrokinetic energy.

particularly in the northeast.[11] By the late 1800s, federal legislation began to sanction and encourage hydroelectric power.[12] After the Civil War, Congress passed individual statutes authorizing private development along navigable waters. This, of course, paralleled the nation's policy of making public lands available for disposition to state or private actors willing profit from use of the land.[13] In 1879, for example, the secretary of war was "authorized and empowered to lease the water power" to the Moline Water Power Company.[14] Five years later, Congress awarded the Saint Cloud Water Power & Mill Co. the right to develop water power from the Mississippi River.[15] Congress also began delegating authority to the secretary of war to grant development rights.[16] By 1896, for instance, Congress allowed sales

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11. *See* PATRICK M. MALONE, WATERPOWER IN LOWELL: ENGINEERING AND INDUSTRY IN NINETEENTH-CENTURY AMERICA (2009); *see also* LOOMIS HAVEMEYER, CONSERVATION OF OUR NATURAL RESOURCES: BASED ON VAN HISE'S THE CONSERVATION OF OUR NATURAL RESOURCES IN THE UNITED STATES 175–76 (1937) (discussing history and suggesting that it was erratic).

12. The first turbines emerged around the late 1820s, yet not until 1849 did James Francis design the modern turbine. Reportedly, Wisconsin housed the first operational hydroelectric plant in the United States, in the 1870s. By 1900, however, Niagara Falls already had become the site of a commercial system. *See generally* LOUIS C. HUNTER, WATERPOWER: A HISTORY OF INDUSTRIAL POWER IN THE UNITED STATES, 1780-1930 292–342 (1979); *see also* JOHN BAUER ET AL., THE ELECTRIC POWER INDUSTRY: DEVELOPMENT, ORGANIZATION, AND PUBLIC POLICIES 24–44 (1939); DUNCAN HAY, PREPARED FOR EDISON ELECTRIC INSTITUTE, HYDROELECTRIC DEVELOPMENT IN THE UNITED STATES, 1880-1940 1–132 (1991).

13. *See generally* BENJAMIN H. HIBBARD, A HISTORY OF THE PUBLIC LAND POLICIES (1965).

14. Act of Mar. 3, 1879, ch. 182, 20 Stat. 377.

15. Act of July 5, 1884, ch. 229, 23 Stat. 133.

16. Congress granted the Secretary of War authority to grant rights for waterpower development along the Muskingum River, Ohio. Act of Aug. 11, 1888, ch. 860, 25 Stat. 400, 417. In 1890 Congress also authorized the Secretary of War to grant waterpower privileges along the Green and Barron Rivers. Act of Sept. 19, 1890, ch. 907, 26 Stat. 426, 447. This authority included the ability to establish rates:

> The Secretary of War is hereby authorized and empowered grant leases or licenses for the use of the water-powers on the Green and Barren Rivers at such a rate and on such conditions and for such periods of time as may seem to him just, equitable, and expedient; said leases not to exceed the period of twenty years: *Provided*, That the leases or licenses

of electric power from rights of way on public lands.[17] Congress also passed various rivers and harbors statutes,[18] culminating in the 1899 Rivers and Harbors Act.[19]

Following the turn of the century, several salient factors coalesced and propelled hydroelectric generation onto the national stage. To begin with, although hydroelectric generation fueled our increasing manufacturing economy prior to the Civil War, steam generation became a favored energy source because of demographic and economic changes in the post-Civil War period.[20] People and manufacturing moved toward the cities, while both steam and electric railways made these centers of the new consumer economy more accessible. [21] However, the cities were often too far from where a hydroelectric plant could be located, since transmission lines at the time were only capable of running less than a few hundred miles.[22] Plants a little further from cities, however, became more feasible once George Westinghouse pushed the industry toward the use of alternating current (AC) transmission lines, which could cover long distances.[23] And before the end of the century, the Willamette Falls Electric Company transmitted 3,000 volts "from Oregon City to Portland, fourteen

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> shall be limited to the use of the surplus water not required for navigation.

Id. Congress, also, protected any existing waterpower rights along the rivers, and directed that any received money be deposited into the Treasury. *Id.*

17. Act of May 14, 1896, ch. 179, 29 Stat. 120.

18. Act of Sept. 19, 1890, ch. 907, 26 Stat. 426.

19. River and Harbors Appropriation Act of 1899, ch. 425, 30 Stat. 1121.

20. LOUIS C. HUNTER, A HISTORY OF INDUSTRIAL POWER IN THE UNITED STATES, 1780-1930 485–541 (1979).

21. The original concept of a central station suffered from the ability and cost associated with transporting power more than a few miles. THOMAS P. HUGHES, NETWORKS OF POWER: ELECTRIFICATION IN WESTERN SOCIETY 83 (3rd prtg. 1993).

22. *Id.*

23. In 1891, a project in Frankfurt, Germany demonstrated "not only the potential of using distant water-power sites to supply electricity to heavily populated industrial areas but also the suitability of polyphase systems for long-distance power transmission." *Id.* at 129. Serious efforts to explore tapping Niagara Falls didn't occur until late 1889, and the achievement in Frankfurt assisted in "persuad[ing] the engineers to support electric transmission to Buffalo." *Id.* at 137, 139.

miles away."[24] One of engineering consulting firm Stone & Webster's first projects, in 1890, was to design a transmission system from the Saccrappa Dam along the Presumpscot River, in Maine, to a mill "a mile away."[25] It would not be until after the 1930s, however, when transmission lines could carry power from a water resource beyond 300 miles away.[26]

The national dialogue over hydroelectric generation germinated throughout the first decade of the twentieth century. To begin with, Congress passed the "revocable permit law" in 1901, authorizing the Secretary of the Interior to issue rights of way across public lands and other reservations for, among other things, facilities related to electrical power.[27] Of course, by this time many power-sites already had become patented and under private control.[28] The following year, Congress passed the 1902

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24. F.A.T. Furfari, *Westinghouse and the AC System—1884-1895*, 8 IEEE INDUS. APPLICATIONS MAG. 8, 10 (2002); *see also* HAVEMEYER, *supra* note 11, at 176 (transmission "in effect permitted the water power to be brought from the remote mountain region down into the busy city").

25. SAM BASS WARNER, JR., PROVINCE OF REASON 55 (1984) ("At that time the transmission of electric power had not yet been mastered, but the young men [Stone and Webster] succeeded in devising a workable 500-volt direct current system, which they later experimented with and improved.). Later, the two would work on many of the larger projects, including three dams near Freson, California and a 275-mile transmission that would carry power to Los Angeles. *Id.* at 59. But it was the 1913 Keokuk dam in Iowa, the largest water-power facility before WWI, that would establish the company's prominence. *Id.*

26. Transmission capacity reportedly was "limited to 200 or 300 miles. This means that hydroelectric energy must be consumed relatively near-by its place of production, and that the probable nearby market is as much (or more) of a factor in considering development as the physical factors of the area." A.E. PARKINS & J.R. WHITAKER, OUR NATURAL RESOURCES AND THEIR CONSERVATION 314 (1936). In 1918, for instance, a Westinghouse Electric official testified that transmission then could carry energy up to 200 miles. *Water Power: Hearings Before the H. Comm. on Water Power., 65th Cong., 2nd Sess. 17*1 (Mar. 1918) [hereinafter 1918 Hearing].

27. Act of Feb. 15, 1901, ch. 371, 31 Stat. 790. In 1905, Congress transferred certain authorities to the Department of Agriculture. *See* Act of Feb. 1, 1905, ch. 288, 33 Stat. 628; *see also* Act of March 4, 1911, ch. 238, 36 Stat. 1253 (agricultural lands). Secretary of Interior Frank Lane and others considered this legislation ineffective and warranting repeal—but only if replacement legislation were secured. WATER-POWER DEVELOPMENT AND USE OF PUBLIC LANDS, H.R. REP. NO. 64-16, at 10 (1st Sess. Jan. 4, 1916) [hereinafter H.R. REP. NO. 16].

28. According to a 1916 House report, prior to the Act of February 15, 1901, there was no legislation on the subject at all; water-power sites went to patent unmolested, either

Reclamation Act along with other measures, and it continued enacting specific statutes authorizing particular electric generation projects.[29] It also passed the 1906 General Dam Act, which required individual congressional assent for each project and established conditions for their development.[30] This effectively gave Congress control over future hydroelectric project proposals. In an opinion by Attorney General Wickersham though, the Roosevelt Administration interpreted the Act as precluding the United States from charging waterpower developers a fee for the use of the nation's water resources, prompting an amendment in 1910.[31] One example of this piecemeal and cumbersome statutory process was Congress' 1906 authorization of the Secretary of War's ability to allow water power diversions from the Niagara River.[32] Not surprisingly, Roosevelt, objecting to this practice, issued several vetoes including one that would have allowed the Muscle Shoals Power Company to continue to pursue its power project, where he noted how the United States should instead be compensated.[33] Gifford Pinchot later characterized this veto as the "first sign of change" in allowing private interests to utilize our

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as parts of homesteads or by purchase, and were given no Federal attention whatever. Under this procedure, a large number of the power sites on the public domain were frittered away and have passed into private ownership beyond regulation, beyond control. H.R. REP. NO. 16, *supra* note 27, at 8.

29. JEROME G. KERWIN, FEDERAL WATER – POWER LEGISLATION 81, 85–89, 105–11, 129–30 (1926); *see also* MICHAEL C. ROBINSON, WATER FOR THE WEST: THE BUREAU OF RECLAMATION 1902-1977 9–18 (1979).

30. Act of June 21, 1906, ch. 3508, 34 Stat. 386; *see also* KERWIN, *supra* note 29, at 111–14.

31. *See* Charles K. McFarland, *The Federal Government and Water Power, 1901-1913*: *A Legislative Study in the Nascence of Regulation*, 42 LAND ECON. 441, 449 (1966). For the history of these and other early efforts, *see* MILTON CONOVER, THE FEDERAL POWER COMMISSION: ITS HISTORY, ACTIVITIES AND ORGANIZATION (1923); Frank R. McNinch, *The Evolution of Federal Control of Electric Power*, 12 J. OF LAND & PUB. UTIL. ECON. 111 (1936). For a discussion of the Forest Service's approach toward charging for the use of water resources within Forest Reserves, *see* GIFFORD PINCHOT, BREAKING NEW GROUND 336–38 (1947).

32. Act of June 29, 1906, ch. 3619, 34 Stat. 626.

33. 36 CONG. REC. 3071 (1903); *see also* 42 CONG. REC. 4698 (1908) (Rainy River veto); 43 Cong. Rec. 978–80 (1909) (James River veto). *See generally* CONOVER, *supra* note 31, at 48–51, 53 (discussing Rainy River veto and Taft's veto of Coosa River project); *see also* McNinch, *supra* note 31, at 112–13 (discussing vetoes and their importance).

water resources.[34] According to Milton Conover, "[t]hese vetoes constituted a rallying-point in the water-power situation,"[35] and prompted Congress' 1910 amendment to the 1906 General Dam Act.[36] Simultaneously with these developments, the conservation movement began voicing concerns about the adverse consequences to our nation's river systems. Indeed, the battle over Hetch Hetchy and San Francisco's thirst for water and hydroelectric power, in particular, surfaced as a notable project precipitating widespread interest and controversy.[37]

Notably, national conversations about the use of our water resources would become a focal point for progressives. Even Teddy Roosevelt's *New Nationalism* favored national control.[38] Progressives not only firmly believed in the capacity for experts to plan our society, but also believed that experts could do so with the facility of ensuring that we both use and conserve our natural resources for future generations. President Roosevelt lamented how "the failure to use our own [rivers] is astonishing, and no thoughtful man can believe that it will last," adding how we ought to deploy our river systems to their "utmost" for irrigation, power, and water supply.[39] Waterpower in particular, he added, could

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34. PINCHOT, *supra* note 31, at 327.

35. CONOVER, *supra* note 31, at 53.

36. Act of June 23, 1910, ch. 359, 36 Stat. 593. Between 1910 and 1916, Congress approved just thirteen projects. CONOVER, *supra* note 31, at 53. In 1912, Congress provided the Secretary of War with general authority to augment any otherwise authorized dam with improvements "as may be considered desirable for the future development of its water power." Act of July 25, 1912, ch. 253, 37 Stat. 201, 233. A year earlier, Congress granted the Secretary of Agriculture with generic authority to regulate and approve rights of way across Forest System lands, including rights of way for "electrical poles and lines for the transmission and distribution of electrical power." Act of March 4, 1911, ch. 238, 36 Stat. 1235, 1253.

37. *See generally* NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER, 1770s-1990s 169–90 (1992); ROBERT W. RIGHTER, THE BATTLE OVER HETCH HETCHY: AMERICA'S MOST CONTROVERSIAL DAM AND THE BIRTH OF MODERN ENVIRONMENTALISM 117 (2005).

38. *See generally* Theodore Roosevelt, President of the United States, The New Nationalism (Aug. 31, 1910), *in* AMERICAN PROGRESSIVISM: A READER 211–23 (Ronald J. Pestritto & William J. Atto eds., 2008).

39. PRELIMINARY REPORT OF THE INLAND WATERWAYS COMMISSION, S. DOC. NO. 60-325, at iii–v (1st Sess. Feb. 26, 1908) [hereinafter PRELIMINARY REPORT].

replace the nation's (believed) "diminishing supplies of coal."[40] To tap our water resources correctly, though, would require expert planners, and he urged assembling "the best experts available" to help plan how to best develop the nation's waterways.[41] Roosevelt tasked the Inland Waterways Commission with developing a comprehensive water resource plan and deemed the Commission "a recognized authority on water power."[42] This emphasis on water resources expanded the "conservation" agenda beyond national forests[43] and helped precipitate the symbolic birth of the "conservation" movement.[44] By 1908, the progressive "conservation" community began examining how best to utilize the nation's water resources without allowing private, monopolistic control.[45] Wisconsin University President, Charles Hise, echoed the prevailing optimistic sentiment by suggesting how waterpower might furnish the nation's entire power requirements—albeit limited only by the technical barriers inhibiting long-distance transmission lines.[46]

Yet, several policies first needed resolution before any significant water resource development could occur. Should states or the federal government regulate the potential concentration of

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40. *Id.* at iv.

41. *Id.* at vi.

42. Theodore Roosevelt, *The Inland Waters Commission*, SCI. 996–97, (June 26, 1908). He also solicited Congress' aid to establish an "administrative machinery for coordinating the work of the various Departments." PRELIMINARY REPORT, *supra* note 39, at v. The Commission performed its work swiftly and without, as Gifford Pinchot describes it, congressional appropriations. PINCHOT, *supra* note 31, at 329.

43. *See* JUDSON KING, THE CONSERVATION FIGHT: FROM THEODORE ROOSEVELT TO THE TENNESSEE VALLEY AUTHORITY 13 (1959); PRELIMINARY REPORT, *supra* note 39, at iii–iv.

44. The Commission's effort prompted a White House commission on conservation and a resulting national conference. The National Conservation Commission, thereafter, published a comprehensive report that, unfortunately, Congress would ignore. *See generally* CHARLES RICHARD VAN HISE, THE CONSERVATION OF NATURAL RESOURCES IN THE UNITED STATES 5–12 (1910); PINCHOT, *supra* note 31, at 326–60; W. J. MCGEE, THE CONSERVATION OF NATURAL RESOURCES, *reprinted in* PROCEEDINGS OF THE MISSISSIPPI VALLEY HISTORICAL ASSOCIATION FOR THE YEAR 1909-1910 361, 374–75 (1910); Roosevelt, *supra* note 42.

45. New York's Governor, for instance, warned against allowing private, perpetual, control of the nation's resources. KING, *supra* note 43, at 19.

46. VAN HISE, *supra* note 46, at 119–22, 136.

ownership of water power resources? Should states or the federal government decide whether to own or regulate water power use?[47] Or, perhaps, should water resources be developed by private entities, or alternatively by governmental entities, such as municipalities, States, or the Federal Government? If the former, should private developers be regulated—or, instead, should they just be sold the resource at some appropriate price? And if private development would be allowed, would developers enjoy a perpetual "right" to the resource or could the United States or a state later recapture the resource for the public's benefit?

The fear of industry consolidation and monopolization of water resources naturally captured considerable interest—after all, the issue dominated many national dialogues (perhaps the most prominent fear of consolidation was with the oil industry).[48] Indeed, in 1910, 13 companies reportedly owned one-third of the nation's waterpower resources.[49] In his 1908 message accompanying the interim report of the Inland Waterways Commission, President Theodore Roosevelt emphasized the evils of the "consolidation of companies controlling water power."[50] A report by the Commissioner of Corporations addressed the issue of industry concentration, recommending governmental supervision

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47. Many states already had public utility commissions, urged into existence by the electric utility mogul Samuel Insul, as a protective measure for the electric utility industry. *See* ROBERT L. BRADLEY JR., EDISON TO ENRON: ENERGY MARKETS AND POLITICAL STRATEGIES 172 (2011).

48. The concern remained after the FWPA's passage. *See infra* note 74 and accompanying text.

49. *See* DAVID E. NYE, ELECTRIFYING AMERICA: SOCIAL MEANINGS OF A NEW TECHNOLOGY 288 (1990). In 1916, the House Committee on Public Lands noted that "more than 90 percent of the water power in the public-land States is owned by 28 private corporations and their subsidiaries, and that 6 of these control together over 56 per cent of the developed power." H.R. REP. NO. 16, *supra* note 28, at 10. And 17 of those 28 companies had some form of relationship to General Electric Company. *Id*. at 11.

50. PRELIMINARY REPORT, *supra* note 39, at v. The Preliminary Inland Waterways Report emphasized the need for active federal and state regulation of the monopolization in the power sector. KING, *supra* note 43, at 14. "In 1908 and 1909 President Roosevelt, realizing the danger from monopoly which the private ownership of water-power sites might involve, ordered the withdrawal from entry of large areas along streams in the Rocky Mountain and Pacific States, on recommendation of the Reclamation Service." BENJAMIN HORACE HIBBARD, A HISTORY OF THE PUBLIC LAND POLICES 508 (1965).

over development of water power facilities but not over the electric rates from that development.[51] In 1915, the North Carolina Supreme Court feared the consequences of industry concentration when considering the ability to condemn property:

> Probably the most feared combination to be guarded against is the acquisition of the water powers of the country by one or more great aggregations of capital, which in view of the certainty of the exhaustion of our coal measures at no distant date will give such monopolies the full control of light, heating and power, and with them domination over the very means of existence of the public. With that view, the General Assembly of this State, in conferring the power of condemnation on telephone and electric light and power companies by ch. 74, Laws 1907, inserted a *proviso*: "Water powers, developed or undeveloped, with the necessary land adjacent thereto for their development, shall not be taken."[52]

That same year Senate Resolution No. 544 charged the Secretary of Agriculture with "furnish[ing] the Senate with all information in his possession as to the ownership and control of the water-power sites in the United States," along with "any facts bearing upon the question as to the existence of a monopoly in the ownership and control of hydroelectric power in the United States."[53] The resulting report warned of an "increasing tendency toward concentration in the control of the development, distribution, and sale of electric power," with the potential ability to influence other industries, such as banking, through

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51. *See* Frederick P. Royce, *A Consideration of the Report of Commissioner of Corporations on Water Power Development of the United States*, 10 STONE & WEBSTER 335 (1912)*; see also* KERWIN, *supra* note 29, at 156. The report remained an important part of the national dialogue for several years. McFarland, *supra* note 31, at 450.

52. Blue Ridge Interurban Ry. Co. v. Hendersonville Light & Power Co., 86 S.E. 296, 296–97 (N.C. 1915). The company sought to develop along the Narrows of the Green River. *Id.* at 296. The plaintiff (a South Carolina company) was incorporated as an interurban railway in its sister state in order to do business in North Carolina, and the defendant was supplying electric power to Hendersonville and its nearby community. *Id.*

53. *See* SEC'Y OF AGRIC., ELECTRIC POWER DEV. IN THE U.S, S. DOC. NO. 64-316, pt. I, at 3 (1st Sess. 1916).

interlocking directorates and other devices.[54] This structure hampered any individual state's ability to oversee utility projects within its borders.[55]

Along with industry concentration, conversations often targeted the efficacy of allowing private control rather than federal, state, or municipal development.[56] Progressives generally accepted that waterpower ought to be "controlled" rather than "owned" by "the public."[57] Several governors believed that, if states could not own the resource, they at least ought to be the ones "controlling" the resource.[58] In Nebraska, for instance, the state

> [C]reated a water commission whose report predicted the future of water-power in the United States and the need of its control by governmental agencies, whether state or nation, or both working cooperatively, and emphasized the

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54. *Id.* at 14–15, 53.

55. *See* CONOVER, *supra* note 31, at 14.

56. Municipal ownership for water supply, for example, had become fairly robust. *See generally* EVANS CLARK, MUNICIPAL OWNERSHIP IN THE UNITED STATES (1916). And for electric generation, as of 1902, roughly 22 percent of the electric generation facilities were municipally owned and operated, jumping to 27 percent five years later, and rising to 30 percent by 1912. *Id.* at 6. Yet these publicly owned facilities were small plants, producing only about 5 percent of the total generation capacity. *Id.* According to Clark, therefore, the "private promoter had captured the big prizes in the electric field." *Id.* at 7. At the federal level, for instance, the United States in 1907 had constructed the Laguna Dam in Imperial Valley California, and a federal dam and canal system along the Snake River in Idaho, all opposed by the trade association for the emerging electric utility industry. *See* NYE, *supra* note 49, at 300.

57. *E.g.*, HAVEMEYER, *supra* note 11, at 133–41. Progressive community activity in some cities promoted "community ownership and operation of public or community utilities." BENJAMIN PARKE DE WITT, THE PROGRESSIVE MOVEMENT; A NON-PARTISAN, COMPREHENSIVE DISCUSSION OF CURRENT TENDENCIES IN AMERICAN POLITICS 352 (1915).

58. *See Governors Uphold Rights of States*, NEW YORK TIMES 3 (Jan. 20, 1910), http://query.nytimes.com/mem/archive-free/pdf?res=9E0CE0DB1539E433A25753C2A9679C946196D6CF (describing addresses by New York Governor Hughes, Colorado Governor Shafroth, and Wyoming Governor Brooks, at Conference of Governors). Once Congress passed the FWPA, some states continued their refrain about state control by claiming that the new act infringed states' rights. *New York to Defend State's Rights in Water-Power Hearing*, 77 ELECTRICAL WORLD 169 (Jan. 15, 1921); *New York State Opens Fight on Water-Power Act*, 77 ELECTRICAL WORLD 219 (Jan. 15, 1921);. *see generally* William H. Rose, *Control Of Super-Power*, 80 U. PA. L. REV. 153, 171–73 (1931); *see also* KERWIN, *supra* note 29, at 290 (noting New York's withdrawal of its lawsuit).

> concentration of water-power in the hands of corporations and syndicates, the inadequacy of the then existing laws.[59]

In 1915, the Western States Water Power Conference asserted that states ought to control the resources within their domain.[60] Conversely, in 1911, former President Roosevelt championed waterpower's importance and corresponding need for federal supervision, rather than allowing state chartered monopolies.[61] A 1911 editorial in the magazine *Conservation* discussed waterpower's importance and why the question about governmental control had entered a "critical stage."[62] When the nation elected Woodrow Wilson, "[w]aterpower development" had become "a matter of great concern to the whole country; it was before the public as it never had been."[63] And the concept of placing responsibility in a federal commission for supervising the development of waterpower was gaining currency.[64]

But so too, forces advocating for public ownership of water resources carried significant resonance. Water resources, after all, had become a "public resource"—considered by courts as matters for state superintendence.[65] Forces favoring public ownership

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59. CONOVER, *supra* note 31, at 14.

60. *Id.* at 15.

61. *See generally* Roosevelt, *supra* note 42.

62. *Editorial*, 1 AM. CONSERV. 193, 195 (July 1911).

63. KERWIN, *supra* note 29, at 171. *See also* COMMISSIONER OF CORPORATIONS, WATER-POWER DEVELOPMENT IN THE UNITED STATES XV (1912) ("Within the last decade, through the development of electric transmission of power, our water-power resources have come into national importance."). Samuel Hayes chronicles how conservation captivated the progressive movement in what has since become seminal history of the conservation philosophy during the progressive era. SAMUEL P. HAYES, CONSERVATION AND THE GOSPEL OF EFFICIENCY: THE PROGRESSIVE CONSERVATION MOVEMENT, 1890-1920 (1959); *see also* Gifford Pinchot, *The Long Struggle for Effective Federal Water Power Legislation*, 14 GEO. WASH. L. REV. 9 (1945).

64. KERWIN, *supra* note 29, at 204. In 1913, the National Conservation Congress, at Gifford Pinchot's urging, passed a resolution favoring federal supervision. MORTON KELLER, REGULATING A NEW ECONOMY: PUBLIC POLICY AND ECONOMIC CHANGE IN AMERICA, 1900-1933 162 (1990). In the few years prior to 1920, the necessity of coordinating with some counterpart federal commission heightened for newly formed state commissions, as well. CONOVER, *supra* note 31, at 15. Maine, for instance, created its commission in 1918. *Id.* at 16.

65. KELLER, *supra* note 64, at 162. The parallel with public land management is considerable; progressives similarly treated nonmetallic minerals and waterpower sites as

paralleled the conversation surrounding President Wilson's program for federally developing waterpower (and other potentials) at the Tennessee Muscle Shoals site.[66] The question of who should benefit from hydroelectric energy generation, after all, surfaced in the fight surrounding Hetch Hetchy.[67] With waterpower development impeded,[68] a several-year national conversation then followed about whether water resources should be privately tapped or owned and controlled by the Federal government.[69] Indeed, as one writer puts it, the "public-versus-private-power conflicts dominated the world of electricity for a half a century."[70] Utilities naturally favored federal regulatory legislation, undoubtedly to avoid the problems with an ad hoc process for securing specific individual authorization from

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equally warranting protection against federal giveaways. *See* J. Leonard Bates, *Fulfilling American Democracy: The Conservation Movement, 1907 to 1921*, 44 MISS. VALLEY HIST. REV. 29, 48, 53 (1957).

66. *See generally* NORTH CALLAHAN, TVA: BRIDGE OVER TROUBLED WATERS (1980); PRESTON J. HUBBARD, ORIGINS OF TVA: THE MUSCLE SHOALS CONTROVERSY 1920-1932 (1961); C. HERMAN PRITCHETT, THE TENNESSEE VALLEY AUTHORITY: A STUDY IN PUBLIC ADMINISTRATION 3–30 (1943); RICHARD LOWITT, GEORGE W. NORRIS: THE PERSISTENCE OF A PROGRESSIVE (1971); THOMAS K. MCCRAW, TVA AND THE POWER FIGHT 1933-1939 (1971).

67. *See generally* ROBERT W. RIGHTER, THE BATTLE OVER HETCH HETCHY: AMERICA'S MOST CONTROVERSIAL DAM AND THE BIRTH OF MODERN ENVIRONMENTALISM 167–90 (2005); *see also* NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER, 1770S-1990S 187–90 (1992).

68. *See* McFarland, *supra* note 31, at 451.

69. For a historical summary, see generally HAYES, *supra* note 63; KERWIN, *supra* note 29; McFarland, *supra* note 31. Senator La Follette's third party presidential campaign advocated federal ownership of water resources, rather than monopoly-controlled private ownership. JOSEPH DORFMAN, THE ECONOMIC MIND IN AMERICAN CIVILIZATION: VOLUMES IV & V 1918-1933 104–05 (1959). Herbert Hoover, in 1924, responded how he had "no taste for Federal operation and distribution of power. We shall be able to protect the public interest through the terms of lease or through the regulatory powers of our state commissions." NAT'L ELECTRIC LIGHT ASS'N, POLITICAL OWNERSHIP AND THE ELECTRIC LIGHT AND POWER INDUSTRY 43–44 (1925). Chief Justice William H. Taft similarly believed that advocating for public ownership was "short-sighted." *Id.* at 58.

70. RIGHTER, *supra* note 37, at 167. In 1920, the United States Geological Survey even floated the possibility of a nationally-owned and operated electric grid, an idea unsurprisingly rejected by private developers. BRADLEY, *supra* note 47, at 175.

Congress or being subjected to varying state programs.[71] With that said, over 400 projects were authorized through some other means prior to the passage of the FPA.[72] Of course, not surprisingly, the significant number of hydroelectric power applications with the Commission (once Congress passed a federal waterpower act) demonstrated industry's favorable attitude toward the federal legislation.[73] As of 1920, however, waterpower development lagged when compared with coal.[74]

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71. E. LOUISE PEFFER, THE CLOSING OF THE PUBLIC DOMAIN: DISPOSAL AND RESERVATION POLICIES 1900-50, at 120 (Stuart Bruchey & Eleanor Bruchey eds., 1951) ("The water-power question represented the most clear-cut example of the efforts by a major private interest to produce a law favorable to itself.").

72. 1927 FPC SEVENTH ANN. REP. 18.

73. According to E. Louise Peffer,

> The water-power question presented the most clear-cut example of the efforts by a major private interest to produce a law favorable to itself. The hydroelectric industry did not attempt to prevent the adoption of regulatory legislation, . . . It wanted a law, but one strictly phrased to guard its interests.

PEFFER, *supra* note 71, at 120. Utilities began submitting preliminary permits once Congress acted and, by the close of 1920, the FPC received 137 applications. *Water-Power Applications Filed in 1920, 13,000,000 Hp.*, 77 ELECTRICAL WORLD 138 (1921). Electric generation from waterpower (federal and state) rose from 8.9 million horse-power in 1921, to over 12 million by 1928. HAVEMEYER, *supra* note 11, at 177. In fact, by 1928, hydroelectric power reportedly accounted for roughly 40% of the energy generated by the private electric utilities. *Id.* at 183. A drought in 1929 then reduced hydroelectric generation, potentially signaling the need for other, more stable resources. *Id.* at 184.

74. CHESTER G. GILBERT, JOSEPH E. POGUE, AMERICA'S POWER RESOURCES: THE ECONOMIC SIGNIFICANCE OF COAL, OIL AND WATER-POWER 166 (1921). The lack of federal legislation may have impeded waterpower's growth, although other factors were at play as well, such as transmission constraints. *Id.* at 166–70, 178–79, 183, 236. Testifying in 1918 about comparing coal with hydroelectric energy, a Westinghouse Electric official noted that "[i]t has been frequently pointed out that, as the nation's coal supply is depleted, the cost of coal must rise, thus increasing the cost of steam-electric power as a competitor and raising the market value of hydroelectric power accordingly." 1918 HEARING, *supra* note 26, at 172, 702 (Statement of *Electrical World* editor that coal suffering from shortages due to labor, materials, and transportation). But he added how hydroelectric energy was potentially less desirable than steam energy because of seasonal variation in water flow affecting generation potential. *Id.* at 173. This led him to conclude that hydroelectric energy could not effectively compete with steam generation. *Id.* at 175. Indeed, a Pacific Gas & Electric official testified that transmitting hydroelectric energy over 200 miles cost roughly four to five times as much as an equivalent coal-fired steam plant (if coal is available). *Id.* at 216, 220–221 (discussing oil-fired steam plant).

Although Congress began meaningfully debating water power legislation in 1916,[75] it took another four years before it could resolve the principal policy issues and adopt the 1920 Federal Water Power Act (FWPA).[76] The Secretary of Agriculture was championing federal legislation, particularly because Forest System lands contained "approximately one-half of the water-power of the West."[77] And in 1917, Agriculture Secretary Houston urged adopting a commission model:

> Legislation which will make it possible to safeguard the public interests, and at the same time to protect private investors, should result in securing cheaper water-power and in conserving the coal and fuel-oil supply. Since three departments of the government are vitally concerned in water-power legislation and its possible terms and would be vitally affected by the administrative handling of matters under such legislation, it would seem desirable to consider whether it is feasible to devise an executive body on which the three departments will be represented and which will

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75. In meetings of the National Conservation Congress in 1913 and 1916, the issue of waterpower development surfaced; the 1913 congress tasked a Massachusetts Institute of Technology professor with chairing a committee and developing a report on elements for legislation. *See* Henry Sturgis Drinker, *The Position of Engineers Toward the Question of Water Power Development in the West, in* REPORT OF THE PROCEEDINGS OF THE AMERICAN MINING CONGRESS 374 (1917). Also early in 1913 and 1914, the Wilson Administration worked with Congress to draft the contours of a federal water power bill, which when introduced received a chilly reception. *See* KERWIN, *supra* note 29, at 172–83 (discussing the "Adamson" and "Ferris" bills). By 1916, the water-power issue had become pronounced at the national level. CONOVER, *supra* note 31, at 57. The 1916 House Committee on Public Lands, considering H.R. 408, commented how an earlier version of the bill triggered "[e]xtensive hearings" for the prior Congress and how "[t]he committee sought and received testimony from the best water-power students and thinkers on this subject in the United States." H.R. REP. NO. 16, *supra* note 28, at 1. For the companion Senate report, see DEVELOPMENT OF WATER POWER, S. REP. NO. 64-66 (1st Sess. Jan. 25, 1916).

76. The Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920). The following year, Congress prohibited licensing any project or project works "within the limits of as now constituted of any national park or national monument," unless expressly allowed by Congress. Act of March 3, 1921, 41 Stat. 1353 (1921). For a discussion of the FPA's use of the term "reservations," *see generally* Memorandum from John D. Leshy, the Solicitor, to Sec'y Dir. Bureau of Land Mgmt. (Jan. 9, 2001).

77. CONOVER, *supra* note 31, at 45.

> be able to utilize to the best advantage all their existing agencies.[78]

By this time, federal commissions, in the mold of the Interstate Commerce Commission, had become accepted.[79] Congress, after all, had passed the Pure Food and Drug Act in 1906,[80] as well as the Federal Trade Commission Act of 1914.[81] After a few years of active consideration, Congress eventually acted in 1920.[82] The 1936 Chairman of the Federal Power Commission (FPC or Commission) would later herald how "[t]he 15-year battle of the conservationists to safeguard the Nation's water power came to a successful climax in 1920 when, under the courageous leadership of Woodrow Wilson, the Federal Water Power Act became law."[83] The FPC would be slightly different than prior commissions, this one consisting of high-ranking officials—the Secretary of the Interior, the Secretary of War, and the Secretary of Agriculture.

Congress vested these cabinet-level officials with the power to regulate hydroelectric projects along interstate navigable waters, water bodies across national boundaries, as well as federal public lands and reservations.[84] This power included authority over intrastate rates affecting interstate rates, although it

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78. *Id.* at 46, 69 (quoting 1917 DEP'T OF AGRIC. ANN. REP. at 37).

79. Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887).

80. Pure Food and Drug Act of 1906, Pub. L. No. 59-384, 34 Stat. 768 (1906).

81. Federal Trade Commission Act of 1914, Pub. L. No. 63-203, 38 Stat. 717 (1914).

82. Federal Water Power Act, 16 U.S.C. §§ 791-828c (1920). The President accepted this approach, and by early 1918 the administration proposed that Congress establish a Federal Power Commission. CONOVER, *supra* note 31, at 60. The administration also suggested that Congress establish a special legislative committee capable of considering the range of water-power issues. *Id.* at 60–66 (summarizing events from 1918 to 1920).

83. McNinch, *supra* note 31, at 114.

84. Federal Water Power Act, 16 U.S.C. §§ 791-828c (1920); *see* 1918 HEARING, *supra* note 2626, at 676–77 (Secretary of Interior Lane discussing justification for cabinet level commissioners). According to the Commission, its authority was "no broader than the authority previously exercised or exercisable by Congress. In every instance, except where public lands are involved, the commission's jurisdiction is expressly limited to those streams or parts thereof 'over which Congress has jurisdiction under its authority to regulate commerce.'" *See* FPC SEVENTH ANN. REP., *supra* note 72, at 7–8. The Commission's jurisdictional language was later enlarged in 1935. *See infra* note 114.

contemplated a new form of federalism by allowing state public utility commissions the authority to regulate rates for sales in either intra or interstate as well.[85] Section 19 of the FWPA conditioned the issuance of a license upon the licensee's abiding by "reasonable regulation" of "any duly constituted agency of the State in which the service is rendered or the rate is charged."[86] Section 20 further provided "[t]hat when said power or any part thereof shall enter into interstate . . . commerce the rates charged and the service rendered . . . shall be reasonable, nondiscriminatory, and just to the customer."[87] Section 20 also intimated acquiescence to federal authority by adding the Federal Power Commission would have jurisdiction if no state agency exists for any state "directly concerned" to enforce the Act's proscriptions.[88] According to the 1916 House Public Lands Committee,

> Where the business of a hydroelectric concern is wholly intrastate and the State has a utility board, rate fixing and regulation is left entirely with the State and is not molested by the Federal Government in any way. On the other hand, if the business is interstate, or even intrastate business, when the State has provided no utility board, then and in that event regulation is fixed by the Secretary of the Interior until such time as Congress may confer it upon the Interstate Commerce Commission, a water-power commission, or such other body as Congress may elect to confer it upon.[89]

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85. The Federal Water Power Act, ch. 285, §§ 19, 20, 41 Stat. 1063, 1073–74 (1920).

86. *Id.* at 1073.

87. *Id.*

88. *Id.* at 1073–74.

89. H.R. REP. NO. 16, *supra* note 28, at 13. Soon after Congress passed the FWPA, the FPC alluded to its ability, if necessary, to regulate rates for interstate sales, but saw "at the present time little probability that occasion for such action will arise." 1921 FPC FIRST ANN. REP. 62–63 (Gov't Printing Off.). The FPC infrequently invoked its ability to regulate intrastate rates in the absence of a state utility commission; in fact, it only regulated interstate rates twice by 1940. *See* BAUM, *infra* note 108, at 177–79, 180. In 1929, the Commission concluded that states could only regulate interstate waterpower rates if Congress specifically approved an interstate compact—that is, the FWPA section 20 did not itself serve "as

These provisions, therefore, reflected how states and the federal government could share responsibility in regulating even interstate transactions. In the same year that Congress adopted the FWPA, it passed the Motor Carriers Act, incorporating the Supreme Court's decision in the *Shreveport Rate* case allowing, if necessary, federal regulation over intrastate rates affecting interstate rates.[90] Certain similarities existed between interstate carriers and waterpower projects.

It was well known that some of these waterpower projects were engaged in interstate commerce: a primary proponent of the legislation, and later the first executive officer for the new Federal Power Commission, O.C. Merrill, noted in 1918 that waterpower companies already operated in multiple states simultaneously.[91] He posited that it would not necessarily create a problem to allow states the ability to regulate rates for electricity moving across state boundaries because the states could regulate the sales within their own borders, and if someone objected, then, quite possibly, it could be regulated by the new federal commission.[92] Indeed, Merrill testified that,

> [W]here a transmission line runs across a State line, and the same company serves customers in two or more States, that so long as the power of regulation of rates and of service is and can be exercised by the local authorities it had better be left with the local authorities. If any cases should arise where there is a disagreement between the authorities of two or more States over questions of rate or service regulations, and it could not be settled between those

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Congressional authorization of interstate agreements." *Id.* at 181. The Third Circuit rejected this interpretation in 1941. Safe Harbor Water Power Corp. v. F.P.C., 124 F.2d 800, 808 (3d Cir. 1941), *cert. denied*, 316 U.S. 663 (1942).

90. Esch-Cummins Act, Pub. L. No. 66-152, 41 Stat. 456 (1920); *see generally* Paul S. Dempsey, *Transportation: A Legal History*, 30 TRANSP. L. J. 235 (2003); *see also* GERALD BERK, ALTERNATIVE TRACKS: THE CONSTITUTION OF AMERICAN INDUSTRIAL ORDER, 1865-1917 (John Hopkins Univ. Press 1997).

91. When asked whether the legislation would allow waterpower companies to "do business in two or more states," Mr. Merrill responded that "[t]hey are doing it now." 1918 HEARING, *supra* note 26, at 99.

92. 1918 HEARING, *supra* note 26, at 67–68.

> authorities, then it is intended that the matter may come before the commission for settlement.[93]

When asked whether the drafters of the legislation considered simply giving the Commission authority to regulate "interstate business," Merrill responded that they had, but believed "that matters of rates and services which are local in their character should be handled by the local authorities, if possible."[94] He explained to the congressional members how several projects in the Pacific Northwest and California crossed state boundaries and, "if the only criterion of jurisdiction is whether the lines cross State boundaries," then all such projects would be under "exclusive control of the commission."[95]

Notably, through these provisions, the Act established one of the early regimes for what today we call cooperative federalism. Indeed, the Supreme Court would later observe how,

> Congress was concerned with overcoming the danger of divided authority so as to bring about the needed development of water power and also with the recognition of the constitutional rights of the states so as to sustain the validity of the Act. The resulting integration of the respective jurisdictions of the state and Federal Governments, is illustrated by the careful preservation of the separate interests of the states throughout the Act,

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93. *Id.* at 99.

94. *Id.* at 100.

95. *Id.* Merrill further indicated that he was aware of a circumstance in Nevada where the state commission had regulated rates for power shipped from California, although he was unsure if the matter had ever been litigated about whether that regulation offended the Commerce Clause. *Id.* at 101. When pressed again, he replied how it was his "judgment that so long as it is satisfactorily handled by the several States it had better be left with them." *Id.* at 101–102. This approach also supported Merrill's belief that a cabinet level commission would become involved in rare cases, obviating the need for a traditional commission. 1918 HEARING, *supra* note 26, at 101. A later witness also discussed how sales of energy from out of state could be regulated by the local state commission (such as Nevada) overseeing the sales to its local residents. *Id.* at 414, 416–17 (Statement of Mr. Hall). Testifying later in the hearings, however, Agriculture Secretary Houston chose his words carefully by alluding only to state commission's authority of intrastate business. *Id.* at 660.

> without setting up a divided authority over any one subject.[96]

The Act, therefore, purportedly furnished a framework for cooperative federal and state efforts rather than usurping all state authority.[97] Of course, this did not obviate subsequent efforts by states to question whether Congress had impermissibly intruded into their constitutional domain.[98]

Next, by creating the Federal Power Commission, the Act resolved the duel between those who favored private capital investment (the winners) and those who believed that hydroelectric generation ought to be federally owned and managed (the losers).[99] Responding to President Theodore Roosevelt's 1908

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96. First Iowa Hydro-Elec. Coop. v. Fed. Power Comm'n, 328 U.S. 152, 174 (1946).

97. FPC SEVENTH ANN. REP., *supra* note 72 at 2 ("[t]he commission has likewise from time to time emphasized the desirability of State and Federal cooperation in [waterpower] development."). An early example occurred with the Conowingo hydroelectric project, along the Susquehanna River. The project would sell power across state lines and its transactions involved multiple jurisdictions. It sought the approval from utility commissions in Maryland and Pennsylvania, and from the Commission. The three commissions held joint hearings to examine the project, with the FPC concluding that the proceeding "furnished an excellent test of the regulatory features of the act and has demonstrated that with such cordial cooperation as existed in this case there need be no conflict in matters of regulatory jurisdiction between the Federal commission and the commissions of the several States." 1926 FPC SIXTH ANN. REP. 6–9 (Gov't Printing Off.). Prior to the FWPA, the states and the federal government had cooperated in surveying "water resources." CONOVER, *supra* note 31, at 47.

98. *See* New Jersey v. Sargent, 269 U.S. 328 (1926) (dismissed state claim for what today would be lack of standing); *see also* United States v. West Virginia, 295 U.S. 463 (1935) (similar result with suit by United States). Other challenges to the Act also were dismissed on appeal for lack of jurisdiction. *E.g*. Appalachian Elec. Power Co. v. Smith, 67 F.2d 451 (4th Cir. 1933), *cert. denied* 291 U.S. 674 (1934). In Ala. Power Co. v. Gulf Power Co., 283 F. 606 (M.D. Ala. 1922), the District Court addressed a constitutional challenge to the Act and concluded:

> [T]his act authorizing the construction of dams in navigable streams to impound the water, where rocky or shoaly conditions obtain, for the purpose of improving navigation by the slack water method does not offend the Constitution. It was within the power of Congress to create a board called the Water Power Commission to carry out the purpose of Congress . . . .

Id. at 620.

99. ROBERT K. MURRAY, THE HARDING ERA: WARREN G. HARDING AND HIS ADMINISTRATION 412 (1969); *see also* NYE, *supra* note 49, at 183. "[E]nough public power companies remained" in the 1920s "to raise troubling questions about fair rates, democratic control, and public service that would be widely debated again in the 1930s." NYE, *supra* note

plea that Congress must provide the United States, or individual states, with the ability to recapture the resource if necessary,[100] Congress included several important provisions. First, it protected against a perpetual monopolization of resources by private entities by imposing a fifty-year maximum on Commission issued licenses to hydroelectric projects along the nation's navigable waters.[101] Second, it provided a preference to states and municipal entities if they too sought to develop the resource and compete against a private entity for the right to develop a project.[102] Third, upon the expiration of any license, the United States could "take over and thereafter [] maintain and operate any project" and associated property, "upon the condition that before taking possession it shall pay the [licensee's] net investment."[103] And fourth, the Act required

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49, at 183. *See generally* KERWIN, *supra* note 29, at 39–42 (discussing factors purportedly arresting development).

100. H.R. REP. No. 99-507, at 11–12 (1986), *as reprinted in* 1986 U.S.C.C.A.N. 2496, 2498–99 (quoting President Roosevelt).

101. Federal Water Power Act, ch. 285, § 6, 41 Stat. 1063, 1067 (1920). At least as early as 1916, "[a] 50-year term is the one advocated by all of the authorities on the subject, both in the hearings, in the annual reports for the departments, in writings, and in reports upon the bill from the departments and other authorities on the subject." H.R. REP. No. 99-507, at 9. Congress, however, allowed licensees—with joint Commission and appropriate state utility commission approval—to execute power sales contracts that might extend beyond the license termination date. § 22, 41 Stat. at 1074.

102. § 7, 41 Stat. at 1067. The idea of affording a preference had become well-established for federal programs, and would continue after the passage of the FWPA. *See generally* GAO, FEDERAL POWER: THE EVOLUTION OF PREFERENCE IN MARKETING FEDERAL POWER (Feb. 2001).

103. § 14, 41 Stat. at 1071. This section further preserved "the right of the United States or any State or municipality to take over, maintain, and operate any project" upon condemnation and the payment of just compensation. *Id.* at 1072. On the heels of World War I, and aware of the Muscle Shoals controversy, Congress also reserved the authority of the United States to enter and operate a project "for the purpose of manufacturing nitrates, explosives or munitions of war, or for any other purpose involving the safety of the United States," provided that it compensated the licensee. § 16, 41 Stat. at 1072. Moreover, if the Commission so determined, it could require that the licensee furnish free of charge power to the United States for the operation of navigation facilities. § 11(c), 41 Stat. at 1070. And, if the Commission concluded that a particular future dam might be beneficially used by the United States, "no license therefor shall be issued until two years after it shall have reported to Congress the facts and conditions relating thereto." § 4(d), 41 Stat. at 1066. In 1916, the recapture component of the legislation was considered "one of the most important provisions of the bill," because it allowed the government to protect against a perpetual private grant.

that licensees pay the United States for the use of federal lands "or other property," as well as for the costs of administering the Act.[104]

Finally, the Act reflected the progressive and New Deal embrace of scientific management or planning.[105] After all, scientific management accepted that we can manage our resources to maximize productivity and utilization. This was the mantra of Gifford Pinchot for both forest and water resources: it permeated discussions about the role of government in regulating private industry, it infused the business world and the followers of Frederick W. Taylor, and it, not surprisingly, justified the growth of modern zoning regulation.[106] Congress provided, therefore, in section 10 of the Federal Water Power Act, that the Commission could issue a license upon the condition that "[t]he project adopted . . . shall be such as in the judgment of the commission will be best adapted to a comprehensive scheme of improvement and utilization for the purposes of navigation, of water-power development, and of other beneficial uses. . ."[107]

The Commission's early years were anything but stellar. In his review of the history, Donald Swain describes the agency as "ineffective," marred by a lack of money, staff, and, even, interest among the Commissioners.[108] Between, for instance, 1920 and

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H.R. REP. No. 99-507, at 12. Later, in 1936, FPC Chairman McNinch described the recapture provision as "[o]ne of the most important provisions of the Act of 1920." McNinch, *supra* note 31, at 115.

104. § 10(e), 41 Stat. at 1069. Reflecting its approach toward state regulation, Congress, *inter alia,* also included language to prevent a licensee from making excessive profits before an appropriate state commission could protect consumers. *Id.*

105. *See generally* 41 Stat. 1063.

106. *See generally* SAMUEL HABER, EFFICIENCY AND UPLIFT: SCIENTIFIC MANAGEMENT IN THE PROGRESSIVE ERA 1890-1920 (1964); HAYES, *supra* note 63; THOMAS K. MCCRAW, PROPHETS OF REGULATION: CHARLES FRANCIS ADAMS, LOUIS D. BRANDIES, ALFRED E. KAHN (1984).

107. § 10(a), 41 Stat. at 1068.

108. DONALD C. SWAIN, FEDERAL CONSERVATION POLICY 1921-1933 113 (1963). At first, the Commission could not even hire a complete staff and was forced to use employees from each Commissioner's own agency. *Id.* at 113–14. By 1927, the Commission warned that it could not enforce the Act until Congress afforded it money and personnel. FPC SEVENTH ANN. REP., *supra* note 72 at 2; *see also* ROBERT D. BAUM, THE FEDERAL POWER COMMISSION AND STATE UTILITY REGULATION 23–26 (1942) (describing the commission's early limitations).

1929, "the FPC convened only ninety-nine times, with the usual meeting lasting less than thirty minutes."[109] In lieu of acting like a modern regulatory agency—the objective of Executive Secretary O.C. Merrill—the Commission instead heeded the wishes of the emerging electric utility industry:

> [T]he most significant factor in determining the weakness of the FPC was the great influence private power came to exert within the commission. After he had resigned, a former executive secretary of the Federal Power Commission described how the Niagara Falls Power Company in 1928 brought pressure to bear on the members of the commission to win changes in an important report recommending amendments to the Water Power Act of 1920. By 1929 the National Electric Light Association could bring about the extent of its influence in the FPC. * * * Regulation of water power development during most of the 1920's was in name only.[110]

In late 1929, President Hoover addressed one problem with the Commission by calling for the establishment of a "full-time commission."[111] Congress responded in 1930, establishing the Commission as an independent agency with commissioners, in lieu of being run by an otherwise distracted cabinet-level body.[112]

Congress finally appropriated funds once the agency refused to issue any new licenses. DONALD C. SWAIN, FEDERAL CONSERVATION POLICY 1921-1933 115 (1963).

109. SWAIN, *supra* note 108, at 115.

110. *Id.* at 114. "The ineffectiveness of the commission became so apparent that Congress instituted a full investigation in early 1930." *Id.* at 115.

111. *See* BAUM, *supra* note 108, at 27.

112. SWAIN, *supra* note 108, at 115; *see also* Pub. L. No. 71-412, 46 Stat. 797 (1930) (An Act to Reorganize the Federal Power Commission). Congress empowered the President to appoint 5 commissioners, with the advice and consent of the Senate, with one commissioner serving as the "chairman" and "principal executive officer." 46 Stat. 797. Congress also directed that, "after the expiration of the original term of the commissioner so designated as chairman by the President, chairmen shall be elected by the commission itself, each chairman when so elected to act as such until the expiration of his term of office." *Id.* The Act further provided a salary, term, rotation, bar against appointing potentially biased commissioners, and schedule

Unfortunately, the new legislation did not immediately cure the agency's problems.[113]

It would be another five years before Congress would address two enveloping issues. To begin with, Congress needed to resolve the jurisdictional gap created by the Supreme Court, when the Court held that states could not regulate wholesale sales of electricity across state lines.[114] After Rhode Island's Public Utility Commission increased the rate a Rhode Island utility could charge a Massachusetts utility for energy, the Massachusetts' utility—Attleboro Steam and Electric Company—challenged its neighboring state commission's authority to establish rates for the sale of energy across state lines.[115] In 1927, the Supreme Court announced its opinion in *Public Utilities Comm'n of Rhode Island v. Attleboro Steam & Electric Co* and concluded that Rhode Island's effort to regulate the rate for the sale of wholesale electric energy into another state violated the dormant Commerce Clause.[116] *Attleboro's* significance would grow as the nation's interstate

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period for the commissioners, as well as establishing an office in Washington, D.C. and affording the Commission the authority to appoint and pay for a staff. *Id.*

113. SWAIN, *supra* note 108, at 115. In January 1931, moreover, President Hoover complained about the Senate's treatment of his appointees to the new commission. *Herbert Hoover: Statement About Refusal to Resubmit Federal Power Commission Appointments to the Senate*, AMERICAN PRESIDENCY PROJECT, http://www.presidency.ucsb.edu/ws/?pid=22599 (last visited Oct. 13, 2016).

114. Federal Power Act of 1935, Pub. L. No. 74-333, 49 Stat. 803 (1935). Congress, anticipating a broader appreciation for Commerce Clause jurisprudence, also enlarged the Commission's jurisdiction (for post 1935 construction or modification) to include licensing facilities on waterbodies that affect interstate or foreign commerce or on "commerce clause" streams. *See* F.P.C. v. Union Elec. Co., 381 U.S. 90 (1965). For subsequent amendments, see Pub. L. No. 80-558, 62 Stat. 275 (1948); Pub. L. No. 81-429, 63 Stat. 954 (1949); 64 Stat. 1265 (1949); Pub. L. No. 247, 65 Stat. 701 (1951); Pub. L. No. 83-211, 67 Stat. 461 (1953); Pub. L. No. 83-279, 67 Stat. 587 (1953); Pub. L. No. 84-550, 70 Stat. 226 (1956); Pub. L. No 85-791, 72 Stat. 941, 947 (1958); Pub. L. No. 87-647, Pub. L. No. 87-648, 76 Stat. 447 (1962); Pub. L. No. 95-617, 92 Stat. 3117 (1978); Pub. L. No. 96-294, 94 Stat. 611 (1980); Pub. L. No. 97-375, 96 Stat. 1819 (1982); Pub. L. No. 99-495, 100 Stat. 1243 (1986); Pub. L. No. 102-486, 106 Stat. 3097 (1992); Pub. L. No. 103-347, 108 Stat. 4585 (1994); Pub. L. No. 104-66, 109 Stat. 718 (1995); Hydropower Regulatory Efficiency Act of 2013, Pub. L. No. 113-38, 127 Stat. 493 (2013) (codified at 15 U.S.C. § 791a *et seq*.).

115. For a history of the decision, see Sam Kalen, *Muddling Through Modern Energy Policy: The Dormant Commerce Clause and Unmasking the Illusion of an Attleboro Line*, N.Y.U. ENVTL. L. J. (forthcoming 2017).

116. Pub. Utils. Comm'n of R. I. v. Attleboro Steam & Elec. Co., 273 U.S. 83 (1927).

transmission grid developed. In 1928, a little over 10% of the nation's electric generation moved in interstate commerce, but in just 5 years that number would grow to 18%.[117] For instance, in 1933, Illinois reportedly exported roughly 16% of its electric generation while importing about 17.5%.[118]

Secondly, much of the dialogue during this period focused on the alleged evils accompanying industry consolidation and monopolization. In 1925, for instance, the Federal Trade Commission examined the problem with industry concentration, precipitating a more robust inquiry a few years later.[119] The FTC's investigations, along with additional congressional inquiries, produced at least ninety volumes of materials, addressing the problem with electric utility holding companies—the Power Trust.[120] Moving against the Power Trusts was an item on President Roosevelt's agenda.[121] He was joined by his FPC Commissioners' Frank McNinch (from North Carolina) and Claude Draper (from Wyoming), who helped champion the cause.[122] But according to Ellis Hawley, "[t]he first shot in the Administration's campaign came in July 1934 when the President appointed Harold Ickes chairman of a National Power Policy Committee," charged with considering legislation that would address the *Attleboro* gap as well as industry consolidation and control.[123] This was followed by an interdepartmental committee, which produced a draft legislative proposal floated in February 1935 by Senator Burton K.

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117. McNinch, *supra* note 31, at 116.

118. *Id.* For an analysis of the interstate grid in 1930, see William C. Scott, *State and Federal Control of Power Transmission as Affected by the Interstate Commerce Clause*, 14 PROC. OF THE ACADEMY OF POL. SCI. 135 (1930).

119. BRADLEY, *supra* note 47, at 176.

120. ELLIS W. HAWLEY, THE NEW DEAL AND THE PROBLEM OF MONOPOLY: A STUDY OF ECONOMIC AMBIVALENCE 327 n.2 (1966).

121. *Id.* at 328–29.

122. *Id.* at 327.

123. *Id.* at 330–31. In March 1935, Roosevelt forwarded the Committee's report to Congress. *Id.* at 333; *see also* BAUM, *supra* note 108, at 29–30, 126. The Committee, however, lacked sufficient authority to implement its views about power planning. PHILLIP J. FUNIGIELLO, TOWARD A NATIONAL POWER POLICY: THE NEW DEAL AND THE ELECTRIC UTILITY INDUSTRY, 1931-1941 39–43 (Univ. of Pittsburgh Press 1973).

Wheeler, and congressman Sam Rayburn.[124] And before the year's end, Congress responded by passing the Federal Power Act and Public Utility Holding Company Act of 1935, filling the *Attleboro* gap and addressing holding companies and industry concentration.[125]

III. HYDROELECTRIC POWER CONFRONTS THE ENVIRONMENTAL MOVEMENT

After WWII, hydroelectric power became a symbol for how federal programs could energize our economy, and policy-makers correspondingly perceived hydroelectric resources as immune from both the challenges confronting the supply/demand balance for coal and the resource constraints of oil and gas.[126] After all, Congress had established the Tennessee Valley Authority in 1933,[127] the Hoover Dam was built in 1936, and the Bonneville Power Administration was established in 1937.[128] By 1940, hydroelectric generation supplied roughly 40% of the nation's electricity, having more than tripled its total national capacity in just two decades.[129] In 1948, for instance, then Secretary Krug informed President Truman that "We should be doing much more in determining our energy reserves, in producing and using our fuels less wastefully, and in developing power from inexhaustible hydroelectric sources instead of exhaustible coal, oil and gas."[130]

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124. HAWLEY, *supra* note 120, at 332.

125. *See generally* James W. Moeller, *Requiem for the Public Utility Holding Company Act of 1935: The "Old" Federalism and State Regulation of Inter-State Holding Companies*, 17 ENERGY L. J. 343, 357–58 (1996).

126. CRAUFURD D. GOODWIN, ENERGY POLICY IN PERSPECTIVE: TODAY'S PROBLEMS, YESTERDAY'S SOLUTIONS 7 (1981).

127. Early on, TVA adopted a policy of selling power at the lowest possible rate, regardless of the effect on private utilities. JOSEPH C. SWIDLER, POWER AND THE PUBLIC INTEREST: THE MEMOIRS OF JOSEPH C. SWIDLER 47 (2002).

128. *History of Hydropower*, ENERGY.GOV, http://energy.gov/eere/water/history-hydropower (last visited Oct. 12, 2016).

129. *Id.* TVA began expanding to steam-fired coal plants once hydroelectric generation had seemed to hit "peak capacity by the late 1940s." SWIDLER, *supra* note 127, at 69.

130. GOODWIN, *supra* note 126, at 37.

This, of course, would all change by the 1960s, with the advent of an emerging environmental consensus, typified by the now-famous story surrounding Consolidated Edison's (Con-Ed) ill-fated attempt to develop a pumped storage project at Storm King Mountain (formerly Butter Hill).[131] That the FPC, at the time tagged with being a poorly managed agency,[132] would become a focal point for environmental protection seems today quite natural—after all, the proposed damming the Colorado River along the Grand Canyon in the 1960s, as well as the fight to protect Dinosaur National Park, illustrated how dams had become an environmental target.[133] By the early 1960s, Con-Ed sought additional generating capacity, necessary as the 1960s would strikingly demonstrate, to bolster not only an otherwise unreliable electric grid but also one lacking sufficient generating capacity.[134] The company's fossil fuel fired generation plants in New York had produced the Nation's worst SO_2 problems, and it would be years before the company could secure additional nuclear energy from soon-to-be proposed additional generating capacity at Indian Point.[135] As the largest proposed pumped storage project in the world, the *Cornwall Project* (the Project) would avoid increasing

131. *See generally* ROBERT H. BOYLE, THE HUDSON RIVER: A NATURAL AND UNNATURAL HISTORY (1969); ROBERT D. LIFSET, POWER ON THE HUDSON: STORM KING MOUNTAIN AND THE EMERGENCE OF MODERN AMERICAN ENVIRONMENTALISM (2014); ALLAN R. TALBOT, POWER ALONG THE HUDSON: THE STORM KING CASE AND THE BIRTH OF ENVIRONMENTALISM (1972).

132. *See* SWIDLER, *supra* note 127, at 122.

133. *See generally* JON M. COSCO, ECHO PARK: STRUGGLE FOR PRESERVATION (Johnson Books 1995); RUSSELL MARTIN, A STORY THAT STAND LIKE A DAM: GLEN CANYON AND THE STRUGGLE FOR THE SOUL OF THE WEST (Henry Holt and Company, Inc. 1st ed. 1990). Historian Patricia Limerick wrote that, with the Echo Park controversy, "the well-established expectation that large dams would continue to be built went sailing off a cliff and landed in a heap." PATRICIA NELSON LIMERICK & JASON L. HANSON, A DITCH IN TIME: THE CITY, THE WEST, AND WATER 166 (2012).

134. LIFSET, *supra* note 131, at 87.

135. The company operated the largest oil-fired generation facility in the country, known as the Big Allis (1,000 MW), at Ravenswood. TALBOT, *supra* note 131, at 70–71. And, in 1962, Con-Ed began operating the first nuclear plant (275 MW) at Indian Point, over twenty miles north of the City. LIFSET, *supra* note 131, at 87.

SO_2 emissions by providing peaking power potentially capable of averting blackouts or planned brownouts.[136]

But the Project (including the accompanying transmission line) threatened the scenic beauty for the surrounding communities; if completed, it would destroy the historic charm of this part of the Hudson River Valley; and, moreover, it would produce a colossal ecological disruption.[137] When concerned citizens first saw a proposed illustration for how the Project would effectively shave off a considerable portion of the mountain, they became energized and, in doing so, precipitated the modern

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136. While between 1950 and 1960, the Company's electricity sales only increased by under 10 million kilowatt hours, the increase exceeded that 10 million figure over the next decade. LIFSET, *supra* note 131, at 195. Talbot also explains how, after WWII, the rise of many New York City downtown office buildings changed the time when Con-Ed would need to ensure adequate capacity for high electric generation periods (peaking periods). The new buildings needed considerable electrical energy during the day, particularly during the summer when air conditioners were being run. The high peaking period had changed from the pre-war time-frame (when high demand occurred at night with residential use). *Id.* at 68–69. And a project such as the *Cornwall Project* became possible after 1960, with the technological advance of reversible turbines—"machine[s] that can both pump water and be energized by the return flow." *Id.* at 73. Yet, as for pumped storage projects in general, Talbot aptly emphasizes that such projects simply store energy rather than provide additional baseload capacity:

> For every three units of electricity transferred to Storm King two units would be returned. Among the advantages of the project was that within three minutes it could provide energy for periods up to eleven hours in emergencies, for sale to other utilities, or as a supplement to the company's New York City generators.

Id. at 77.

137. According to Lifset, the dynamic surrounding the project changed when Robert Boyle discovered how the project would adversely affect the striped bass—and in doing so, "brought the attention to the potential damage the plant would do to the Hudson River, and that argument employed the science of ecology to quantify that damage." LIFSET, *supra* note 131, at 78–79. No modern account of the Storm King fight would be complete without a nod to how saving the Hudson River Valley launched one of this nation's foremost environmental champions, Richard Ottinger, who would serve in Congress and champion our environment's cause as forcefully as any other member and who eventually would help establish Pace Law School as a premier environmental law school. Soon after he entered Congress, he introduced legislation that would place the area within a zone capable of being protected by the federal government and also removed the FPC's ability to license the project. *Id.* at 124–29. His proposal prompted a parallel, yet less meaningful, effort from New York Governor Rockefeller (who may have felt threatened by how Congressman Ottinger had captured more currency as an environmental advocate), particularly as Central Hudson Gas & Electric Co. was similarly planning to construct a facility in the Hudson Valley. James Ridgeway, *Who Will Save the Hudson, and How?*, NEW REPUBLIC, Oct. 2, 1965, at 10–11.

paradigm for environmental citizen engagement.[138] Before the FPC, though, the citizens had little reason for optimism. The Commission's acceptance of Con-Ed's need for power overcame any meaningful interest in exploring alternative energy resources or the likely ecological or other adverse effects of the Project. The Commission even rejected an entreaty by the New York State Legislative Committee requesting that the Commission re-open its proceedings to address the ecological and scenic effects of the Project.[139] As one of the lawyers involved in the lawsuit recently observed, "no FPC license for a hydroelectric plant had been successfully challenged on the merits, and there was little reason to be optimistic about a case where the central issue was a complaint that the Project would damage scenic beauty."[140] When, in March 1965, the Commission granted Con-Ed's license application, the citizen group successfully sought a more friendly forum from the Second Circuit.[141]

Indeed, the Second Circuit's opinion on the fate of the Storm King project has since become a classic for both administrative and environmental law.[142] To begin with, the citizen's lawyers employed a successful strategy of focusing the court's attention on what the Commission ignored:

> Scenic Hudson's lawyers made a critically important strategic decision when they chose to focus on what the FPC had failed to consider and not on those topics that the commission did take into account. As a result, Scenic Hudson's legal arguments began to focus on the impact of

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138. Albert K. Butzel, *Storm King Revisited: A View from the Mountaintop*, 31 PACE ENVTL. L. REV. 370, 374 (2014).

139. *Id.* at 377; *see also* LIFSET, *supra* note 131, at 74–75.

140. Butzel, *supra* note 138, at 372. The attorneys for the Project's opponents included Dale Doty, a former FPC Commission who as a Commissioner had objected to another project on environmental grounds; he also served in the Department of the Interior. TALBOT, *supra* note 131, at 96–97; *see* Namekagon Hydro Co. v. F.P.C., 216 F.2d 509 (7th Cir. 1954). Lloyd Garrison then joined to help craft the brief and argument before the Second Circuit. Butzel, *supra* note 138, at 378–79.

141. Scenic Hudson Pres. Conf. v. F.P.C., 354 F.2d 608 (2d Cir. 1965).

142. *Id.*

> the plan on the ecology of the river (and the immediate environment). Aesthetic considerations, though still important, began to fade into the background. Because these ecological impacts could be studied, measured, and quantified, they strengthened opposition to the plant and made the FPC appear irresponsible for not considering all the evidence.[143]

Issued within two months after the dramatic 1965 blackout in New York,[144] the Second Circuit strongly rebuked the FPC. Judge Hayes began by noting how the case had attracted wide attention.[145] He then opined that the Commission had not adequately compiled a sufficient administrative record to support its judgment, had not considered all the relevant issues, and had not examined other possible alternatives.[146] Of considerable importance, the FPA charged the Commission with balancing the relevant factors for deciding whether to license a project—the list of factors included the area's recreational and scenic value.[147] That charge, according to Judge Hayes, affirmatively obligated the Commission to explore "and consider all relevant facts."[148] And in

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143. LIFSET, *supra* note 131, at 93. The litigation strategy is explored by Butzel who participated in working on the Second Circuit appeal. Butzel, *supra* note 138; *see also* LIFSET, *supra* note 131, at 94–95 (describing Butzel's background).

144. *See* LIFSET, *supra* note 131, at 100. The company, after the blackout, announced that the blackout might have been averted had the Cornwall Project been operating. Butzel, *supra* note 138, at 380.

145. *Scenic Hudson Pres. Conf.*, 354 F.2d at 612.

146. *Id.* In particular, the court added that "[t]here is no doubt that the Commission is under a statutory duty to give full consideration to alternative plans." *Id.* at 617. According to Judge Hayes, the administrative record lacked any "meaningful evidence which contradicts the proffered testimony supporting the gas turbine alternative." *Id.* at 618. Indeed, Hayes continued, the Commission "exhibit[ed] a disregard of the statute and of judicial mandates instructing the Commission to probe all feasible alternatives." *Id.* at 620. For instance, "[t]he Commission neither investigated [along with gas turbines] the use of interconnected power as a possible alternative . . . nor required Consolidated Edison to supply such information." *Id.* at 621.

147. *Scenic Hudson Preservation Conference*, 354 F.2d at 614. The Commission's 1963 regulations, as well as Namekagon Hydro Co. v. F.P.C., 216 F.2d 509 (7th Cir. 1954), already confirmed the relevance of examining recreational and scenic values. *Id.*

148. *Id.* at 620.

one of administrative law's most memorable statements, he observed:

> In this case, as in many others, the Commission has claimed to be the representative of the public interest. This role does not permit it to act as an umpire, blandly calling balls and strikes for adversaries appearing before it; the right of the public must receive active and affirmative protection at the hands of the Commission.[149]

Somewhat insensitively, and seemingly focused too much about the need for power rather than the environment, Con-Ed responded to the decision by suggesting it would continue pursuing its project and secure a license from the FPC on remand from the Second Circuit—although the project's fate seemed sealed nonetheless.[150]

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149. *Id.*

150. LIFSET, *supra* note 131, at 101. The subsequent dynamic changed dramatically, with new lawyers (including the late environmental attorney David Sive), a new "liberal" CEO for Con-Ed (Charles Luce, a former Interior Department official, Wisconsin Law School Graduate, Yale fellow, and Justice Black clerk), additional studies, a potential change to make the project underground, as well as a greater emphasis on the possibly of constructing additional gas generating capacity rather than hydroelectric energy. The Commission's administrative law judge issued a lengthy opinion entirely favoring Con-Ed, prompting New York City to object and force additional hearings (e.g., including an alternative site), but to no avail as the judge again accepted Con-Ed's position—albeit suggesting that an alternative site would be licensable if a court rejected allowing development at Storm King. LIFSET, *supra* note 131, at 107–129. While the Commission subsequently issued a second license to Con-Ed, that license would become overshadowed once Clean Water Act issues became injected into the dispute and the Commission became obligated to re-open its consideration of certain issues. LIFSET, *supra* note 131, at 151, 154–63, 168–69; *see also* Butzel, *supra* note 138, at 387. Before that would occur, however, the Second Circuit would issue its opinion in *Scenic Hudson II*, affirming the Commission—with a now famous dissent by Judge Oakes. Scenic Hudson Pres. Conference v. F.P.C., 453 F.2d 463 (2d Cir. 1971); *see also* Scenic Hudson Pres. Conference v. Callaway, 499 F.2d 127 (2d Cir. 1974); Hudson River Fisherman's Ass'n v. F.P.C., 498 F.2d 827 (2d Cir. 1974). Justice Douglas would have accepted Judge Oakes' reasoning, and further believed that the Commission had not complied with NEPA. Scenic Hudson Preservation Conference, 407 U.S. 926 (Douglas, J. from denial of certiorari). The Storm King proposal formally became shuttered at what is called the Hudson River Peace Treaty, involving Con-Ed's Indian Point nuclear reactors. LIFSET, *supra* note 131, at 183–84. For more information on this Peace Treaty, see ALLAN R. TALBOT, SETTLING THINGS: SIX CASE STUDIES IN ENVIRONMENTAL MEDIATION 1–24 (1983).

Entering the 1970s, hydroelectric generation confronted the dialectic of those who believed that no new resource sites remained and those who were intent on removing already existing projects. In the searing report by Ralph Nader's group, *Vanishing Air*, the authors dismissed hydroelectric power as limited by the lack of available water bodies.[151] But it was the impact of hydroelectric power in cases like Storm King that undoubtedly chilled interest in new development. After all, President Carter had his federal hit list,[152] and Storm King signaled a similar fate for any new federally licensed dams.[153] The Commission attempted to avoid wading too far into this quagmire by diminishing its environmental function. Indeed, it unsuccessfully tried delegating compliance with the NEPA to the project licensees—an experiment that, by 1972, failed.[154] Luckily for the Commission, it would be decades later before it would confront meaningful compliance with the Endangered Species Act—a more forceful program for addressing endangered and threatened species.[155] But in the interim, many of the larger projects whose licenses were being considered for renewal would remain in limbo for decades, with the licensees

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151. JOHN C. ESPOSITO, VANISHING AIR: RALPH NADER'S STUDY GROUP REPORT ON AIR POLLUTION 94 (1970).

152. *See supra* note 4 and accompanying text.

153. Consequently, the heyday of developing dams, beginning around 1930, effectively ended around 1970. *See* Andrew H. Sawyer, *Hydropower Relicensing in the Post Dam-Building Era*, 11 NAT. RES. & ENVT. 12 (1996).

154. In 1971, the Commission issued Order No. 415, implementing NEPA. That order required license applicants in contested applications to prepare their own environmental impact statement. In a case involving a transmission line not far from the Hudson, in Durham Valley, where even the licensee may have appreciated that the Commission's approach violated the law, the Second Circuit held that the Commission could not "abdicate" its responsibility. Green Cty. Planning Bd. v. Federal Power Comm'n, 455 F.2d 412, 420 (2d Cir. 1972). The court also issued an entreaty to the Commission that it had to review its regulations overall, to ensure that the policies of NEPA were being followed to the extent possible. *Id.* at 417. The Commission generally exhibited reluctance for robustly applying NEPA. *E.g.*, Ark. Power & Light Co. v. Fed. Power Comm'n, 517 F.2d 1223 (D.C. Cir. 1975) (natural gas curtailment plans).

155. *See* Platte River Whooping Crane Critical Habitat Maint. Trust v. FERC, 962 F.2d 27 (D.C. Cir. 1992) (ESA compliance for annual license); *see also* Cal. Sportfishing Prot. All. v. FERC, 472 F.3d 593 (9th Cir. 2006) (ESA section 7 not apply to ongoing operations in this case).

operating on annual licenses.[156] Later, with the eventual enactment of President Carter's national energy plan and accompanying 1977 Department of Energy Organization Act, it would instead be the re-named Federal Energy Regulatory Commission, or "FERC," that would confront these relicensing challenges.[157]

IV. THE MODERN ERA FOR HYDROELECTRIC POWER

For the past several decades, Congress, the judiciary, and the FERC, have considered and, in some cases, crafted several minor institutional tweaks to the Commission's hydroelectric program. To begin with, during the 1980's de-regulation efforts, the Commission became embroiled in a controversy over whether municipal entities should receive preference solely for new licenses, or during relicensing proceedings as well. At first, the Commission concluded that the preference would apply during Section 15 relicensing proceedings, a judgment affirmed by the Eleventh Circuit.[158] Soon thereafter, though, the Commission changed its mind—a change then rejected by a D.C. Circuit panel opinion, and subsequently vacated in 1986 when the D.C. Circuit decided *en banc*, to resolve the issue.[159] That *en banc* consideration became moot, when, in 1986, Congress resolved the debate by removing the preference at relicensing.[160] Today, the Commission

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156. *E.g.*, City of Tacoma v. FERC, 460 F.3d 53, 60 (D.C. Cir. 2006) (the city of Tacoma's original license had expired in 1974, with a new license issued in 1998); *Platte River Whooping Crane Critical Habitat Maint. Trust*, 962 F.2d at 27 (noting 1970's annual licenses for Central Nebraska Public Power & Irrigation District, and Nebraska Public Power would not be issued for many more years).

157. *See* Department of Energy Organization Act of 1977, Pub. L. No. 95-91, 91 Stat. 565 (1977).

158. City of Bountiful, 11 FERC ¶ 61,337 (1980), *aff'd*, Ala. Power Co. v. FERC, 685 F.2d 1311 (11th Cir. 1982).

159. Clark-Cowlitz Joint Operating Agency v. FERC, 775 F.2d 366 (D.C. Cir. 1985), *vacated*, 787 F.2d 674 (D.C. Cir. 1986), 826 F.2d 1074 (D.C. Cir. 1987) (*en banc).*

160. Congress decided that, upon relicensing, removing the preference would "create[] a fair and competitive process under which a new license will be awarded to the applicant whose final proposal is best adapted to serve the public interest, taking into consideration on an equitable basis both non-power and power development values." H.R. Rep. 99-507, *supra* note 100, at 10. *See generally* Daniel H. Cole, *The Federal Power Act's Controversial Municipal*

continues to object to the idea of municipal preference—but it was recently told by the D.C. Circuit that the language of the FPA requires that it afford preference, unless a proposed project is not as well adapted as another.[161] But in the ECPA of 1986, Congress also, among other changes, "clarifies and improves the Commission's licensing process in assuring adequate environmental protections, while retaining the basic requirement that all projects, whenever licensed, be 'best adapted to a comprehensive plan for developing a waterway or waterways.'"[162] Congress expressly charged the Commission with not only considering non-developmental values, but with ensuring that it afford "equal consideration" (changed from earlier language requiring "equitable treatment") to those values, along with developmental and power purposes of the Act.[163] After all, as Congress aptly observed, "relicensing is not to be the same as it is today."[164] The scrutiny must be greater. "Licenses issued in past years, must be re-examined and justified at relicensing in light of today's standards and concerns."[165]

Moreover, some issues that dominated many older dialogues are no longer as salient as they once were. Indeed, while in the past many Commission decisions seemingly engaged in detailed analysis about the need for additional generation resources, that issue no longer enjoys much currency. The Commission today treats that issue, along with an inquiry into whether its proposed

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Preference: The Merwin Dam Dispute and Legislative Proposals to Amend Federal Hydro-Licensing Procedures, 7 ENERGY L. J. 373 (1986).

161. W. Mun. Power Agency v. FERC, 806 F.3d 588 (D.C. Cir. 2015).

162. Electric Consumers Protection Act of 1986, 100 Stat. 1243 (1986); *see also* H.R. Rep. 99-507, *supra* note 100, at 10. Four years later, Congress again tweaked aspects of the hydroelectric program. Energy Policy Act of 1992, 106 Stat. 2776 (1992) (affecting charges to the licenses; clarifying the definition of a "fishway"; limiting eminent domain authority; affecting authorization grants along certain public lands; expanding the prohibition against licensing within National Park boundaries; and authorizing third-party agreements to fund the preparation of an Environmental Impact Statement under NEPA).

163. 100 Stat. 1243 (1986); *see also* H.R. REP. 99-507, *supra* note 100 at 10.

164. H.R. REP. 99-507, *supra* note 100 at 33.

165. *Id.*

terms and conditions for any relicense are too costly, as a matter for the licensee.[166]

Other issues, instead, have become more prominent. On the economic side, for instance, they include whether the Commission should have required that all licensees, upon accepting a license, begin placing money into a decommissioning fund—to ensure the availability of monies if it is later determined that a dam ought to be removed.[167] The Commission rejected that idea, however. And on the environmental side, for example, the Commission has wrestled with how section 401 of the Clean Water Act applies to new licenses, licensees seeking a relicense, and to licensees operating under an annual license (pursuant to section 15 of the FPA).[168] A similar issues surfaces with the application of the Endangered Species Act, and in particular, how it applies to annual licensees or existing operating facilities whose license pre-dated a listing or designation under the Act for species or habitat affected by the project.

Yet one issue seemingly captivates most modern dialogues surrounding the Commission's jurisdiction over hydroelectric projects. That issue is how the relicensing process has become cumbersome—and for some, how the process is effectively supplanted by other agencies' jurisdiction under other statues,

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166. City of Tacoma v. FERC, 460 F.3d 53, 74 (D.C. Cir. 2006).

167. "The Commission will not generically impose decommissioning funding requirements on licenses." Project Decommissioning at Relicensing; Policy Statement, 60 Fed. Reg. 339, 340 (Jan. 4, 1995); *e.g.*, FED. ENERGY REGULATORY COMM'N (FERC), FINAL ENVIRONMENTAL ASSESSMENT FOR HYDROPOWER LICENSE: BEND HYDROELECTRIC PROJECT, FERC PROJECT NO. 2643-001 at 89 (July 17, 1995), (rejecting recommendation for a decommissioning fund as part of licensee issuance). *See generally* Matthew D. Manahan & Sarah A. Verville, *FERC and Dam Decommissioning*, 19 NAT. RES. & ENV'T 45 (2005) (discussing decommissioning); Michael A. Swiger et al., *Paying For The Change: Can The FERC Force Dam Decommissioning at Relicensing?*, 17 ENERGY L. J. 163 (1996); Beth C. Bryant, Comment, *FERC's Dam Decommissioning Authority Under the Federal Power Act*, 74 WASH. L. REV. 95 (1999). The Ninth Circuit has affirmed the Commission's approach toward considering decommissioning. Cal. Sportfishing Prot. All. v. FERC, 193 F. App'x 655, 659 (9th Cir. 2006).

168. S.D. Warren Co. v. Me. Bd. of Envt'l Prot., 547 U.S. 370 (2006) (application of 401 upon relicensing); PUD No. 1 of Jefferson City. v. Wash. Dep't of Ecology, 511 U.S. 700 (1994) (application of CWA 401(d) at licensing); Cal. Trout, Inc. v. FERC, 313 F.3d 1131 (9th Cir. 2002) (CWA 401 not apply at annual license).

such as the Clean Water Act or the Endangered Species Act.[169] For many years, the Commission explored changing its relicensing process, encouraging more collaboration among parties well before active Commission consideration. The objective would be to avoid having the purposes and policies from other statutory programs be considered too late in the process. The Department of Interior, for instance, commented how:

> Administrative reforms of the past several years have achieved real improvements. However, past reform efforts have occurred within the existing licensing framework, i.e., the traditional process and the alternative licensing process (ALP). The Department believes that a new licensing process should be thorough and flexible enough to supplant both of these existing processes, as well as the hybrid process.[170]

By 2003, the Commission responded by adopting an "integrated licensing process" (ILP).[171] The ILP is designed to front-load as much as possible into the process, and provide the ability to identify and address concurrently particular issues for a licensed project.

Congress has since modified, albeit only slightly, the hydroelectric program in a few ways. First, in 2005, following years of lobbying, Congress amended Part 1 of the FPA to respond to the industry's concern about federal agencies conditioning authority under sections 4(e) and 18 of the Act. This amendment granted licensees a right to a trial-type hearing on those disputed issues of material fact that an agency may have relied upon when issuing

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169. *See generally* Michael C. Blumm & Viki A. Nadol, *supra* note 6, at 81; Charles R. Sensiba, *Comment, Who's in Charge Here? The Shrinking Role of the Federal Energy Regulatory Commission in Hydropower Relicensing*, 70 U. COLO. L. REV. 603 (1999).

170. Letter from U.S. Dep't of the Interior to FERC (Dec. 6, 2002) (on file with author).

171. *See* FED. ENERGY REGULATORY COMM'N, HYDROELECTRIC LICENSING UNDER THE FEDERAL POWER ACT, ORDER NO. 2002, AND ORDER NO. 2002-A, 106 FERC ¶ 61,037 (2004); *see generally* Part VII, Chapter 40, *Hydroelectric Regulation Under the Federal Power Act*, *in* WATERS AND WATER RIGHTS (Amy K. Kelly, 3d Ed. LexisNexis/Matthew Bender 2016) (thorough presentation of the Commission's current practice and implementation of the Act).

mandatory conditions or prescriptions.[172] The amendment further required that section 18 fishway prescriptions include a consideration of development as well as non-developmental values.[173] Additionally, licensees, or other parties, could now propose alternative prescriptions, which Congress anticipated would be accepted if they are equally as protective as the agency's proposed prescription and either cheaper or more efficient.[174] Second, Congress responded to various efforts designed to promote small hydroelectric projects by passing the Hydroelectric Regulatory Efficiency Act,[175] and the Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act.[176] These two acts seek to facilitate the regulatory review process for small, private projects and Bureau of Reclamation hydroelectric projects.

V. CONCLUSION

Our modern electric grid has evolved considerably since the 1920s. But harnessing and promoting hydroelectric generation is what served as the impetus for the federal government's first foray

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172. Regulation of the Development of Water Power and Resources, 16 U.S.C. § 797(e) (2005). The services need not conduct their own environmental analysis when submitting terms and conditions. *See* Umpqua Valley Audubon Soc'y v. FERC, 149 F. App'x 598 (9th Cir. 2005).

173. 16 U.S.C. § 797(e) (2005).

174. Industry responded swiftly; and, in 2005, the licensee for the Box Canyon Project urged that the Commission either require the other federal agencies to develop implementing rules immediately or provide a right to a hearing before the Commission. Request for Rehearing; Request to Reopen the Record; Motion to Amend; Motion for Stay; and Request to Defer Consideration of Public Utility Dist. No. 1 of Pend Oreille County, Washington, Public Utility Dist. No. 1 of Pend Oreille County, Wash. (Box Canyon Hydroelectric Project, Project No. 2042-103, at 182 (Aug. 2005) ("a trial-type hearing before the Commission regarding the disputed issues of material fact relevant to the mandatory conditions and prescriptions is absolutely required unless the District receives a fair opportunity to avail itself of the procedural process provisions in Section 241 of the 2005 EPA.") (on file with author). The agencies developed interim rules by the end of the year. Resource Agency Procedures for Conditions and Prescriptions in Hydropower Licenses; Interim Final Rule, 70 Fed. Reg. 69,803 (Nov. 17, 2005). These rules have since been modified.

175. Hydropower regulatory Efficiency Act of 2013, Pub. L. No. 113-23, 127 Stat. 493 (2013).

176. Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act, Pub. L. No. 113-24, 127 Stat. 498 (2013). *See generally* Regina Cline, *Hydropower in U.S. Gets Boost From New Laws. Will Congress Do More?*, BNA ENERGY & EVT. BLOG (Jan. 30, 2014), http://www.bna.com/hydropower-us-gets-b17179881735/. For a discussion of these new authorities, see Warren, *supra* note 6, at 955–71.

into the energy regulatory space. The 1920 FWPA, in short, began the trajectory of energy policy that has since carried energy policy into the wider dialogue about how to deliver efficiently cheap electricity in an environmentally sound manner. As FERC considers the Klamath Dam removal agreement, hydroelectric generation will remain an important part of our ongoing energy conversations. And, as these conversations unfold, the arc of how we have arrived at our current juncture in our nation's energy policy history is worth recalling. After all, as this historical arc illustrates, the 1920s legislation emerged out of conservation-era conversations, and the current dialogue about resources and environmental threats similarly animates and envelops present concerns about energy resources. Even more telling, perhaps, is that in 1920, Congress believed that states and the federal government could share regulatory space; today, those conversations continue, and quite possibly require revisiting fundamental historical assumptions.