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# FULL-AVOIDED COST PRICING UNDER THE PUBLIC UTILITY REGULATORY POLICIES ACT: "JUST AND REASONABLE" TO ELECTRIC CONSUMERS?

Congress enacted the Public Utility Regulatory Policies Act of 1978 (PURPA)<sup>1</sup> as part of a legislative initiative<sup>2</sup> "designed to combat the nationwide energy crisis."<sup>3</sup> In an effort to reduce United States consumption of fossil fuels<sup>4</sup> and reliance on foreign energy supplies,<sup>5</sup> Congress sought to promote the development of alternative energy sources,<sup>6</sup> including cogeneration<sup>7</sup> and small power production.<sup>8</sup> Prior to PURPA, an independent cogenerator or small power producer seeking

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<sup>1</sup> Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended primarily in scattered sections of 16 U.S.C. (1982)).

The Geothermal Energy Act of 1980, Pub. L. No. 96-294, 94 Stat. 763, § 643(b)(1)-(3), 30 U.S.C. § 1501-1541 (Supp. V 1981) amended PURPA § 210(a), (e)(1), & (e)(2) to provide PURPA benefits to qualified geothermal small power production and cogeneration facilities. This Note refers exclusively to the amended version of PURPA.

<sup>2</sup> Five energy statutes, each signed into law by President Carter on November 9, 1978, composed the National Energy Act. In addition to PURPA, the National Energy Act included the Energy Tax Act of 1978, Pub. L. No. 95-618, 92 Stat. 3174; the National Energy Conservation Policy Act, Pub. L. No. 95-619, 92 Stat. 3206 (1978); the Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289; and the National Gas Policy Act of 1978, Pub. L. No. 95-621, 92 Stat. 3350. For a discussion of the legislative history of PURPA, see *infra* note 99.

<sup>3</sup> FERC v. Mississippi, 456 U.S. 742, 745 (1982).

<sup>4</sup> See, e.g., Emergency National Gas Act of 1977, 15 U.S.C. § 717 (1982). The legislative objective was to reduce oil imports to under six million barrels per day, decrease gas consumption by 10%, and slow the growth of energy demand to less than two percent annually. See ASPEN INST. FOR HUMANISTIC STUDIES, DECENTRALIZED ELECTRICITY AND COGENERATION OPTIONS, SUMMARY REPORT 16 (1979) [hereinafter cited as ASPEN INST. REPORT]. In the mid-1970s electric utilities consumed 30% of all primary energy and 25% of fossil fuel used in the United States.

<sup>5</sup> United States imports of foreign oil increased from 23% of total domestic oil consumption in 1970 to between 45 and 50 % in 1977. H.R. REP. NO. 543, 95th Cong., 2d Sess. 5 (1977); SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 96TH CONG., 1ST SESS., THE NATIONAL ENERGY ACT 3-4 (Comm. Print 1979).

<sup>6</sup> "Section 210 of PURPA's Title II . . . seeks to encourage the development of cogeneration and small power production facilities. Congress believed that increased use of these sources of energy would reduce the demand for traditional fossil fuels." FERC v. Mississippi, 456 U.S. 742, 750 (1982) (footnote omitted).

<sup>7</sup> A "cogeneration facility" produces "(i) electric energy, and (ii) steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating, or cooling purposes." Federal Power Act § 3(18)(A), 16 U.S.C. § 796(18)(A) (1982). See also *infra* note 30 for an examination of "qualifying" requirement; cf. 18 C.F.R. § 292.202(c) (1983) (requiring that the two forms of energy be produced sequentially). This Note will use the term "cogeneration" to refer to both cogeneration and small power production. See *infra* note 8.

<sup>8</sup> A "small power production facility" has a capacity not exceeding 80 megawatts and uses biomass, waste, geothermal or renewable resources (solar, hydro, or wind energy) as its primary energy source for the generation of electric energy. Federal Power Act § 3(17)(A), 16

to interconnect<sup>9</sup> with an electric utility<sup>10</sup> confronted three obstacles. First, some utilities refused to purchase electrical power generated by such sources or offered the cogenerator inadequate rates.<sup>11</sup> Second, some utilities charged cogenerating customers discriminatory rates for supplementary,<sup>12</sup> back-up,<sup>13</sup> and maintenance<sup>14</sup> service.<sup>15</sup> Third, federal and state laws threatened to subject an interconnected cogenerator or small power producer to plenary public utility regulation.<sup>16</sup> Congress

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U.S.C. § 796(17)(A) (1982). See *infra* note 30 for an examination of "qualifying" status requirements.

<sup>9</sup> "An 'interconnection' is a physical connection that permits electricity to flow from one entity to another." American Elec. Power Serv. Corp. v. FERC, 675 F.2d 1226, 1238-39 (D.C. Cir. 1982), *rev'd sub nom.* American Paper Inst., Inc. v. American Elec. Power Serv. Corp., 103 S. Ct. 1921 (1983).

<sup>10</sup> Section 22 of the Federal Power Act, 16 U.S.C. § 796(22) (1982) defines an "electric utility" to include "any person or State agency which sells electric energy," and which is not a federal power marketing agency.

<sup>11</sup> Congress was aware of the reluctance of some utilities to interconnect with nonutility generators of electricity: "The fact is that private utility companies have historically *refused* to permit cogeneration in their service areas." 123 CONG. REC. 32,419 (1977) (statement of Sen. Hart) (emphasis in original).

Some electric utilities, unfortunately, are uneasy about this new source of competition . . . . [S]ome utility companies refuse to interconnect with small power systems, or charge prohibitive electric rates. The most vivid recent example occurred in New York City. The State public service commission needed to issue a special order to Consolidated Edison Co. to connect with a windmill.

123 CONG. REC. 25,848 (1977) (statement of Sen. Percy). *National Energy Act: Hearings on H.R. 6831, et al. Before the Subcomm. on Energy and Power of the House Comm. on Interstate and Foreign Commerce, 95th Cong., 1st Sess. pt. 3, vol. 1, at 552-53* (1977) (statement of George Spiegel) (discussing utility opposition to industrial cogeneration and perceived threat to utility's retail monopoly) [hereinafter cited as *House PURPA Hearings*]; *Public Utility Rate Proposals of President Carter's Energy Program: Hearings Before the Subcomm. on Energy Conservation and Regulation of the Senate Comm. on Energy and Natural Resources, 95th Cong., 1st Sess. pt. 1, at 189* (1977) (statement of David J. Bardin) ("Although interconnection provides significant benefits to the utility, it also has the potential for increasing the competition the utility faces for bulk power sales. For this reason, a utility may be unwilling to interconnect even if it would enjoy some benefits from the interconnection.") [hereinafter cited as *Senate PURPA Hearings*.]

<sup>12</sup> "Supplementary power" refers to "electric energy or capacity supplied by an electric utility, regularly used by a qualifying facility in addition to that which the facility generates itself." 18 C.F.R. § 292.101(b)(8) (1983).

<sup>13</sup> "Back-up power" refers to "electric energy or capacity supplied by an electric utility to replace energy ordinarily generated by a facility's own generation equipment during an unscheduled outage of the facility." 18 C.F.R. § 292.101(b)(9) (1983).

<sup>14</sup> "Maintenance power" refers to "electric energy or capacity supplied by an electric utility during scheduled outages of the qualifying facility." 18 C.F.R. § 292.101(b)(11) (1983).

<sup>15</sup> See *The Utility Role in Cogeneration and Small Power Production: Hearings Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce, 97th Cong., 1st Sess. 494* (1981) (statement on behalf of Federal Energy Regulation Commission); see also P. JOSKOW, INDUSTRIAL COGENERATION AND ELECTRICITY PRODUCTION IN THE UNITED STATES 3 (rev. ed. 1982).

<sup>16</sup> Of the "labyrinth of [FERC] or state PUC jurisdiction and regulation" to which an unsuspecting cogenerator could become subjected, perhaps most feared were the "draconian provisions" of the Public Utility Holding Company Act, 15 U.S.C. § 79 (1982). CONGRESSIONAL RESEARCH SERV., THE ELECTRIC UTILITY SECTOR: CONCEPTS, PRACTICES, AND

designed PURPA section 210 to eliminate these obstacles.<sup>17</sup>

Five years and two Supreme Court cases<sup>18</sup> later, the effect of PURPA section 210 on cogenerators and consumers is still unclear. Some rates imposed under the Federal Energy Regulatory Commission's (FERC) full-avoided cost rule<sup>19</sup> may not comport with PURPA section 210's requirements. This Note considers the congressional intent embodied in section 210's rulemaking criteria and the likely effect of the full-avoided cost rules. The Note concludes that full-avoided cost must be measured by the last-unit marginal cost and that FERC's rule is therefore valid.

## I

### PURPA SECTION 210 AND THE FEDERAL ENERGY REGULATORY COMMISSION RESPONSE

PURPA Section 210(a) requires the Federal Energy Regulatory Commission to:

prescribe, and from time to time thereafter revise, such rules as it determines necessary to encourage cogeneration and small power production . . . which rules require electric utilities to offer to —

- (1) sell electric energy to qualifying cogeneration facilities and qualifying small power production facilities and
- (2) purchase electric energy from such facilities.<sup>20</sup>

PURPA section 210(b) provides guidelines for adopting rules for utility purchases of electric energy<sup>21</sup> from qualifying facilities:

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PROBLEMS 53 (1977), *issued by* SUBCOMM. ON ENERGY AND POWER OF THE HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, 95TH CONG., 1ST SESS. (Comm. Print 1977) (testimony of Prof. Owens); *see also* 123 CONG. REC. 32,660 (1977) (statement of Sen. Percy) (“[T]here is the threat that small producers could have to file mountains of paper with State and Federal regulators because of public utility laws.”); *House PURPA Hearings, supra* note 11, pt. 3, vol. 1, at 337 (written response by Dr. Decker) (“[I]n the case of cogeneration, even the possibility of being treated like a utility could cause industrials to forego the opportunity.”).

<sup>17</sup> FERC v. Mississippi, 456 U.S. at 751; *American Elec. Power*, 675 F.2d at 1230.

<sup>18</sup> *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983); FERC v. Mississippi, 456 U.S. 742 (1982).

<sup>19</sup> 18 C.F.R. § 292.304(b)(2) (1983).

<sup>20</sup> Public Utility Regulatory Policies Act § 210(a), 16 U.S.C. § 824a-3(a) (1982) (footnote omitted).

<sup>21</sup> Congress apparently intended the term “electric energy” to refer to both energy and capacity (see *infra* note 29 for definitions of “energy” and “capacity”). The PURPA conference report indicated that:

The conferees expect that the Commission, in judging whether the electric power supplied by the cogenerator or small power producer will replace future power which the utility would otherwise have to generate itself either through *existing capacity or additions to capacity* or purchase from other sources, will take into account the reliability of the power supplied by the cogenerator or small power producer by reason of any legally enforceable [sic] obligation of such cogenerator or small power producer to supply firm power to the utility.

H.R. REP. NO. 1750, 95th Cong., 2d Sess. 99 (1978) (emphasis added) [hereinafter cited as CONFERENCE REPORT]. Congress referred to “electric energy” in describing both sales and

[T]he rates for such purchase —

(1) shall be just and reasonable to the electric consumers of the electric utility and in the public interest, and

(2) shall not discriminate against qualifying cogenerators or qualifying small power producers.

No such rule prescribed under subsection (a) of this section shall provide for a rate which exceeds the incremental cost to the electric utility of alternative electric energy.<sup>22</sup>

PURPA section 210(d) defines "incremental cost of alternative electric energy" as the utility's cost for "electric energy which, but for the purchase from such cogenerator or small power producer, such utility would generate or purchase from another source."<sup>23</sup>

After engaging in extensive deliberations and rulemaking proceedings,<sup>24</sup> FERC issued Orders Number 69<sup>25</sup> and 70,<sup>26</sup> fulfilling PURPA's rulemaking mandate.<sup>27</sup> The FERC rules require that electric utilities

purchases of power in PURPA § 210. The Commission noted that to interpret the term "electric energy" to exclude capacity would therefore prohibit rates for sales to qualifying facilities from including charges for capital costs, an event which Congress clearly did not intend. Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,225 (1980).

<sup>22</sup> 16 U.S.C. § 824a-3(b) (1982).

<sup>23</sup> 16 U.S.C. § 824a-3(d) (1982). See *infra* text accompanying notes 172-73, comparing PURPA § 210(d) (definition of "incremental cost of alternative electric energy") with 18 C.F.R. § 292.101(b)(6) (1983) (definition of "avoided costs").

<sup>24</sup> On June 26, 1979, the Commission proposed rules for defining "qualifying" cogeneration and small power production facilities in accordance with PURPA § 201. 44 Fed. Reg. 38,873 (1979) (subsequently codified as amended at 18 C.F.R. §§ 292.201-.207 (1983)). The Commission released its Staff Discussion Paper, 44 Fed. Reg. 38,863 (1979), addressing PURPA § 210. In July 1979, the Commission held public hearings on its proposed rules and Staff Discussion Paper in San Francisco, Chicago, and Washington, D.C. 44 Fed. Reg. 44,177 (1979). The Commission also solicited written comments.

On October 18, 1979, the Commission issued a Notice of Proposed Rulemaking under PURPA § 210 and requested further public comment on the two sets of proposed rules. Docket No. RM79-55, 44 Fed. Reg. 61,1190 (1979) (subsequently codified as amended at 18 C.F.R. §§ 292.101, .301-.401, .601-.602 (1983)).

The Commission Staff released a final draft rule in RM79-55 on January 29, 1980, and solicited state public utility commissioners' comments in a public meeting on February 5, 1980. 45 Fed. Reg. 8665 (1980). Representatives of electric utilities were invited to comment at a public meeting on February 8, 1980. The Commission afforded a similar opportunity to other interested parties wishing to comment on the rules.

<sup>25</sup> 18 C.F.R. §§ 292.101, .301, .403, .601-.602 (1983).

<sup>26</sup> 18 C.F.R. §§ 292.201-.207 (1983).

<sup>27</sup> Order No. 69 established rules governing the relationship between electric utilities and qualifying cogeneration and small power production facilities in accordance with PURPA § 210. FERC Order No. 69, 18 C.F.R. §§ 292.101, .301, .402, .602-692 (1983). Order No. 70 promulgated regulations defining "qualifying" cogeneration and small power production facilities under PURPA § 201. FERC Order No. 70, 18 C.F.R. §§ 292.201-.207 (1983).

Upon a petition for rehearing, the Commission on May 15, 1980, issued an "Order Granting in Part and Denying in Part Rehearing of Orders Nos. 69 and 70, and Amending Regulations." 45 Fed. Reg. 33,958 (1980). On August 4, 1980, the Commission again issued an "Order Granting in Part and Denying in Part Rehearing of Order No. 70 and Amending

offer to purchase<sup>28</sup> electric energy and capacity<sup>29</sup> from "qualifying"<sup>30</sup> cogeneration and small power production facilities at a rate equal to the utility's "full-avoided cost."<sup>31</sup> The rules define "avoided costs" to mean the "incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from an-

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Regulations." 45 Fed. Reg. 52,779 (1980). These two orders amended certain definitions contained in the rules.

For a more detailed account of the procedural history of FERC Orders No. 69 and 70, see Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,215 (1980); Preamble to FERC Order No. 70, 45 Fed. Reg. 17,959, 17,959-60 (1980).

<sup>28</sup> Electric utility obligations under PURPA § 210 are imposed and enumerated in 18 C.F.R. § 292.303 (1983). The rule states: "*Obligation to purchase from qualifying facilities.* Each electric utility shall purchase, in accordance with § 292.304, any energy and capacity which is made available from a qualifying facility . . . to the electric utility . . ." 18 C.F.R. § 292.303(a) (1980). An electric utility is not required to purchase electric energy or capacity during any period in which, due to operational circumstances, purchases from a qualifying facility would increase costs above those the utility would incur if it generated an equivalent amount of energy itself. 18 C.F.R. § 292.304(f)(1) (1980).

<sup>29</sup> The costs that an electric utility can avoid by purchasing energy from qualifying facilities, or from another utility, are generally classified as either "energy costs" or "capacity costs." Energy costs are variable costs associated with producing electric energy (kilowatt-hours). Typically, these include fuel, operating, and maintenance costs. Capacity costs are those costs associated with providing the *capability* to generate energy; capacity costs consist primarily of the cost of constructing the generation facilities. A purchasing utility only avoids capacity costs if the seller agrees to provide power on the demand of the purchasing utility. Such "firm sales" are possible only if the seller is reliable and able to provide legally enforceable assurances. Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,216 & 12,225 (1980).

Full-avoided cost payment may include both energy and capacity components. 18 C.F.R. § 292.101(b)(6), .304(e)(2) (1983). See *supra* note 21 (defining term "electric energy") and *infra* note 36 (outlining reliability and commitment factors required for capacity payments under the full-avoided cost rule).

If a qualifying facility is unwilling or unable to achieve a high degree of reliability, the purchasing utility does not avoid any capacity costs and the qualifying facility is entitled only to avoided energy costs. Staff Paper, 44 Fed. Reg. 38,870 (1979); Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,225 (1980). A system of dispersed qualifying facilities that could not provide capacity value separately may receive a capacity payment as part of the full-avoided cost rate when aggregated. 18 C.F.R. § 292.304(e)(2)(vi) (1983); Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,225 (1980).

<sup>30</sup> Under the Commission's rules, a small power production facility is a "qualifying facility" if its capacity does not exceed 80 megawatts, if it is not owned by a person otherwise primarily engaged in the generation or sale of electric power, and if it meets certain fuel use criteria. 18 C.F.R. §§ 292.201-207 (1983). A cogeneration facility achieves "qualifying facility" status if it meets certain operating and efficiency standards, and is not owned by a person otherwise primarily engaged in the generation of electric power. 18 C.F.R. §§ 292.202, .205, .206 (1983). This Note will use the term "qualifying facilities" to refer to both qualifying cogeneration facilities and qualifying small power production facilities.

<sup>31</sup> "[A] rate for purchases [from new capacity] satisfies the requirements of [PURPA § 210(b)] if the rate equals the avoided costs determined after consideration of the factors set forth in paragraph (e) of this section." 18 C.F.R. § 292.304(b)(2) (1983). See *infra* note 34 and accompanying text for factors to be considered in determining avoided cost rates. Utilities may pay a rate less than full-avoided cost to those qualifying facilities built or under construction prior to November 9, 1978. 18 C.F.R. § 292.304(b)(1), (3) (1983).

other source.”<sup>32</sup> This definition of “avoided cost” is equivalent to the definition of incremental cost in PURPA section 210(d) and thus establishes a rate equal to PURPA’s maximum.<sup>33</sup> The Commission gave responsibility for calculating and implementing avoided costs to state public utility commissions.<sup>34</sup> The Commission did outline several criteria to be considered in defining appropriate purchase rates.<sup>35</sup> These criteria include: utility cost projections; the “availability of capacity or energy” from the qualifying facility during peak demand periods; the “relationship of the availability of energy or capacity” provided by the qualifying facility to the utility’s ability to avoid costs through deferrals of capacity additions, reductions in fossil fuel use, or other means; and savings related to lower line losses.<sup>36</sup>

In selecting the full-avoided cost rate, the Commission rejected two

<sup>32</sup> 18 C.F.R. § 292.101(b)(6) (1983).

<sup>33</sup> See *infra* text accompanying notes 172-73 (comparing identification of “avoided costs” in 18 C.F.R. § 292.101(b)(6) (1983) with definition of “incremental cost of alternative electric energy” in PURPA § 210(d), 16 U.S.C. § 824(a)-3(d) (1982)).

<sup>34</sup> 18 C.F.R. § 292.401 (1983). Congress dictated in PURPA § 210(f)(1) that state public utility commissions were to be the primary enforcement mechanism for the Commission’s rules: “[E]ach State regulatory authority shall . . . implement such rule (or revised rule) for each electric utility for which it has ratemaking authority.” Nonregulated electric utilities were required to implement the Commission’s rules themselves. 16 U.S.C. § 824a-3(f)(1) (1982). The Commission accordingly afforded:

[t]o the States and nonregulated utilities “flexibility for experimentation and accommodation of special circumstances” with regard to implementation of rates for purchases. Therefore, to the extent that a method of calculating the value of capacity from qualifying facilities reasonably accounts for the utility’s avoided costs, and does not fail to provide the required encouragement of cogeneration and small power production, it will be considered as satisfactorily implementing the Commission’s rules.

Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,226 (1980) (quoting Staff Paper, 44 Fed. Reg. 38,863, 38,870 (1979)). As a result, state commissions are merely urged to “consider” many of the factors included in the full-avoided cost rule. See *infra* note 35; see also *FERC v. Mississippi*, 456 U.S. 742, 751 (1982) (recognizing that Commission’s rules afford states flexibility).

<sup>35</sup> “In determining avoided costs, the following factors shall, to the extent practicable, be taken into account . . .” 18 C.F.R. § 292.304(e) (1983) (emphasis added). The full-avoided cost rule echoes this precatory language: “[T]he rate equals the avoided costs determined after consideration of the factors set forth in paragraph (e) of this section.” 18 C.F.R. § 292.304(b)(2) (1983).

<sup>36</sup> 18 C.F.R. § 292.304(e) (1983). With respect to the “availability of capacity or energy” from a qualifying facility during the utility system’s daily and seasonal peak demand periods, the rule expressly includes:

- (i) The ability of the utility to dispatch the qualifying facility;
- (ii) The expected or demonstrated reliability of the qualifying facility;
- (iii) The terms of any contract or other legally enforceable obligation, including the duration of the obligation, termination notice requirement and sanctions for non-compliance;
- (iv) The extent to which scheduled outages of the qualifying facility can be usefully coordinated with scheduled outages of the utility’s facilities;
- (v) The usefulness of energy and capacity supplied from a qualifying

alternative pricing schemes, the "split-the-savings"<sup>37</sup> and the "percentage of avoided cost"<sup>38</sup> rates, that offered direct rate savings to electric utility consumers.<sup>39</sup> The Commission rejected these alternatives in the belief that a greater incentive for cogeneration would better serve the interest of electric consumers:

Although use of the full avoided cost standard will not produce any rate savings to the utility's customers, several commentators stated that these ratepayers and the nation as a whole will benefit from the decreased reliance of [sic] scarce fossil fuels, such as oil and gas, and the more efficient use of energy.

The Commission notes that, in most instances, if part of the savings from cogeneration and small power production were allocated among the utilities' ratepayers, any rate reductions will be insignificant for any individual customer. On the other hand, if these savings are allocated to the relatively small class of qualifying cogenerators and small power producers, they may provide a significant incentive

facility during system emergencies, including its ability to separate its load from its generation;

(vi) The individual and aggregate value of energy and capacity from qualifying facilities on the electric utility's system; and

(vii) The smaller capacity increments and the shorter lead times available with additions of capacity from qualifying facilities . . .

18 C.F.R. § 292.304(e)(2) (1983).

<sup>37</sup> Electric utilities traditionally exchange electric energy on a split-the-savings basis: the two utilities split the difference between the incremental costs incurred by the supplying utility and the incremental costs that the purchasing utility would have incurred had it generated the power itself. Such a pricing methodology for sales by cogenerators would have transferred to the utility's ratepayers one-half of the profit a cogenerator would receive under the full-avoided cost rule. Many utilities claimed that splitting the benefits would provide them with an incentive to promote more transactions with cogenerators.

The Commission rejected the split-the-savings approach on two grounds. First, the Commission believed that this approach would lower the incentive for development of the emerging cogeneration industry. See *infra* text accompanying note 40. More importantly, however, the Commission recognized that examination of the costs of production of qualifying facilities would contravene one of the basic purposes of PURPA: the exemption of cogenerators from cost-of-service regulation. See CONFERENCE REPORT, *supra* note 21, at 98 ("The conferees do not intend cogenerators or small power producers to be subject . . . to utility-type regulation."); *supra* notes 16-17 and accompanying text; Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222 (1980).

<sup>38</sup> A purchase rate equal to a fixed percentage, i.e., 90%, of the utility's avoided costs immediately benefits the utility's ratepayers without requiring FERC to examine the operating costs of the qualifying facilities. In rejecting this approach, the Commission explained that such a rate would promote an economically inefficient result because those qualifying facilities which could generate electric energy at a lower cost than the utility, but still above the fixed percentage rate (i.e., 95% of the utility's avoided cost), would be foreclosed from the marketplace. In their place, the utility would generate more power at a higher cost. See Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222-23 (1980).

<sup>39</sup> These price schemes offer consumers direct savings because in both cases the electric utility is paying the cogenerator less for its output than the utility is saving by not generating or purchasing that amount of power itself.

for a higher growth rate of these technologies.<sup>40</sup>

The Commission's assertion that the full-avoided cost rule would not produce rate savings to consumers is controversial<sup>41</sup> and not necessarily accurate.<sup>42</sup>

Defeated in legislative<sup>43</sup> and regulatory<sup>44</sup> forums, opponents of cogeneration and small power production initiated judicial actions challenging first PURPA and then the regulations promulgated under PURPA. The Supreme Court upheld the constitutionality of PURPA section 210 against a commerce clause and tenth amendment attack in *FERC v. Mississippi*.<sup>45</sup> One year later, the Court ruled in *American Paper Institute, Inc. v. American Electric Power Service Corp.*<sup>46</sup> that the Commission had not acted arbitrarily or capriciously in promulgating the full-avoided cost rule under PURPA section 210.

A unanimous Court, in *FERC v. Mississippi*, ruled that Congress had a rational basis for concluding that the operation of gas and electric utilities affected interstate commerce and the enactment of PURPA was, therefore, within Congress's commerce clause power.<sup>47</sup> The tenth amendment claim presented a "more troublesome" issue.<sup>48</sup> Nevertheless, the Court ruled that Congress had not violated state sovereignty; the Court argued that the Act permitted state utility commissions to implement PURPA section 210 by "undertaking to resolve disputes between qualifying facilities and electric utilities arising under [PURPA] . . . . Dispute resolution of this kind is the very type of activity customarily engaged in" by state utility commissions.<sup>49</sup>

<sup>40</sup> Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222 (1980); see also *supra* notes 37-38.

<sup>41</sup> See *infra* notes 66-71 and accompanying text.

<sup>42</sup> The extent to which the full-avoided cost rate produces direct savings for ratepayers depends on the definition and implementation of the rate. This Note analyzes this issue in chapter III *infra*.

<sup>43</sup> See *infra* note 69.

Senator Brooke commented during debate on S. 2114, the Senate energy bill, that "[a] massive and expensive campaign of letters to stockholders following a format suggested by the utilities' national trade association has caused unwarranted fears among those who depend on utility stocks for income." 123 CONG. REC. 32, 438 (1977) (statement of Sen. Brooke).

<sup>44</sup> See *infra* note 68.

<sup>45</sup> 456 U.S. 742 (1982).

<sup>46</sup> 103 S. Ct. 1921 (1983) (unanimous decision), *rev'g* American Elec. Power Serv. Corp. v. FERC, 675 F.2d 1226 (D.C. Cir. 1982).

<sup>47</sup> *FERC v. Mississippi*, 456 U.S. at 758.

<sup>48</sup> *Id.* at 759.

<sup>49</sup> *Id.* at 760 (quoting 18 C.F.R. § 292.401(a) (1980)).

All the Justices concurred in the Court's decision on the commerce clause. Four dissenters disagreed, however, with the majority's tenth amendment analysis. Although all four found PURPA titles I and III unconstitutional under the tenth amendment, each was willing to uphold the substantive provisions of PURPA § 210, at least against a facial attack: "Under these circumstances, but without foreclosing the possibility that particular applications of § 210's implementation provision might uncover hidden constitutional defects, I would not sustain appellees' facial attack on the provision." *Id.* at 775-76 n.1 (O'Connor, J., concurring

In *American Electric Power*, several electric utilities<sup>50</sup> challenged the full-avoided cost rule and three other regulations promulgated under PURPA.<sup>51</sup> The petitioners argued that the rules violated the terms of the statute, and that the Commission had formulated the rules in an arbitrary and capricious manner.<sup>52</sup> The Court of Appeals for the District of Columbia vacated the full-avoided cost rule,<sup>53</sup> but failed to indicate which of the two arguments, if either, formed the rationale for its holding.<sup>54</sup> On one hand, the court stated that the full-avoided cost rule "seems entirely *inconsistent* with the clear intent of section 210(b), which seeks to strike a balance among the interests," suggesting that the rule

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in part and dissenting in part) (joined by Chief Justice and Justice Rehnquist); *see also id.* at 775 (Powell, J., concurring in part and dissenting in part) ("I believe precedents of this Court support the constitutionality of the substantive provisions of this Act on this facial attack. Accordingly, to the extent the procedural provisions may be separable, I would affirm in part and reverse in part.") (citations omitted).

The Court also upheld PURPA titles I and II by a 5-4 vote. *Id.* at 765-66. For further discussion of the Court's constitutional analysis, see Note, *Tenth Amendment—Federal Regulation of State Institutions*, 96 HARV. L. REV. 186 (1982).

<sup>50</sup> American Electric Power Service Corporation, Consolidated Edison Company of New York, Inc., and Colorado-Utah Electric Association, Inc., petitioned the court of appeals for review of the FERC rulemaking.

<sup>51</sup> Petitioners challenged the Commission's rule requiring electric utilities to interconnect with any applicant qualifying facility. The Commission had exempted qualifying facilities seeking to interconnect with a utility from the complex procedures of § 210 of the Federal Power Act. 18 C.F.R. § 292.303(c)(1) (1983). PURPA § 210(e), which exempts qualifying facilities from many state and federal regulations governing utilities, provides that no qualifying facility "may be exempted under this subsection from . . . the provisions of Section 210, 211, or 212 of the Federal Power Act . . ." PURPA § 210(e)(3)(B), 16 U.S.C. § 824i (1982). The court of appeals held that the rule's exemption of qualifying facilities from the interconnection procedures of Federal Power Act §§ 210 and 212, 16 U.S.C. §§ 824i, 824k, violated the express language of PURPA § 210(e)(3)(B). *American Elec. Power*, 675 F.2d at 1238-41 (vacating 18 C.F.R. 292.303(c)(1) (1983)).

On certiorari, the Supreme Court reversed the lower court ruling. The Court agreed with the FERC that Congress had intended to "forbid the Commission to exempt qualifying facilities from being the target of applications [for interconnection] under the FPA . . . , but not to forbid the Commission to grant qualifying facilities the right to obtain interconnections without applying for an order under the FPA." *American Elec. Power*, 103 S. Ct. at 1932.

Petitioners also attacked the Commission's "simultaneous purchase and sale" rule, 18 C.F.R. § 292.304(b)(4) (1983), and the Commission's refusal to establish "fuel use" criteria in granting "qualifying facility" status to cogenerators, but not to small power producers. The court of appeals rejected both of these claims. *American Elec. Power*, 675 F.2d at 1236-38, 1241-45.

<sup>52</sup> Brief for Petitioners at 14-32, *American Elec. Power*, 675 F.2d 1226.

<sup>53</sup> 675 F.2d at 1232-36.

<sup>54</sup> Compare Brief for the Federal Energy Regulatory Commission at 9-10, *American Elec. Power*, 103 S. Ct. 1921 ("In striking down the 'full avoided cost' rule, the court viewed the critical issue as whether the rule 'is consistent with the statutory mandate . . . .' The court held that the Commission had not adequately established that the full-avoided cost rule met these statutory requirements.") (citations omitted) with Brief for Respondent Electric Utilities at 4-5, *American Elec. Power*, 103 S. Ct. 1921 ("The court did *not* hold that a full avoided cost rule would always and necessarily conflict with the statute. Rather, it held 'that FERC has not adequately justified its adoption of the full avoided cost standard.'") (emphasis in original) (citation omitted).

violated the substance of the statute.<sup>55</sup> On the other hand, the court implied that its decision rested on procedural grounds: "FERC has failed to meet its obligation to provide the public with the reasoned consideration, decisionmaking, and opinion which it is required to give."<sup>56</sup>

The Supreme Court granted certiorari and clarified the ambiguity as to the precise issue:

The first question before us is whether FERC's action in promulgating the full-avoided-cost rule was "arbitrary, capricious, [or] an abuse of discretion." . . . *The Commission plainly has the authority to adopt a full-avoided-cost rule*, for PURPA sets full avoided cost as the maximum rate that the Commission may prescribe. Whether the Commission properly exercised that authority is a separate issue.<sup>57</sup>

Although the Court found that "Congress did not intend to impose traditional ratemaking concepts on sales by qualifying facilities to utilities,"<sup>58</sup> the Justices did "interpret the 'just and reasonable' language of Section 210(b) to require *consideration* of potential rate savings for electric utility consumers."<sup>59</sup> The Court analyzed the three statutory criteria<sup>60</sup> for the purchase rate and determined that:

The Commission's order makes clear that the Commission considered the relevant factors and deemed it most important at this time to provide the maximum incentive for the development of cogeneration and small power production, in light of the Commission's judgment that the entire country will ultimately benefit from the increased development of these technologies and the resulting decrease in the nation's dependence on fossil fuels.<sup>61</sup>

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<sup>55</sup> 675 F.2d at 1234 (emphasis added).

<sup>56</sup> *Id.* (footnote omitted). The court attempted to clarify its rationale in a memorandum accompanying the denial of respondent's petition for rehearing and suggestion for rehearing en banc: "As to 'avoided cost,' FERC charges the court with having declared the Commission's rule 'inconsistent with the statute.' . . . The court did no such thing. It simply remanded the matter because the Commission had failed to explain 'its rationale and process of consideration.'" 675 F.2d at 1246 (citation omitted). The court's reasoning in the memorandum suggests that the Court may have been trying "to soften somewhat the impact of its opinion." Nowak, *Contract Negotiations Under PURPA and the Impact of Recent Developments on Transactions Between Electric Utilities and Cogeneration and Small Power Production Facilities*, 3 ENERGY L.J. 273, 283 (1982). The majority protested that "[t]he Commission . . . has read into the opinion much more than the court put there," 675 F.2d at 1246, and conceded that "[s]ome of the suggested considerations expressed in the opinion may indeed have ready answers. . . . If that is so, it should not be burdensome for FERC to supply them." 675 F.2d at 1246. Two circuit judges issued a dissent to the denial of the suggestion for rehearing en banc "because of serious doubts over the panel's resolution of those issues." 675 F.2d at 1247 (Wald and Mikva, JJ., dissenting to denial of petition for rehearing en banc).

<sup>57</sup> *American Elec. Power*, 103 S. Ct. at 1927-28 (emphasis added).

<sup>58</sup> *Id.* at 1928.

<sup>59</sup> *Id.* at 1929 n.9 (emphasis added).

<sup>60</sup> See *supra* text accompanying note 22.

<sup>61</sup> *American Elec. Power*, 103 S. Ct. at 1930.

The Commission recognized that the full-avoided-cost rule would not directly provide any rate savings to electric utility customers, but deemed it more impor-

Concluding that FERC did not promulgate the full-avoided cost rule in an arbitrary or capricious manner, the Court unanimously reversed the court of appeals and reinstated the rule.<sup>62</sup> The Court limited its holding, however, stating only that “[a]t *this early stage in the implementation of PURPA*, it was reasonable for the Commission to prescribe the maximum rate authorized by Congress and thereby provide the maximum incentive for the development of cogeneration and small power production.”<sup>63</sup> This holding suggests that the full-avoided cost rule may not be reasonable when the Commission reviews it in the future.<sup>64</sup>

## II

### THE “JUST AND REASONABLE” STANDARD

Controversy over the full-avoided cost rule<sup>65</sup> focuses on whether the rule implements the statutory requirement that rates for the purchase of electricity from qualifying facilities be “just and reasonable”<sup>66</sup> to electric

*tant* that the rule could “provide a significant incentive for a higher growth rate” of cogeneration and small power production, and that “these ratepayers and the nation as a whole will benefit from the decreased reliance on scarce fossil fuels, such as oil and gas, and the more efficient use of energy.”

*Id.* at 1929 (emphasis added) (footnote omitted).

<sup>62</sup> *Id.* at 1933. Justice Powell did not participate in either the consideration or decision of the case. For a discussion of the Court’s decision upholding the “interconnection rule,” see *supra* note 51.

<sup>63</sup> *American Elec. Power*, 103 S. Ct. at 1930 (emphasis added); see also *id.* (“[T]he full-avoided-cost rule is subject to revision by the Commission as it obtains experience with the effects of the rule . . .”).

<sup>64</sup> See PURPA § 210 (a), 16 U.S.C. § 824a-3(a) (1982) (requiring FERC to undertake periodic review of price regulations).

<sup>65</sup> 18 C.F.R. § 292.304(b)(2) (1983); see *supra* notes 28-36 and accompanying text.

<sup>66</sup> PURPA § 210(b)(1), 16 U.S.C. § 824a-3(b)(1) (1982); see *supra* notes 20-23 and accompanying text. PURPA § 210(b) provides that purchase rates for power generated by qualifying facilities shall “be just and reasonable to the electric consumers of the electric utility,” be “in the public interest,” and “not discriminate against qualifying cogenerators or qualifying small power producers.” In addition, Congress imposed a ceiling on the purchase price, stating that: “No such rule . . . shall provide for a rate which exceeds the incremental cost to the electric utility of alternative electric energy.” PURPA § 210(b). See *supra* text accompanying notes 20-23.

There is little dispute over whether the full-avoided cost rule meets the last three requirements. The public interest standard traditionally takes its meaning “from the purposes of the regulatory legislation.” *NAACP v. FPC*, 425 U.S. 662, 669 (1976). The stated purpose of PURPA § 210 was “to encourage cogeneration and small power production.” PURPA § 210(a), (e)(1). By establishing the price for purchases from qualifying facilities at the statutory ceiling, the full-avoided cost rule fulfills that purpose to the maximum extent permissible under PURPA § 210(b).

With respect to the nondiscrimination requirement, the full-avoided cost rule provides qualifying facilities with the maximum benefit permitted by statute. The Supreme Court concluded that “the full-avoided-cost rule plainly satisfies the nondiscrimination requirement.” *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921, 1928 (1983). Nor does the rule violate the “incremental cost” limitation. Rather, the Commission defined avoided costs to be equal to the maximum rate permitted by PURPA. See *supra* text accompanying notes 32-36; see *infra* text accompanying notes 172-73.

consumers. Challengers to the rule in judicial,<sup>67</sup> regulatory,<sup>68</sup> and legislative<sup>69</sup> forums have claimed that the rule fails to satisfy the congressional intent to "[protect] the interests of the electric consumer."<sup>70</sup> This

<sup>67</sup> See, e.g., Brief for Respondent Electric Utilities at 8-10, *American Elec. Power*, 103 S. Ct. at 1921 (quoting Preamble to FERC Order No. 69, 45 Fed. Reg. 12,222 (1980)) ("Congress contemplated that the utility's ratepayers would be afforded some share of the economic benefits of cogeneration, in the form of rate savings. Yet, . . . the full avoided cost rule 'will not produce any rate savings to the utility's customers.'").

Other judicial challenges to the FERC rules and PURPA title II include *FERC v. Mississippi*, 456 U.S. 742 (1982) (attacking constitutionality of PURPA § 210 under commerce clause and tenth amendment); *Florida Power & Light Co. v. FERC*, 711 F.2d 219 (D.C. Cir. 1983) (challenging payment of PURPA energy rates to self-certified small power producer where such payments may conflict with pre-existing contract obligations).

<sup>68</sup> See, e.g., Order Granting in Part and Denying in Part Rehearing of FERC Orders Nos. 69 and 70, and Amending Regulations, 45 Fed. Reg. 33,958 (1980) (amendments codified at 18 C.F.R. § 292) (denying petition of American Electric Power Service Corporation for rehearing of full-avoided cost rule implemented by FERC Order No. 69); Comments by Northeast Utils. Corp. to Proposed Rule 18 C.F.R. § 292.105(a)(3), 44 Fed. Reg. 61,203-04 (1979) (final rule codified at 18 C.F.R. § 292.304(b)(2) (1980)) (suggesting that proposed rebuttable presumption of full-avoided cost rate be replaced by a rate not exceeding avoided cost "less ten percent" in order to permit utility customers to receive a financial benefit from cogeneration transactions).

<sup>69</sup> See, e.g., *Cogeneration and Small Power Production, Hearings Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess 18-19, 33-35, 48-49, 310-14, 346-51, 358 (1982) [hereinafter cited as *Cogeneration Hearings*.] The effect on consumer electric rates was a "key issue" in congressional consideration of H.R. 6500, which mandated a presumption of full-avoided cost pricing. See also *Hearings on the Utility Role in Cogeneration and Small Power Production Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce*, 97th Cong., 1st Sess. 47-49 (1981) [hereinafter cited as *Utility Hearings*] (full-avoided cost rule not "just and reasonable" in some cases).

Proponents and opponents of the full-avoided cost rule, each claiming to be protecting the consumers' interests, introduced several bills to amend the rule. One proposal would amend PURPA § 210(b) to create a legal presumption that purchase rates:

[s]hall be established at the incremental cost of alternative electric energy of such electric utility, unless . . . some other rate would be sufficient to encourage cogeneration and small power production, would not discriminate against qualifying cogenerators and small power producers, and would be consistent with the interests of consumers and with the public interest.

This proposal also would eliminate the prohibition against rates exceeding the incremental cost of alternative electric energy. H.R. 6500, 97th Cong., 2d Sess. § 2 (1982); see also Amendment 1452 to S. 1885, 97th Cong., 2d Sess. § 3 (1982) (companion bill to H.R. 6500).

A second proposal attempts to remove the 50% limit on utility ownership of qualifying facilities. H.R. 2876, 97th Cong., 1st Sess. §§ 1, 2 (1981); S. 1885, 97th Cong., 1st Sess. §§ 1, 2 (1981). This measure would permit utilities to pay themselves the full-avoided cost rate, rather than receive a regulated cost-of-service rate, for operation of their own cogeneration facilities. Supporters argue that utility involvement and expertise would promote cogeneration and competition, thereby benefiting ratepayers. *Utility Hearings*, *supra* at 25-26. *But see id.* at 26-27, 223 (lack of arm's-length dealing between utility and its unregulated cogeneration subsidiary could raise consumer rates).

Other bills seeking to amend PURPA, but not affecting consumers or the full-avoided cost rule directly, include H.R. 2992, 97th Cong., 1st Sess. (1981) (broadening definition of qualifying cogeneration and small power production facilities, and increasing exemptions for qualifying facilities from state and federal laws); S. 1996, 97th Cong., 1st Sess. (1981) (repealing electric utility reporting requirements of PURPA § 116). Congress has not approved any of the proposed PURPA amendments.

<sup>70</sup> CONFERENCE REPORT, *supra* note 21, at 97.

general prescription, however, does not clarify the meaning of "just and reasonable." The remainder of this Note will analyze Congress's intent behind the "just and reasonable" standard in order to determine whether the full-avoided cost rule is indeed "just and reasonable to the electric consumers of the electric utility."<sup>71</sup>

### A. Cost-of-Service Ratemaking

Congressional use of the "just and reasonable" standard invokes two related ratemaking concepts. The first requires a cost-of-service examination focusing on the utility's production costs.<sup>72</sup> Both PURPA, which exempts cogenerators from state rate regulation,<sup>73</sup> and the PURPA conference report reflect Congress's intent not to subject cogenerators to the traditional cost-of-service rate regulation. The report emphasizes that:

*It is not the intention of the conferees that cogenerators and small power producers become subject . . . to the type of examination that is traditionally given to electric utility rate applications to determine what is the just and reasonable rate that they should receive for their electric power. The conferees recognize that cogenerators and small power producers are different from electric utilities, not being guaranteed a rate of return on their activities generally or on their activities vis a vis the sale of power to the utility and whose risk in proceeding forward in the cogeneration or small power production enterprise is not guaranteed to be recoverable.<sup>74</sup>*

Furthermore, the purposes supporting cost-of-service ratemaking are inconsistent with the policies underlying the promotion of cogenera-

<sup>71</sup> PURPA § 210(b)(1), 16 U.S.C. § 824a-3(b)(1) (1982).

<sup>72</sup> American Paper Inst., Inc. v. American Elec. Power Serv. Corp., 103 S. Ct. 1921, 1928 (1982); see also Public Sys. v. FERC, 606 F.2d 973, 978 n.24 (D.C. Cir. 1979) ("[T]here is a clear consensus that a just and reasonable rate covers the firm's costs plus an adequate return on capital."). For an analysis of the issues involved in cost-of-service ratemaking, see A. AMAN, ENERGY AND NATURAL RESOURCES LAW 3-1 to 3-159 (1983).

<sup>73</sup> PURPA § 210(e)(1), 16 U.S.C. § 824a-3(e)(1) (1982).

<sup>74</sup> CONFERENCE REPORT, *supra* note 21, at 97-98 (emphasis added); see also Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222 (1980) ("A major portion of [PURPA] is intended to exempt qualifying facilities from the cost-of-service regulation by which electric utilities traditionally have been regulated."); American Elec. Power, 103 S. Ct. at 1928 (refusing to infer a cost-of-service approach under PURPA § 210 from congressional use of "just and reasonable").

The conference report raised some uncertainty by implying that a purchase rate based on a less exhaustive scrutiny of qualifying facility costs might be permissible:

*[T]he examination of the level of rates which should apply to the purchase by the utility of the cogenerator's or small power producer's power should not be burdened by the same examination as are utility rate applications, but rather in a less burdensome manner. The establishment of utility type regulation over them would act as a significant disincentive to firms interested in cogeneration and small power production.*

CONFERENCE REPORT, *supra* note 21, at 98 (emphasis added).

tion. Rates based on the utility's costs of production are designed to provide an adequate return on capital to investors.<sup>75</sup> This investment incentive ensures that the utility has the necessary capital to maintain adequate systemwide service.<sup>76</sup> In the case of cogeneration and small power production, however, cost-of-service regulation would retard rather than reward investment, thereby thwarting a fundamental goal of PURPA—development of this emerging industry.<sup>77</sup> Public policy does not demand that cogeneration provide universal service; inefficient cogenerators can, and should, exit the market freely.<sup>78</sup> Because cost-of-service ratemaking clashes with both the express legislative intent and the public policies supporting cogeneration, it cannot be inferred from the "just and reasonable" clause in PURPA.

### B. Rate Savings for Consumers

Protection of the economic interests of utility consumers is the second ratemaking concept traditionally implied by the "just and reasonable" language.<sup>79</sup> The need for such protection stems from the peculiar economic relationship between the utility and its customers. The utility's status as a government protected monopoly affords it unequal bargaining power that could be exploited in determining rates.<sup>80</sup> The policy underlying the Federal Power Act<sup>81</sup> is "to protect consumers from exorbitant prices and unfair business practices."<sup>82</sup> Thus, the traditional "focus of regulation remains control of the economic power of utilities that enjoy monopoly status."<sup>83</sup>

In the context of sales of electricity by cogenerators and small

<sup>75</sup> *Public Syss. v. FERC*, 606 F.2d 973, 978 n.24 (D.C. Cir. 1979).

<sup>76</sup> *Permian Basin Area Rate Cases*, 390 U.S. 747, 792 (1968); *Atlantic Ref. Co. v. Public Serv. Comm'n*, 360 U.S. 378, 388 (1959).

<sup>77</sup> *See supra* text accompanying notes 16-17.

<sup>78</sup> *See* CONFERENCE REPORT, *supra* note 21, at 97-98. Electric utilities, in contrast, are under an "obligation to serve," and must maintain adequate capacity and reliability to meet the peak demands of their customers. *See, e.g.*, Federal Power Act § 202(b), 16 U.S.C. § 824a(b) (1982) (Commission may order public utility to interconnect with and sell energy to another utility if such action is "necessary or appropriate in the public interest"); *see also* 1 A. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 20 (1970).

<sup>79</sup> *See, e.g.*, *NAACP v. FPC*, 425 U.S. 662, 666 (1976) (Commission "to allow only such rates as will prevent consumers from being charged any unnecessary or illegal costs") (footnote omitted); *Public Syss. v. FERC*, 606 F.2d 973, 979 (D.C. Cir. 1979) (FERC rules "must comport with the spirit of federal utility regulation by ensuring that consumers at least will suffer no detriment").

<sup>80</sup> *See, e.g.*, *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973) (requiring utility to wheel power to municipal systems within its service region); *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 610 (1944) ("The primary aim of [the Natural Gas Act] was to protect consumers against exploitation at the hands of natural gas companies.").

<sup>81</sup> 16 U.S.C. §§ 791, 824 (1982).

<sup>82</sup> *Public Syss. v. FERC*, 606 F.2d at 979 n.27; *see FPC v. Hope Natural Gas Co.*, 320 U.S. at 610.

<sup>83</sup> *Public Syss. v. FERC*, 606 F.2d at 979 n.27.

power producers this protection is unnecessary. These generators have no market power over utilities or consumers; they suffer from an absence of bargaining power vis-a-vis the monopsonist utility to which they seek to sell their power.<sup>84</sup> Because the cogenerator is unlikely to engage in abusive or exploitative practices, little need exists for the traditional interpretation of the "just and reasonable" standard as a requirement that producers share benefits with consumers.

Opponents of the full-avoided cost rule claim, however, that "[o]ne of Congress' purposes in enacting section 210 of PURPA was to provide consumers with a share of the benefits . . . ."<sup>85</sup> They contend that in using the "just and reasonable" standard, "Congress contemplated that the utility's ratepayers would be afforded some share of the economic benefits of cogeneration, in the form of rate savings."<sup>86</sup>

Both FERC and the Supreme Court indicated that the "just and reasonable" language may entail some direct savings to electric consumers from cogeneration. In its Staff Paper, the Commission implied that the "just and reasonable" limitation required rate savings for consumers: "So long as the [purchase] price is less than the alternative cost to the utility, the buying utility's ratepayers benefit from such transactions, and the statute would seem to be satisfied."<sup>87</sup> In a footnote, the Commission attempted to clarify its position: "[T]he payment to the cogenerator of the full cost of the alternative would be just and reasonable to the utility's customers . . . . [Likewise,] some price below the avoided cost is also just, reasonable, and permitted by statute."<sup>88</sup>

The Supreme Court was equally ambiguous in *American Electric Power*. The Court held "that Congress did not intend to impose traditional ratemaking concepts on sales by qualifying facilities to utilities."<sup>89</sup>

<sup>84</sup> See *Gainesville Utils. Dep't v. Florida Power Corp.*, 402 U.S. 515 (1971) (investor-owned utility refused to purchase power from municipal utility because it preferred to build its own new capacity); cf. Meeks, *Concentration in the Electric Power Industry: The Impact of Antitrust Policy*, 72 COLUM. L. REV. 64, 78 (1972) (captive municipal system's performance controlled by private wholesaler of electricity). In addition to the power it controls as the sole purchaser of a qualifying facility's power, the utility's knowledge of its own costs gives it "an inherently advantageous position in negotiating with the developer regarding the proper treatment of the factors to be considered in the calculation" of the purchase rate. Brief for Petitioner American Paper Institute at 26, *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983).

<sup>85</sup> Brief for Respondents in Opposition to Petitions for Writs of Certiorari at 17, *American Elec. Power*, 103 S. Ct. 1921; see *id.* at 5 (Congress designed PURPA to provide "a means of moderating the rising costs of power to consumers."). But see *infra* notes 91-105 and accompanying text.

<sup>86</sup> Brief for Respondent Electric Utilities at 10, *American Elec. Power*, 103 S. Ct. 1921; see also Reply Brief for Petitioners at 13, *American Elec. Power Serv. Corp. v. FERC*, 675 F.2d 1226 (D.C. Cir. 1982), *rev'd sub nom.* *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983). But see *infra* notes 91-105 and accompanying text.

<sup>87</sup> Staff Paper, 44 Fed. Reg. 38,870 (1979) (emphasis added) (footnote omitted).

<sup>88</sup> *Id.* at 38,870 n.11 (emphasis added).

<sup>89</sup> *American Elec. Power*, 103 S. Ct. at 1928.

Yet the Court apparently relied on the traditional ratemaking interpretation when it admitted:

We interpret the "just and reasonable" language of § 210(b) to require consideration of potential rate savings for electric utility consumers . . . . Unless the "just and reasonable" language is to be regarded as mere surplusage, it must be interpreted to mandate consideration of rate savings for consumers that could be produced by setting the rate at a level lower than the statutory ceiling.<sup>90</sup>

Thus, the Court claimed to reject the traditional ratemaking interpretation, but interpreted PURPA section 210 to require the Commission to "consider" that criterion.

Neither section 210, nor PURPA generally, indicates that the purpose of the legislation is to provide electric consumers with short-run rate savings. Section 210 mandates that the Commission prescribe "such rules as it determines necessary to encourage cogeneration and small power production."<sup>91</sup> The conference report emphasizes that encouragement of cogeneration was the purpose of PURPA section 210.<sup>92</sup> The conference report explains that "the phrase 'just and reasonable to the electric consumers of the [electric] utility' [should] be interpreted in a manner which looks to protecting the interests of the electric consumer in receiving electric energy at equitable rates."<sup>93</sup> This echoes Congress's statements of purpose in section 2<sup>94</sup> and in titles I<sup>95</sup> and III<sup>96</sup> of the Act, to promote "equitable" retail rates for electric and natural gas consumers.

The legislators did not make clear, however, whether they intended the term "equitable rates" to imply *lower* electric rates. Congress's silence in the face of an opportunity to highlight the benefits to consumers casts doubt on the assertion that Congress intended the "just and reasonable" standard to ensure lower electric rates. Analysis of the legisla-

<sup>90</sup> *Id.* at 1929 n.9.

<sup>91</sup> PURPA § 210(a), 16 U.S.C. § 824a-3(a) (1982) (emphasis added); see Reply Memorandum for the Petitioner [on Petition for Certiorari] at 8 n.6, *American Elec. Power*, 103 S. Ct. 1921 (statute, designed to encourage cogeneration, "is silent as to the rate effect on ultimate consumers").

<sup>92</sup> CONFERENCE REPORT, *supra* note 21, at 98; see *American Elec. Power*, 103 S. Ct. at 1924 (footnote omitted) ("Section 210 of PURPA was designed to encourage the development of cogeneration and small power production facilities.").

<sup>93</sup> CONFERENCE REPORT, *supra* note 21, at 97 (emphasis added); see 124 CONG. REC. 34,558 (1978) (statement of Sen. Jackson) (PURPA aimed at "promoting conservation of electric energy by consumers, efficient use of facilities and resources by the utility industry, conservation of capital by more effective use of existing plants and equity in ratemaking") (emphasis added).

<sup>94</sup> PURPA § 2, 16 U.S.C. § 2601 (1982).

<sup>95</sup> PURPA § 101, 16 U.S.C. § 2611 (1982). PURPA title I authorized the Secretary of Energy to issue guidelines for retail electric rate structure based on marginal costs.

<sup>96</sup> PURPA § 301(a), 15 U.S.C. § 3201 (1982). PURPA title III authorized the Secretary of Energy to study and make recommendations for changes in natural gas pricing policies.

tive history of H.R. 4018 (PURPA) reveals that Congress had neither the intention nor the misconception that PURPA section 210 would lower retail electric rates in the short term.<sup>97</sup> Neither H.R. 4018<sup>98</sup> nor any of the bills preceding it<sup>99</sup> propounded lower electric utility rates as a legislative objective. Rather, in each proposal, Congress sought to promote rates for electric consumers which were merely "equitable,"<sup>100</sup> "reasonable,"<sup>101</sup> or "fair and reasonable."<sup>102</sup> Moreover, although each of the bills promoted utility purchases of cogenerated electric energy,<sup>103</sup> none expressed an intention that consumers share the economic benefits of cogeneration with the qualifying facilities.

The Senate floor debate of PURPA further illustrates that Congress intended to distinguish between lower rates and rates which were "equitable." Senator Jackson, Chairman of the Senate Energy and Natural Resources Committee, stated that PURPA is aimed at "encouraging the adoption of rate structures which are *equitable*."<sup>104</sup> Nevertheless, he con-

<sup>97</sup> Cf. *FERC v. Mississippi*, 456 U.S. 742, 746 (1982). In that case, the Court suggested that Congress nonetheless had long-term consumer interests in mind:

Congress accordingly determined that conservation by electricity utilities of oil and natural gas was essential to the success of any effort to lessen the country's dependence on foreign oil, to avoid a repetition of the shortage of natural gas that had been experienced in 1977, and to control consumer costs.

*Id.* at 746 (emphasis added); see *infra* text accompanying notes 114-23.

<sup>98</sup> 95th Cong., 2d Sess. (1978).

<sup>99</sup> President Carter's comprehensive National Energy Policy Act was introduced into Congress in May 1977. S. 1469, 95th Cong., 1st Sess. (1977), H.R. 6831, 95th Cong., 1st Sess. (1977). Neither bill reached the floor of its respective chamber. On July 27, 1977, the House Ad Hoc Committee on Energy reported a bill incorporating many of the utility rate design provisions of H.R. 6831, *supra*, to the House. H.R. 8444, 95th Cong., 1st Sess. (1977). The Senate Committee on Energy and Natural Resources reported a substitute public utility bill on September 20, 1977. S. 2114, 95th Cong., 1st Sess. (1977). The two houses passed different versions, and after extended deliberation of the bills, the Conference Committee reported part V of the National Energy Act, The Public Utility Regulatory Policies Act of 1978, to the Senate and House of Representatives as H.R. 4018. The Senate approved the measure on October 9, 1978, by a vote of 76-13. 124 CONG. REC. 34,780 (1978). The House, after voting to consider all five parts of the National Energy Act together, approved the package by a vote of 231-168 on October 14, 1978. 124 CONG. REC. 38,504 (1978). See *supra* note 2. President Carter signed H.R. 4018 into law as Pub. L. No. 95-617, 92 Stat. 3117, on November 9, 1978. For further legislative history of Pub. L. No. 95-617, see SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 96TH CONG., 1ST SESS., ENERGY INITIATIVES OF THE 95TH CONGRESS 332-33 (Comm. Print 1979).

<sup>100</sup> S. 2114, *supra* note 99, § 2 ("The purposes of this Act are to . . . encourage equitable rates to consumers."); see also H.R. 4018, *supra* note 98, § 2(1) (equitable retail rates necessary for public welfare).

<sup>101</sup> H.R. 8444, *supra* note 99, § 501 ("The purposes of this part are . . . to establish national minimum standards for electric ratemaking to encourage efficient use of electric energy to . . . provide for reasonable rates to electric consumers.").

<sup>102</sup> S. 1469, *supra* note 99, § 501(b)(1)(C), and H.R. 6831, *supra* note 99, § 501(b)(1)(C) (purpose to provide "fair and reasonable rates to electric consumers").

<sup>103</sup> H.R. 4018, *supra* note 98, § 210; S. 1469, *supra* note 99, § 522(a); H.R. 6831 (amended), *supra* note 99, § 546; S. 2114, *supra* note 99, § 12; H.R. 8444, *supra* note 99, § 546; H.R. 6660, 95th Cong., 1st Sess. § 107(a) (1977).

<sup>104</sup> 123 CONG. REC. 32,395 (1977) (statement of Sen. Jackson) (emphasis added).

ceded that:

There is no more pervasive source of public discontent than the outrage Americans feel over utility bills.

It would be nice to say that we have reported legislation which will offer some relief from this widely detested increase in consumer cost. *But no one has proposed such a bill. The administration proposal will not do it. The House bill will not do it; and S. 2114 will not do it.*<sup>105</sup>

These statements show that Congress did not intend the "equitable rates" requirement to lead to rate savings for consumers. Rather Congress intended that "equitable rates" promote economically efficient generation and protect consumers from discriminatory rate increases.

### C. Economic Efficiency

Throughout PURPA, Congress favored marginal cost pricing<sup>106</sup> to encourage economically efficient levels of energy conservation and domestic energy generation.<sup>107</sup> The theory of marginal cost pricing was that the nation would minimize its total energy expenditures if consumers paid the marginal cost of the electricity they consumed, and generators received the marginal cost of the electricity they displaced.<sup>108</sup> Such a pricing system was "equitable" because it promoted energy conservation only to the extent it was cost-effective. No party would subsidize the inefficiency of another.<sup>109</sup>

The intent not to promote alternative energy sources beyond the

<sup>105</sup> *Id.* (emphasis added). *But see id.* at 32,419 (statement of Sen. Hart) (citing study by Dow Chemical Co. estimating savings of \$3.6 billion per year to household consumers in reduced utility bills as a result of cogeneration).

<sup>106</sup> "[M]arginal cost is the cost of producing one more unit; it can equally be envisaged as the cost that would be saved by producing one less unit." 1 A. KAHN, *supra* note 78, at 65.

<sup>107</sup> *See, e.g.*, PURPA §§ 111, 112, 16 U.S.C. §§ 2621, 2622 (1982). These sections, and PURPA title I generally, require state public utility commissions to consider implementing rates which "to the maximum extent practicable . . . reflect the costs of providing electric service." Specifically, such rates should reflect the consumer's electric class, quantity of electricity consumed, and time, season and nature of electricity usage. PURPA § 111(d)(1). This philosophy underlies PURPA title II as well. Tiano & Zimmer, *Wheeling for Cogeneration*, 3 ENERGY L.J. 95, 105 (1982) (PURPA "should be read as a 'symmetrical whole' in light of the overriding purposes of PURPA to encourage cogeneration and small power production.") (footnote omitted).

<sup>108</sup> *See* ASPEN INST. REPORT, *supra* note 13, at 20; Joskow, *PURPA of 1978: Electric Utility Rate Reform*, 19 NAT'L RESOURCES J. 787 (1979); Note, *The Legislative Evolution of Title I of PURPA*, 5 J. CORP. L. 105 (1980); *see also* 1 A. KAHN, *supra* note 78, at 66-67 ("[I]f consumers are to decide intelligently whether to take somewhat *more* or somewhat *less* of any particular item, the price they have to pay for it . . . must reflect the cost of supplying somewhat more or somewhat less—in short, *marginal* opportunity cost." (emphasis in original)).

<sup>109</sup> *See* ASPEN INST. REPORT, *supra* note 4, at 7-8, 21-22; RAND CORP., PUB. NO. N-1876-DOE, AN ANALYSIS OF THE DEPARTMENT OF ENERGY'S NONPRICE REGULATION OF INDUSTRIAL ENERGY USE 29-38 (1982) [hereinafter cited as RAND]. However, a utility that charges its consumers an average cost, or cost-of-service rate, while paying cogenerators a marginal cost rate may encourage cogenerators to cease purchasing power from the utility for their own needs during off-peak times. Fewer customers must therefore share the utility's fixed costs.

point at which a utility could generate power at a lower cost was evident in both the House and Senate. Senator Percy stated during hearings on PURPA that: "It would be wrong to subsidize small [power] producers at the expense of other customers."<sup>110</sup> Senator Durkin added during floor debate that utilities should be required to set purchase rates for hydroelectric generators at cost, rather than at a subsidized rate.<sup>111</sup> Representative Dingell most clearly expressed the principle that equitable rates necessarily reflect the cost of the energy used by consumers and the cost of energy saved by cogenerators:

We are also concerned with the need for equitable rates to the over 84 million electric customers throughout the United States, *rates which do not discriminate against certain classes of users by providing unjustifiable subsidies to other classes of users*, subsidies which not only are inequitable but also encourage the wasteful use of this energy resource.

. . . .

The underlying philosophy of this bill is that consumers should pay for the cost of the electricity they consume.<sup>112</sup>

Rates based on the economic value of the energy produced create "equality of opportunity" to compete.<sup>113</sup> Each cogenerator will generate electricity only if it can do so at a lower cost than the competing purchasing utility.

Congress's second, and overriding, objective was to ensure that cogeneration not result in increased rates to electric consumers. Four bills contained provisions protecting electric consumers against increased rates from cogeneration and small power production.<sup>114</sup> The committee report accompanying H.R. 6831, for example, was amended to clarify that: "The committee does not intend that any effort to avoid discrimination against cogeneration facilities result in any discrimination through rates against other classes of electric consumers."<sup>115</sup>

The final House and Senate bills similarly attempted to protect electric consumers from financial injury. The Senate bill required safeguards to "insure that rates for [sales of cogenerated electric energy] do not discriminate against such cogenerators or small power producers *or against the customers of the utility or utilities*."<sup>116</sup> The House bill required

This discrimination is minimized by a purchase rate equal to the utility's savings from cogeneration. See *infra* note 128.

<sup>110</sup> *Senate PURPA Hearings*, *supra* note 11, pt. 2, at 386.

<sup>111</sup> 123 CONG. REC. 32,403 (1977) (statement of Sen. Durkin).

<sup>112</sup> 124 CONG. REC. 38,369 (1978) (statement of Rep. Dingell) (emphasis added).

<sup>113</sup> ASPEN INST. REPORT, *supra* note 4, at 21.

<sup>114</sup> H.R. 3018, *supra* note 98, § 210(b); H.R. 8444, *supra* note 99, § 546(a); S. 2114, *supra* note 99, § 12; H.R. REP. NO. 496, 95th Cong., 1st Sess. pt. 4, at 157 (1977) (clarifying that H.R. 6831, *supra* note 99, § 546, was also intended to prohibit discrimination against electric consumers).

<sup>115</sup> H.R. REP. NO. 496, *supra* note 114, pt. 4, at 157; *see id.* at 303.

<sup>116</sup> S. 2114, *supra* note 99, § 12(a) (emphasis added).

that "rates for . . . sales and purchases [be] just, reasonable, in the public interest, and . . . not discriminate against cogeneration."<sup>117</sup> Both bills further protected electric consumers by prohibiting any purchase rate from exceeding the "highest incremental cost" of alternative electric energy to the electric utility.<sup>118</sup>

The risk of higher consumer electric rates exists despite the incremental cost rate ceiling, however.<sup>119</sup> Because the various measurements of incremental cost yield different results,<sup>120</sup> rates that do not exceed the incremental cost ceiling may still have an adverse impact on consumer prices.<sup>121</sup> Such a result will occur only if cogenerators are reaping returns above the value to the utility of the energy they are displacing.<sup>122</sup> To prohibit subsidies to cogenerators and discrimination against consumers, it is necessary to provide cogeneration only to the extent it is cost-effective. This restates the first objective of "equitable" rates: *Purchase rates must promote the economically efficient generation of electricity.*<sup>123</sup> This, then, is the test of the "just and reasonable" standard.

### III

#### THE FULL-AVOIDED COST RULE: MAKING IT "JUST AND REASONABLE" TO CONSUMERS

Four years after the FERC rulemaking,<sup>124</sup> suppliers and users of electricity still intensely dispute the effect of the full-avoided cost rule<sup>125</sup>

<sup>117</sup> H.R. 8444, *supra* note 99, § 546(a); 123 CONG. REC. 26,489 (1977). Indeed, the conference bill's "just and reasonable to the electric consumers of the electric utility" standard appears to have been a compromise; the conferees may have merged the Senate requirement that rates not discriminate against electric consumers with the "just and reasonable" standard of the House version. The Summary of Conference Agreement on the Public Utility Regulatory Policies Act supports this insight into the conferees' intended meaning: "FERC will prescribe by rule procedures to ensure that the rates . . . will not discriminate against the cogenerators, small power producers or customers of the utility." 124 CONG. REC. 34,558 (1978) (emphasis added).

<sup>118</sup> H.R. 8444, *supra* note 99, § 546(a); S. 2114, *supra* note 99, § 12.

<sup>119</sup> PURPA § 210(b), 16 U.S.C. § 824a-3 (1982).

<sup>120</sup> See *infra* notes 132-59 and accompanying text.

<sup>121</sup> See *infra* notes 138-40 and accompanying text.

<sup>122</sup> Utility costs will not rise provided the utility pays cogenerators an amount equal to or less than the costs the utility actually saves by not producing that marginal quantity of energy. Consequently, payments to cogenerators would not increase consumer rates, assuming the utility charges consumers the marginal energy costs it incurs. However, a utility that charges its consumers an average cost, or cost-of-service rate, while paying cogenerators a marginal cost rate may encourage cogenerators to cease purchasing power from the utility for their own needs during off-peak times. Fewer customers must therefore share the utility's fixed costs. This discrimination is minimized by a purchase rate equal to the utility's savings from cogeneration. See *infra* note 128.

<sup>123</sup> See *supra* notes 106-13 and accompanying text.

<sup>124</sup> See FERC Order No. 69, 45 Fed. Reg. 12,214 (1980) (implementing PURPA § 210) and FERC Order No. 70, 45 Fed. Reg. 17,959 (1980) (implementing PURPA § 201) (both codified at 18 C.F.R. §§ 292.101-602 (1983)); see *supra* notes 24-42 and accompanying text.

<sup>125</sup> 18 C.F.R. § 292.304(b)(2) (1983). The full-avoided cost rule defines "avoided costs"

on electric consumers. Proponents of the rule argue that a full-avoided cost rate "will reduce utility rates and directly benefit consumers and the nation"<sup>126</sup> by encouraging cogeneration facilities to "replace more expensive and less efficient oil generation by utilities . . ." <sup>127</sup> Opponents allege that a full-avoided cost rate, by definition, requires utilities to award any savings to the cogenerators:

The whole logic of the 100-percent avoided cost rule is that if a utility as a consequence of the availability of cogenerated power is able to reduce its own cost of generation, it must pay the full measure of that saving immediately, tomorrow, and in the future to the cogenerator. *The utility's costs do not go down one cent. Its consumer rates cannot go down one cent.*<sup>128</sup>

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in terms of an avoided energy component and an avoided capacity component. *See supra* note 55. This section addresses the impact on consumers of avoided energy costs, which are equal to the utility's marginal production costs. Over the long-run, however, payment of avoided capacity costs is analogous to payment of avoided energy costs, and thus will not alter this Note's conclusions. *Cogeneration Hearing, supra* note 69, at 314, 346 (statement of Michael J. Zimmer); *cf. id.* at 347 (statement of Congressman Wyden) (effect on electric consumers was a "key issue" in congressional deliberation over bill to mandate full-avoided cost pricing for cogeneration).

<sup>126</sup> Petition of FERC for Writ of Certiorari at 21, *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 103 S. Ct. 1921 (1983).

<sup>127</sup> *Id.* at 20.

<sup>128</sup> Oral Argument for Respondent at 21-22 (Mar. 22, 1983), *American Elec. Power*, 103 S. Ct. 1921 (emphasis added); *see also* Brief for Respondent Electric Utilities at 32-33, *American Elec. Power*, 103 S. Ct. 1921. Many electric utilities contend that the full-avoided cost rule could actually raise consumer electric rates. Indeed, if an electric utility is subject to higher pollution control standards or pays higher taxes than a cogenerator, rates fixed at full-avoided cost may subsidize the cogenerator's excess pollution or reduced tax burden. *See, e.g., Cogeneration Hearings, supra* note 69, at 251 (statement of Edward Berlin).

American Electric Power Service Corporation also argued that payment by a utility possessing excess capacity of a full-avoided cost rate which included a capacity payment would force the utility to spread its fixed costs over fewer customers, thereby raising consumer rates. *See American Elec. Power*, 675 F.2d at 1235; *Cogeneration Hearings, supra* note 69, at 251 (statement of Edward Berlin). This argument, not raised before the Supreme Court, is spurious. The number of electric utility consumers will decrease only if cogenerators do not sell their electrical output to the utility, but rather use their own output to reduce their purchases of powers from the utility. Industrial cogenerators will be encouraged to consume their own power only when the rate at which they sell their electricity to the utility is less than the retail rate they save by not purchasing their power needs from the utility. As the buy-back rate increases, therefore, fewer cogenerators will remove themselves from the system. Cogeneration may indeed raise consumer rates, but the full-avoided cost rule provides the maximum incentive for cogenerators to purchase from the electric utility and, hence, promotes lower rates for consumers. *See* Address by Irwin M. Stelzer, president of National Economic Research Associates, Inc. to the American Bar Association (Aug. 4, 1980), *reprinted in* Stelzer, *A Policy Guide for Utility Executives: "Know When to Hold 'em,"* 106 PUB. UTIL. FORT. 62, 64 (Oct. 9, 1980) (utilities fear loss of revenues and customers due to cogeneration, but buy-back rates based on marginal costs are a possible solution); ASPEN INST. REPORT, *supra* note 4, at 7-8, 18-22 (discussing base load demand erosion and advocating marginal cost rates for electricity purchases and sales).

Several commentators believe that if rates for retail sales of electricity are based on marginal costs, as advocated by Congress in PURPA title I, cogeneration may actually increase load factors. Some states have adjusted their retail electric rates to reflect marginal costs as a

These arguments illustrate the tautological, almost axiomatic, reasoning that has characterized the debate over the effect of the full-avoided cost rule.

The dispute over the rule's effect on consumer prices arises from the lack of understanding of the relationship between avoided cost rates and the utility's marginal production costs. Avoided cost is a vague concept, not a mathematical equation,<sup>129</sup> and its effects are not easily predicted.<sup>130</sup> Opponents contend that the full-avoided cost rate will not vary, or will change over time only to the extent necessary to transfer all

result of Congress's promotion, but not requirement, of marginal-cost based retail rates in PURPA title I. Confronted with such retail rates, a cogenerator would maximize his profit by selling power to the utility during peak periods, when demand and prices are high. The utility's economies of scale, however, prevent all but a few cogenerators from economically competing with utility base load generation. A rational cogenerator, under these conditions, would sell electricity on-peak, and purchase it off-peak, thereby increasing the utility's load factor and probably lowering consumer rates. *See id.* at 18-20; P. JOSKOW, *supra* note 15, at 3; Asbury & Webb, *Decentralized Electric Power Generation: Some Probable Effects*, 106 PUB. UTIL. FORT. 21, 22 (Sept. 25, 1980); Milon, *Alternative Energy Systems and Electric Rate Reform*, 107 PUB. UTIL. FORT. 15, 18-20 (June 4, 1981).

<sup>129</sup> Respondent electric utilities claimed that "the Rules leave the states no role other than to fill in the blanks in the Commission's avoided cost equation." Reply Brief for Petitioners at 15 n.17, *American Elec. Power*, 675 F.2d 1226.

<sup>130</sup> The oral argument before the Court in *American Elec. Power* highlighted the controversy, as well as the uncertainty, over the relationship between avoided cost rates and marginal production cost:

[Petitioner:] [T]he first QF [qualifying facility] that comes along will always get the highest full avoided cost. It is replacing the most expensive fuel. The next one that comes along will be replacing the next block, less-costly capacity . . . . [T]he more QF power comes in, the lower the full avoided cost. It drives down the full avoided cost because it will be replacing less and less costly utility capacity.

. . . .  
It may happen that the first [QF] that comes in . . . gets a fairly high profit, but that will attract other firms into the business. The next firm won't get that profit because it has to replace lower-cost utility capacity. It drives down.

Under the PURPA plan state commissions are constantly readjusting full avoided cost. Eventually, full avoided cost should come down to a market clearing or equilibrium rate. It is a self-correcting rate.

[Justice Rehnquist:] Does the first QF in a field of a particular utility get kind of a grandfather right to replace the highest cost power?

[Petitioner:] [T]hat depends entirely on the state implementation . . . . In a lot of states, it is averaged out.

. . . .  
[Respondent:] That is categorically wrong. There cannot be any rate savings for consumers in the immediate future or over the long term. The whole logic of the 100-percent avoided cost rule is that if a utility as a consequence of the availability of cogenerated power is able to reduce its own cost of generation it must pay the full measure of that savings immediately, tomorrow, and in the future to the cogenerator. The utility's costs do not go down one cent. Its consumer rates cannot go down one cent.

. . . .  
[Petitioner:] The reason that long-term saving will inure to the customer is the commission's rules explicitly provide that the availability of QF power as it comes into play should be taken in account, should be factored into the calculation of fully avoided cost.

savings to the cogenerators and will not, therefore, reduce consumer prices. Proponents of the rule argue that increased cogeneration will drive down the rate paid to cogenerators, thereby producing rate savings for consumers. This Note argues that the impact on consumers depends on how states implement the full-avoided rule.<sup>131</sup>

#### A. Three Measurements of Avoided Cost and Their Effects on Consumers

After fifty years of declining costs, electric utilities now are experiencing an increase in marginal costs for electricity production.<sup>132</sup> Consequently, each cogenerator entering the market will displace the utility's last and most expensive unit of production and will lower the utility's cost of providing an additional unit of energy.<sup>133</sup> Whether this decrease in cost results in lower consumer electric rates depends upon how state public utility commissions measure full-avoided costs in setting cogeneration rates.<sup>134</sup> Measuring avoided costs in relation to de-

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[Justice Stevens:] I think I understand your argument, but I am not entirely sure the commission made that argument.

[Petitioner:] Well, they put it in the rule. Rule 292.304(e)(6) says to the states, "Factor it in."

Oral Arguments for Petitioner and Respondent at 9, 13, 21-22, 37, *American Elec. Power*, 103 S. Ct. 1921.

<sup>131</sup> Factors other than the means of state implementation, including the pattern of cogeneration development and the utility's cost and capacity structure, will also influence the effect of full-avoided cost rates on consumers.

<sup>132</sup> See 2 ENERGY INFORMATION ADMIN., U.S. DEP'T OF ENERGY, PUB. NO. DOE/PE-0421, COGENERATION: REGULATION, ECONOMICS AND CAPACITY 29-30 (1983) [hereinafter cited as COGENERATION] ("[T]here is evidence that the real cost of building . . . new generating plant[s] has risen, and thus the capacity avoided costs of any utility requiring additional facilities would be increasing . . . . Thus, both short- and long-run utility marginal cost curves should tend to rise . . . ." (footnotes omitted); *Cogeneration Hearings*, *supra* note 69, at 313-14, 346 (both marginal energy and capacity costs increase with increases in utility net load).

Many commentators argue that increasing electric utility costs demonstrate that the industry is no longer a natural monopoly and should not be protected as one. See, e.g., 2 A. KAHN, *supra* note 78, at 116-27 ("The critical . . . characteristic of natural monopoly is an inherent tendency to decreasing unit costs over the entire extent of the market."); Meeks, *supra* note 84, at 82-83 ("[T]here is no compelling reason to permit monopoly control at the generation level simply because a natural monopoly exists at the transmission and distribution levels. Competition in generation should operate as well as in other basic production industries . . . ."); Essay, *Efficiency and Competition in the Electric-Power Industry*, 88 YALE L.J. 1511, 1512 (1979) ("Although transmission and distribution are natural monopolies . . . , production is not."). But cf. Pace & Landon, *Introducing Competition into the Electric Industry: An Economic Appraisal*, 3 ENERGY L.J. 1 (1982) (modifying utility behavior within current industrial and regulatory structure is economically superior to introducing competition to combat rising electric rates).

<sup>133</sup> The cost of producing an additional unit of energy will be reduced in both the short- and long-run. See *Cogeneration Hearings*, *supra* note 69, at 313 (written testimony of Michael J. Zimmer, Cogeneration Coalition); COGENERATION, *supra* note 132, at 29-30; RAND, *supra* note 109, at 29-31.

<sup>134</sup> See *infra* text accompanying notes 138-55; see also NATIONAL REGULATORY RESEARCH

clining marginal costs can affect consumers' rates in two ways.<sup>135</sup> First, the full-avoided cost rate may or may not promote the economically efficient amount of cogeneration. The economically efficient combination of cogeneration and utility production is the point at which an additional unit of cogenerated power costs the same as an additional unit of utility-generated power.<sup>136</sup> Second, the calculation of full-avoided costs will determine how cogenerators and electric consumers share any

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INST., THE APPROPRIATENESS AND FEASIBILITY OF VARIOUS METHODS OF CALCULATING AVOIDED COSTS 25 (1982) [hereinafter cited as NRRI STUDY].

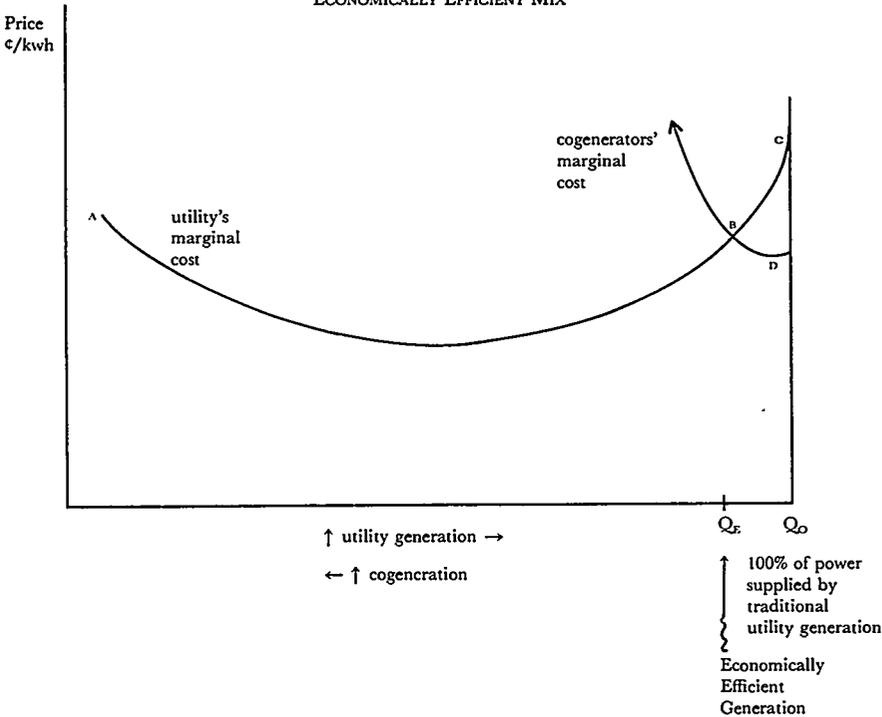
Retail electric ratemaking has two phases. First, the regulatory commission determines the utility's revenue requirement—the revenue needed to enable the utility to earn a reasonable return on capital. Second, this revenue requirement is divided among industrial, commercial, and residential electricity users, in order to establish usage rates for each class. See A. AMAN, *supra* note 72, at 3-23 to 3-24. Because utilities purchase wholesale electricity from qualifying facilities, the analysis herein of consumer purchase rates is limited to the effect of such rates on the utility's revenue requirement.

<sup>135</sup> Numerous technical issues surround the measurement of avoided costs, including the controversy over long-run versus short-run marginal costs, the delineation between "avoidable" and "nonavoidable" costs, joint costing, and qualifying facility reliability. This Note does not address these issues. For a technical analysis of some of these issues, see NRRI STUDY, *supra* note 134; see also *supra* note 128 and *infra* note 147.

<sup>136</sup> The generation mix of central station power plants and cogeneration facilities is economically efficient if no other producer can generate electricity at a cost lower than can the most expensive central station or cogeneration facility in the existing mix. See COGENERATION, *supra* note 132, at 26. See generally I. A. KAHN, *supra* note 78, at 63-122. A purchase rate will only promote this least-cost generation mix if the wholesale price of electric energy equals the cost to the purchasing utility of generating itself or purchasing from another source the last incremental unit of power displaced by cogeneration. COGENERATION, *supra* note 132, at 26-29. If the utility's incremental cost does not equal the cogenerators', then electricity could be produced more cheaply by increasing the production of the lower cost producer. Any purchase rate which encourages inefficient production by either utilities or cogenerators will create "deadweight loss," thereby reducing total societal welfare and possibly increasing consumer electric rates. RAND, *supra* note 109, at 32 ("deadweight loss" represents net loss to consumers and producers of inefficient production).

cost savings resulting from cogeneration.<sup>137</sup> Measurement of full-avoided costs by the first unit marginal cost, by last-unit marginal cost,

FIGURE I  
ECONOMICALLY EFFICIENT MIX



Assuming no cogeneration, utility generation =  $Q_o$  (100%) and ratepayers pay the area under the curve ABC.

At the economically efficient generation mix (utility provides  $Q_c$  power; cogenerators provide  $Q_o - Q_c$  power), the total cost of electric energy is minimized, decreasing to the area under ABD (assuming consumer rates reflect change in utility costs). The area BCD is the net economic surplus. See *infra* note 329.

Assuming no cogeneration, utility generation =  $Q_o$  (100%) and ratepayers pay the area under the curve ABC.

At the economically efficient generation mix (Utility provides  $Q_c$  power; cogenerators provide  $Q_o - Q_c$ ), the total cost of electric energy is minimized, decreasing to the area under ABD (assuming consumer rates reflect change in utility costs). The area BCD is the net economic surplus. See *infra* note 137.

<sup>137</sup> The purchase rate formula will allocate the net economic surplus (or deficit) to cogenerators and to electric utilities on behalf of their customers. 1 A. KAHN, *supra* note 78, at 131 n.16; RAND, *supra* note 109, at 31. Economic surplus is the difference between the utility's total generation costs without cogenerators, and the combined costs incurred by the utility and independent cogenerators of producing the same quantity of electricity. See RAND, *supra* note 109, at 31; see also NRRI STUDY, *supra* note 134, at 24-25; Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,216 (1980). A rule promulgating a purchase rate may allocate this surplus, to the extent there is one, to the cogenerator, to the retail electric consumers, or to both. See COGENERATION, *supra* note 132, at 24-33.

and by cost-savings results in different effects on consumer rates, both in terms of economic efficiency and in terms of division of any cost savings.

1. *First-Unit Marginal Cost Measurement*

One measure of full-avoided cost is the marginal cost of the first unit of utility-generated electricity displaced by cogeneration. For utilities with increasing marginal costs,<sup>138</sup> this measurement would yield a fixed purchase rate for all energy and capacity displaced by cogeneration equal to the marginal cost of the utility's most expensive energy. By guaranteeing every cogenerator this high rate, even though additional units of cogeneration replace less expensive utility power, this rate promotes cogeneration beyond its economically efficient level. Furthermore, this rate allocates the entire cost savings—and more—to cogenerators.<sup>139</sup> As a result, a state commission that decides to measure the full-avoided cost rate by the utility's first-unit marginal cost will in-

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<sup>138</sup> Utilities with increasing marginal costs include virtually all investor-owned, municipal, and cooperative utilities in the United States. *See supra* note 132.

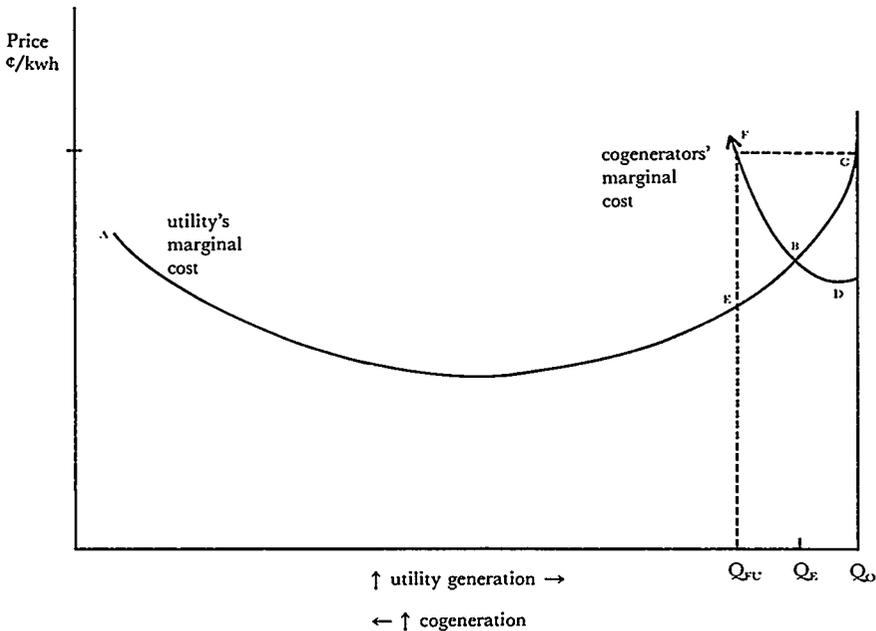
<sup>139</sup> With utility purchases of cogenerated energy increasing, the purchase price paid for each unit of cogenerated energy will exceed the utility's marginal cost of producing that unit. Cogenerators will receive, therefore, and consumers will pay, more than the utility has saved by not generating the purchased quantity of electricity itself.

crease consumer electric rates.<sup>140</sup>

2. *Last-Unit Marginal Cost Measurement*

Alternatively, a state commission could make the full-avoided cost rate equal to the last unit of utility generated electricity displaced by cogeneration. Because the marginal cost of the last unit displaced is the

FIGURE II  
FIRST-UNIT MARGINAL COST



If cogenerators are guaranteed a rate = the marginal cost of the first unit of displaced utility power (E), they will generate power beyond the economically efficient point ( $Q_E$ ) to  $Q_{FU}$ . The total cost of electric energy rises to = the area under AEFC.  
 The cogenerators' profit = the area FCDB.  
 The area FBH is the deadweight loss resulting from inefficient cogeneration replacing less expensive utility generation.  
 Consumer costs increase by the area EFC.

If cogenerators are guaranteed a rate = the marginal cost of the first unit of displaced utility power (C), they will generate power beyond the economically efficient point ( $Q_E$ ) to  $Q_{FU}$ . The total cost of electric energy rises to = the area under AEFC.

The cogenerators' profit = the area FCDB.  
 The area FBE is the deadweight loss resulting from inefficient cogeneration replacing less expensive utility generation.

*Consumer costs increase by the area EFC.*  
<sup>140</sup> The analysis of each of the possible measurements of full-avoided cost herein assumes that utilities charge their customers for all energy costs, including payments to cogenerators.

lowest cost of all the units displaced,<sup>141</sup> cogenerators will receive a rate less than or equal to the actual costs avoided by the utility.

This measurement of full-avoided cost has three effects on consumers. First, only those cogenerators that can produce electricity more cheaply than the utility will enter and remain in the cogeneration market. Thus, "last-unit" measurement promotes the economically efficient combination of cogeneration and utility generation. Second, a competitive market *among* cogenerators will develop, stimulating cost-reduction, as each cogenerator attempts to produce less expensive electricity than the most recent decrement in utility generation.<sup>142</sup> Such cost competition may have the disadvantage, however, of failing to induce the investment needed to vitalize the emerging alternative energy industry.<sup>143</sup>

Third, full-avoided cost pricing measured by last-unit costs will directly benefit consumers because the electric consumers and the cogenerators will share the cost savings resulting from cogeneration. Electric rates should decline because the price paid by the utility for cogenerated power will be less than or equal to its actual avoided cost. Cogenerators will receive that portion of the cost savings equal to the difference between the utility's last-unit marginal cost and the cogenerator's own costs. Consumers will receive the remaining savings.<sup>144</sup>

### 3. *The Cost-Savings Approach Measurement*

The third measurement captures the utility's aggregate cost-savings

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<sup>141</sup> See, e.g., *supra* notes 132-33 and accompanying text.

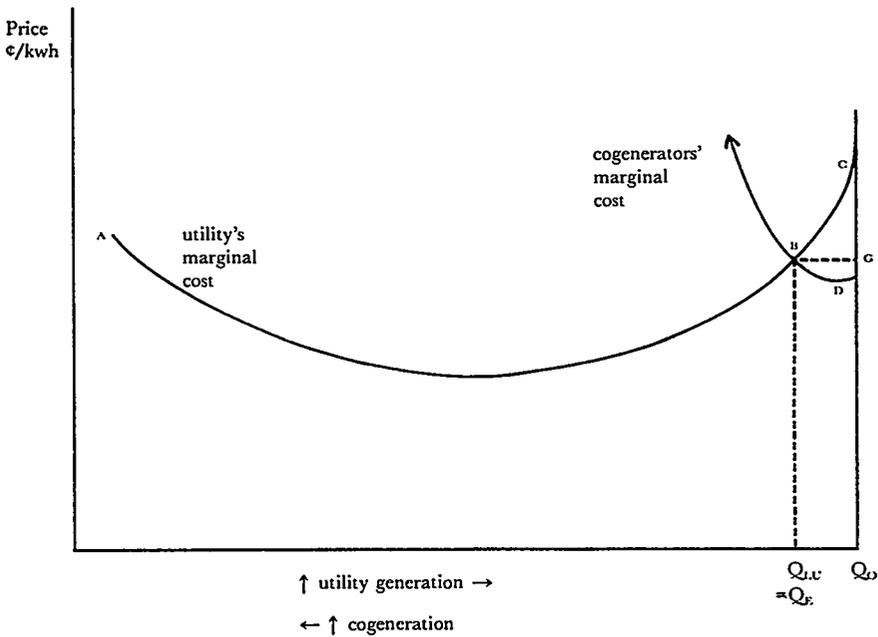
<sup>142</sup> "[A]s cogenerators and small power producers come to constitute a greater percentage of the generating mix, I think they are likely to begin to bid against each other—rather than only against utility-owned plants—so as to get dispatched more and thus maximize total revenues." *FERC As A Least-Cost Electric Regulator: Hearing Before the Subcomm. on Energy Conservation and Power of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess. 205 (1982) (written testimony of John B. O'Sullivan, former Chief Advisory Counsel to FERC) [hereinafter cited as *Least-Cost Hearings*.]

<sup>143</sup> Congress perceived the need to attract investment capital to small power producers in order to encourage the development of that energy source. Indeed, extraordinary incentives to qualifying facilities may be necessary to generate the capital needed for this new industry. See, e.g., 123 CONG. REC. 32,403 (1977) (statement of Sen. Durkin in support of U.P. Amendment No. 867) ("[T]he reluctance of the banking community to bankroll something that some of the utilities frowned upon, has been one of the reasons why there is not more low-head hydro generation.").

<sup>144</sup> See *Cogeneration Hearings, supra* note 69, at 14 (statement of California Public Utilities Commission), 48-49 (statement of Thomas R. Casten), 313-14 (statement of Cogeneration Coalition), 346 (testimony of Michael J. Zimmer, Cogeneration Coalition), 351, 358 (testimony and statement of Steven Ferrey, National Consumer Law Center); COGENERATION, *supra* note 132, at 24-33; RAND, *supra* note 109, at 33.

and distributes it to the pool of cogenerators.<sup>145</sup> Conceptually, aggregate cost savings are the total cost the utility would experience if it supplied all the electrical needs of its customers, less the total cost the utility experiences when some of those needs are provided by cogeneration.<sup>146</sup> The utility then distributes this lump sum among the cogenerators pro-

FIGURE III  
LAST-UNIT MARGINAL COST



If cogenerators receive a rate = the marginal cost of the last unit of utility power displaced (B), then cogeneration will increase to  $Q_{LU}$ . This is the least-cost, or economically efficient generation mix ( $Q_E$ ). The total cost of electric energy decreases to = the area under  $ABE$ .

The cogenerators' profit = the area  $BCD$ .

No deadweight loss results.

Consumer costs decrease by the area  $BCD$ .

If cogenerators receive a rate = the marginal cost of the last unit of utility power displaced (B), then cogeneration will increase to  $Q_{LU}$ . This is the least-cost, or economically efficient generation mix ( $Q_E$ ). The total cost of electric energy decreases to = the area under  $ABG$ .

The cogenerators' profit = the area  $BGD$ .

No deadweight loss results.

Consumer costs decrease by the area  $BCG$ .

<sup>145</sup> This measurement is equivalent to the "cost-savings approach" to avoided costs analyzed in the NRRI STUDY, *supra* note 134, at 25.

<sup>146</sup> See Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,216 (1980); NRRI STUDY, *supra* note 134, at 24-25.

viding that electric power. This cost-savings measurement allocates the entire economic surplus, but no more, to the pool of cogenerators. As a result, it is the only one of the three avoided-cost measurements that does not directly affect electric consumer rates over time.

Implementation of the cost-savings approach is difficult, however.<sup>147</sup> The principal difficulty lies in deciding how to distribute the aggregate cost savings among cogenerators. One approach would "grandfather," or guarantee, given rates to cogenerators in the order they enter the market.<sup>148</sup> Under this approach, the first entrant receives the highest rate for displacing the utility's most expensive unit of fuel; the second, the next highest rate; et cetera. A temporal "grandfathering" approach, however, fails to encourage the economically efficient generation mix. The first cogenerator, for example, may generate electricity at a cost higher than the utility's marginal cost after several cogenerators have displaced the utility's most expensive generating units. Yet, the "inefficient" cogenerator will receive the utility's guaranteed highest cost rate.<sup>149</sup>

Alternatively, compensating cogenerators in their inverse cost order, i.e. awarding the lowest cost cogenerator the highest rate, achieves perfect price discrimination and assures the economically efficient mix of generation technologies.<sup>150</sup> The close cost scrutiny, required under

<sup>147</sup> One of the difficulties inherent in any measurement of avoided cost is determining which costs are indeed "avoidable." The Edison Electric Institute has testified before Congress that current measures of full-avoided costs do not represent "true avoided costs," largely because some capacity costs which are included in the full-avoided cost formula may not be avoidable in practice. *Utility Hearings*, *supra* note 69, at 45-59. One potential effect of the full-avoided cost rule might be that utilities will shift from avoidable (typically variable) costs to arguably nonavoidable (some fixed) costs. This shift would lower the full-avoided cost rate which utilities must pay cogenerators and thereby reduce the incentive for cogeneration. Consumers, however, would still pay approximately the same utility rates.

<sup>148</sup> FERC considered grandfathering qualifying facilities as an alternative to a fixed, uniform rate:

Further, as with multiple simultaneous interchange transactions, some priority among QFs [qualifying facilities] may have to be established to determine which is viewed as displacing the utility's highest cost alternative power. Some vintaging arrangement or consistent formulary approach to the computation of the costs avoided may be considered in the rule for the purpose of determining whether the rates discriminate among qualifying facilities.

Staff Paper, 44 Fed. Reg. 38,870 (1979). Whether grandfathering would be "just and reasonable" to electric consumers is discussed *infra* in the text accompanying notes 184-93.

<sup>149</sup> Temporal grandfathering creates the likelihood of excessive cogeneration because low-cost cogenerators may enter the market after high-cost cogenerators have secured high full-avoided cost rates. Whereas the inefficient cogenerators would exit the market if the price paid to cogenerators fell to the utility's last-unit marginal cost, both low and high cost cogenerators may remain in the market if temporal grandfathering is employed. This inefficient generation mix reduces the producer surplus but does not affect consumer rates. Consumer rates are unaffected because the utility pays each cogenerator exactly the cost that is avoided as a result of its production, regardless of the number of cogenerators.

<sup>150</sup> See *Least-Cost Hearings*, *supra* note 142, at 204 (written testimony of John B. O'Sullivan, former Chief Advisory Counsel to the FERC) ("A scheme that tries to extract 'unnneeded' .

this second approach to cost-savings measurement, contradicts Congress's intent to reduce regulation of cogenerators<sup>151</sup> and not subject cogenerators to cost-of-service regulation.<sup>152</sup>

Under a third method of the cost-savings measurement, the utility pays all cogenerators a rate equal to the utility's average marginal cost.<sup>153</sup> The utility divides the total savings due to cogeneration by the number of kilowatt-hours of cogenerated power received. An average marginal cost approach to cost-savings measurement, however, distorts the pricing signal to cogenerators. Rational cogenerators will respond by producing electricity at costs up to the utility's average avoided cost. They will displace utility-generated electricity that is produced at a lower marginal cost.<sup>154</sup> Thus, cogeneration will exceed its economically efficient level without directly affecting consumer rates.<sup>155</sup>

#### 4. *An Illustration*

A simple hypothetical illustrates the differences among the three measurements of full-avoided costs. Consider a utility that possesses operating capacity and customer service demands of 1,000 megawatts. Over a period of time a series of cogenerators and small power producers, aggregating 100 megawatts of capacity, interconnect with the utility, selling all their electrical power to the utility. At a given time of day and season, the utility's marginal cost of energy is ten cents per kilowatt hour (kwh) if the utility generates 1,000 megawatts, but falls to six cents per kwh if the utility generates 900 megawatts. Assuming that the marginal cost rate declines linearly, for one hour of cogeneration production the utility would avoid energy costs equal to 100 megawatts  $\times$  one hour  $\times$  eight cents/kwh = \$8,000.

If a state public utility commission awards all cogenerators a purchase price equal to the first-unit marginal cost of ten cents per kwh, cogenerators will receive a total of \$10,000 in purchase payments. The payment to cogenerators exceeds the direct savings to the utility by \$2,000. Furthermore, this locked-in high rate may encourage inefficient

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profits from cogenerators must also come to grips with the fact that production costs will vary greatly among cogenerators and small power producers.").

<sup>151</sup> See PURPA § 210(e), 16 U.S.C. § 824(a)-3(e) (1982) (exempting qualifying facilities from certain state and federal regulations); see also *supra* notes 31, 67.

<sup>152</sup> CONFERENCE REPORT, *supra* note 21, at 97-98; see also *supra* notes 16, 37.

<sup>153</sup> See FERC, SUMMARY OF COMMENTS TO PROPOSED PURPA REGULATIONS 52 (1979) (comments of the Oregon State Department of Energy) (available from FERC).

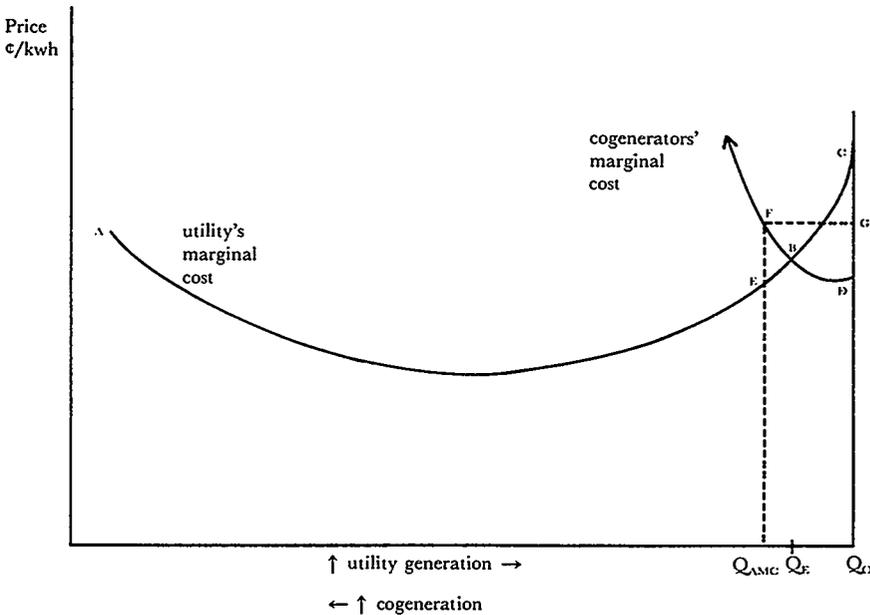
<sup>154</sup> Rational investors will always equate minimum price and marginal cost. 1 A. KAHN, *supra* note 78, at 67.

<sup>155</sup> By definition, the average marginal cost rate conveys to the pool of cogenerators exactly the total savings accruing to the utility. Additional cogenerators displace lower-cost utility energy, lowering the utility's average marginal cost rate for all cogenerators. The inefficiency caused by excess cogeneration is counterbalanced by the displacement of the utility's most expensive units at a savings which exceeds the average marginal cost rate.

cogenerators to enter the market. Cogenerators with a marginal cost of seven cents will receive a guaranteed ten cent rate, even though the utility produces the electricity at six cents.<sup>156</sup>

If the state public utility commission awards all cogenerators "average" marginal cost of eight cents, utility customers will suffer neither immediate benefit nor immediate loss. Payments to cogenerators will exactly equal the utility's savings, \$8,000. This measurement also encourages inefficient cogenerators—those with marginal costs between six and eight cents—to enter the market.<sup>157</sup> Similarly, if the state public

FIGURE IV  
COST-SAVINGS APPROACH:  
AVERAGE MARGINAL COST



If cogenerators receive a rate = the utility's average marginal cost of displaced power, they will generate power beyond the economically efficient point ( $Q_E$ ) to  $Q_{AMC}$ . The total cost of electric energy,  $AHFG$ , equals the costs  $ABC$  by definition.

The cogenerators' profit = the area  $FGDB$ .

The area  $FBE$  is the deadweight loss.

*There is no direct rate impact on consumers.*

If cogenerators receive a rate = the utility's average marginal cost of displaced power, they will generate power beyond the economically efficient point ( $Q_E$ ) to  $Q_{AMC}$ . The total cost of electric energy,  $AJFG$ , equals the costs  $ABC$  by definition.

The cogenerators' profit = the area  $FGDB$ .

The area  $FBE$  is the deadweight loss.

*There is no direct rate impact on consumers.*

<sup>156</sup> See *supra* notes 138-40 and accompanying text.

<sup>157</sup> See *supra* notes 145-46, 153-55 and accompanying text.

utility commission temporarily "grandfathers" cogenerators, paying the first cogenerators ten cents, the next ones eight, and the last ones six cents, the same inefficiency results.<sup>158</sup>

Finally, the state public utility commission can measure the full-avoided cost rate by the second measurement, the last-unit marginal cost of utility power displaced by cogeneration. This measurement grants cogenerators \$6,000 and produces an immediate net savings to consumers of \$2,000. Moreover, the last-unit marginal cost measurement promotes cogeneration only to the extent cogenerators are economically more efficient than the utility.<sup>159</sup>

### B. Choosing the Full-Avoided Cost Measurement

The FERC regulations<sup>160</sup> do not clearly guide the states in selecting one of the three measurements of full-avoided cost.<sup>161</sup> Section 292.304(e)(2)(vi) requires state public utility commissions to consider "[t]he individual *and aggregate value* of energy and capacity from qualifying facilities on the electric utility's system" in determining a utility's avoided costs.<sup>162</sup> Both the last-unit marginal cost and the cost-savings measurements reflect the aggregate value of cogeneration to the utility.<sup>163</sup> Despite the implication of the regulatory language and the FERC's arguments on appeal, the history of the full-avoided cost rule indicates that the FERC drafters did not intend the phrase to require, or even suggest, either of the two cost measurements.<sup>164</sup>

The language was adopted to reflect the increased reliability of groups of small qualifying facilities. Several commenters criticized the proposed purchase rate rules<sup>165</sup> for failing to recognize that the aggregate value of small facilities could guarantee the utility sufficient capac-

<sup>158</sup> See *supra* notes 145-52, 155 and accompanying text.

<sup>159</sup> See *supra* notes 141-44 and accompanying text.

<sup>160</sup> 18 C.F.R. pt. 292 (1983).

<sup>161</sup> See *supra* notes 125-31 and accompanying text. See also *Cogeneration Hearings*, *supra* note 69, at 13 (statement of John Bryson, California Pub. Utilities Comm'n), at 48 (statement of Thomas Casten, Cogeneration Development Corp.), at 313-14 & 346 (statement of Michael Zimmer, Cogeneration Coalition), at 358 (statement of Steven Ferrey, National Consumer Law Center).

<sup>162</sup> 18 C.F.R. § 292.304(e)(2)(vi) (1983) (emphasis added).

<sup>163</sup> A full-avoided cost rate based on last-unit marginal cost will decrease as additional cogenerators enter the field. See *supra* notes 141-44 and accompanying text. The cost-savings measurements decrease more slowly, transferring to cogenerators the entire aggregate saving to the utility. See *supra* notes 145-55 and accompanying text.

<sup>164</sup> On oral argument, FERC asserted that rates based on § 292.304(e)(2)(vi) will be adjusted to reflect additional cogeneration, thereby necessitating that "long-term savings will inure to the customer." Oral Argument for Petitioner at 37, *American Elec. Power*, 103 S. Ct. 1921. See *supra* note 130.

<sup>165</sup> "There is a rebuttable presumption that the rate for purchases meets the requirements of [PURPA § 210(b)] if the rate reflects the avoided costs resulting from such purchase." Notice of Proposed Rulemaking, 44 Fed. Reg. 61,190, 61,204 (1979) (eliminated from final rules) (proposed Oct. 18, 1979).

ity value although individual facilities were too small or unreliable to offer that value.<sup>166</sup> Citing dispersed wind systems as an example, these commenters argued that the purchase rates for electric power should include the value of aggregate capacity.<sup>167</sup>

The FERC staff drafted the final full-avoided cost rule to include this "aggregate value of energy and capacity." In the preamble of the rule, the Commission explained:

Clause (vi) refers to the aggregate capability of *capacity* from qualifying facilities to displace planned utility capacity. In some instances, the small amounts of capacity provided from qualifying facilities taken individually might not enable a purchasing utility to defer or avoid scheduled capacity additions. The aggregate capability of such purchases may, however, be sufficient to permit the deferral or avoidance of a capacity addition. Moreover, while an individual qualifying facility may not provide the equivalent of firm power to the electric utility, the diversity of these facilities may collectively comprise the equivalent of capacity.<sup>168</sup>

The Commission intended the "aggregate value" language to encourage capacity payments for groups of small power producers that were too unreliable individually to qualify for capacity credit.<sup>169</sup> The FERC staff did not intend the language to require state commissions to base rates on the aggregate value of energy produced by cogeneration.<sup>170</sup>

The Commission's definition of "avoided costs" also fails to guide state authorities toward a single pricing methodology.<sup>171</sup> Although similar to Congress's definition of "incremental cost of alternative electric

<sup>166</sup> See *supra* note 14.

<sup>167</sup> See Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,225 (1980).

<sup>168</sup> *Id.* at 12,227 (emphasis added).

<sup>169</sup> See, e.g., *id.* at 12,225:

[T]estimony at the Commission's public hearings indicated that effective amounts of firm capacity exist for dispersed wind systems, even though each machine, considered separately, could not provide capacity value. The aggregate capacity value of such facilities must be considered in the calculation of rates for purchases, and the payment distributed to the class providing the capacity.

See also Staff Paper, 44 Fed. Reg. 38,863, 38,870 (1979) (emphasis added) ("[T]he rules for sales by QFs should permit sufficient latitude to allow 'contractual pooling' among QFs to 'firm up' capacity available to utilities.")

<sup>170</sup> Staff Paper, 44 Fed. Reg. 38,863, 38,870 (1979) ("Where a utility is a member of a centrally dispatched pool, the pool's marginal running cost will probably be the appropriate measure of the ceiling for energy rates."); see also Notice of Proposed Rulemaking, 44 Fed. Reg. 61,190, 61,195 (1979) ("Rates for such sporadic purchases should thus be based on the utility system's avoided incremental cost of energy (system lambda), and not based on avoided capacity.")

<sup>171</sup> " 'Avoided costs' means the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or *qualifying facilities*, such utility would generate itself or purchase from another source." 18 C.F.R. § 292.101(b)(6) (1983) (emphasis added).

energy" in PURPA section 210(d),<sup>172</sup> the Commission's definition includes purchases from more than one qualifying facility in determining utility incremental costs.<sup>173</sup> Both the last-unit marginal cost and the average marginal cost measurements reflect the utility's changing incremental costs resulting from increased cogeneration purchases. The first-unit marginal cost measurement does not reflect the utility's changing incremental costs. By setting a fixed purchase rate equal to the incremental costs saved as a result of displacement by the first qualifying facility, the first-unit marginal cost approach ignores the effect of subsequent qualifying facilities. Therefore, although FERC's full-avoided cost definition does not compel any single measure of full-avoided cost, it precludes the first-unit marginal cost method.

The Commission also requires utilities to provide,<sup>174</sup> and state public utility commissions to consider,<sup>175</sup> estimates of utility avoided costs for various levels of power supplied by cogenerators.<sup>176</sup> Although the Preamble to Order Number 69 emphasizes that such estimates are only a starting point in determining full-avoided cost rates,<sup>177</sup> the Commission's rule requires that these estimates "shall, to the extent practicable, be taken into account."<sup>178</sup> If the rates are based on the avoided cost estimates, the purchase rates will decline as additional cogenerators displace the less expensive blocks of utility generation. The rule, however, does not indicate whether the full-avoided cost measurement should equal the marginal cost of the last unit displaced by cogeneration, or the sum of all marginal costs avoided, including the prior displacement by cogeneration of more expensive units. Nor does the regulatory history guide the states in implementing avoided cost pricing.

The Commission's preamble offers a possible, though perhaps unintended, insight into implementation. The Commission noted that commenters to the proposed rules had observed that:

[U]nder the full avoided cost standard, the [utilities'] customers are kept whole, and pay the same rates as they would have paid had the utility not purchased energy and capacity from the qualifying facility.

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<sup>172</sup> "[T]he term 'incremental cost of alternative electric energy' means . . . the cost to the electric utility of the electric energy which, but for the purchase from such cogenerator or small power producer, such utility would generate or purchase from another source." 16 U.S.C. § 824a-3(d) (1982).

<sup>173</sup> The Commission also clarified the definition to expressly include avoided capacity costs. See *supra* note 29.

<sup>174</sup> 18 C.F.R. § 292.302(b)(1) (1983).

<sup>175</sup> 18 C.F.R. § 292.304(e) (1983).

<sup>176</sup> 18 C.F.R. § 292.302(b)(1) (1983). These avoided cost estimates, reflecting energy but not capacity savings, must be stated in blocks of not more than 100 megawatts, or 10% of the utility system's peak demand, whichever is less.

The utility must also file, and the state commission consider, utility capacity addition plans for the next 10 years. 18 C.F.R. § 292.302(b)(2) (1983).

<sup>177</sup> Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,226 (1980).

<sup>178</sup> 18 C.F.R. § 292.304(c) (1983).

Although *use of the full avoided cost standard will not produce any rate savings to the utility's customers*, several commenters stated that these ratepayers and the nation as a whole will benefit from the decreased reliance of [sic] scarce fossil fuels, such as oil and gas, and the more efficient use of energy.<sup>179</sup>

Taken literally, the Commission's declaration of no rate-savings to consumers would preclude use of a last-unit marginal cost method.

The rule's drafters have since stated that they did not intend to prohibit rate savings to consumers. Indeed, most claim to be "marginalists" who concede that they "assumed" rates would be based upon the marginal cost of the last-unit displaced by cogeneration.<sup>180</sup> The staff thought that the state public utility commissions could use the section 292.302(b) data to design rates based on the last-unit (lowest) marginal cost, although the rules did not so require.<sup>181</sup> In this context, the language of the preamble apparently addresses the worst-case scenario, with the Commission supporting its rule *even if* "use of the full avoided cost standard will not produce any rate savings to the utility's customers."<sup>182</sup>

In conclusion, the FERC regulations encourage the adjustment of full-avoided cost rates as increased cogeneration displaces less expensive marginal units of utility energy. The rule therefore precludes a first-unit marginal cost approach. Although the drafters of the rules may have assumed differently, the rules do not favor last-unit marginal cost pricing over average marginal cost pricing or temporal grandfathering. Each of these approaches is a valid measurement of full-avoided cost under the FERC regulations.<sup>183</sup>

Which measurement of the full-avoided cost rule is "just and reasonable to the electric consumers of the electric utility?"<sup>184</sup> The test is whether the rate promotes the economically efficient generation of electricity and protects consumers from increased rates.<sup>185</sup> With regard to economic efficiency, "[t]he issue is not whether errors will be made—for surely they will be—but whether *biases* persist."<sup>186</sup> Biases in the pricing

<sup>179</sup> Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222 (1980) (emphasis added).

<sup>180</sup> Telephone interview with James C. Liles, Acting Chief, Regulatory Policy Branch Office of Regulatory Analysis (then Operations Research Analyst, FERC) (Mar. 29, 1983).

<sup>181</sup> Interview with Glenn J. Berger, associate, Skadden, Arps, Slate, Meagher & Flom (then Attorney/Advisor for the FERC) (Aug. 11, 1983).

<sup>182</sup> Preamble to FERC Order No. 69, 45 Fed. Reg. 12,214, 12,222 (1980).

<sup>183</sup> Justice Stevens emphasized the discrepancy between the Commission's intent and the actual language of the rules during oral argument on *American Elec. Power*, 103 S. Ct. 1921. Concurring with FERC's counsel that the Commission may indeed have had the proper goals and consideration in mind, he twice questioned whether the Commission had stated those factors in the rules. See *supra* note 130; see also *supra* notes 180-82 and accompanying text.

<sup>184</sup> 16 U.S.C. § 824a-3(b)(1) (1982).

<sup>185</sup> See *supra* notes 106-23 and accompanying text.

<sup>186</sup> RAND, *supra* note 109, at 36-37 (emphasis in original); see also ASPEN INST. REPORT,

of electricity<sup>187</sup> will promote inefficiency in the generation mix and will subsidize one class of electricity producers at the expense of their competitors and the ratepayers.<sup>188</sup>

The first-unit marginal cost promotes excessive cogeneration, encouraging inefficient cogenerators to displace lower cost utility generation.<sup>189</sup> This approach results in direct consumer rate increases and thus is not "just and reasonable."

The efficiency of the cost-savings measurement depends on the form of its implementation. Only a cost-savings measurement that assigns the higher avoided cost increments to the lowest cost cogenerators effectuates an economically efficient generation mix. Such a pricing measurement, however, fails to satisfy the congressional intent that cogenerators be free from extensive regulation or cost-of-service analysis.<sup>190</sup> A first-in-time, highest-rate, grandfathering system is efficient only if, coincidentally, the least-cost cogenerators enter first, and the higher-cost cogenerators last.<sup>191</sup> An average marginal cost rate given to all cogenerators is systematically inefficient, because cogenerators with marginal costs higher than those of the utility, but lower than the average cost of the units displaced by cogeneration, are induced to enter the market, thereby displacing cheaper utility energy or capacity.<sup>192</sup> Although none of the cost-savings measurements would have any direct impact on consumer rates, each fails to promote a "just and reasonable" result.

The last-unit marginal cost measurement equates the cogenerator's price<sup>193</sup> with the utility's marginal cost. Such measurement promotes the economically efficient generation mix and direct rate savings for consumers. The last-unit marginal cost measurement is, therefore, the "just and reasonable" measurement of full-avoided cost.

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*supra* note 4, at 21 ("The desired objective of public policy on energy alternatives should not be the equality of outcomes but, rather, equality of opportunity to compete in end-use acceptance.").

<sup>187</sup> Structural biases in pricing exist whenever nonmarket forces, in this case, the federal government, cause the price of a good or service systematically to exceed the marginal cost of producing that good. *See supra* note 136; *see also* ASPEN INST. REPORT, *supra* note 4, at 20 ("Marginal cost pricing may . . . be proper for allocating societal resources on a regional or national basis.").

<sup>188</sup> *See supra* notes 136-37.

<sup>189</sup> *See supra* notes 138-40 and accompanying text.

<sup>190</sup> *See supra* notes 145-46 & 150-52 and accompanying text.

<sup>191</sup> *See supra* notes 145-49 and accompanying text.

<sup>192</sup> *See supra* notes 145-46 & 153-55 and accompanying text.

<sup>193</sup> The rate received by a cogenerator will theoretically equal its marginal cost because a producer will maximize his net profit by producing at the point where the marginal cost of producing one additional unit equals the marginal revenue obtained from that unit. I A. KAHN, *supra* note 78, at 67; *see supra* notes 141-44 and accompanying text.

## CONCLUSION

There are three possible measurements of full-avoided cost under PURPA section 210. The Commission's full-avoided cost rule permits states to implement purchase rates for cogeneration and small power production based either on the utility's last-unit marginal cost or cost-savings measurement but not on a first-unit marginal cost measurement. Under the cost-savings measurement a state can grandfather marginal cost rates on a first-in-time basis and can inversely award the highest rate to the lowest cost cogenerator or compensate all cogenerators at the utility's average marginal cost rate.

Purchase rates for cogeneration are "just and reasonable" under PURPA only if they promote economic efficiency in the electricity generation mix and do not raise consumer retail electric rates. Rates based on plenary examination of cogenerator costs are inconsistent with both the rule and intent of Congress in PURPA. A first-unit marginal cost approach raises consumer rates and promotes wasteful excess and inefficient cogeneration. Thus, it is neither consistent with the rule, nor just and reasonable as required by PURPA. Neither an average marginal cost rate nor temporal "grandfathering" is just and reasonable because each encourages inefficient cogeneration at the expense of lower-cost utility generated power. Inverse-cost "grandfathering" unacceptably requires plenary examination of each cogenerator's cost-of-service. Only the last-unit marginal cost approach is a "just and reasonable" means for implementing full-avoided cost pricing. Full-avoided cost rates measured by the utility's last-unit marginal cost promote both the economically efficient generation mix and direct rate savings for electric consumers.

*Steven R. Miles*