

Federal Incentives for Hydroelectric Power Projects at New Dams: FERC's Failure to Recognize Congressional Intent and Environmental Concerns

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Congress enacted the Public Utility Regulatory Policies Act in 1978 to provide incentives for small power producers. The Federal Energy Regulatory Commission later extended those incentives to hydroelectric power projects at small dams. This Article analyzes this extension in light of the congressional intent underlying the incentives and the environmental effects of hydro proliferation. This Article concludes that the federal incentives should not be extended to new dams and outlines the method for challenging the Commission's rules.

INTRODUCTION

Hydroelectric power, electricity generated by the force of moving water,¹ is an important energy source in the United States.² Through-

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¹ Hydroelectric power is produced when flowing water passes through a turbine that drives an electric generator. The flowing water may be a river, a diversion of a river, or water that falls from the higher elevation of a dam to the stream below. The amount of electric energy produced will depend, in part, on the amount and velocity of the flowing water. See D. ZILLMAN & L. LATTMAN, ENERGY LAW 549-50 (1983); McGuigan, *Legal Issues Affecting the Development of Low-Head Hydroelectric Power*, in SOLAR ENERGY RESEARCH INSTITUTE 3 (1980).

² See D. ZILLMAN & L. LATTMAN, *supra* note 1, at 549-51. In the first half of this century hydroelectric power provided about one-third of the nation's total energy needs and 40% of its electrical energy. Today the total amount of hydroelectric energy produced has increased, but its share of the United States market has decreased. Hydro power now provides about 30% of the United State's electricity. *Id.* The authors attribute the decline in hydro power prominence to three factors. First, the best locations for

out most of this century, hydro power has been developed primarily at large hydroelectric facilities.³ Small scale hydroelectric facilities⁴ became an economically viable energy option during the 1970's due to rising energy prices and the concern over the availability of foreign oil.⁵ However, developers of small hydro facilities were hindered by the monopsony power⁶ of the electric utilities, which systematically refused to buy energy produced at the small facilities and declined to sell the producers the backup power they needed.⁷

hydroelectric power plants were developed. Second, other sources of energy, such as fossil fuels, became cheaper and more abundant. Finally, nuclear power became a prominent energy source. With the rise in fossil fuel prices and the problems facing the nuclear industry, hydro power may regain a larger market share. *Id.*

³ *Id.* at 549. Hoover Dam and the large facilities on the Tennessee River Basin are examples of large hydro projects. See Lock, *Encouraging Decentralized Generation of Electricity: Implementation of the New Statutory Scheme*, 2 SOLAR L. REP. 705, 707-08, 711-13 (1980).

⁴ Title II of the Public Utility Regulatory Policies Act of 1978 (PURPA), Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 15, 16, 26, 30, 42, & 43 U.S.C.) provides economic incentives for the development of small power production facilities including small scale hydroelectric plants. See 16 U.S.C. § 824a-3 (1982). Because the focus of this Article is on the development of small scale hydro facilities under this Statute, this Article adopts the title II definition of a small scale power production facility. The Statute defines small scale in reference to the facility's energy producing capacity, limiting capacity to no greater than 80 megawatts. *Id.* Cf. 16 U.S.C. § 2708 (1982) (title IV loan incentives limited to hydro projects with a capacity no greater than 30 megawatts).

⁵ See Lock, *supra* note 3, at 707-13; Soloman & Riesmeyer, *The Development of Alternate Energy Sources: A Legal and Policy Analysis*, 30 OKLA. L. REV. 319, 319-24 (1977); Note, *Hydroelectric Power, The Federal Power Act, and State Water Laws: Is Federal Preemption Water Over the Dam*, 17 U.C. DAVIS L. REV. 1179, 1180 n.6 (1984) [hereafter Note, *Federal Preemption*].

⁶ A monopsony market exists when there is only one buyer for a given product or service offered by a large number of sellers. The utilities could exert this power over small power producers because utilities are the only available purchasers for the energy of small producers. This situation exists because electrical utilities are usually granted natural monopolies on distribution by the states for reasons of economic efficiency. See Fanara, Suelflow & Draba, *Energy and Competition: the Saga of Electric Power*, 25 ANTITRUST BULL. 125, 134-37 (1980); Hamilton & Hamilton, *Duopoly in the Distribution of Electricity, a Policy Failure*, 28 ANTITRUST BULL. 281 (1983). But see Essay, *Efficiency and Competition in the Electric Power Industry*, 88 YALE L.J. 1511, 1534-49 (1978) (discussing problems of electric monopolies and benefits of competition). Despite the problems associated with state-granted monopolies, state utilities commissions do oversee important utility functions such as ratemaking. See D. ZILLMAN & L. LATTMAN, *supra* note 1, at 133-43 (discussing the rationale for and limits on state regulation).

⁷ See Golden, *The Role of State Regulatory Authorities in the Implementation of Federal Ratemaking Policies and Regulations for Small Hydroelectric Producers*, 16

Congress eliminated this barrier to the entry of small hydro producers into the energy market by enacting the Public Utility Regulatory Policies Act of 1978 (PURPA)⁸ as part of a comprehensive package of energy reforms submitted by President Carter.⁹ Perhaps the most significant intrusion by the federal government into state regulation of

NEW ENG. L. REV. 711, 712 (1981); Laitos, *Utility Use of Renewable Resources: Legal and Economic Implications*, 59 DENVER L.J. 663, 678-81, 703-04 (1982); see also *American Elec. Power Serv. Corp. v. FERC*, 675 F.2d 1226, 1230 n.8 (D.C. Cir. 1982) (noting congressional recognition of economic barriers facing small hydro producers).

⁸ Pub. L. No. 95-617, 92 Stat. 3117. Congressional power to regulate interstate commerce is derived from U.S. CONST. art. I, § 8, cl. 3. The constitutional grant of authority to regulate interstate commerce gives Congress the power to regulate projects generating electricity for use in interstate commerce. *New England Power Co. v. New Hampshire*, 455 U.S. 331 (1982). This power also includes the right to regulate navigable waters, *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 22 (1824); nonnavigable tributaries of navigable waterways, *United States v. Grand River Dam Auth.*, 363 U.S. 229, 232 (1960); and nonnavigable streams that could be made navigable by reasonable improvement, *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 426 (1940). Congress defined navigable waters in the Federal Power Act of 1935, Pub. L. No. 74-667, 49 Stat. 838, 863:

“Navigable waters” means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which either in their natural or improved condition . . . are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement.

16 U.S.C. § 796(8) (1982).

Congress first asserted its jurisdiction over water power resources through the Federal Water Power Act of 1920 (FWPA), Pub. L. No. 66-280, 41 Stat. 1063. Chapter 285 of this Act was later renamed the Federal Power Act of 1935 (FPA), Pub. L. No. 74-687, 49 Stat. 838, 863 (codified in 16 U.S.C. §§ 791a-828c (1982)).

⁹ The energy package was submitted as part of an address to Congress on April 20, 1977. 13 WEEKLY COMP. PRES. DOC. 566, 599 (Apr. 25, 1977). In addition to PURPA, the package of energy legislation that was enacted as the National Energy Act included: the Energy Tax Act of 1978, Pub. L. No. 95-618, 92 Stat. 3174 (codified in scattered sections of 26 U.S.C.) (tax incentives for residential conservation and solar construction and a gas consumption tax); the National Energy Conservation Policy Act, Pub. L. No. 95-619, 92 Stat. 3206 (1978) (codified in scattered sections of 12, 15, & 42 U.S.C.) (comprehensive program for reducing the nation’s energy demand and conserving nonrenewable energy resources); the Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (codified in scattered sections of 15, 19, 42, & 45 U.S.C.) (limiting the availability of natural gas as a primary energy source for certain industries); and the Natural Gas Policy Act of 1978, Pub. L. No. 95-621, 92 Stat. 3351 (codified in scattered sections of 15 U.S.C.) (regulating natural gas pricing).

electricity generation,¹⁰ PURPA included retail ratemaking guidelines for state regulatory agencies,¹¹ policies for regulating retail sales by gas¹² and electric¹³ utilities, a loan program for small hydroelectric producers,¹⁴ and regulations on crude oil transportation.¹⁵ PURPA was intended to establish an electric utility pricing policy that would encourage conservation in the production and use of electricity.¹⁶

Title II of PURPA expressly addressed the problems facing small scale energy producers.¹⁷ These provisions ended utility control over energy production¹⁸ and also provided economic incentives for small scale producers. Specifically, section 210 of title II¹⁹ mandates that the Federal Energy Regulatory Commission (FERC)²⁰ promulgate rules requiring electric utilities to interconnect²¹ with qualifying small scale en-

¹⁰ Until PURPA, states generally established ratemaking policies for utilities. The constitutionality of congressional intrusion into the states' power to regulate utility ratemaking was recently upheld in *FERC v. Mississippi*, 456 U.S. 742 (1982). The Supreme Court reviewed a claim that title I of PURPA unconstitutionally infringed on state ratemaking authority. The Court held that PURPA did not impose mandatory rate standards, but only required the state regulatory authorities to consider certain federal guidelines in setting rates. *Id.* at 764.

¹¹ PURPA, tit. I, 92 Stat. 3117, 3120-34 (1978).

¹² *Id.*, tit. III, 92 Stat. at 3149-54.

¹³ *Id.*, tit. II, 92 Stat. at 3134-49.

¹⁴ *Id.*, tit. IV, 92 Stat. at 3154-57.

¹⁵ *Id.*, tit. V, 92 Stat. at 3157-64.

¹⁶ H.R. REP. NO. 543, 95th Cong., 1st Sess. 10 (1977), reprinted in 1978 U.S. CODE CONG. & AD. NEWS 7673, 7677 ("[O]ne of the most important themes of the National Energy Act is to foster greater conservation in the use of energy resources.").

¹⁷ PURPA, tit. II, 92 Stat. 3117, 3134-49 (1978).

¹⁸ See *supra* note 6 and text accompanying notes 6-16.

¹⁹ 92 Stat. 3117, 3144-45 (1978) (codified at 16 U.S.C. § 824a-3 (1982)).

²⁰ FERC was established in 1977 as an independent regulatory commission within the Department of Energy. Department of Energy Organization Act, Pub. L. No. 95-91, 91 Stat. 565 (1977) (codified at scattered sections of 5, 10, 15, 16, 30, 42, & 43 U.S.C.). Title IV of the Act delineates FERC's authority. 42 U.S.C. §§ 7171-7177 (1982). FERC succeeded to the broad powers previously exercised by the Federal Power Commission under the Federal Power Act, 16 U.S.C. §§ 791-828c (1982). The Federal Power Act amended the Federal Water Power Act of 1920, Pub. L. No. 280, 41 Stat. 1063, which provided the basic federal charter that PURPA amends. *Cf. Debevoise, The Role of the Federal Energy Regulatory Commission in Licensing Small Hydro Electric Projects*, 75 Vt. L. REV. 279, 282-85 (1980) (suggesting that FERC's jurisdiction is so plenary that it could have implemented its rules before PURPA was enacted).

²¹ 16 U.S.C. § 824i (1982). Interconnection requires the utility to allow the small producer to feed its supply of electricity into the utility's distribution system. Because of the utilities' distribution monopoly, small power producers do not own distribution systems. See *supra* note 6. The interconnection requirement allows small power producers

ergy facilities²² and to purchase from and sell power to them on demand at promotional rates.²³

In February, 1980, FERC issued the rules required by title II.²⁴ These rules allow small scale hydroelectric power projects to qualify for the interconnection guarantee and promotional utility purchase rate incentives provided by title II of PURPA.²⁵ FERC extended the incentives to apply to both small scale hydro facilities at existing dams²⁶ and

to distribute their power to otherwise inaccessible consumers by giving them access to energy distribution systems.

²² Qualifying facilities are those that utilize waste heat (cogeneration) or renewable resources, have a power production capacity no greater than 80 megawatts, and are primarily owned by interests other than electric utilities. PURPA § 201, 92 Stat. 3117, 3134-35 (1978) (codified at 16 U.S.C. § 796 (1982)).

²³ Congress wanted to ensure not only that utilities bought electricity from small power producers, but also that those purchases were at "just and reasonable" prices that did not discriminate against the small power producers. 16 U.S.C. § 824a-3(b) (1982). The statute set the maximum promotional rate at the incremental value of the purchased power to the electric utility. That value is equivalent to the costs avoided by the utility in not producing the energy itself. *Id.* In its regulations, FERC adopted this maximum permissible rate as the required promotional rate. 18 C.F.R. § 292.304 (1983).

FERC's full avoided cost rule was challenged in *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983). The appellate court invalidated the rule because FERC had not adequately explained why the statute's maximum rate should be adopted as a uniform rate. *American Elec. Power Serv. Corp. v. FERC*, 675 F.2d 1221, 1233 (D.C. Cir. 1982), *rev'd sub nom.* *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983). The Supreme Court reversed, holding that FERC's regulation was not arbitrary, capricious, or an abuse of discretion. The Court also upheld FERC's regulations requiring the interconnection by utilities to small power producers. *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921, 1927-30 (1983). For an analysis of FERC's ratemaking regulations under PURPA, see Golden, *supra* note 7.

²⁴ 18 C.F.R. §§ 292.101-.602 (1983). The rules, along with a summary and explanation, are published in 45 Fed. Reg. 17,959-72 (1980).

²⁵ 18 C.F.R. § 292.204 (1983). Although hydro power is not specifically mentioned in the rules, it is included in FERC's explanation of the rules. 45 Fed. Reg. 17,959-66 (1980). The title II incentives also apply to facilities producing energy from any combination of biomass (organic material not derived from fossil fuels), waste (by-product materials), geothermal resources, and other renewable resources. 18 C.F.R. §§ 292.203-.204 (1983). They also apply to cogeneration facilities (any facility producing electricity and other useful forms of energy, such as steam). 18 C.F.R. §§ 292.203, .205 (1983).

²⁶ The definition of existing dam is discussed *infra* notes 37-41, 52-57 and accompanying text. That discussion concludes that existing dam means one completed at the time the statute was enacted. This conclusion is in part derived from the definition given in title IV of PURPA, which defines an existing dam as one completed on or before April 20, 1977, the date of enactment. 16 U.S.C. § 2701 (1982).

those requiring the construction of a new dam.

FERC's decision to extend PURPA's title II benefits to facilities requiring new dams is significant for two reasons. First, it contradicts the legislative history and other provisions of PURPA²⁷ that suggest the title II incentives should apply only to facilities at existing dams. Second, since PURPA's enactment, applications to FERC for licenses and exemptions²⁸ to operate small scale hydroelectric power facilities have increased dramatically.²⁹ Accompanying this increase is the prospect of a myriad of adverse environmental effects.³⁰ By extending the incentives to new dams, FERC significantly expanded the number of eligible projects and consequently exacerbated the possibility of adverse impacts.

This Article analyzes the legitimacy and ramifications of FERC's eligibility rules governing small hydro projects under title II of PURPA. Part I analyzes PURPA's legislative history, statutory mandates, and environmental goals as they relate to small hydro projects. This part also examines FERC's implementation of PURPA's section 210 requirements. Part II focuses on FERC's projections of the environmental impacts of its section 210 regulations. This part also discusses additional evidence concerning the effect of PURPA on hydro development and the accompanying environmental impacts, concluding that FERC's assessments were inaccurate. Part III proposes that FERC's abuse of statutory authority and the environmental threat

²⁷ See *infra* text accompanying notes 32-49.

²⁸ FERC's complicated licensing process, promulgated under the Federal Power Act of 1935, 16 U.S.C. §§ 792-828c (1982), is found in 18 C.F.R. §§ 4-50.1 (1983). For an overview of the process, see Debevoise, *supra* note 20.

Generally, a potential developer first applies for a preliminary permit, which, if granted, gives that developer priority for licensing. The permit is granted for either two years (at existing dams) or three (at new dams). During this time, the developer studies the feasibility of the project. The developer must apply for a license before the permit expires to retain her priority status for licenses. The license application procedure depends on the size of the facility and whether it is to be located at an existing or new site. There is a streamlined licensing procedure for projects at existing dams with a capacity less than 30 megawatts. Exemptions from the licensing process may be available for certain projects with a capacity less than five megawatts.

²⁹ See *infra* text accompanying notes 80-95. PURPA seems to have strongly encouraged private entrepreneurs to enter the hydropower industry. For example, a study of hydro development in New England noted that mostly private developers, responding to the incentives provided by PURPA, were investigating new sites for hydro development in New England. NEW ENGLAND RIVER BASIN COMM'N, WATER, WATTS AND WILDS: HYDROPOWER AND COMPETING USES IN NEW ENGLAND 29 (1981) [hereafter RIVER BASIN COMM'N].

³⁰ See *infra* text accompanying notes 96-120.

posed by its current small hydro regulations mandate a challenge to these regulations, notwithstanding a nominal jurisdictional bar to judicial review of the promulgated rules. This Article concludes by proposing a model regulation that would align FERC's enforcement of title II with the statute's language and environmental goals.

I. THE APPLICATION OF TITLE II AND FERC'S REGULATIONS TO SMALL HYDRO FACILITIES

The legislative history, the explicit statutory purpose, and the definition of existing dam used in title IV³¹ suggest a restrictive application of the title II incentives to small hydro projects. However, FERC's implementation of these incentives has been excessively broad. FERC has extended the incentives to hydro facilities built at new dams. This part demonstrates that in light of the clear intent of title II, FERC's incentives should be available only to facilities built at existing dams.

A. *Congressional Intent to Extend Title II Incentives to Small Hydro Facilities*

Absent from the original package presented to Congress,³² the title II promotional rate and interconnection incentives evolved from a compromise between the House of Representatives and the Senate.³³ Title II

³¹ Title IV of PURPA establishes a loan program for small hydro projects built at existing dams. PURPA, tit. IV, 92 Stat. 3117, 3154-57 (1978) (codified at scattered sections of 15, 16, 26, & 42 U.S.C.). The purpose of the loan program is "to encourage . . . the development of small hydroelectric power projects at existing dams." 16 U.S.C. § 2701 (1982).

³² When President Carter submitted his National Energy Plan to Congress, his proposals regarding public utilities focused primarily on their rate structures. Specifically, President Carter suggested phasing out promotional rates and declining block rates, which make natural gas and electricity artificially cheap for high volume users. The President encouraged peak-load pricing. This sets prices higher when demand is great and lower when demand is small and is more reflective of the actual cost to the utility in producing the electricity. President's Address delivered before a Joint Session of Congress, 13 WEEKLY COMP. PRES. DOC. 566, 569 (Apr. 20, 1977).

³³ President Carter's retail rate proposals evolved into title I (Retail Regulatory Policies for Electric Utilities). The proposed retail rate standards became merely "guidelines" for state regulatory bodies under title I as enacted. PURPA, 92 Stat. 3117, 3120-34 (1978) (codified at 42 U.S.C. §§ 6801-6808 & scattered sections of 16 U.S.C.). The House agreed to this dilution of the retail rate standards of title I; in exchange, the Senate agreed to pass the title II provisions that were only part of the House bill.

For a discussion of the legislative debate, see Note, *The Legislative Evolution of Title II of the Public Utilities Regulatory Policies Act of 1978. A Study in Compromise*, 5 J. CORP. LAW 105 (1979); Note, *Title I of PURPA: The Effect of Federal Intrusion into*

contains no explicit reference to the qualification of hydro projects under its provisions.³⁴ The mandatory interconnection and promotional rate incentives of title II apply to small power production facilities.³⁵ These are defined as facilities with a capacity of not more than eighty megawatts, not primarily owned by electric utilities, and powered by waste heat, biomass, or other renewable resources.³⁶ Since title II neglects to define renewable resources, PURPA's statutory language does not clarify whether hydro power is a renewable resource qualifying for title II incentives. However, the Conference Committee specifically identified hydro power as a renewable resource in its Joint Explanatory Statement.³⁷ In addition, the Committee also imposed a critical limitation on hydro power qualification: water was to be considered a renewable resource only with respect to hydroelectric facilities at existing dams.³⁸ Thus, the only explicit reference to hydro power accompanying the enactment of title II contained an existing dam limitation.

This same limitation pervades explicit references to hydro power in other sections of PURPA. In its preface, the Act calls for "a program to provide for the expeditious development of hydroelectric potential at *existing small dams*."³⁹ In addition, title IV of the Act establishes a loan program for small scale hydroelectric projects at existing dams. The purpose of the loan program was "to encourage . . . the development of small hydroelectric power projects in connection with *existing dams*."⁴⁰ Thus, an extension of title II incentives to new dam construction not only violates the congressional intent found in the Conference Committee's report, but also contradicts the policies enumerated in

Regulation of Public Utilities, 21 WM. & MARY L. REV. 491, 504-16 (1979).

³⁴ The statute concerning cogeneration and small power production, 16 U.S.C. § 824a-3(a) (1982), merely requires FERC to adopt rules that "encourage cogeneration and small power production." The statute defines cogeneration and small power production without reference to hydro power; the only technologies expressly mentioned are those using waste heat or biomass. 16 U.S.C. § 796 (1982). Section 796 also includes small power production facilities using renewable resources.

³⁵ 16 U.S.C. § 796 (17) (1982).

³⁶ *Id.*

³⁷ JOINT EXPLANATORY STATEMENT OF THE COMMITTEE OF CONFERENCE, H. CONF. REP. NO. 1750, 95th Cong., 1st Sess. 89 (1971), *reprinted in* 1978 U.S. CODE CONG. & AD. NEWS 7797 ("The conferees intend that water be included within the meaning of the term renewable resources with respect to hydroelectric facilities at existing dams.").

³⁸ *Id.* at 7823.

³⁹ 16 U.S.C. § 2601(3) (1982) (emphasis added).

⁴⁰ *Id.* § 2701 (emphasis added).

other sections of PURPA.⁴¹

In addition to the statutory language and legislative history, the congressional goal in enacting PURPA confirms that title II incentives should apply only to hydro projects built at existing dams. President Carter and Congress agreed that electric generation should move toward a more sustainable use of fuel resources.⁴² This was partially prompted by a desire to reduce reliance on foreign oil.⁴³ More broadly, the primacy accorded renewable energy sources in PURPA reflected a

⁴¹ FERC's failure to respect the existing dam limitation in PURPA in a related context was recently addressed in *Tulalip Tribes of Wash. v. FERC*, 732 F.2d 1451 (9th Cir. 1984). Petitioners challenged FERC's rule authorizing case-specific exemptions from federal licensing requirements for projects that use "diversion structures" no taller than ten feet and impound no more than two acre feet of water. The only authority for such exemptions was found in 16 U.S.C. § 2708, as amended by the Energy Security Act of 1980. See *infra* note 54. Section 2708(b) authorizes an exemption for "any project which utilizes or proposes to utilize natural water features for the generation of electricity without the need for any dam or impoundment." FERC justified its exemption on the ground that a literal reading of the statute was not necessary to carry out the congressional intent behind the statute. 732 F.2d at 1454-55.

The court rejected this argument and invalidated the final rule. The court held "the structures authorized by the final rule clearly fall within the plain meaning of 'any dam or impoundment' The final rule authorizes exemptions for projects that utilize a structure which is a 'dam' and produces an 'impoundment' and therefore violates the rule." 732 F.2d at 1451.

In addition to focusing on the plain language, the court also justified its holding by the policy behind PURPA. While agreeing with the Commission that Congress wanted to encourage small hydro development, the court noted that "it is equally clear that Congress intended to protect the environment and confine *exemptions* to sites where there is no need for any new dam or impoundment." 732 F.2d at 1455 (emphasis in original).

⁴² An early version of the bill stated: "the United States must promptly develop renewable and essentially inexhaustible energy sources and convert the Nation's economy to greater utilization of . . . domestic alternative fuel resources." 123 CONG. REC. 26,124 (1977).

⁴³ Congress was reacting to two successive and significant price shocks in the international oil market. When introducing the bill to the House, Representative Ashley stated:

The energy future of our Nation is very uncertain . . . and it is dangerously insecure because of increasing reliance on foreign oil This heavy and increasing reliance on insecure foreign sources of oil poses a constant and growing threat to our domestic economy and to the security of our country. The threat comes not alone from the possibility of higher OPEC prices, another embargo, or the ability of the enemy to interdict foreign supplies destined for the United States. It comes as well from the certain knowledge that world production of oil will peak sometime in the 1980's.

123 CONG. REC. 25,894 (1977).

concern for reducing the adverse effects that electric power generation has upon natural resources.⁴⁴

Although, by definition, using a renewable resource as an energy source does not deplete the supply of the resource, other environmental impacts may result. Hydro facilities, for example, may cause water stratification and destruction of wildlife habitat.⁴⁵ These and other adverse effects are more likely to occur at facilities built at new dams.⁴⁶ Building dams for hydroelectric projects brings about significant environmental impacts.⁴⁷ By contrast, merely adding a hydro facility to a pre-existing dam would not have serious environmental impacts.⁴⁸ The Committee's decision denied incentives to hydro projects that would have additional significant environmental impacts and allowed incentives for projects at dams that had, at the time of the statute, already taken their ecological toll.⁴⁹ Thus, when considering the environmental goals underlying PURPA's enactment, the Conference Committee's distinction between hydro facilities at existing and new dams is understandable.

⁴⁴ The Ad Hoc Committee on Energy stated in its analysis of the National Energy Act, "one of the more important themes of the National Energy Act is to foster greater conservation in the use of energy resources." H.R. REP. NO. 543, 95th Cong., 1st Sess. 8 (1977), *reprinted in* 1978 U.S. CODE CONG. & AD. NEWS 7673, 7677. The Committee further explained PURPA's relationship to that goal: "[T]he bill provides for a method to move the Nation's electric utilities toward pricing policies which . . . encourage conservation in the production . . . of electricity." *Id.* at 7679.

⁴⁵ See *infra* notes 96-120 and accompanying text.

⁴⁶ See *infra* notes 70-72, 102-06 and accompanying text.

⁴⁷ For a discussion of the specific environmental impacts associated with building new dams, see *infra* text accompanying notes 96-120.

⁴⁸ This conclusion was reached by FERC itself in its Finding of No Significant Impact Statement, filed to comply with the National Environmental Protection Act. See *infra* note 66. This statement accompanied the promulgation of rules under PURPA, title II. Notice of Finding of No Significant Impact and Notice of Intent to Prepare Environmental Impact Statement, 10 FERC ¶¶ 61,629, 61,650 (Mar. 31, 1980) [hereafter FONSI].

⁴⁹ See *Tulalip Tribes of Wash. v. FERC*, 732 F.2d 1451 (9th Cir. 1984). In holding that FERC's exemption for new diversion structures violated the existing dam limitation found in the statute, the court noted "[i]n addition to encouraging small hydro projects, it is equally clear that Congress intended to protect the environment [by limiting exemptions to existing dams]." 732 F.2d at 1455; see also *supra* note 41 (general discussion of *Tulalip*).

B. FERC's Regulations Implementing Title II Incentives

Section 210 of PURPA⁵⁰ specifically directs FERC to promulgate rules implementing the mandatory interconnection and purchase rate incentives of title II. The rules adopted by FERC ignored the clear limitation on the application of title II incentives to small hydro facilities at existing dams.

FERC issued a set of proposed regulations on June 27, 1979.⁵¹ In those proposed regulations, water was a renewable resource only with respect to facilities built at existing dams. Existing dam was defined as a dam completed by the time a developer applied for title II incentives.⁵² FERC suggested that this rule complied with the existing dam limitation in the Conference Committee Report.⁵³

In spite of this attempt to comply with title II's statutory limitations, FERC's interpretation of existing dam was inconsistent with the use of the term elsewhere in PURPA and failed to conform to the interpretation intended by the Conference Committee. Title IV defines existing dam to mean any dam whose construction is completed on or before April 20, 1977.⁵⁴ Although this definition does not expressly apply to

⁵⁰ 92 Stat. 3117, 3144-45 (1978) (codified at 16 U.S.C. § 824a-3 (1982)).

⁵¹ 44 Fed. Reg. 38,872 (1979). As part of its rulemaking procedure, FERC must publish its proposed rules, with an analysis in the *Federal Register*. The promulgation of a final rule must be accompanied by an explanation responding to major comments, criticisms, and alternatives. 42 U.S.C. § 7191(b) (1982).

⁵² 44 Fed. Reg. 38,872, 38,878 (1979). Section 292.205 of the proposed regulations set out the eligibility requirements for hydro: "Water is a renewable resource with respect to hydroelectric facilities except to the extent that such facilities: (i) include dams . . . the construction of which was not completed on or before the date of application for qualification . . . or (ii) require any construction or enlargement of impoundment structures." *Id.*

⁵³ As explained by the Commission:

The Conference Report states that water is to be included within the meaning of the term renewable resources "with respect to hydroelectric facilities at existing dams." Clause (1) of paragraph (a) implements this requirement In order to become operative under these standards, a hydroelectric facility cannot become a qualifying small power production facility unless the impoundment portion of the facility is complete as of the date of the filing for qualification.

Id. at 38,873.

⁵⁴ 16 U.S.C. § 2708(a)(6) (1982) (Existing dam is "any dam, the construction of which was completed on or before April 20, 1977, and which does not require any construction or enlargement of impoundment structures (other than repairs or reconstruction)"). Comparing the language of the proposed rules, *see supra* note 52, FERC essentially copied from the statutory language, but elected to change "April 20, 1977" to "the date of application." This significant alteration allows many more dams to

title II, it is unlikely that the drafters intended two different meanings for the same term within the same bill.⁵⁵ In addition, PURPA's introductory section states that one purpose of the Act is to increase hydro development at existing dams.⁵⁶ Presumably, this means dams existing at the time of PURPA's enactment, not at some later time, perhaps decades later when a developer applies for qualification.⁵⁷

qualify for title II incentives. That is, any dam completed after April 20, 1977 could qualify for incentives as long as it was completed at the time of application.

Section 2708 was amended to clarify that the existing dam requirement did not exclude hydro projects utilizing natural water features to generate electricity, without the need of a dam and without any adverse effect on the natural water features. Energy Security Act, Pub. L. No. 96-294, 94 Stat. 611, 718 (1980) (codified at 16 U.S.C. § 2708(b) (1982)). FERC defined natural water feature as a natural configuration, such as a lake or waterfall, which can be used to generate hydro power without the need for a dam or other man-made impoundment. 18 C.F.R. § 4.102(1)(2)(i). FERC described the power generation process as follows: Projects utilizing natural water features use diversion structures, such as gates, to pass the water through the power plant and release it back into the stream. Letter from Raymond J. O'Conner, Chairperson, FERC, to Representative Richard L. Ottinger, Chairperson, House Subcommittee on Energy and Commerce (Feb. 17, 1984) (written in response to questions of the Subcommittee concerning FERC's licensing of hydro power) (copy on file with *U.C. Davis Law Review*). This change in title IV allows diversion structures to qualify for the loan program established in that title.

Such diversion structures may also qualify for the title II promotional rate and interconnection incentives, which are the focus of this Article. *Id.* at 17-18. While this does indicate congressional intent to encourage hydro power development at other than existing dams, it does not mean that Congress intended to encourage development at new dams. Qualification of diversion works for title II incentives does not preclude the argument that Congress wanted to exclude development at new dams, as development at diversion sites presents far fewer environmental dangers than at new dams because they entail little construction or alteration at the development sites. Indeed, Congress only included diversion works in title IV to the extent they do not harm natural water features. 16 U.S.C. § 2708 (1982); *see also supra* notes 41, 49.

⁵⁵ A basic principle of statutory construction requires that provisions in a statute should be given a meaning harmonious with other relevant provisions in the same statute. *See, e.g.,* *Philbrook v. Glodgett*, 421 U.S. 707, 713 (1975) (state contention that federal statute excluded those eligible for unemployment compensation from federal aid, rather than those actually receiving it, was inconsistent with the overall aid program in the statute); *United States v. Stauffer Chem. Co.*, 684 F.2d 1174, 1184-85 (6th Cir. 1982) (construction that "authorized representatives" included employees of private contractors conflicted with later provision limiting the term "representative" to employees of the agency), *cert. granted*, 103 S. Ct. 1766 (1983); *United Mine Workers v. Andrus*, 581 F.2d 888, 892-93 (D.C. Cir.) (interpretation that Secretary of the Interior had authority to terminate a violation notice was inconsistent with an earlier section specifically directing type of relief), *cert. denied*, 439 U.S. 928 (1978).

⁵⁶ 16 U.S.C. § 2601(1) (1982).

⁵⁷ This interpretation is consistent with the definition of existing dam found in title

Rather than correcting its error in interpretation, FERC compounded the problem in the final section 210 rules.⁵⁸ The earlier recognition of the existing dam limitation disappeared as FERC altogether ignored the existing dam limitation, allowing hydro projects to qualify under title II regardless of the existence of a dam at the time of application or otherwise.⁵⁹ In explaining this change, FERC concluded that the Conference Committee could not have intended to restrict renewable resources to water at existing dams, as that interpretation conflicted with the conventional use of the term.⁶⁰ The Conference Committee report clearly states, however, that "the Conferees intend that water be included within the meaning of the term renewable resources with respect to hydro-electric facilities at existing dams."⁶¹ FERC's acknowledgement of and reliance upon the Conference Committee's limitation in its proposed rules makes FERC's later rejection of it in the final rules less explicable.⁶² By extending title II incentives to hydro facilities at new dams, FERC ignored the policy and statutory language of PURPA.⁶³

IV of PURPA. *See supra* note 54.

⁵⁸ 18 C.F.R. §§ 292.101-.602 (1983).

⁵⁹ *Id.* § 292.204. Like the definition provided in PURPA, *supra* text accompanying notes 35-36, FERC's rule 204 setting forth the criteria for qualifying small power production facilities, refers only to renewable resources. 18 C.F.R. § 292.204 (1983).

⁶⁰ 45 Fed. Reg. 17,959, 17,966 (1980).

⁶¹ JOINT EXPLANATORY STATEMENT OF THE COMMITTEE OF CONFERENCE, H. CONF. REP. NO. 1750, 95th Cong., 1st Sess. 89 (1977), *reprinted in* 1978 U.S. CODE CONG. & AD. NEWS 7797, 7823 (1978).

⁶² *See supra* notes 52, 53 and accompanying text.

⁶³ This conclusion was recently acknowledged during congressional hearings before the House Subcommittee on Energy Conservation and Power. *See infra* notes 107-15 and accompanying text. Testimony by a water expert noted that:

[FERC] has been notably guilty of overreaching its legislative authority [T]he Commission expanded the universe of hydro power projects . . . that might be eligible from only those projects associated with existing dams to projects utilizing new dams or impoundments as well, ignoring clear language in the PURPA Conference Report applying PURPA benefits only to "hydroelectric facilities at existing dams" The Commission action represents a major step in promoting new dam construction in direct contravention of its congressional mandate.

Oversight Hearings on FERC's Small Hydropower Programs Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce, 98th Cong., 2d Sess. (1984) (to be published) (statement of David R. Conrad, water resource specialist, Friends of the Earth) (copy on file with U.C. Davis Law Review).

II. THE EFFECTS OF PURPA ON HYDRO DEVELOPMENT AND THE ENVIRONMENT

FERC's decision to extend title II incentives to new dams not only ignored clear statutory language and congressional policy, it also disregarded the adverse environmental effects of its decision. Subsequent studies conducted by FERC and other independent organizations demonstrate that FERC incorrectly assumed that extension of title II incentives to facilities at new dams would not have environmental effects.

A. *FERC's Projections Prior to Enactment of the Title II Qualification Rules*

When FERC promulgated its rules, it acknowledged the potential environmental impacts of the title II regulations concerning small scale hydro power.⁶⁴ Nevertheless, FERC assumed that the potential impacts of the hydro power rules would not actually occur⁶⁵ and declined to prepare an environmental impact statement (EIS) under the National Environmental Policy Act (NEPA).⁶⁶ Instead, FERC filed a notice of Finding of No Significant Impact (FONSI) to fulfill NEPA requirements.⁶⁷

FERC determined that hydro facilities at existing dams would have only moderate environmental effects.⁶⁸ Since applications for facilities at existing dams require individual environmental assessments, FERC concluded that the impacts could be identified and avoided through the

⁶⁴ FONSI, *supra* note 48, ¶¶ 61,646-61,647.

⁶⁵ See *infra* notes 73-79 and accompanying text.

⁶⁶ Under NEPA, a government agency must prepare an EIS whenever its activity constitutes major federal action significantly affecting the environment. 42 U.S.C. § 4332(2)(c) (1984). The promulgation of rules by a federal agency is generally considered to be a major federal action warranting an EIS. 40 C.F.R. §§ 1508.18(a)-18(b)(1) (1983). Whether an action has significant environmental impacts is determined initially by an Environmental Assessment prepared by the agency in accordance with its own internal procedures. *Id.* § 1508.9. If the agency concludes that the environmental effects of the rule will be significant, a Declaration of Intent to Prepare an Environmental Impact Statement is issued. *Id.* § 1508.22. If the agency determines the environmental effects will not be significant, a Finding of No Significant Impact is issued. *Id.* § 1508.13.

⁶⁷ FONSI, *supra* note 48. FERC determined that only its rules concerning cogeneration facilities might cause potentially significant environmental impacts. *Id.* ¶ 61,658.

⁶⁸ *Id.* ¶¶ 61,649-61,650. FERC defined moderate environmental effects as "a moderate probability of serious adverse environmental impacts." *Id.* ¶ 61,647.

application process.⁶⁹ These conclusions are consistent with the Conference Committee's decision to limit title II incentives to existing dams facilities.

By contrast, FERC found that construction of new dams would have serious environmental effects.⁷⁰ The FONSI concluded new dams would degrade the local water quality, injure the rivers' ecology, and threaten competing uses.⁷¹ Specific environmental concerns were: the conversion of freeflowing streams into standing water and the attendant adverse effects on aquatic ecosystems; the possibility of flooding surrounding land; the effects of fluctuating reservoir levels on aquatic and semiaquatic organisms; and the likelihood of abnormal amounts of chemicals, sediments, and silts released into the downstream environment.⁷² These conclusions are also consistent with the existing dam limitation imposed by the Conference Committee.

However, FERC justified its extension of title II incentives to new dams by concluding that the adverse impacts were unlikely to occur.⁷³ This conclusion was based on a market penetration analysis indicating that PURPA would not encourage an appreciable amount of development at new dams.⁷⁴ Due to the higher cost of new dams, the near-term⁷⁵ development would be largely confined to existing dams.⁷⁶ FERC did find that significant environmental effects would occur in the long-term, even under its market projections.⁷⁷ FERC reiterated its

⁶⁹ FERC stated, "[s]ince the application for licenses must involve an environmental report that discusses the environmental effects . . . early identification of issues results, and problems can be eliminated or mitigated prior to construction. [*sic*]." *Id.* ¶ 61,650. The problems with this assumption are discussed *infra* note 79.

⁷⁰ FONSI, *supra* note 48, ¶¶ 61,656-61,657. FERC defined technologies with significant environmental effects as those "for which the probability of adverse environmental effects is relatively high." *Id.* ¶ 61,651. FERC noted at the outset that the difference in environmental effects between new and existing dams was significant. FERC stated:

Small-scale hydropower development creates local water quality and related ecological impacts as well as potential conflicts over the use of resources. These impacts are generally not significant at existing dams . . . but can be significant if breached dams are rehabilitated as part of the hydropower development at a site or if new dams are constructed.

Id. ¶ 61,631.

⁷¹ *Id.* ¶ 61,631.

⁷² *Id.* ¶ 61,657.

⁷³ *Id.*

⁷⁴ *Id.* ¶ 61,659.

⁷⁵ FERC made its projections only for near-term development through 1985.

⁷⁶ FONSI, *supra* note 48, ¶ 61,649.

⁷⁷ *Id.* ¶¶ 61,657, 61,659.

belief that the application procedure would eliminate these problems⁷⁸ and that its rules would not significantly affect the quality of the human environment.⁷⁹ However, recent studies conducted both by

⁷⁸ FERC stated:

[L]icense applications are evaluated on a case-by-case basis to determine the significance of the environmental impacts and the need for a site-specific EIS. In addition, impacts of individual projects on a waterway may be cumulative, and the Commission reviews each project in relation to others on the waterway Therefore, requirements of NEPA will be met as each application is filed.

Id. ¶ 61,659. The problems with this assumption are discussed *infra* note 79.

⁷⁹ FERC concluded that cogeneration was the only technology likely to have significant environmental effects. FONSI, *supra* note 48, ¶¶ 61,629, 61,659.

In addition to the market penetration rationale, FERC further justified its decision not to file an EIS by concluding that the licensing process would provide a case by case review of potential environmental impacts. *Id.* ¶ 61,659. FERC also announced its intention to monitor unanticipated changes in market penetration. *Id.* ¶ 61,660.

FERC's overall compliance with NEPA has been challenged by a number of environmental groups in a petition for amendment and preparation of an environmental impact statement. Petition for Amendment to 18 C.F.R. §§ 292.204 & 292.207 and for Preparation of an Environmental Impact Statement on Behalf of the Natural Resources Defense Council (FERC Docket No. RM79-54) [hereafter EIS Petition] (copy on file with *U.C. Davis Law Review*). These petitioners point out several shortcomings in FERC's findings. Initially, the petition notes that despite FERC's contention that environmental reviews on a project by project basis will discharge its NEPA obligations, FERC usually does not require an EIS before licensing or approving a project. In 1981, for example, FERC issued 78 licenses and 44 exemptions but prepared only 12 EIS's. EIS Petition, *supra*, at 30. In addition, the impact statements are project specific and do not consider the cumulative impact of FERC's generic decision to extend PURPA benefits to new projects. *Id.* The petition states:

At most FERC's licensing EISs take account of the cumulative impact of already-existing projects in the watershed Indeed, FERC has never undertaken analysis of the future cumulative impact of PURPA-stimulated hydro projects Yet it is just these generic and cumulative impacts that are relevant to the issue of whether the eligibility rules should encompass all hydroelectric development or only some smaller category. Even if FERC did routinely prepare site-specific EISs, . . . the advisability of those rules are not an issue for decision in the licensing or exemption process on a specific application. A piecemeal approach to the eligibility issue would permit irreversible impacts to continue indefinitely while the alternative of a more restrictive eligibility criteria is increasingly foreclosed.

EIS Petition, *supra*, at 30-32.

A second argument in the petition addresses FERC's contention that the case by case licensing process adequately identifies environmental concerns and eliminates the need for an EIS on FERC's rulemaking, *see supra* notes 69, 78 and accompanying text. The petitioners argue that courts reject the notion that a rulemaking agency need not file an EIS when project specific EIS's are required, citing *American Public Transit Ass'n v.*

FERC and other groups indicate inaccuracies in these assumptions.

B. Hydro Development Since PURPA

In response to congressional concern over the environmental effects of FERC's title II regulations, FERC recently compiled statistics on the volume of its own regulatory activities before and after the regulations became effective.⁸⁰ These statistics belie FERC's market penetration assumptions and, therefore, its assumptions regarding the environmental consequences of the regulations. The data show a considerable increase of interest in small hydro development, which directly correlates with the availability of the PURPA incentives. The interest in new projects has proven to be substantially greater than FERC's assumptions.

Two indicia particularly illustrate the correlation between PURPA's enactment and the increase in hydro power development.⁸¹ Initial applications to FERC for preliminary permits and exemptions for small

Goldschmidt, 485 F. Supp. 811, 832-33 (D.D.C. 1980). In *Goldschmidt*, the court rejected the Department of Transportation's theory that project specific EIS's satisfied NEPA requirements for certain handicapped public transportation projects. The court said:

A regulatory program requiring hundreds or perhaps thousands of actions each significantly affecting the environment must itself be regarded as significant. The fact that numerous individual EISs will be required for many particular projects initiated pursuant to this national program does not diminish its potential environmental affect [sic] nationwide; rather it attests to it. Moreover, it seems obvious that . . . this program may have a cumulative effect which is greater than the sum of its individual effects.

EIS Petition, *supra*, at 32 (quoting *Goldschmidt*, 485 F. Supp. at 833). The petitioners applied this reasoning to FERC's regulations, contending that the rules are environmentally significant on a national level.

Furthermore, through a Freedom of Information Act request, the petitioners ascertained that FERC had not yet established the monitoring program it promised in the FONSI. EIS Petition, *supra*, at 16. Because FERC relied on this program in justifying its decision not to file an EIS, the petitioners argue an EIS should be filed in absence of the monitoring.

⁸⁰ Letter from Raymond J. O'Conner, Chairperson, FERC, to Representative Richard L. Ottinger, Chairperson, Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce (Feb. 17, 1984) [hereafter FERC Letter] (copy on file with *U.C. Davis Law Review*). This letter contains FERC's responses to questions posed earlier by the Subcommittee; the questions stemmed from the Subcommittee's concern over FERC's hydro power licensing procedures.

⁸¹ Though other factors have influenced hydro development, such as market forces, the figures provided by FERC indicate a correlation strong enough to refute any suggestion that the notion of PURPA-induced hydro development rests on a *post hoc ergo propter hoc* fallacy. These statistics merely show that PURPA has been successful in stimulating hydro power development.

hydro facilities have increased, indicating a renewed interest in hydro power production.⁸² The data show that in the three calendar years preceding FERC's regulations, 1977-79, FERC accepted an annual average of less than thirty licensing applications.⁸³ In the three calendar years after promulgation, 1981-83, FERC accepted an annual average of over twelve hundred applications,⁸⁴ a four thousand percent increase. Furthermore, the percentage of projects requiring construction of new dams jumped from an average of approximately ten percent⁸⁵ from the pre-rule period to about thirty-five percent in the post-rule period.⁸⁶

Comparing the volume of licenses and exemptions authorizing construction granted before and after FERC's rules provides a more direct measure of the relation between PURPA's enactment and the increase in hydro power development.⁸⁷ From 1977-79, FERC issued an average of less than twenty such construction authorizations per year,⁸⁸ fifteen percent of which entailed wholly new dams.⁸⁹ By contrast, from 1981-83 FERC issued an annual average of over 230,⁹⁰ more than a fifteen hundred percent increase. Twenty-three percent of those required new dams.⁹¹ Thus, the proportion of projects at new to existing dams increased by over fifty percent.⁹² These statistics clearly indicate

⁸² See *supra* note 28 for a summary of FERC's complicated licensing process.

⁸³ FERC Letter, *supra* note 80, at 2-4. Specifically, there were 9 applications in 1977, 22 in 1978, and 55 in 1979.

⁸⁴ *Id.* at 7-9. Specifically, there were 1667 applications in 1981, 1229 in 1982, and 717 in 1983.

⁸⁵ *Id.* at 3-5.

⁸⁶ *Id.* at 7-9.

⁸⁷ The significance of the correlation between the issuance of licenses and PURPA's enactment is attenuated by the delay between the application and the issuance of the license. 18 C.F.R. § 4.82 (1983) allows an applicant to extend its preliminary permit to up to three years, before the license is issued. 18 C.F.R. § 4.80 (1983) states that the sole purpose of the preliminary permit is to give priority to the developer while she determines the feasibility of the project. There is usually up to three years of study before a license is granted. See *supra* note 28. Thus, if a license is granted in 1983, the developer began the application process as early as 1980. This means that a great increase in licenses issued in 1979 would not be related to the enactment of PURPA in 1978 as the process for obtaining those licenses began in 1975 or 1976, before PURPA was enacted.

⁸⁸ These statistics are derived from tables provided by FERC. FERC Letter, *supra* note 80, at 3-5.

⁸⁹ *Id.*

⁹⁰ *Id.* at 7-9.

⁹¹ *Id.*

⁹² FERC asserts that the exemption, not the PURPA incentives, has led to the hydro boom. However, these same correlations result if the exemptions are wholly ignored.

that FERC's incentive regulations have been effective at encouraging hydro power production. More importantly, the regulations have disproportionately stimulated projects at new dams.⁹³

This growth is likely to continue. The number of licenses will probably increase even more in the mid-1980's. Because hydro power licenses issued by FERC are delayed by several years to conduct customary project feasibility studies,⁹⁴ there may be many projects planned for which licenses have not yet been granted. Indeed, FERC's own projections support this assessment; FERC expects to issue 106 and 120 initial licenses for small hydro projects in 1985 and 1986, respectively.⁹⁵ Each new dam constructed multiplies the potential for environmental harm. These significant adverse effects make the need to challenge FERC's regulations more urgent.

C. *The Environmental Effects of Hydro Power*

FERC itself noted the myriad of potential environmental effects accompanying the development of hydro power and recognized a significant threat to the environment.⁹⁶ Although FERC has not studied the actual effects of hydro since the promulgation of its rules, other studies have recorded the effects of hydro development on the environment. These studies indicate hydro power development has not been environ-

Focusing only on licenses, the data show a 1000% increase in issuances of licenses since PURPA. Although the proportion of projects at new dams to projects at existing ones did not increase, the absolute volume of new projects increased 700%. *Id.*

⁹³ While actual construction of hydroelectric projects is not proceeding at the same rate as first time applications for licenses, it has nonetheless increased steadily. Focusing on small hydro projects proposed since PURPA, the data show that there are 138 now in service and an additional 164 under construction. Of those in service, 25 are at new dams; of those under construction, 21 are at new dams. *Id.* at 14, 16. The lag in construction is attributable to two factors. First, market forces have made hydro less economically viable. With the current oil glut and subsequently reduced oil prices, the utility's avoided cost of energy, *see supra* note 23, has been reduced. Higher rates of interest have also increased the cost of construction. Second, FERC's licensing procedures generally operate on a first come, first served basis. Because of this, many private developers apply for dozens, even hundreds of permits, exemptions, and licenses and then wait for the proper economic climate to build. FERC requires no actual development for two years after the applications is granted. 16 U.S.C. § 806 (1982). Thus the current lag in construction does not represent a permanent decrease in the construction of new dams.

⁹⁴ *See supra* note 28.

⁹⁵ FERC Letter, *supra* note 80, at 11-12.

⁹⁶ In its Environmental Assessment, FERC described possible environmental impacts. *See supra* notes 68-72 and accompanying text.

mentally benign.⁹⁷

A report by the California Department of Water Resources notes that hydro power development directly competes with other instream uses.⁹⁸ In particular, stream locations suitable for wildlife preservation decrease as the remaining potential small hydro sites are developed.⁹⁹ The report lists many harmful impacts, including dewatering of streams, blockage of fish passages, and destruction of wildlife habitat.¹⁰⁰ The report also describes the threat of cumulative impacts as many hydro sites are located on the watersheds of a few rivers.¹⁰¹

A report by the New England River Basin Commission similarly warns of adverse impacts occurring in New England from the increased hydro development.¹⁰² The report concludes that hydro development at new dams poses more significant dangers than at existing ones. The report finds that new dams threaten water stratification and depletion

⁹⁷ See, e.g., FINLAYSON & HINKLEMAN, EFFECTS OF CHLORINATED POWER PLANT COOLING WATER ON AQUATIC BIOTA (1977) (chlorine added to remove algae and bacteria from machinery causes toxicity in waterlife); HOCUTT, POWER PLANTS EFFECTS ON FISH AND SHELLFISH BEHAVIOR (1980) (hydro plants disturb the ecological balance of fish habitat); McGuigan, *supra* note 1 (small dams threaten water quality).

⁹⁸ CALIFORNIA DEP'T OF WATER RESOURCES, UPDATE ANALYSIS OF RECENTLY PROPOSED HYDROPOWER PROJECTS IN CALIFORNIA INCLUDING ENVIRONMENTAL IMPACTS 14 (1982) [hereafter WATER RESOURCES, UPDATE ANALYSIS]. The report was issued by the Department's Division of Planning; it analyzes the potential growth of hydro power in California. The impetus for the report was the large number of recent applications for approval of small hydro projects. *Id.* at iii. See also *infra* note 119 for a discussion of the Department's role in overseeing the environmental effects of hydro development.

⁹⁹ The report notes that there are a limited number of biological and recreational water resources in California. They are needed to support, for example, waterlife and water quality, as well as fishing and boating. *Id.* at 14-15.

¹⁰⁰ *Id.* at 15. The report warned of:

[P]artial dewatering of a portion of the stream; blockage of fish passage; shunting of fish into the diversion and through the powerhouse; destruction of wildlife habitats with construction of project features, such as roads, pipelines, powerline routes, diversion structures, and powerhouses; siltation resulting from project construction; and the impact of increased human activity on fish and wildlife populations at project sites.

Id. at 15-16.

¹⁰¹ More than 400 potential hydro power sites are located on just four California rivers: the Trinity, Klamath, Feather, and Owens. *Id.* at 16.

¹⁰² RIVER BASIN COMM'N, *supra* note 29. This was a three year study authorized by Congress to assess the current development of hydro power in New England, to clarify conflicts between competing uses of the rivers, and to gather data to aid in resolving the conflicts between competing uses. *Id.* at 20.

of oxygen levels, substantially affecting water quality.¹⁰³ New dams reduce the flow levels of water, impair fish spawning,¹⁰⁴ and threaten the wildlife habitats more than hydro facilities at existing dams.¹⁰⁵ Finally, new dams often flood surrounding developed areas and scenic recreational areas.¹⁰⁶

These environmental concerns recently attracted the attention of Congress. Oversight hearings on FERC's small hydro power programs were held in September, 1984 before the House Subcommittee on Energy Conservation and Power.¹⁰⁷ Although the hearings addressed all aspects of FERC's role in hydro power development,¹⁰⁸ much of the testimony focused on the environmental threats posed by the proliferation of hydro development. One expert testified particularly about the cumulative environmental impacts of several hydro projects on one river.¹⁰⁹ He noted that at least sixty-seven river basins have five or more proposed hydro power projects.¹¹⁰ He warned of the major adverse environmental effects that the fifty proposed projects on the Salmon River in Idaho would have on the state's prime salmon fisheries and recreational streams;¹¹¹ more than a dozen river basins in

¹⁰³ *Id.* at 39-40; see also McGuigan, *supra* note 1.

¹⁰⁴ For example, dams may block access to upstream spawning habitats, or completely divert water from the spawning area. RIVER BASIN COMM'N, *supra* note 29, at 42-43.

¹⁰⁵ Often constructing a dam creates periodic flooding. This in turn reduces the amount of vegetation that can grow in the area, destroying food sources and nesting sites for waterfowl and other wildlife. *Id.* at 40.

¹⁰⁶ *Id.* at 44.

¹⁰⁷ *Oversight Hearings on FERC's Small Hydropower Programs Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce*, 98th Cong., 2d Sess. (1984) (to be published).

¹⁰⁸ The comprehensive hearing addressed FERC's licensing and rulemaking process; FERC's decisions to extend PURPA incentives to new hydro facilities; the environmental effects of FERC's current hydro program; FERC's adherence to the National Environmental Policy Act; FERC's deference to state authority, and other issues. See Letter from the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce to Raymond J. O'Connor, Chairperson, FERC, (Oct. 9, 1984) [hereafter Subcommittee Letter] (copy on file with *U.C. Davis Law Review*).

¹⁰⁹ *Oversight Hearings on FERC's Small Hydropower Programs Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce*, 98th Cong. 2d Sess. (1984) (to be published) (statement of David R. Conrad, water resources specialist, Friends of the Earth) (copy on file with *U.C. Davis Law Review*).

¹¹⁰ *Id.* at 19.

¹¹¹ *Id.* at 8.

California and the Northwest facing similar consequences.¹¹² Many projects built on one river also threaten East Coast rivers. For example, the projects pending on the Merrimack River in New Hampshire “may cause major damage and habitat losses for Atlantic Salmon.”¹¹³

As a result of this and other testimony concerning FERC’s lack of attention to the environmental concerns accompanying hydro development, the Subcommittee admonished FERC for its failure and requested that FERC develop a plan to “restore balance” to the hydro power program.¹¹⁴ The Subcommittee stated, “[w]hile it is true that the Commission has been directed by Congress to encourage small hydro development, it has never been directed to do so without thorough knowledge of the impact of development on other values and at the expense of other values.”¹¹⁵

¹¹² *Id.*

¹¹³ *Id.* at 20-21.

¹¹⁴ Subcommittee Letter, *supra* note 109. The letter stated:

[W]e are compelled to tell you that we are less than satisfied with the status of the regulation of small hydroelectric projects by the Federal Energy Regulatory Commission

The basic complaint . . . is that the Commission continues to give insufficient systematic attention to the protection of non-developmental amenities associated with the nation’s waterways amenities that are of enormous value to the public. Much of the focus of the hearing was on the absence of effective protection for fish and wildlife, but concern was also directed to loss of recreational, aesthetic and other values.

Id. at 1.

Focusing on the problem of cumulative impacts raised by Conrad and others, the letter further stated:

The Commission makes permit, exemption and license decisions largely on an individual, piecemeal basis, without an assessment of the importance of the non-developmental amenities of a waterway or river basin or of the cumulative effect of multiple projects on those amenities. This manner of regulation raises the threat that, over time, important fish, wildlife, recreational and other values will be incrementally eroded by haphazardly sited development.

Id.

The letter concluded:

We respectfully request that . . . you provide us with your plans to restore balance to the implementation of the Commission’s small hydro program. As part of your response, we request that you tell us whether you intend that the Commission develop comprehensive plans under Section 10(a) to provide more systematic protection of non-developmental values while simultaneously providing for more expeditious processing of reasonable projects.

Id. at 3.

¹¹⁵ *Id.*

The environmental dangers posed by hydro development have been recognized at state and national levels. Of course, these environmental dangers are not inevitable consequences. Conscientious planning and development by the state authorities¹¹⁶ and developers¹¹⁷ could mitigate or eliminate many potential environmental problems. Any reduction in hydro development, moreover, must result in the development of other energy sources¹¹⁸ that create other environmental problems.¹¹⁹ Never-

¹¹⁶ The extent of the states' power to regulate water is unclear. See Wolfe, *Hydropower: FERC Licensing and Emergency State-Federal Water Rights Conflicts*, 21 PUB. LAND & RESOURCES L. DIG. 851 (1984) (increasing number of FERC licensing exemptions, redefining FERC powers over non-navigable waters and improving administration should alleviate states' concern over state control of water resources); Note, *Federal Preemption*, *supra* note 5 (Congress intended states to retain power to regulate water and such intent should be recognized in FERC's licensing of hydro facilities). Nevertheless, many states provide more rigorous protection of the environment than FERC. For example, the California Department of Water Resources has placed certain limits on the development of small scale hydroelectric power projects. The Department provides that projects cannot be located on wild and scenic rivers, or rivers that may be designated as such. Projects may not be in wilderness areas, roadless areas, and Condor habitat areas. In addition, the project proponent must identify and preserve all beneficial instream uses, such as recreation and water quality. Adverse impacts of the project must be fully offset. Project proponents must also consult with several designated states and federal agencies for permits, approvals and technical assistance. WATER RESOURCES, UPDATE ANALYSIS, *supra* note 98, at 1-2. Although such a position is not unusual, it illustrates that progressive state agencies may do much to alleviate the environmental problems associated with new hydro equipment.

¹¹⁷ If the environmental problems are recognized at the outset, the hydro developer may be able to design and operate the project in a manner that mitigates these problems. See RIVER BASIN COMM'N, *supra* note 29, at 92-96, for a discussion of how to mitigate environmental problems through project design.

¹¹⁸ This conclusion assumes constant or increasing demand.

¹¹⁹ Almost every energy source has its own environmental problems. Projects using coal may involve harm to surface land and water from strip mining; they may also produce acid rain. See Bagge, *Acid Rain: Perspective of the National Coal Association*, 14 NAT. RESOURCE L. NEWSLETTER 3 (1982); Patton, *Coal v. Clean Air: A Transboundary Dispute*, 86 DICK. L. REV. 735 (1982). Oil pollution problems are well known. See, e.g., Schencke, *The Marine Protection Research and Sanctuaries Act: The Conflict Between Marine Protection and Oil and Gas Development*, 18 HOUS. L. REV. 987 (1981). Nuclear energy poses the unique problems of radioactive debris and waste disposal. See Flax, *Radioactive Waste Management*, 5 HARV. ENVTL. L. REV. 259 (1981); Palfrey, *Energy and the Environment: The Special Case of Nuclear Power*, 74 COLUM. L. REV. 1375 (1974).

Alternative energy sources also present unique environmental problems. See Gardner & Lebaron, *Some Neighborhood Effects of Oil-Shale Development*, 8 NAT. RESOURCES J. 569 (1968); Slusarczuk, *The Environmental Implications of an Emerging Energy Technology: Photovoltaic Solar Cells — A Study of the Toxic Aspects*, 9 B.C. ENVTL. AFF. L. REV. 899 (1981); Vranesh & Riordan, *Water for Synfuels Development:*

theless, the current FERC regulations have resulted in increased hydro activity that significantly threatens the environment.¹²⁰

As the foregoing analysis indicates, the environment is seriously threatened by the hydro boom to an extent unanticipated by FERC. The erroneous market penetration assumptions FERC used to extend PURPA incentives to new dams place the continuing validity of FERC's rules into question. FERC's miscalculations are even more significant in light of Congress's intent to limit PURPA's title II incentives to hydro development at existing dams. This limitation was intended to avoid the adverse environmental impacts that have resulted from FERC's rulemaking. FERC's rules extending PURPA incentives to new dams should be amended to align them with the statutory purpose and environmental goals behind PURPA.

III. A PROCEDURE FOR CHANGING FERC'S REGULATIONS

Two potential avenues exist for modifying the FERC rules extending the title II incentives to hydro projects at new dams. The first is a voluntary change by FERC itself. Since the agency has displayed no intention of correcting the situation,¹²¹ FERC must be compelled through a judicial challenge to the rules. This part discusses the procedure and potential obstacles to initiating a challenge to FERC's regulations and outlines a successful argument for setting aside the present rules. This part concludes with a proposed regulation conforming to congressional intent and responding to the environmental threats posed by hydro development.

Problems in Acquisition and Development, 16 NAT. RESOURCES L. 439 (1983); Windrem & Marr, *Environmental Problems and Geothermal Permitting*, 14 NAT. RESOURCES L. 675 (1982). In its FONSI, *supra* note 48, FERC extensively analyzed the environmental impacts of solar, wind power, biomass, solid waste, and cogeneration energy production, noting that each technology carried with it some environmental problem. FONSI, *supra* note 48, ¶¶ 61,646-61,656. A comparison of the environmental concerns of energy sources with problems created by hydro power is beyond the scope of this Article. This brief mention of those concerns, however, reveals that choices between energy sources are not simple.

¹²⁰ Compare foregoing discussion with FERC's projections, *supra* notes 64-79 and accompanying text.

¹²¹ FERC's failure to file an EIS for its PURPA rules has been challenged in an administrative petition. FERC has not responded to the petition. See *supra* note 79 (discussion of the EIS petition).

A. Procedure for Challenging Regulations

Rulemaking by federal agencies is subject to judicial review under the Administrative Procedure Act (APA).¹²² FERC's erroneous failure to include an existing dam limitation in its final rules would ordinarily be reviewable under the APA on the grounds that FERC acted arbitrarily and capriciously,¹²³ or in excess of the statutory authority granted by PURPA¹²⁴ in promulgating its rules. However, the Federal Power Act imposes a special limitation on a petition for review.¹²⁵ A challenge in court must be preceded by a petition for rehearing before FERC.¹²⁶ The time for filing a rehearing petition addressing FERC's

¹²² 5 U.S.C. §§ 551-559 (1982). The scope of judicial review of agency action is set forth in *id.* § 706:

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall —

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be —

(A) arbitrary, capricious, and abuse of discretion, or otherwise not in accordance with the law;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; [or]

(D) without observance of procedure required by law.

¹²³ *Id.* § 706(2)(a); *see, e.g.*, Public Serv. Comm'n v. Mid La. Gas Co., 103 S. Ct. 3024, 3042 (1983) (FERC's exclusion of pipeline production from the coverage of Natural Gas Policy Act of 1978 was arbitrary and capricious); Process Gas Consumers Group v. FERC, 712 F.2d 483 (D.C. Cir. 1983) (FERC's rules regarding priority access to natural gas during shortage was not arbitrary and capricious).

¹²⁴ 5 U.S.C. § 706(2)(b) (1983); *see, e.g.*, Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402 (1971); Environmental Defense Fund v. Blum, 458 F. Supp. 650 (D.D.C. 1978).

¹²⁵ This rule was extended to FERC as part of the transfer of power from the former Federal Power Commission. *See* 42 U.S.C. § 7172(a)(2)A (1976); *see also supra* note 20.

¹²⁶ The petition must be filed within 30 days after the issuance of the order. This limit is found in the Federal Power Act, 16 U.S.C. § 8251(b) (1982).

Additionally, a petition for review must be filed in a federal appeals court within 60 days after disposition of the petition for rehearing. 16 U.S.C. § 8251(b) (1982). This time limitation is jurisdictional; failure to file a timely challenge bars the court from hearing the case. *See, e.g.*, Natural Resources Defense Council v. NRC, 666 F.2d 595, 602 (D.C. Cir. 1981) (direct review of nuclear power plant reporting requirements barred by 60 day limit for petition in the Hobbs Act); Geller v. FCC, 610 F.2d 973, 977 (D.C. Cir. 1979) (direct review of cable television rules barred by 60 day limit for

rules expired in March 1980.¹²⁷ A direct judicial challenge to the rules therefore is statutorily foreclosed.¹²⁸

Despite this procedural barrier,¹²⁹ another avenue for challenging FERC's regulations has been established by the courts. The APA requires each federal agency to give interested persons the right to petition for the issuance, amendment, or repeal of its rules.¹³⁰ As with most other agency actions, judicial review is available if the petition is denied.¹³¹ Substantial support exists for allowing the review of an agency's denial of a petition for amendatory rulemaking¹³² to include an attack on the original rule. Thus an indirect judicial review of the original rule, through a petition for amendatory rulemaking, may be available when a direct challenge is foreclosed by statutorily imposed time limits.¹³³

petition); *Functional Music, Inc. v. FCC*, 274 F.2d 543, 545 (D.C. Cir. 1958) (direct review of FCC programming ruling barred by 60 day limit specified in Communications Act), *cert. denied*, 361 U.S. 813 (1959).

¹²⁷ FERC's rules were issued February 20, 1980. *See supra* notes 58-60 and accompanying text.

¹²⁸ Courts generally adhere to the notion that "those who have had the opportunity to challenge general rules should not later be heard to complain of their invalidity on grounds fully known to them at the time of issuance." *Pacific Coast European Conf. v. Federal Maritime Comm'n*, 376 F.2d 785, 787-88 & n.4 (D.C. Cir. 1967) (petition filed with Commission several months after order that had effect of denying plaintiff admission to shipping conferences); *see also Geller v. FCC*, 610 F.2d 973, 978-79 & n.38 (D.C. Cir. 1979) (complaint filed in 1976 on 1972 FCC order concerning cable television). *But see Outward Continental N. Pac. Freight Conference v. Federal Maritime Comm'n*, 385 F.2d 981, 982-83 n.3 (D.C. Cir. 1967) (court left open whether complaint filed after 60 day period was barred when plaintiffs had participated in the rulemaking).

Many cases have acknowledged, however, that only ripe challenges are precluded by statutory time limitations, and that until the ground for challenge becomes ripe, the time period is tolled. *See Baltimore Gas & Elec. v. ICC*, 672 F.2d 146, 149 (D.C. Cir. 1982); *Recreation Vehicle Indus. Ass'n v. EPA*, 653 F.2d 562, 567-69 (D.C. Cir. 1981). Under this theory, it may be argued that because data contradicting FERC's market penetration assumptions have just recently become available, *see supra* notes 80-95 and accompanying text, a challenge is only recently become ripe.

¹²⁹ These are not unique to FERC; many agencies have similar limitations. *See, e.g.*, 47 U.S.C. § 402(a)-(b) (1982) (60 day limit under Federal Communications Act); 28 U.S.C. § 2344 (1982) (60 day wait on review of ICC orders).

¹³⁰ 5 U.S.C. § 553(e) (1982). FERC implements this requirement in 18 C.F.R. § 385.207 (1983).

¹³¹ 5 U.S.C. § 704 (1982).

¹³² Agencies are not compelled to undertake rulemaking simply on the filing of a petition. The rulemaking procedure is delineated in 5 U.S.C. § 553 (1982).

¹³³ *See, e.g.*, *Natural Resources Defense Council v. NRC*, 666 F.2d 595, 602 (D.C. Cir. 1981) (court stated that it has "scrutinized regulations immune from direct review

The leading case involving a court's jurisdiction to hear such indirect challenges to an agency's rulemaking when the time limit for petitioning the agency is past is *Functional Music v. FCC*.¹³⁴ The plaintiff sought judicial review of the Federal Communication Commission's rules restricting FM radio licensees from offering commercial free radio music on a subscription basis. The rules, issued in 1955, were not challenged until 1957. Both the petition and the petition for rehearing were denied¹³⁵ and the plaintiffs appealed. The court of appeal held that judicial review of the original rule was not foreclosed even though the statutory period for direct review had passed.¹³⁶ The court noted that the statutory time limit for direct review of the rule did not prohibit subsequent examination of the later Commission action involving the rule; in this case, the later action was the denial of the petition for rulemaking.¹³⁷

Although the *Functional Music* rationale seems to allow complete circumvention of statutory limitations on judicial review, courts do not liberally grant review.¹³⁸ In addition, the courts have placed an impor-

by reviewing the denial of a subsequent rulemaking petition"). For a discussion of this case see *infra* notes 162-64 and accompanying text.

¹³⁴ 274 F.2d 543 (D.C. Cir. 1958), *cert. denied*, 361 U.S. 813 (1959).

¹³⁵ *Id.* at 545.

¹³⁶ *Id.* at 546-7.

¹³⁷ *Id.*

¹³⁸ *Natural Resources Defense Council v. NRC*, 666 F.2d 595, 602 (D.C. Cir. 1981) (court acknowledged *Functional Music* theory and explained constraints on courts in its application); *see, e.g., Consolidation Coal Co. v. Donovan*, 656 F.2d 910 (3d Cir. 1981) (only actual, not constructive denials, of petitions may be reviewed); *Oljato Chapter of Navaho Tribe v. Train*, 515 F.2d 654, 659 n.6 (D.C. Cir. 1975) (only "specific applications" of rules may be reviewed); *Gage v. Atomic Energy Comm'n*, 479 F.2d 1214, 1222 & n.27 (D.C. Cir. 1973) (only substantive grounds of invalidity may be reviewed).

In *Oljato Chapter*, the petitioner challenged the performance standards for coal-fired plants as issued by the Environmental Protection Agency (EPA). The court acknowledged the validity of *Functional Music*, but held indirect challenges could only be made to a "specific application" of a rule. *Oljato Chapter of Navajo Tribe v. Train*, 515 F.2d 654, 659 n.6 (D.C. Cir. 1975). The court found the petitioner's challenge to be a "general out-of-time challenge" and denied review. *Id.*

Unfortunately, the court was unclear as to what "specific application" meant. There are three possibilities. Most likely, specific application would encompass the denial of a petition for rehearing. This was the theory applied in *Functional Music* in which the court found denial of the petition was "further commission action applying (the rule)." *Functional Music, Inc. v. FCC*, 274 F.2d 543, 546 (D.C. Cir. 1958), *cert. denied*, 361 U.S. 813 (1959). This language was stressed by the court in *Oljato Chapter* in its discussion of the specific application requirement. *Oljato Chapter*, 515 F.2d at 659 n.6. This view would pose no bar to an indirect challenge to FERC's regulations via a

tant restriction on any indirect challenge. Courts are confined to a substantive examination of the original rule and may not review the procedures by which the rule was promulgated.¹³⁹ This limitation does not preclude the substantive argument that FERC's rules improperly extended PURPA's title II incentives to hydro projects at new dams.¹⁴⁰

petition for amendatory rulemaking.

Second, the court may have meant to require the application of a specific part of a rule. This would also allow an indirect challenge to FERC's rules through a petition questioning FERC's application of its rules to small scale hydro projects at new dams.

Finally, the court may have meant that only the one against whom the rule is applied may challenge it. This interpretation presents a barrier to an indirect challenge to FERC's rules because of their peculiar structure. FERC's proposed rules provided for a process of agency certification to determine whether a project qualified under title II. For hydro projects, this included a determination of whether the dam to be used was already existing, since the rules did not extend title II to new ones. Proposed Rule 292.205, 44 Fed. Reg. 38,877 (1979). The final rules not only eliminated the distinction between new and existing dams, they also eliminated the certification process. 45 Fed. Reg. 17,965-66 (1980). Thus, the question of qualification for title II incentives is left to the developer, the potentially interconnecting utility, and the state regulatory authority. Since FERC does not "apply" its title II rules, it is unclear who might challenge their application as detrimental. The rules are not detrimental to the small producer. More likely, the utility would challenge the application of the rules to avoid a mandatory interconnection and payment of the promotional rates. The utility would have to be resisting interconnection with a new dam facility in order to claim that FERC's extension of PURPA benefits to new dams was in error. Alternatively, a ratepayer or an environmental group might raise the issue in a state rate proceeding by questioning the legality of the avoided cost rate paid to hydro developers using new dams.

Courts would probably not adhere to this third theory of "specific application." Such a requirement has not been imposed in subsequent cases. *See, e.g., Geller v. FCC*, 610 F.2d 973 (D.C. Cir. 1979). As mentioned above, the most probable meaning of "specific application" would include a denial of a petition for amendatory rulemaking.

In addition, the entire "specific application" concept may be unique to the *Oljato Chapter* case due to its interpretation of the Clean Air Act. In *Oljato Chapter*, the court inferred from the legislative history of the time limitation in the Clean Air Act that Congress was attempting to abolish the *Functional Music* exception. *Oljato Chapter*, 515 F.2d at 660-61.

¹³⁹ *Natural Resources Defense Council v. NRC*, 666 F.2d 595, 602 (D.C. Cir. 1981). The court, citing *Functional Music* and *Geller*, noted that although indirect challenges on substantive grounds were allowed, no case allows "back door procedural challenges by those who had an opportunity to seek direct review of regulations but failed to do so." *Id.*

¹⁴⁰ In addition, limiting review to substantive challenges does not preclude an argument that FERC should have prepared an EIS on the rule as applied to new hydro facilities. For an example of a petition currently pending, see *supra* note 79. NEPA imposes purely procedural obligations and precludes review of substantive decisions as long as the procedures are followed. *See, e.g., Calvert Cliffs Coordinating Comm. v.*

Thus, by using a petition for amendatory rulemaking as a vehicle for indirect judicial review, FERC's rules may be challenged as arbitrary, capricious, and an abuse of discretion,¹⁴¹ or as beyond PURPA's statutory authority.¹⁴²

1. FERC's Action was Arbitrary, Capricious, and an Abuse of Discretion

The arbitrary, capricious, and abuse of discretion standard usually governs indirect challenges to agency rulemaking.¹⁴³ There are very few cases in which courts have actually forced an agency to undergo rulemaking proceedings when it has declined to do so.¹⁴⁴ Several cases,

Atomic Energy Comm'n, 449 F.2d 1109 (D.C. Cir. 1971). The issue of whether FERC should prepare a supplemental EIS is not subject to a statutory time limitation and may be brought whenever "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.09(c)(1)(ii) (1983). The data analyzed in the text *supra* accompanying notes 80-95 regarding the effect of FERC's rules on hydro power development at new dams is new and significant. FERC's failure to prepare a supplemental EIS is arguably unreasonable. See *People Against Nuclear Energy v. NRC*, 678 F.2d 222, 231-34 (D.C. Cir.) (although NRC's regulation of Three Mile Island was a federal action, plaintiff's allegation of subsequent psychological harm did not necessitate a supplemental EIS), *cert. granted*, 459 U.S. 966 (1982).

¹⁴¹ 5 U.S.C. § 706(2)(a) (1982).

¹⁴² *Id.* § 706(2)(b) (1982).

¹⁴³ See, e.g., *ITT World Communications, Inc. v. FCC*, 699 F.2d 1219, 1245 (D.C. Cir.) (agency's meeting procedure did not fall within statutory requirements, and was arbitrary and capricious exercise of authority), *cert. granted*, 104 S. Ct. 334 (1983); *Natural Resources Defense Council v. NRC*, 666 F.2d 595, 603 (D.C. Cir. 1981) (amendment of nuclear power plant reporting requirements not arbitrary and capricious).

¹⁴⁴ See *ITT World Communications, Inc. v. FCC*, 699 F.2d 1219 (D.C. Cir.), *cert. granted*, 104 S. Ct. 334 (1983). In *ITT*, the court discussed its reluctance to overrule an agency decision not to initiate rulemaking:

The arbitrary and capricious standard is not "a fixed template to be imposed mechanically on every case," but instead requires calibration in accordance with the nature and context of the challenged action. Where an agency promulgates rules, our standard of review is "diffident and deferential." . . . Where, as here, an agency chooses *not* to engage in rulemaking, our level of scrutiny is even more deferential: "It is only in the rarest and most compelling of circumstances that this court has acted to overturn an agency judgment not to institute rulemaking." This added measure of deference, however, is appropriate only where the rejected proposal is addressed to matters within the agency's broad policy discretion. Where a rulemaking petition challenges an agency's compliance with substantive and procedural norms, on the other hand, our standard of review

however, successfully invoked this standard to force amendatory rulemaking through indirect challenges when new information brings the factual foundation of the original rule into question.¹⁴⁵

In the leading case, *Geller v. FCC*,¹⁴⁶ the Commission denied a petition to challenge rules governing cable television four years after the rules were promulgated.¹⁴⁷ On appeal, the petitioner argued that the new copyright laws negated the rationale underlying the rules and, consequently, that the Commission could no longer claim the regulations were in the public interest.¹⁴⁸

The circuit court held that the agency's decision to deny the petition was reviewable because the petition was not a direct challenge to the original rules, but rather a challenge to the agency's later refusal to reexamine the continuing validity of its rules.¹⁴⁹ The court relied on *Functional Music*, and reversed the FCC's refusal to reinstitute rulemaking as plainly misguided,¹⁵⁰ noting that abnormal circumstances made a reexamination of the regulations imperative.¹⁵¹

In *WWHT, Inc. v. FCC*,¹⁵² the petitioner made a timely but unsuccessful challenge to rules affecting cable television. Reviewing the pro-

must perforce be "exacting" to ensure that the agency has "scrupulously" followed the law.

Id. at 1245-46.

¹⁴⁵ In *Natural Resources Defense Council v. NRC*, 666 F.2d 595, 602 (D.C. Cir. 1981), the court noted that such indirect challenges had been allowed when changed circumstances have deprived the regulations of their factual foundation and brought them into conflict with legislation (citing *Geller v. FCC*, 610 F.2d 973 (D.C. Cir. 1979) and *Functional Music, Inc. v. FCC*, 274 F.2d 543 (D.C. Cir. 1958), *cert. denied*, 361 U.S. 813 (1959) as examples). *Cf.* *Investment Co. Inst. v. Board of Governors of Fed. Reserve Sys.*, 551 F.2d 1270, 1280-82 (D.C. Cir. 1971) (bank regulations not challengeable until their later application brought them into conflict with other banking statutes).

¹⁴⁶ 610 F.2d 973 (D.C. Cir. 1979).

¹⁴⁷ *Id.*

¹⁴⁸ *Id.* at 976. Petitioner argued that the original rules were not based on the public interest, but rather on the Commission's desire to adhere to a consensus agreement of three major groups affected by the rules. *Id.* at 975-76. The agreement, in turn, was motivated by a belief that the rules would facilitate the passage of a new copyright law. *Id.* The petitioner argued that when such a law was passed, the Commission could no longer validly adhere to the provisions that were passed, not in the public interest, but in light of an agreement that is now a "dead letter." *Id.* at 976.

¹⁴⁹ *Id.* at 978.

¹⁵⁰ *Id.* at 979.

¹⁵¹ *Id.*

¹⁵² 656 F.2d 807 (D.C. Cir. 1981).

priety of judicially forced rulemaking,¹⁵³ the court, citing *Geller*, held that an agency may be forced to institute rulemaking proceedings when a "significant factual predicate," on which the decision to promulgate the rule was based, has been removed.¹⁵⁴

These cases provide a firm basis for challenging FERC's refusal to institute amendatory rulemaking proceedings as arbitrary and capricious.¹⁵⁵ The decision to apply PURPA to new hydro power facilities was based on the belief that the rules would not encourage significant development of new dams.¹⁵⁶ As FERC's own statistics now show, this was a serious miscalculation.¹⁵⁷ The number of new dams being constructed as a result of PURPA's incentives and the concomitant adverse environmental impact call into question both the factual premise of the rules and their continuing validity. Therefore, as in *Geller*, the factual predicate for the rule has been removed, and a reviewing court should force FERC to institute rulemaking proceedings.

2. FERC's Action Exceeded Its Statutory Authority

FERC's decision to extend PURPA's title II incentives to hydro facilities at new dams was contrary to the language, intent, and purpose of PURPA.¹⁵⁸ Under *Functional Music*,¹⁵⁹ a court can sustain an indirect challenge to the continuing application of the original rules as being beyond the agency's authority. In reviewing an indirect challenge to the FCC four-year-old rules, the *Functional Music* court focused on the original FCC determination that a certain type of programming was not broadcasting within the meaning of the Federal Communica-

¹⁵³ *Id.* at 818-19.

¹⁵⁴ *Id.* at 819. In *WWHT*, however, the court upheld the FCC's decision to require cable television companies to carry its nationwide subscription television service, but not local subscription services, as it was justifiable and adequately explained. *Id.* at 819-20.

¹⁵⁵ See *National Resources Defense Council v. NRC*, 666 F.2d 595, 603-04 (D.C. Cir. 1981) (court found NRC's decision concerning reporting requirements of nuclear plant component parts was well with Commission's authority, so its refusal to rescind was not arbitrary and capricious); *NAACP v. FPC*, 520 F.2d 432 (D.C. Cir.) (FPC ordered to consider petition when its previous refusal to do so based on erroneous determination that it lacked jurisdiction to promulgate employment discrimination rules), *aff'd*, 425 U.S. 662 (1976); *National Org. for Reform of Marijuana Laws v. Ingersoll*, 497 F.2d 654 (D.C. Cir. 1974) (Bureau of Narcotics and Dangerous Drugs ordered to consider petition on the merits when it peremptorily denied it on the ground that it conflicted with a United States Treaty).

¹⁵⁶ See *supra* text accompanying notes 73-79.

¹⁵⁷ See *supra* notes 80-95 and accompanying text.

¹⁵⁸ See *supra* notes 37-63 and accompanying text.

¹⁵⁹ 274 F.2d 543 (D.C. Cir. 1958), *cert. denied*, 361 U.S. 813 (1959).

tions Act.¹⁶⁰ The court vacated the Commission's denial of the petition, holding that the FCC's rule was clearly erroneous in light of the Act's language and purpose.¹⁶¹

The validity of this type of challenge was recently confirmed in *Natural Resources Defense Council v. NRC*.¹⁶² The petitioner made an untimely petition for amendatory rulemaking on rules relating to nuclear safety and the petition was denied. On appeal to the circuit court, the NRDC asserted both procedural and substantive grounds for attacking the original rule. In affirming its jurisdiction to review the substantive grounds,¹⁶³ the court cited *Functional Music* and noted that indirect challenges are permitted when an agency is alleged to have issued regulations not authorized by their parent legislation.¹⁶⁴

A review of FERC's regulations on this ground is clearly warranted. FERC's rules extend PURPA incentives to small hydro power facilities requiring construction of new dams. The purpose, language, and history of the statute all indicate that the PURPA incentives should extend only to hydro projects at existing dams.¹⁶⁵ Therefore, the continuing application of those rules is invalid, as in *Functional Music*, because they were never authorized by PURPA. Indeed, they were impliedly prohibited.¹⁶⁶

A successful indirect challenge to FERC's regulations may be made in the manner outlined above. This successful challenge would result in judicially imposed rulemaking. FERC's new rules should be adopted to conform to title II's statutory goals, and to limit the environmental threat of the hydro boom.

B. A Proposed Amendment to PURPA's Renewable Resource Definition

We propose the following amendment to section 292.204¹⁶⁷ of FERC's final rules implementing section 210 of PURPA:

Water shall be considered a renewable resource with respect to hydroelectric facilities except to the extent that such facilities:

- (1) include structures for impounding water, the construction of which

¹⁶⁰ *Id.* at 548.

¹⁶¹ *Id.*

¹⁶² 666 F.2d 595 (D.C. Cir. 1981).

¹⁶³ The court declined to hear the procedural challenge. *See supra* note 125.

¹⁶⁴ *Id.* at 602.

¹⁶⁵ *See supra* text accompanying notes 37-63.

¹⁶⁶ *See supra* text accompanying notes 37-49.

¹⁶⁷ 18 C.F.R. § 292.204 (1983), published with comment in 45 Fed. Reg. 17959 (1980).

was not commenced on or before the date of this rule; or
(2) require any construction or enlargement of impoundment structures (other than repair or reconstruction) in connection with their installation that was not commenced on or before the date of this rule.

This rule is consistent with the notion of existing dam found in PURPA.¹⁶⁸ The language is almost identical to FERC's proposed rule,¹⁶⁹ with one important change: the construction must be commenced by the date of the enactment of the new rule, rather than the date of application for qualification, as in the proposed rule,¹⁷⁰ or the date of PURPA, as in PURPA's title IV.¹⁷¹ This serves the dual purpose of restricting the development of hydro power solely at new dams while being fair to developers of projects at new dams who have relied on FERC's ruling.¹⁷²

This proposal reinstates an existing dam limitation on hydro projects seeking PURPA's title II incentives. We feel this should be the core of any change by the Commission because that change is necessary to align the rules with the congressional intent and environmental goals of title II.¹⁷³

CONCLUSION

Hydroelectric power is an important source of energy. The development of this source has been enhanced by PURPA-induced activity in the private sector. This activity has been increasing at a rate that suggests the title II incentives have had a greater impact than FERC anticipated.

The hydro boom has brought about increasing problems of adverse environmental impacts. Although hydro power may be preferable to other forms of energy production, some unique environmental problems are created. When FERC extended the title II incentives to hydro

¹⁶⁸ See *supra* notes 54-55 and accompanying text. Additionally, this formulation would not hinder the development of diversion structures intended by the 1980 amendment to title IV, see *supra* note 54. As long as the diversion structure met the environmental safeguards specified in the amendment, they would be eligible for the title II incentives.

¹⁶⁹ See *supra* note 52.

¹⁷⁰ *Id.*

¹⁷¹ See *supra* note 54 and accompanying text.

¹⁷² One hundred sixty-four small hydro projects are now under construction. See *supra* note 93.

¹⁷³ Of course, FERC may, for example, refuse to extend incentives to projects where certain scenic or wildlife attributes are threatened. Such a qualification was proposed in the EIS petition, *supra* note 79, at attachment D.

projects requiring new dams, it acted beyond its authority. In addition, it significantly increased the potential for adverse environmental effects from the development of hydro power. By reopening its rulemaking and adopting a new rule, FERC can, as it should, control the environmental impacts of the hydro boom it helped to create.