

CONTROL OF ENTRY INTO THE NATURAL GAS PIPELINE INDUSTRY: THE FPC AND THE CERTIFICATE OF CONVENIENCE AND NECESSITY

The bitterest conflicts in public utility fields are not always provoked by substantive questions of how to regulate. The most recent Congressional struggles with respect to the administration of the Natural Gas Act¹ by the Federal Power Commission² have centered around the extent of the Commission's jurisdiction over the natural gas industry.³ The statutory limitation of that jurisdiction to the transportation and wholesaling of gas in interstate commerce, presumed to be reasonably discrete from production and gathering at one extremity and local distribution at the other,⁴ has proved a fruitful source of controversial ambiguity. However, while the issues of federalism and the original Congressional intent behind the NGA have held the stage, basic questions of the appropriateness of public utility regulation to the various segments of the natural gas industry have had a considerable, if somewhat obscure, impact on the course of discussion.⁵

It is of peculiar significance in this regard that the period since the enactment of the NGA has been one of rising disenchantment with public utility regulation via governmental commission. Many have criticized the lack of initiative and independence displayed by commissions.⁶ More serious exception has been taken to the narrowness of the functions which

1. 15 U.S.C. § 717 (1946). Hereinafter NGA.

2. Hereinafter FPC.

3. See Berger and Krash, *The Status of Independent Producers under the Natural Gas Act*, 30 TEX. L. REV. 29 (1951); Comments, 17 U. OF CHI. L. REV. 479 (1950); 59 YALE L. J. 1468 (1950); Note, 52 COL. L. REV. 135 (1952). A climax to the long and presently inconclusive struggle is provided by *Wisconsin v. FPC*, 21 U. S. L. WEEK 2586 (D.C. Cir. May 22, 1953), which reverses the Commission's interpretation of the scope of its own authority in *Phillips Petroleum Co., F.P.C. Opinion No. 217* (1951).

4. 15 U.S.C. §§ 717(b), 717a(c) (1946).

5. The major issues have concerned the production and gathering of natural gas. See, e.g., *Hearings before a Subcommittee of the Senate Committee on Interstate and Foreign Commerce on H.R. 4051*, 80th Cong., 2d Sess. 352-353 (1948); in particular, note the Subcommittee report, *id.* at 571. Also see *Hearings before the Senate Committee on Interstate and Foreign Commerce*, 81st Cong., 1st Sess. 210 *et seq.* (1949), and note the Committee report printed therein at 518. As has been noted, however, there has been little discussion of the merits of the issues in this sense. See Comment, 59 YALE L.J. 1468, 1469 (1950).

6. See, e.g., BAUER, *TRANSFORMING PUBLIC UTILITY REGULATION* (1950); Fainsod, *Regulation and Efficiency*, 49 YALE L.J. 1191 (1940). See also Huntington, *The Marasmus of the ICC: The Commission, The Railroads, and the Public Interest*, 61 YALE L.J. 467 (1952); but see Morgan, *Critique of "The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest,"* 62 YALE L.J. 171 (1953).

commissions have assumed to be theirs.⁷ Such narrowness may simply be an index of the extent to which regulators unconsciously simplify the picture of economic life which guides their regulation. It seems more likely that it is a conscious assertion of their incapacity for, or the unwisdom of, further expansion of authority. Attempts of the commissions to define their own function may be seen with particular clarity in their use of a characteristic instrument of control, the certificate of convenience and necessity.⁸ Review and analysis of the criteria used by the FPC in granting such certificates should bring insight into the perplexities involved in efforts to broaden the functions of a public utility commission and, incidentally, into the meaning of recent jurisdictional struggles.

The complexity of the issues which may come to bear upon any one certification case renders generalization difficult at best. Understanding of the certification process, however, may be aided by initial oversimplification. This can be accomplished by an examination of criteria for the granting of certificates in a simplified market situation, followed by the introduction of the more complicated realities of the natural gas market.

I. *Simple Market Situation*

A. *Single Seller*

Criteria for certification were first announced in a 1939 case, *Kansas Pipeline and Gas Co.*⁹ The Kansas Pipeline and Gas Company (Kansas)

7. See, e.g., Gray, *The Passing of the Public Utility Concept*, 16 LAND ECONOMICS (then entitled THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS) 8 (1940), reprinted in READINGS IN THE SOCIAL CONTROL OF INDUSTRY (1942); HALL, STATE CONTROL OF BUSINESS THROUGH CERTIFICATES OF CONVENIENCE AND NECESSITY 109 *et seq.* (1948). The two types of criticism are not, of course, unrelated. See Fainsod, *supra* note 6. The "narrowness" critique was directed at the FPC's handling of the natural gas industry by Mr. Justice Jackson in *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 628 (1944) (dissent).

8. Such certificates are in the nature of permits for operation as a public utility or for expansion of facilities, see BARNES, ECONOMICS OF PUBLIC UTILITY REGULATION 229 (1942), and TROXEL, ECONOMICS OF PUBLIC UTILITIES 191 (1947), and are historically linked to the rise of public utility regulation by state commissions. See BEHLING, MONOPOLY AND COMPETITION IN PUBLIC UTILITY INDUSTRIES 25, 64 (1938). Under the NGA they were originally only required of companies building lines to markets already served by other natural gas companies, 52 STAT. 824 (1938); but in 1942 the act was amended to require that all natural gas companies subject to the jurisdiction of the FPC obtain certificates, 56 STAT. 83 (1942), 15 U.S.C. § 717f (1946).

9. 2 F.P.C. 29 (1939). See Wheat, *Administration by the Federal Power Commission of the Certificate Provisions of the Natural Gas Act*, 14 GEO. WASH. L. REV. 194 (1945). Neither of the applicants in the case met all the criteria laid down, so that the opinion is a declaration of intention to issue certificates when the requirements are fulfilled. As neither, again, ever met those requirements in full, both applications were later dismissed. 2 F.P.C. 939 (1941).

proposed construction of a 1,300 mile line from the Hugoton gas field in southwestern Kansas to the Mesabi iron range in northeastern Minnesota. North Dakota Consumers Gas Company (North Dakota) projected a line from western North Dakota 198 miles east to the Minnesota-North Dakota border. The applications conflicted as to service to a few towns on both sides of that border, but there is no indication that the Commission ever considered allowing more than one company to serve those markets.¹⁰ Explicit showing as to gas supply, potential demand, financing, costs, proposed rates and probable revenues was required.

The key showing was clearly one of demand. The supply requisite was one “. . . adequate to meet those demands which it is reasonable to assume will be made. . . .”¹¹ Other requirements, designed to ensure continuous and adequate service, were similarly functions of demand. Thus estimated costs and financing should be adequate to carry the project through.¹² At the same time there was considerable anticipation of rate base problems. Fixed charges resulting from financing, as well as construction and operating costs, should be reasonable.¹³ The price at which the gas supply was to be purchased was scrutinized,¹⁴ and showing of the reasonableness of projected rates and revenue required.¹⁵

10. It is essential to distinguish competitive applications of this nature from cases in which the existence of two or more sellers in a single market is a serious possibility. It might seem that prior to the 1942 amendment, see note 8 *supra*, the latter situation was the only one which could arise in a certificate case before the FPC. The Commission's interpretation of the spacial limits of a market already served by a natural gas company, however, was so broad as almost to eliminate the element of competition with established companies. *Kansas Pipeline and Gas Co.*, 2 F.P.C. 29, 35 (1939). Of the two companies in the instant case whose “markets” were to be invaded by the proposed new lines, one was the supplier of North Dakota and had considerable control over that company. *Id.* at 43. The other did not bother to intervene in opposition to the certificates. See also *Wheat*, *supra* note 9, at 196.

11. *Kansas Pipeline and Gas Co.*, 2 F.P.C. 29, 40 (1939).

12. *Id.* at 52, 53.

13. *Id.* at 53.

14. *Id.* at 41, 44.

15. *Id.* at 55. At this time the examination of rates was justified by reference to a specific statutory direction to take into account an applicant's ability to charge prices “. . . lower than those prevailing in the territory to be served, it being the intention of Congress that natural gas shall be sold in interstate commerce for resale . . . at the lowest possible reasonable rate . . .” 52 STAT. 824 (1938), which was eliminated by the 1942 amendment. See note 8 *supra*. There can be little doubt, however, that the general purpose of protection of consumers is a sufficient basis for requiring a showing of the reasonableness of proposed rates in certificate proceedings. See *Kentucky Natural Gas Corp. v. F.P.C.*, 159 F.2d 215, 219 (6th Cir. 1947), where the court seemed to be making this point, although it deemed a direct ruling on the question of the Commission's authority to so investigate rates unnecessary on the facts of that case. The FPC has continued to give emphasis to the relative level of rates proposed by competing applicants, see *Eugene H. Cole (Erie Gas Service Co., Inc.) F.P.C. Opinion No. 205 (1951)*, and

On the whole, then, the Commission was primarily concerned with consumer interests, going so far as to say that in an area without natural gas service the public convenience and necessity would always require its introduction, provided the applicant company could meet the minimum standards laid down for ability to provide adequate service.¹⁶ Investor interests were assumed, for the most part, to be taking care of themselves.¹⁷ Finally, producers were not completely ignored. The choice of North Dakota to serve the disputed markets was based upon, among other factors, the need to provide pipeline outlets for the Montana gas fields from which that applicant's supply was to be drawn.¹⁸

Since 1939 the criteria mentioned have remained the basic factors around which the certification process has operated. Although the 1942 amendment to the NGA added the factors of an applicant's ability and willingness to the primary requisite that the project be required by the present or future public convenience and necessity, the FPC had already stressed ability to provide continuous and adequate service.¹⁹ The method by which a showing of any particular requirement is established changes, of course, from case to case and is very much the province of the expert guess. The primary question to which attention is here addressed is the effectiveness with which these criteria and the attitudes behind them meet the impact of broader issues, such as competition between two or more sellers.

B. *Two or More Sellers*

Coincident with the criticism of public utility regulation in general, there have been persistent challenges to the notion that public utility industries are, in the main, "natural" or "inherent" monopolies.²⁰ "Com-

has undertaken extensive investigation of proposed rate *structures* in many certificate cases involving only one applicant. See note 62 *infra*.

16. Kansas Pipeline and Gas Co., 2 F.P.C. 29, 56 (1939). This statement by the Commission may be challenged on grounds not developed in the present context. See pp. *infra*.

17. "Adequacy" of return, as opposed to "reasonableness," takes on importance in the context of Commission authorization of the entry of a new seller into the market of an established seller or the simultaneous entry of two sellers into a market not yet served by any natural gas company. See note 58 *infra*, and accompanying text.

18. Kansas Pipeline and Gas Co., 2 F.P.C. 29, 59 (1939).

19. The present statutory criteria are that the applicant be "able and willing properly to do the acts and to perform the service proposed and to conform to the provisions of the Act and the requirements, rules, and regulations of the Commission thereunder," and that the project ". . . is or will be required by the present or future public convenience and necessity. . . ." 56 STAT. 84 (1942), 15 U.S.C. § 717f (e) (1946). Present Commission regulations setting forth the type of evidence which applicants should submit in filing for certification follow the outline of the *Kansas* case criteria. 18 CODE FED. REGS. §§ 157.5-157.22 (Supp. 1952).

20. See BEHLING, *op. cit. supra* note 8, c. IV; Comment, *A Re-Examination of*

petition," apparently defined as any form of market organization short of the effective presence of only one seller, has been proposed not only as an aid to underpaid, understaffed and not always competent commissions²¹ but also as desirable for its own sake in many public utility fields.²²

The major argument against "competition," so defined, is couched in terms of "wasteful duplication of facilities" and "cutthroat competition."²³ Translated into an economic standard applicable to particular cases, the amount of goods demanded in any one market is such that one physical plant serving that market can more nearly approach the sales volume at which average cost per unit is optimum than can any larger number of plants.²⁴ This in turn is usually attributed to the presence of high "fixed" or initial costs.²⁵ In consequence, the entry of a second seller means that neither will be able to operate near optimum unit cost (the facilities represented by fixed costs are "duplicated"), and resources which could be put to use elsewhere are wasted. Further, for each seller any increase in volume of sales will decrease unit costs (up to the point at which unit cost is the lowest possible, *i.e.*, optimum), so that there is a strong temptation toward price wars and "cutthroat competition" often ending in merger or consolidation of the rival companies.²⁶ The losses incurred during such wars would generally be reflected in higher prices subsequent to the merger.

Competition in Gas and Electric Utilities, 50 YALE L.J. 875 (1941); Lake, *Competition in the Public Utility Fields*, 10 MISS. L.J. 197 (1938); Jourolman, *Social Performance of Public Utilities: Effects of Monopoly and Competition*, 17 TENN. L. REV. 308 (1942). But see BONBRIGHT, PUBLIC UTILITIES AND THE NATIONAL POWER POLICY (1940).

21. The argument runs that, for the reasons cited and occasionally because of a lack of statutory authority, the commissions' control over regulated industries may be comparatively limited. See *e.g.*, Comment, *supra* note 20, at 879.

22. Lake, *supra* note 20, at 218, argues this point as a matter of providing maximum freedom for individuals to enter various businesses of their choice. The Federal Communications Commission's claim that there is a national policy in favor of as much competition as possible in all fields has been denied by the Supreme Court. *Federal Communications Comm'n v. RCA Communications, Inc.*, 73 Sup. Ct. 998 (1953).

23. See BEHLING, *op. cit. supra* note 8, at 37 *et seq.*; TROXEL, *op. cit. supra* note 8, at 38, 192.

24. The notion is that of a "decreasing cost industry." See BEHLING, *op. cit. supra* note 8, at 35; BOWEN, *TOWARD SOCIAL ECONOMY* c. 17 (1948). In the first instance the argument runs to the optimum size of physical plant, but the economies which unified management of several plants may bring may be considerable. See note 61 *infra*.

25. See BEHLING, *op. cit. supra* note 8, c. III; TROXEL, *op. cit. supra* note 8, at 32 *et seq.* As Behling points out, it is really a question of the predominance of fixed over variable costs rather than the absolute level of fixed costs. The difficulty of storing many public utility products necessitates provision of capacity sufficient to meet peak demands and is thus a potent source of the predominance.

26. See Gray, *Public Utility Competition: A Case Study*, 15 LAND ECONOMICS 195 (1939), and note 23 *supra*.

It is not altogether clear that such ruinous consequences will always follow the introduction of "competition."²⁷ Further, the proponents of "competition" as an aid to regulation claim that there is more incentive to achieve such goals as efficiency, courtesy and technological development where there are two or more sellers.²⁸ For purposes of public utility fields attention can be restricted to cases involving a very few sellers. Economic theory and investigation indicate that in such a market each seller's awareness of his rivals' reactions to his own moves, particularly as to prices, keeps the emphasis off price competition.²⁹ The spur to reduce costs and rates associated with "competition," then, would not necessarily be present.

But it has been argued that this prognostication overlooks the way in which a commission can change the picture. To the extent, for instance, that minimum rate control is effective, it can eliminate the fear of price wars and ruinous competition, which some think is a major cause of the tenderness with which such sellers approach price reductions.³⁰ In recent years, however, the thought that markets with but few sellers will display rigid prices, mainly because of the fear of price wars, has given way to the realization that the factors which such sellers take into

27. It has been argued that commissions, through their control over mergers and minimum prices, can avoid such destructive competition. See Comment, *supra* note 20, at 879; Lake, *supra* note 20, at 206. Without attempting to pass final judgment upon this contention, it can be noted that it presumes strong action by commissions of a sort not likely to be immediately popular with consumers and adequacy on their part, in the examination of costs, sufficient to assure sellers that their rivals will not be able to wage price war upon them under the cover of commission-allowed rate reductions—two rather tenuous assumptions, especially in the light of the original argument that "competition" is needed because of the lack of commission initiative and ability.

28. See Comment, *supra* note 20, at 881; Lake, *supra* note 20, at 238. This contention does not cover the entire argument since, for some, "competition" is a social ideal carrying values other than economic. The term "economic" is used here in the restricted sense of "pertaining to the allocation of scarce means so as to realize to a maximum extent a given system of ends." See KNIGHT, *FREEDOM AND REFORM* 137 n.5 (1947). In this sense Lake, *supra* note 20, is arguing from a non-economic ideal. See note 22 *supra*. It should be noted, however, that Henry Simons, certainly one of the outstanding defenders of competition as an ideal transcending the economic sphere, argued for monopolistic organization of public utility industries under public ownership. Simons, *The Requisites of Free Competition*, 26 AM. ECON. REV. 68 (Supp. 1936).

29. See CHAMBERLIN, *THE THEORY OF MONOPOLISTIC COMPETITION* (6th ed. 1950); FELLNER, *COMPETITION AMONG THE FEW* (1949).

The status of technological change in a more as opposed to a less competitive market is a matter of some dispute. See FELLNER, *op. cit. supra* at 282-291; SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* c. VII, VIII (2d ed. 1947); Bowman, *Toward Less Monopoly*, 101 U. OF PA. L. REV. 577, 621-630 (1953). The fact that, for public utility fields, the comparison must be between a market with one seller and one with at most a few sellers further reduces the significance which can be attached to claims for competition as a spur to innovation.

30. See Comment, *supra* note 20, at 882. Factors tending to limit commission use of minimum price control and its effectiveness have already been mentioned. See note 27 *supra*.

account and the pattern of action to be expected of them are much more complex.³¹ At this point the entire question of the effects of minimum price control becomes speculative.

A less speculative claim supporting regulated "competition" is that made for the efficacy with which the threat of permitting entry by a competitor or the grant of prospective new customers to an already present rival can be used by commissions as a club to wield over the heads of recalcitrant companies.³² This weapon may well be effective, but its applicability is likely to be restricted to periods in which the market for the utility product is expanding sufficiently to provide the plum of additional customers to be awarded to the efficient; a period of declining demand is likely to involve prospects of duplication and ruinous competition following upon the entry of a second seller, as both companies feel the pinch of high fixed costs.

All of these issues—duplication, the consequences of "regulated competition," the limits of commission action in a "competitive" public utility market—come to bear upon individual cases both where the market is limited to a single town or city and where it includes an entire area.³³ The significance of the distinction between "area" and "town" competition, for present purposes, lies in the fact that division of the market between companies, either by commission action or by company policy, may more readily occur in the context of competition over a large area.³⁴ The relative distance of various customers from the major lines would, of course, be reflected in costs to the sellers and price of service to them, so that division of the market on a spacial basis becomes more attractive as the distances involved become substantial.³⁵

The most recent of the two major competition cases which the FPC has faced concerned introduction of natural gas service to the New

31. See FELLNER, *op. cit. supra* note 29, at 180-181, and the works cited therein.

32. Commission efforts in this direction are noted in BEHLING, *op. cit. supra* note 8, at 61.

33. The distinction is drawn in Comment, *supra* note 20, at 880.

34. See BEHLING, *op. cit. supra* note 8, at 70-71.

35. The 1942 amendment provided that the Commission may determine "service areas" within which a natural gas company could enlarge its facilities without certification. 53 STAT. 84, 15 U.S.C. § 717f(f) (1946). Determination of such areas on a geographical basis, however, involved such difficulties in the way of overlapping, and uncertainty of future plans for expansion that the FPC finally recommended adoption of a rule allowing expansion of facilities without certification up to a certain percentage of authorized capacity, with provisions for notice to the Commission so that it might intervene if it thought a certificate was required. See FPC, NATURAL GAS INVESTIGATION (Docket G-580), Report of Commissioners Smith and Wimberly 480-498 (1948). The order which was finally adopted in 1949 simply excluded certain named types of facilities and those required for emergency provision of adequate service from certificate requirements. See F.P.C. Order No. 148, 14 FED. REG. 681-682 (1949) and 18 CODE FED. REGS. §§ 2.55, 157.22 (Supp. 1952).

England area.³⁶ As there was no pipeline company serving the area at the time, there was no question of a presently inadequate service which the Commission hoped to cure by allowing entry of a new seller. Still, the motive for the attempt to divide the area between the two applicants was not dissimilar. It was the limited nature of FPC power to compel extensions of service, combined with the fact that neither applicant proposed service to the entire area, which bothered the majority of the Commissioners.³⁷ Add to this the pressure toward getting gas to New England before the winter space-heating season, and one has a setting for attempts at quick resolution.

There was no question here but that authorization of two lines to the area meant some duplication.³⁸ There was some question whether the costs of one company, in relation to the market assigned to it, would allow it an adequate return.³⁹ But the Commission distrusted both applicants, reading them a stinging lecture in its first opinion in the case,⁴⁰ and went out of its way to allow one of them time to meet minimum supply and other requirements.⁴¹ The theory of this action was that, over the

36. Tennessee Gas Transmission Co., 9 F.P.C. 262 (1950), Tennessee Gas Transmission Co., 9 F.P.C. 271 (1950), United Gas Pipeline Co., F.P.C. Opinion No. 206 (1951), and Northeastern Gas Transmission Co., F.P.C. Opinion No. 208 (1951), are the major opinions in the case so far.

37. See Tennessee Gas Transmission Co., 9 F.P.C. 271, 281 (1950); Commissioner Wimberly's concurring opinion in United Gas Pipe Line Co., *supra* note 36, at 2 of his opinion. Cf. Panhandle Eastern Pipeline Co. v. FPC, 21 U.S.L. WEEK 2536 (3rd Cir. April 30, 1953).

38. The first opinion in the case stated that the two applications before it involved duplication, that it was desirable that one company serve the whole area, and that proceedings would be reopened if the Commission received any fair proposal along those lines. Tennessee Gas Transmission Co., 9 F.P.C. 262 (1950). See also Tennessee Co., 9 F.P.C. 271, 279-281, 283-284 (1950).

39. See Commissioner Buchanan's dissents, Tennessee Gas Transmission Co., 9 F.P.C. 271, 298 (1950); United Gas Pipe Line Co., F.P.C. Opinion No. 206 (1951). Compare the majority opinions Tennessee Gas Transmission Co., *supra* at 281; United Gas Pipe Line Co., *supra* at 43.

40. "It is clear to us that these applicants . . . have placed their own selfish interests, and the interests of those with whom they are associated, above the best interests of the public." Tennessee Gas Transmission Co., 9 F.P.C. 262, 266 (1950). The fear that either of the two applicants would pick and choose customers or discriminate against some of those they might serve was undoubtedly increased by the fact that two-thirds of the common stock of one, Algonquin Gas Transmission Co. (Algonquin), was owned by two corporations owning various manufactured gas distributing companies in the area who were prospective customers. See United Gas Pipe Line Co., *supra* note 39, at 46. Certificates to both companies were conditioned to require that rates be non-discriminatory as between various distributors in the area. Tennessee Gas Transmission Co., 9 F.P.C. 271, 291, 295 (1950); United Gas Pipe Line Co., *supra* at 62, 66.

41. The first certificate was granted to Northeastern Gas Transmission Co. (Northeastern) on November 8, 1950, Tennessee Gas Transmission Co., 9 F.P.C. 271 (1950). The Algonquin certificate did not issue until February 27, 1951, United Gas Pipe Line Co., F.P.C. Opinion No. 206 (1951), but the majority announced in the November 8th opinion its intent to grant a certificate to Algonquin. See Tennessee Gas Transmission Co., *supra* at 229-300 (Buchanan dissenting in part).

whole area, two pipelines would be easier to control than one, given that the problem was not control of competition for customers but that of ensuring adequate service to all prospective customers in the market area.⁴² The market division attempted was started by the grant of a certificate to one company for service to specific distributor customers and explicit reservation of others for the second seller.⁴³ It may never be known, however, whether the dire consequences of duplication adduced by opponents of "competition" would follow here, for the Commission certification of the second company was reversed on appeal to the federal courts, on the ground that a proposal to serve the entire area by the first company was not given a fair hearing.⁴⁴ Final action by the FPC is still pending.⁴⁵

A somewhat clearer picture of the manner in which the competition issue is met by the Commission's general criteria for certification may be obtained by analysis of a 1946 case involving a single municipal market, the Detroit area.⁴⁶ Up to and through World War II, Panhandle Eastern Pipeline Company (Panhandle) was the only major natural gas pipeline system serving the Detroit market. On November 30, 1946, the Commission issued a certificate to the Michigan-Wisconsin Pipe Line Company (Michigan-Wisconsin) for the construction of a line from Hansford County, Texas, to major markets in Michigan and Wisconsin, including the Detroit-Ann Arbor market already served by Panhandle.⁴⁷ Two

42. The "cutthroat competition" argument applies with somewhat less force to the FPC in its control over natural gas pipelines than, for example, to a state commission controlling gas distributors since, particularly where the market covers a large area, the attachment of new customers to a pipeline will in most cases necessitate the provision of facilities for which a Commission certificate will be required. See however, note 35 *supra*. To the extent that certification is required, the Commission, rather than the various forces of the market, has the final word on the allocation of present and prospective customers between competitors; if it is willing to take a strong stand it can undoubtedly nullify any gains which the predatory practices identified with cutthroat competition might bring to a pipeline company. This does not, however, do away with the wastes of duplication, which consumers would bear in the form of higher rates.

43. See note 41 *supra*.

44. *Northeastern Gas Transmission Co. v. FPC*, 195 F.2d 872 (3rd Cir. 1952), *cert. denied*, 344 U.S. 836 (1952). The "proposal" was made in the course of hearings following the Commission's original call for single project covering the entire New England territory and was not a formal application for a certificate covering the whole area. See *Northeastern Gas Transmission Co., F.P.C. Opinion No. 208* (1951), which is a final dismissal of a *Northeastern* petition for a certificate covering the whole area filed after the market division had already been started by grant of a limited certificate to them.

45. The Commission's denial of *Algonquin's* petition for a temporary certificate was approved by the United States Court of Appeals for the First Circuit. *Algonquin Gas Transmission Co. v. FPC*, 201 F.2d 304 (1st Cir. 1953).

Recently the companies reached an agreement dividing the New England market, but it was subject to FPC approval which had not yet been granted at the time this note went to press. See *Wall Street Journal*, July 7, 1953, p. 15, col. 2.

46. The opinion in the case is *Michigan-Wisconsin Pipeline Co.*, 6 F.P.C. 1 (1947).

47. 5 F.P.C. 953 (1946).

Commissioners, Draper and Olds, dissented from the action of the majority, which was upheld by the United States Court of Appeals for the District of Columbia.⁴⁸

The FPC decision was based explicitly upon the prediction of a tremendous increase in demand in the Detroit market and upon the prospect of deliveries to western Michigan markets, whose supply from local gas fields was failing, and Wisconsin consumers, who had never before had natural gas service.⁴⁹ The intent to punish Panhandle for a pattern of behavior which the majority thought inimical to the public interest, however, was not hidden.

At root the struggle concerned Panhandle's attitude toward its direct sales to industrial customers. Such sales were and are not included in the statutory jurisdiction of the FPC⁵⁰ and, at the time, there was some doubt whether state commissions could constitutionally regulate them.⁵¹ Panhandle's desire to garner an increasing share of the lush Detroit industrial market from the local distributing company, Michigan Consolidated Gas Company (Michigan Consolidated), had been quite obvious.⁵² At the same time it had neither concluded a contract with the distributor for sufficient increased deliveries nor applied for certification of facilities adequate to meet the demand forecast by Michigan-Wisconsin witnesses and accepted for planning purposes by the majority.⁵³ In the background lay the post-war winter gas shortages which had led state

48. *Panhandle Eastern Pipe Line Co. v. FPC*, 169 F.2d 881 (D.C. Cir. 1948). The 1942 amendment, see note 8 *supra*, specifically provided: "Nothing contained in this section shall be construed as a limitation upon the power of the Commission to grant certificates of public convenience and necessity for service of an area already being served by another natural-gas company." 56 STAT. 84 (1942), 15 U.S.C. § 717f (g) (1946), and that provision was the final basis on which the court placed its holding. See *Panhandle Eastern Pipe Line Co. v. FPC*, *supra* at 883-884; *accord*, *Kentucky Natural Gas Corp. v. FPC*, 169 F.2d 215 (6th Cir. 1947).

49. See *Michigan-Wisconsin Pipe Line Co.*, *supra* note 48, at 37, 40.

50. 15 U.S.C. §§ 717 (b), 717a (6) (1946).

51. The obstacles were the possibility that Congress had so filled the regulatory field as to exclude state action and the negative implications of the commerce clause. The issue was finally settled in favor of the state commissions by two cases involving, significantly, Panhandle. *Panhandle Eastern Pipeline Co. v. Michigan Public Service Comm'n*, 341 U.S. 329 (1951) (states may require certificates of public convenience and necessity as prerequisite to direct sales); *Panhandle Eastern Pipeline Co. v. Public Service Comm'n*, 332 U.S. 507 (1947) (state may regulate rates on direct sales).

52. Early in 1946 the Commission had denied Panhandle a certificate for facilities necessary for direct interruptible sales to the Ford Motor Company in Detroit on the ground that such service could only be obtained at the expense of service to other interruptible customers who were within the jurisdiction of the FPC. *City of Detroit et al. v. Panhandle Eastern Pipeline Co.*, 5 F.P.C. 43 (1946). ("Interruptible," as opposed to "firm" customers, are those whose supply may be curtailed or cut off whenever total demands exceed the delivery capacity of the seller's system. See FPC, NATURAL GAS INVESTIGATION [Docket No. G-580], Report of Commissioners Smith and Wimberly 256 [1948].)

53. See *Michigan-Wisconsin Pipe Line Co.*, 6 F.P.C. 1, 30, 31 (1947).

commissions to restrict space-heating growth throughout the area.⁵⁴ The Michigan-Wisconsin line to Detroit undoubtedly appeared to the majority as a means of bringing needed service and breaking the bargaining jam created by Panhandle's desire to escape regulation.⁵⁵

The duplication issue was met directly with the assertion that the increase in demand made enlarged physical facilities equivalent to the Michigan-Wisconsin line necessary in any case, quite aside from the new markets which would be served in western Michigan and Wisconsin.⁵⁶ The increasing demands on other parts of the Panhandle system, moreover, were such that the company would not be financially harmed by the loss of prospective markets,⁵⁷ while the estimated return for Michigan-Wisconsin was termed "adequate."⁵⁸ In sum, the majority thought that the possibility of ensuing ruinous competition was "... not even remotely present in this case."⁵⁹

The dissenters, apparently unable to make out much of a case as to duplication on the specific facts before them, contented themselves with statements about the "inherent" nature of monopoly in public utility industries in general⁶⁰ or the natural gas pipeline business in particular.⁶¹ It may be added in their favor that there is some indication that the adequacy of prospective return to Michigan-Wisconsin rested in part on spacial price discrimination, *i.e.*, on a shifting of some costs of the Detroit project to Wisconsin and other non-Detroit consumers, who did not enjoy the presence of a competing seller.⁶² The thrust of their opinions, however, is in another direction.

54. *Id.* at 28-29.

55. *See* Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 58, 66 (1947) (supplemental majority opinion); Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 34 (1947).

56. *Id.* at 28.

57. *Id.* at 35-37.

58. *Id.* at 23; cf. note 17 *supra*, and accompanying text.

59. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 33 (1947). They did, however, recognize a right on Panhandle's part to share in the Detroit market, and the certificate to Michigan-Wisconsin was conditioned on the recognition by that company and Michigan Consolidated (which was its corporate affiliate) of that right. *Id.* at 91. The reader who wishes to follow the tangled course which "regulated competition" between Panhandle and Michigan-Wisconsin has run, should consult Panhandle Eastern Pipeline Co. v. Michigan Consolidated Gas Co., 7 F.P.C. 48 (1948); Michigan Consolidated Gas Co. v. Panhandle Eastern Pipeline Co., 9 F.P.C. 998, 1016, 1110, 1288, 1330 (1950); Panhandle Eastern Pipeline Co., F.P.C. Opinions Nos. 229, 229-A (1952).

60. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 39 (1947).

61. *Id.* at 49-50. Commissioner Olds, however, did refer to the benefits of unified management of storage projects which would be a "duplication" argument analogous to the contentions of duplication of physical plant. *Id.* at 49.

62. The rates originally proposed by Michigan-Wisconsin were related to the volume used per month in a market area divided by its population, *id.* at 19, which would seem to give an advantage to highly industrialized regions like Detroit where users in large volume are to be found. The form proposed was novel, and the majority refused to approve it without further study. *Id.* at 20. The problem hung on until 1950,

Both dissents rely heavily on the adequacy of Panhandle's past service to Detroit and Michigan Consolidated and its expressed willingness to plan for future expansion.⁶³ Both emphasize conflict in the record over the sufficiency of reserves committed to Michigan-Wisconsin, as well as its inability to meet immediately some of the other minimum requirements.⁶⁴ Commissioner Olds, who carried the brunt of the argument, attributed Panhandle's lag in formal application for authorization of a substantial increase in facilities to the general shortage of steel pipe and the uncertainty concerning its future markets to which the Michigan-Wisconsin application had subjected it since 1944.⁶⁵ He expressed doubt concerning the efficacy of competition where Michigan Consolidated, the distributor buyer, was a corporate affiliate of one of the pipeline sellers, Michigan-Wisconsin. He felt generally that the Commission was being rushed into a decision which required much more careful consideration.⁶⁶

when the line was ready to go into operation and was then deferred to rate proceedings. See Michigan-Wisconsin Pipe Line Co., 9 F.P.C. 152 (1950), and in particular Buchanan's dissent, *id.* at 166-167. A related question concerned the allocation of the costs of a large storage project at the Michigan terminus of the line. As originally proposed, see Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 9-10 (1947), and as approved by the Commission, Michigan-Wisconsin Pipe Line Co., 9 F.P.C. 127 (1950), Michigan-Wisconsin rather than Michigan Consolidated assumed the operation and costs of the project, with the result that those costs were spread over the entire system, to be paid in part by Wisconsin and other non-Michigan consumers. Whether its benefits were correspondingly widely enjoyed is a matter of dispute. See Commissioner Buchanan's dissent, Michigan-Wisconsin Pipe Line Co., 9 F.P.C. 127, 139 (1950). Allocation of costs from such projects and spacial price discrimination have continued to plague the FPC. See Trunkline Gas Supply Co., 8 F.P.C. 250 (1949); Texas Illinois Natural Gas Pipeline Co., 9 F.P.C. 105 (1950).

63. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 38, 41 *et seq.* (1947). To the majority it was "conjectural and misleading," Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 58, 66 (1947) (supplemental opinion), to rely so heavily on Panhandle's "plans," particularly in view of its attitude in the past toward the Detroit market. They recognized the adequacy of Panhandle's past service (viewed as fundamental in the approach of state commissions to the certification of a rival in the market of an established seller, see BEHLING, *op. cit. supra* note 8, at 58 and Comment, *supra* note 20, at 885), by the reservation of a continuing share in the Detroit market for Panhandle, see note 59 *supra*. There was a further condition on the certificate that Panhandle be given the right to a share of future demands in excess of the amounts contractually supplied Michigan Consolidated by both Panhandle and Michigan-Wisconsin.

64. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 39, 48 (1947). The other requirements were those as to rates and a showing of firm demands in the Wisconsin markets. The subsequent history of the case certainly demonstrates that "competition" of this nature does not necessarily lead in the direction of lower prices. By 1949, it was clear that upward revision of cost estimates would necessitate rates higher than those concurrently charged by Panhandle. See Michigan-Wisconsin Pipe Line Co., 8 F.P.C. 293 (1949). When the line went into operation in 1950, it was with temporarily approved rates which were, the Company and the Commission agreed, too high for permanent charges. See Michigan-Wisconsin Pipe Line Co., 9 F.P.C. 152, 163 (1950). The leniency shown toward Michigan-Wisconsin as to these and the supply requirements should be compared with that shown to Algonquin. See note 41 *supra*, and accompanying text.

65. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 41-42 (1947).

66. *Id.* at 42, 48, 49.

A crucial aspect of his opinion, in this regard, is its analysis of the nature of the prospective demand hanging over the Detroit market and creating the supposed need for swift action by the FPC. It was the growth of demand beyond the Panhandle system's capacity which allowed the majority to escape the "duplication of facilities" argument, and that same expansion of the market was responsible for their ability to punish Panhandle by awarding the new customers to its rival. Briefly, his objection was that the Michigan-Wisconsin estimates of future demand contained too large a component devoted to industrial consumption of natural gas in competition with other fuels.⁶⁷ He did not believe that a new and competing pipeline to Detroit should be authorized ". . . when the evidence shows clearly that its justification rests not on orderly growth of the general market but on intensive efforts to expand industrial use through conversion of large industrial plants, including boiler installations, to natural gas."⁶⁸

The point raised brings into play such factors as the opposition of coal interests to the entrance of natural gas into Wisconsin markets⁶⁹ and transforms the assumptions on which the "competition" problem has been thus far approached. Both the elasticity of demand for natural gas and the growth of demand over a period of time are affected sharply by its competitive relation to other fuels.⁷⁰ Its industrial market, at least, is sensitive to movements of the business cycle.⁷¹ Olds' argument raises the question whether such relations may be taken as "given" or whether they, too, present issues for determination by the FPC. To adequately answer the question, the natural gas market must be set in a broader con-

67. *Id.* at 47-48. The original Michigan-Wisconsin proposal had been that it take over the entire job of supplying Michigan Consolidated after the latter's contract with Panhandle ran out in 1951. In October of 1946, however, Michigan Consolidated offered Panhandle a 15 year contract at an annual level somewhat less than its purchases in 1945. It was at this point that Michigan-Wisconsin estimates of industrial demand jumped, raising the portion of Michigan Consolidated's entire market represented by industrial load from 30% in 1945, to a prospective 55% in 1952, when projected sales were to be considerably greater. The majority emphasized the prospects of growth in space-heating load as the basic element in the demand increase to be expected. *See id.* at 29. For a time in 1949, it seemed that Michigan-Wisconsin estimates had overshot the mark with respect to all classes of demand, see Michigan-Wisconsin Pipe Line Co., 8 F.P.C. 293 (1949), but by 1950, it appeared that they had actually been underestimates, particularly in regard to space heating. *See* Michigan-Wisconsin Pipe Line Co., 9 F.P.C. 152, 155 (1950); Panhandle Eastern Pipeline Co., F.P.C. Opinion No. 229-A, at 8-9 (1952).

68. Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1, 48 (1947).

69. *Cf.* Wisconsin Southern Gas Co., 4 F.P.C. 188 (1944); see O'Leary, *Introduction and Utilization of Natural Gas: The Wisconsin Experience*, 29 LAND ECONOMICS 13 (1953).

70. *See* p. 603 *infra*.

71. *See* note 124 *infra*.

text. In that process problems such as those of conservation policy enter stage center, after skulking thus far in the wings.

II. *The Natural Gas Market: Conservation and Interfuel Competition*

A. *Prelude*

The coal industry, with associated labor and transportation interests, has been the outstanding competitor of natural gas active in proceedings before the FPC, though its reception by the Commission was originally somewhat less than cordial.⁷² Initially, coal interests were not allowed to act as "Interveners" in certificate cases, on the ground that the original limitation of certificate jurisdiction to markets already served by a natural gas company indicated a Congressional intent not to vest in the Commission such broad control of the industry as to justify inclusion of competing fuels' interests in the list of factors significant for purposes of decision.⁷³ The FPC's 1940 annual report, taking cognizance of this problem and its relation to the conservation of gas, asked Congress for the authority to deal with it.⁷⁴ Extension of certificate jurisdiction to all natural gas pipeline companies in 1942 which was explicitly based, *inter alia*, upon the need for consideration of coal and railroad interests⁷⁵ came at an inopportune moment, when the Commission was grappling with the problem of the decline of natural gas production in the Appalachian area.

The original center of discovery and production, the Appalachian region was facing depletion of its gas reserves immediately due to heavy use by war industry, but ultimately caused in large part, as the Commission put it, by early exploitation ". . . under highly competitive conditions."⁷⁶ With the War Production Board calling for more natural gas service to war industries in the area, the FPC authorized substantial supplementation of Appalachian supplies with gas from the Southwest.⁷⁷ The coal industry's first line of attack was an attempt to persuade the

72. This includes coal producers and distributors, railroads, coke and manufactured gas producers, and the labor groups associated with, and dependent upon, those industries. Most prominent have been the National Coal Association and the United Mine Workers.

73. See *Kansas Pipeline and Gas Co.*, 2 F.P.C. 29, 57 (1939).

74. 20 FPC ANN. REP. 79-80 (1940).

75. H. R. REP. No. 1290, 77th Cong., 1st Sess. 2-3 (1942).

76. *Hope Natural Gas Co.*, 4 F.P.C. 59, 65 (1944).

77. The process started with deliveries to the area from the Panhandle system. See *Ohio Fuel Gas Co.*, 3 F.P.C. 301 (1942). Shortly thereafter the construction of a major line from Louisiana to West Virginia was authorized. *Tennessee Gas and Transmission Co.*, 3 F.P.C. 442 (1943), followed by certification of further deliveries from Panhandle, *East Ohio Gas Co.*, 4 F.P.C. 15 (1943).

Commission to limit such certificates to the war emergency.⁷⁸ This the FPC refused to do, pointing to the likelihood of increased post-war demands and a continuing failure of local supply.⁷⁹ To the argument that to permit industrial consumption of gas in competition with coal was to sanction use of a basically limited national resource for inferior purposes the FPC returned that its lack of jurisdiction over both pipeline and distributor sales to industry indicated that Congress, in directing attention to the interests of competing fuels, did not intend to endow it with “. . . complete and comprehensive authority which would permit us to act as arbiter over the end uses of natural gas.”⁸⁰

Early in 1944, however, in the famous *Hope Natural Gas* case,⁸¹ a dictum of a majority of the Supreme Court bolstered the Commission's recognition of conservation as a material factor in the issuance of certificates⁸² and Mr. Justice Jackson, in dissent, argued strenuously for consideration of all the factors impinging upon regulation, including the end-use of gas.⁸³ When further certificates authorizing movement of Southwestern gas to Appalachian markets were requested, the Commission referred to “inferior industrial uses such as industrial boiler fuel for the generation of steam in competition with coal”⁸⁴ as a cause contributing to exhaustion of reserves in the area and granted certificates only on the ground that the proposed service was intended mainly for the use of present domestic, commercial and “high-grade” industrial customers and was therefore not in close competition with coal.⁸⁵

A slightly different aspect of the problem had been raised by the desire of certain producing states to conserve their gas for use within their own borders. The preliminary order in the *Memphis Natural Gas Co.* case, which denied a certificate for an increase in facilities carrying gas from Louisiana to major markets in the Southeast, seemed to indicate that the Commission had commenced to warm toward this position

78. See *Ohio Fuel Gas Co.*, *supra* note 77, at 305-306 (curiously, though the opinion seems to reject the coal argument, the certificate was limited to the war emergency); *Tennessee Gas and Transmission Co.*, *supra* note 77, at 446; *East Ohio Gas Co.*, *supra* note 77, at 24.

79. See *Ohio Fuel Gas Co.*, *supra* note 77, at 305; *Tennessee Gas and Transmission Co.*, *supra* note 77, at 447; *East Ohio Gas Co.*, *supra* note 77, at 24. In the last-named case the Commission added that “. . . private capital cannot reasonably be expected to embark on so large an undertaking on the basis of a temporary war-time certificate.” *Ibid.*

80. *Tennessee Gas and Transmission Co.*, 3 F.P.C. 442, 574, 578-579 (1943).

81. *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

82. *Id.* at 612.

83. *Id.* at 628.

84. *Hope Natural Gas Co.*, 4 F.P.C. 59, 65 (1944).

85. *Id.* at 66-67. The Commission also thought that the costs of long-distance transportation of natural gas from Texas and Louisiana would eliminate it from all but “superior” industrial markets. *Id.* at 67.

as well as that of coal interveners.⁸⁶ Before final disposition, however, it announced the institution of a general investigation of the natural gas industry with special reference to conservation and interfuel competition.⁸⁷ On rehearing in the *Memphis* case, the certificate was granted, and Louisiana and the coal industry were told that their contentions could be more appropriately considered within the broad scope of the Natural Gas Investigation.⁸⁸ On appeal to the federal courts, the Commission was upheld, on the ground that conservation was only one of the factors involved in public convenience and necessity.⁸⁹ For the next three years the FPC's certification decisions traveled a zig-zag course on this issue while the factual background for policy making was being gathered.⁹⁰

86. 4 F.P.C. 608 (1944). Cf. the contention of the State Corporation Commission of Kansas in *Panhandle Eastern Pipeline Co.*, 4 F.P.C. 263 (1945), that gas should be conserved for use in the "mid continental" area. The only action asked of the FPC, however, was a limitation of the certificates to the war emergency, which the Commission refused.

87. 4 F.P.C. 725 (1944).

88. *Memphis Natural Gas Co.*, 4 F.P.C. 197 (1944). For purposes of simplicity the Natural Gas Investigation will hereinafter be cited as the NGI. In the *Memphis* case, the applicant pipeline company had also made good a supply deficiency which existed at the time of the first order in the case. Moreover, the Commission noted that the amount of gas in the project slated for use as boiler fuel had been overestimated and that the granting of the certificate before it would have small effect upon Louisiana's reserves of natural gas. Shortly thereafter coal interests opposing the introduction of natural gas service into southern Wisconsin were told that "... benefits to the public in the area to be served far outweigh the potential losses asserted . . . which at best are highly conjectural." *Wisconsin Southern Gas Co.*, 4 F.P.C. 329, 335 (1945).

89. *Department of Conservation v. FPC*, 148 F.2d 746 (5th Cir. 1945). As in the case of "competition" between two natural gas companies, review of the substantive issues by the federal courts has been almost nominal. See also, *National Coal Association et al. v. FPC*, 191 F.2d 462 (D.C. Cir. 1951), for a substantially similar approach to the merits of the contentions of coal interests.

90. In *Tennessee Gas and Transmission Co.*, 4 F.P.C. 293 (1945), a substantial increase in the capacity of that major line to the Appalachian area was authorized, but the certificate was limited to the war emergency. Commissioner Olds dissented, *id.* at 301, mainly on the ground that—with the pressure of the war in Europe gone (the date of the opinion is June 8, 1945)—a temporary certificate only authorized the building up of excess capacity which might force the Commission's hand in its decision on whether to limit post-war expansion in any respect. For a short period thereafter the Commission swayed again in the direction of coal interests. A certificate granted to the Northern Natural Gas Company was conditioned on the use of gas as boiler fuel for electrical generation only for "standby" equipment. See 4 F.P.C. 1099 (1945). But in *Natural Gas Pipeline Co. of America*, 5 F.P.C. 85 (1946), the Commission returned to the type of argument used in *Wisconsin Southern Gas Co.*, *supra* note 89, with the statement that conservation was only one of the factors in public convenience and necessity and emphasized the predominance of demand for natural gas as a home-heating fuel in the market to be served. In *Mississippi River Fuel Corp.*, 5 F.P.C. 206 (1946), it was stated: "In a controversy of this nature it is the public interest which is controlling. The evidence shows conclusively a demand by the consuming public, especially domestic users, for natural gas rather than oil, wood or coal. It has not been shown by the interveners that it will be in the public interest to deny such consumers the use of natural gas as proposed in this proceeding." *Id.* at 213. Again, the major distributing company customer carried a heavy domestic as opposed to industrial load. Finally, in

B. *Struggle*

Inter-industrial competition is no novelty in public utility fields.⁹¹ From the economist's point of view it is analogous to "direct" competition between companies selling the "same" product.⁹² Regulation aimed at preserving the "inherent" advantages of each of a group of competing industries means the avoidance of such competition insofar as possible, a policy with which there has been experimentation in the transportation field.⁹³ Such a policy, however, implies a willingness to regulate an entire sector of the economy; and, while regulation of transportation has not been carried as far as it might,⁹⁴ transportation industries as a whole are much more securely in the public utility category than are their fuel counterparts. The coal industry has had a checkered career with respect to government regulation,⁹⁵ but it is certainly not at present a public utility. Its claim to protection from natural gas competition, then, rests in large part upon conservation notions.

At the minimum, conservation has meant the allocation of certain national resources, which are so limited in amount that they tend to be viewed as a national patrimony, between the uses of the present and those of that future which lies just beyond the vague limits of ordinary foresight.⁹⁶ Other considerations creep in, of course, for within this

Michigan-Wisconsin Pipe Line Co., 6 F.P.C. 1 (1947), coal interests objecting to the Wisconsin project were turned off with a reference to the NGL. *Id.* at 27.

91. See BEHLING, *op. cit. supra* note 8, c. VII, VIII; Behling, *Competitive Significance of Substitutes for Public Utility Service*, 27 AM. ECON. REV. 17 (1937).

92. See CHAMBERLAIN, *op. cit. supra* note 29, at 202 n.1, and accompanying text. There may be "differentiation" of the product on the level of "direct" competition just as there is on that of inter-industrial competition. In the natural gas industry gas service from storage projects with greater reliability than service direct from pipelines, is to some extent a "different" and "superior" product. See Transcontinental Gas Pipe Line Co., 7 F.P.C. 24, 41 (1948). Again, relative distance from the customer, with the cost differential to that customer which this may imply, can be a differentiating factor. See p. 593 *supra*, and Chamberlin, *op. cit. supra* note 29, at 260 *et seq.* In regard to inter-industrial competition quality differences will be wider, *i.e.*, the range of substitutability will be narrower. Also there is reason to believe that such differences are more likely to be functions of technological innovation at the inter-industrial level than at that of "direct" competition. See BEHLING, COMPETITION AND MONOPOLY IN PUBLIC UTILITY INDUSTRIES 139 (1938); Behling, *Competitive Significance of Substitutes for Public Utility Service*, 27 AM. ECON. REV. 17, 23 (1937).

93. See DEARING AND OWEN, NATIONAL TRANSPORTATION POLICY, Part II (1949); OPPENHEIM, THE NATIONAL TRANSPORT POLICY AND INTERCARRIER COMPETITIVE RATES (1945).

94. See Williams, *The ICC and the Regulation of Intercarrier Competition*, 63 HARV. L. REV. 1349, 1368 (1950).

95. For a review of those portions of its career which most closely approximate public utility status see Rostow, *Bituminous Coal and the Public Interest*, 50 YALE L.J. 543 (1941).

96. See Raushenbush, *Conservation in 1952*, 281 ANNALS 1 (1952); Beatty, *The Conservation Movement*, 281 ANNALS 10 (1952). There is also the matter of obtaining the largest possible amount of a resource over the entire period for which it may be

context "waste" can mean practically any use of those resources which is viewed as less than optimum. At a minimum, again, it is generally agreed that "physical waste"—action depleting reserves of the resources without using it to satisfy any human need—is objectionable and should be eliminated as far as possible.⁹⁷ Sharp disagreement commences when various present uses are balanced against one another in the light of future needs, and the terminology of "economic waste" and "inferior uses" appears.⁹⁸ The fact that other products are available to fulfill particular functions of the resource in question, *i.e.*, are in competition with it in those uses, must of course be a powerful factor in attempts to label such uses "inferior."

The coal industry's case rests on the proposition that theirs is an aggravated instance of the malfunctioning of competition in a conservation context. Both coal and its main means of transport, the railroads, have long been in the class of "sick" or, euphemistically speaking, "mature" industries.⁹⁹ Rational conservation thinking about natural gas implies a recognition of its relation to national fuel needs as a whole. From this viewpoint it is argued that the overwhelming preponderance of coal reserves over those of natural gas and oil makes it inevitable that coal must be relied upon for long-range future fuel supply.¹⁰⁰ Prevention of certain uses of gas would postpone the evil day of total depletion of gas reserves and would aid in keeping the coal industry and the railroads healthy enough to take over fuel supplying when that day arrives.¹⁰¹ Unrestrained present encroachment by natural gas on coal markets will, it is claimed, make the future shift back to coal particularly difficult because of the greater number of men which coal and the railroads employ in comparison to those used by the natural gas industry in rendering equivalent services.¹⁰² Movement of labor from one job to another is no easy task, especially in a democratic society. The prospect

available. See Bain, *Rostow's Proposals for Petroleum Policy*, 57 J. POL. ECON. 57 (1949); FPC, NGI, Report of Commissioners Smith and Wimberly, 112-113 (1948). (The NGI reports will hereafter be cited only as SMITH-WIMBERLY and DRAFER-OLDS.)

97. See SMITH-WIMBERLY at 112.

98. See BLACHLY AND OATMAN, NATURAL GAS AND THE PUBLIC INTEREST 11, 18, 120 (1947); SMITH-WIMBERLY at 113.

99. On the coal industry see Leonard, *The Bituminous Coal Industry in THE STRUCTURE OF AMERICAN INDUSTRY* (Adams ed. 1950). For a description of the "maturation" of the railroads see Burns' introduction to HULTGREN, *AMERICAN TRANSPORTATION IN PROSPERITY AND DEPRESSION* (1948).

100. SMITH-WIMBERLY at 301, 302 *et seq.* For an extensive outline of the arguments of both the coal and natural gas industries see BLACHLY AND OATMAN, *op. cit. supra* note 98, c. VIII, IX.

101. SMITH-WIMBERLY, *loc. cit. supra* note 100; BLACHLY AND OATMAN, *op. cit. supra* note 98, at 3, 122-125.

102. BLACHLY AND OATMAN, *loc. cit. supra* note 101.

of two such moves caps the argument for FPC restriction of the natural gas industry to its "proper" portion of the national fuel market.¹⁰³ Of the two reports to Congress which emerged from the NGI, one, signed by Commissioners Smith and Wimberly, took a definite stand against such control over the end-use of natural gas.¹⁰⁴

The first Smith-Wimberly response to the "coal" position is that the need for conservation of natural gas which, in the argument of coal interests, was so clear is in reality a much more hazy matter. Factors which ensure that estimates of oil or natural gas reserves will be subject to wide margins of error are legion. Add to this the complexities in determining the amount which can actually be delivered at the well and the vagaries involved in prediction of future consumption, and judgments as to the period for which the country can expect to rely upon natural gas supplies are reduced to their proper status—that of stabs in an enveloping twilight.¹⁰⁵ Plunging into this morass of uncertainties, the Smith-Wimberly report emerged with the conclusions that supplies were good for at least 25 to 30 years,¹⁰⁶ that "reserves are at an all-time high"¹⁰⁷ and that ". . . prospects of future discovery are excellent."¹⁰⁸ Those prospects, however, were not for the discovery of the large "bonanza" fields of the past,¹⁰⁹ and the report predicts an increase in the costs of exploration and drilling.¹¹⁰ This aspect of the reserve picture plus the adherence of Smith and Wimberly to the general proposition that natural gas is a "wasting asset" induced the further conclusion that ". . . increasing emphasis should be placed on waste prevention . . ." ¹¹¹

The "waste" which concerns the Smith-Wimberly report, however, is mainly "physical waste."¹¹² To the extent that such waste is con-

103. *Ibid.*

104. SMITH-WIMBERLY at 29. The Smith-Wimberly argument outlined below is one derived from the report submitted to Congress, which is not organized as a polemic against any particular point of view. Consequently, matters of emphasis within that argument are largely guesses of the writer, for which Commissioners Smith and Wimberly should not necessarily be held responsible.

105. *Id.* at 41-44, 46.

106. *Id.* at 45-46.

107. *Id.* at 59.

108. *Ibid.* The need for conservation, in the eyes of Smith and Wimberly, is further blunted by prospects of producing a satisfactory substitute from coal. See *id.* at 412 and Part X, "Prospects for the Production of a Substitute for Natural Gas." The possible impact of atomic energy also reduces somewhat the need for conservation of natural gas, but developments in that field are too speculative to act as factors for conservation planning. See SMITH-WIMBERLY at 303-305.

109. *Id.* at 39-41.

110. *Id.* at 53.

111. *Id.* at 59.

112. See *id.* at 112-117 and Part III, "State Conservation Laws and Activities," generally.

sidered the major conservation problem, action by federal agencies can only be supplementary to state controls upon which the burden of regulation would fall.¹¹³ Federal action is consequently given scant attention in the conservation sections of the Smith-Wimberly report.¹¹⁴ The assertion that "inferior use" constitutes "waste" is carefully attributed to "some" people.¹¹⁵

It would seem that such emphasis on "physical waste" to the exclusion of broader considerations was, to some degree, misplaced. Such waste can be and has been reduced considerably, mainly through strong state action.¹¹⁶ Surely the reciprocal of the Smith-Wimberly position also holds, *i.e.*, to the extent that "physical waste" disappears as a major conservation problem the issues of "economic waste" must heave into view.¹¹⁷ The division of the market into "inferior" and "superior" uses, which those issues embrace, is the one on which the coal industry would rely for its protection from natural gas competition.

If the relative market prices of various uses of natural gas are reliable indices of the valuations which most people place upon those uses, then the general category of industrial uses is that segment of the market in which the "inferior" functions of natural gas will be found.¹¹⁸ Such relative prices are more likely to measure the "closeness" with which other fuels, coal in particular, compete with gas in terms of quality and reliability. Even so, there is good conservation sense in the coal industry's position that where coal is a close substitute for natural gas, the corresponding function of gas is an "inferior" one. In the NGI hearings, coal interests claimed such substitutability over broad ranges of the fuel market.¹¹⁹

113. *Id.* at 121-122, 141-144. The Commission had already noted the importance of encouraging pipelines to carry gas produced in association with oil, see El Paso Natural Gas Co., 5 F.P.C. 115 (1946), which presents the greatest problem of physical waste. See SMITH-WIMBERLY at 116. This note does not attempt to cover specific problems of physical waste and solutions to them which have been proposed or adopted. For extensive analyses see SMITH-WIMBERLY Part III; Williams, *Conservation of Oil and Gas*, 65 HARV. L. REV. 1155 (1952).

114. SMITH-WIMBERLY at 116.

115. See *id.* at 112, 113.

116. STOCKTON, HENSHAW AND GRAVES, *ECONOMICS OF NATURAL GAS IN TEXAS* 232-235 (1952).

117. This contention holds, of course, only if one grants that natural gas is a limited and wasting resource.

118. SMITH-WIMBERLY at 395. That price is not the only index of inferior use, however, is indicated by the fact that there has been no attempt to label the non-fuel use of natural gas in the production of chemical synthetics "inferior." See, *e.g.*, DRAPER-OLDS at 43; BLACHLY AND OATMAN, *op. cit. supra* note 98, at 120; SMITH-WIMBERLY, Part IX. Such use is, of course, highly localized near producing fields and so beyond the jurisdiction of the FPC, for the most part. Cf. note 122 *infra*.

119. SMITH-WIMBERLY at 301.

In any extreme form this contention can hardly hold up. There are dozens of specialized industrial processes in which the flexibility of temperature control that gas as a fuel allows is essential.¹²⁰ Even in relatively non-specialized uses, such as industrial space-heating, natural gas superiority in cleanliness and ease of delivery and handling make it a premium fuel.¹²¹ In practice, the category on which the coal industry has concentrated, and as to which the qualitative equality of coal and natural gas is least often open to dispute, is consumption for boiler fuel.¹²²

The major explanation advanced by Smith and Wimberly for the ability of natural gas to take industrial fuel markets away from coal is the stability of regulated natural gas prices during a period of sharply rising and unregulated coal prices.¹²³ It is curious, in this regard, that neither report in the NGI discusses the possibility that natural gas sellers were able to compete with coal in such uses only by adopting discriminatory pricing tactics, *i.e.*, by shifting most of their costs to domestic and commercial consumers, for whom coal and other fuels were not close substitutes for natural gas.¹²⁴ Definition and measurement of discrimina-

120. *Id.* at 337, 389-390.

121. *Id.* at 349; BLACHLY AND OATMAN, *op. cit. supra* note 98, at 17.

122. See *id.* at 120, and p. 601 *supra*. But see SMITH-WIMBERLY at 346-349. The manufacture of carbon black from natural gas has also often been placed in the sphere of "inferior" uses, see *id.* at 112-113, 371, but—as such manufacture is localized almost completely near producing fields in the Southwest and is not significantly associated with interstate movement of natural gas—it is a problem for state rather than federal regulation. *Id.* at 365. Smith and Wimberly also emphasized the similar localization of use for boiler fuel and industrial purposes generally. *Id.* at 327-328, 352, 356-357, 383, 407-409, as part of a picture in which interstate movement of gas plays a more limited role in the depletion of gas reserves than coal interests' strictures might suggest. Carbon black manufacture, of course, is not in competition with coal and the high cost of transporting coal from Appalachian and Midwestern coal fields effectively eliminates coal as an industrial fuel in the Southwest. See *id.* at 326, 328. But the localization argument can be pushed too far. In the period covered by the report the large metropolitan centers of the eastern seaboard were not served by natural gas, as they have been since. See p. 614 *infra*. The fact that the volume of natural gas moving in interstate commerce approximately doubled between 1945 and 1949, must give one pause before relying too heavily on localization of use in 1945 as a basis for deprecating the argument that the FPC bears substantial responsibility for the amount of gas used as boiler fuel. See 31 FPC ANN. REP. 19 (1951).

123. SMITH-WIMBERLY at 331 *et seq.* See, however, *id.* at 269, for an acknowledgment of the problem.

124. Note that the function of price discrimination in interfuel competition is directly analogous to its role in competition within the natural gas pipeline industry. To the extent present, it allows sellers to meet competitive prices in one sphere of their market at the expense of consumers in the non-competitive spheres. See note 62 *supra*, and accompanying text. It is significant in this regard that, although industrial uses account for the greatest volume of natural gas consumption, they provide comparatively little revenue for pipeline companies. See 32 FPC ANN. REP. 16, 17 (1952). Such sales also fluctuate considerably with the business cycle, creating a long-run problem of excess capacity analogous to that induced annually by space-heating loads. See SMITH-WIMBERLY at 256-257, 362.

tion are admittedly not easy,¹²⁵ and Commissioners Smith and Wimberly may have been of the opinion that the general upward movement of coal prices was a much more significant factor than discrimination. But such practices were assigned stellar importance with respect to inter-industrial competition in public utility fields by the foremost general study of the phenomenon,¹²⁶ and a leading student of public utility economics charged, about the time of the issuance of the NGI reports, that price discrimination was largely responsible for the growth of natural gas space-heating markets.¹²⁷ The structure of final rates to consumers is a matter beyond the statutory jurisdiction of the FPC, but this is surely irrelevant to the wide questions posed by the NGI with respect to the entire scope of governmental regulation of natural gas.

The argument made by the pipeline companies in support of their industrial sales in general and boiler fuel sales in particular relates to the economic peculiarities of long-distance pipeline transportation. The necessity to build capacity sufficient to meet peak demands means that increase of sales volume in off-peak periods will decrease unit costs so much as to make the low pricing of such sales profitable, particularly as the natural gas space-heating market, with its extreme winter highs and summer lows, expands.¹²⁸ The effect of such fluctuations in demand upon costs is analyzed in detail in the Smith-Wimberly report, with the conclusion that the argument has been considerably overdone.¹²⁹ In addition, storage facilities in combination with smaller line capacity, long a feature of many pipeline systems in the Appalachian area, are often an effective alternative to the large line capacity which "necessitates" industrial sales.¹³⁰

125. See TROXEL, *ECONOMICS OF PUBLIC UTILITIES* c. 24, 25, 26 (1947).

126. BEHLING, *MONOPOLY AND COMPETITION IN PUBLIC UTILITY INDUSTRIES* c. VII, VIII (1938). Also see Behling, *Competitive Significance of Substitutes for Public Utility Service*, 27 *AM. ECON. REV.* 17, 25, 30 (1937); McGray, *Consumer Classes and Price of Gas Utilities*, 29 *NORTH DAKOTA L. REV.* 5 (1953). The absence of explicit discussion of price discrimination is made even more puzzling by the fact that Dr. Behling was the general director of the investigation for the FPC. See SMITH-WIMBERLY at 3. See also Mr. Justice Jackson's dissent in *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 628 (1944), for a discussion of the impact of discriminatory pricing on interfuel competition. The Smith-Wimberly report does take cognizance of the effect of rate-making on the growth of demand for natural gas, but only to suggest that rate-makers recognize and encourage measures to meet peak demands. See SMITH-WIMBERLY at 352-353.

127. Troxel, *Price Discrimination in Space Heating*, 24 *LAND ECONOMICS* 281 (1948).

128. SMITH-WIMBERLY at 254-257.

129. *Id.* at 258-273.

130. For this and other alternatives to interruptible sales as ways of meeting the problem of seasonal peaks, see *id.* at 273-291.

On balance it is clear, and the Smith-Wimberly report agrees,¹³¹ that there is a sound case for some attempt to get natural gas out of the boiler fuel market where coal is available. But the vagueness in the need for conservation, in the eyes of these Commissioners, and the idea that evaluation of a product's uses is not the province of a governmental commission keep them from endorsing end-use control.¹³² Emphasizing possibilities in the development of new techniques of coal production and utilization, they insist that the fate of the coal industry must depend mainly on its own efforts.¹³³ The policy they urge upon the natural gas industry is more concentration upon firm industrial service of a "superior" quality.¹³⁴

Commissioners Olds and Draper had fewer qualms as to the role of the FPC as a national planning commission. Their report takes its major stand¹³⁵ on an issue not covered explicitly by the Smith-Wimberly report, the question of conservation planning not only from the viewpoint of the country as an abstract unit but also at the level and in the interests of the various regions. This introduces a considerable change in the significance attributed to conservation problems. The importance given the complexities involved in estimation of natural gas reserves drops away before the reasonable certainty that supply is limited to a relatively

131. "A general shift from interruptible to firm industrial gas service is necessary if the full usefulness and premium value of gas for industrial purposes is to be realized." *Id.* at 293. It is somewhat difficult to tell whether Smith and Wimberly would endorse year-round "firm" boiler fuel sales, but they include in the shift from interruptible to firm service an "upgrading and "repricing" of industrial sales which would almost certainly take natural gas out of the boiler fuel market in many instances. *Ibid.* The allocation of gas between interruptible customers in various localities during the recurrent post-war winter shortages (and the attendant cries of "discrimination" from those who felt unfairly treated, see *Hearings, supra* note 5, at 177 *et seq.*) also provided a potent pressure against the handling of peak demand problems through interruptible sales. See SMITH-WIMBERLY at 269-273.

132. "There is a need for the interstate pipe lines and local distributors supplied by them to reconsider their marketing policies with respect to sales of industrial gas. This can and should be accomplished in economic terms of price and service, rather than by imposition of some kind of arbitrary determinations as to 'proper' uses of natural gas in comparison with other fuels." *Id.* at 24.

133. *Id.* at 320, 353. The identification of competition with technological progress at the level of inter-industrial competition may be more valid than at the level of the firm. Compare notes 29, 92 *supra*. To the extent of that validity there is a strong argument against governmental protection of the coal industry.

134. See note 132 *supra*.

135. Olds and Draper also argue that the possibility of producing gasoline from natural gas makes strong conservation measures particularly desirable in the interests of national defense since oil imports from abroad may be cut off. See DRAPER-OLDS, Section V. The Smith-Wimberly reply is that such prospects for natural gas are but slightly more advanced than those for coal and oil shale; that natural gas reserves would not support substantial supplementation of petroleum supplies so that the basic reliance for such purposes must be on coal and oil shale. SMITH-WIMBERLY at 431.

short period—even if this should prove to be as much as sixty years.¹³⁶ The aggregate figures for the country, moreover, do not reflect the shift from area to area which profoundly affects the natural gas industry and the regions involved.¹³⁷ The interests of those regions differ, according to Olds and Draper, in three directions.

The great producing states of the Southwest have no coal reserves and little water power. They require gas, it is said, for industrialization.¹³⁸ While particular emphasis is given the problem of absorption of farm labor unemployed by the increasing mechanization of agriculture throughout the South,¹³⁹ the report clearly conceives of such industrialization as part of an overall program of “balanced” regional development.¹⁴⁰ It is probable that such states cannot regulate exportation of natural gas in order to save it for themselves without conflicting with the commerce clause of the federal constitution.¹⁴¹ Consuming states without indigenous fuel reserves, such as Minnesota, naturally have an interest in the conservation of supplies of efficient low-cost fuels like natural gas. The Olds-Draper position, in line with their general ideal of industrial decentralization,¹⁴² is that gas is peculiarly necessary to these states as a lure for industry. Lastly, the burning of natural gas as boiler fuel in centers of coal production such as the Appalachian and Midwest regions is particularly to be deplored.¹⁴³ Olds and Draper advocate “definite but flexible” control of end-use via certification with a particular view to regional planning.¹⁴⁴

That the regional development issue is a fundamental one for future national development is undeniable, but there is also no question that the

136. DRAPER-OLDS at 24-25. See Section II of that report in general. Taking the interests of “regions” seriously also changes the significance of the prospects for production of a substitute for natural gas from coal. The Southwestern states, for instance, would be on the long end of transportation costs for gas fuels produced near coal reserves. See *id.*, Section III.

137. See *id.* at 22, and Sections IV and VI, generally.

138. See *id.*, Section IV.

139. *Id.* at 64; see Huitt, *Federal Regulation of the Uses of Natural Gas*, 46 AM. POL. SCI. REV. 455 (1952).

140. DRAPER-OLDS at 33 and Section VIII, “Public Interest of the Consuming Areas.”

141. See *id.* at 70-73; *Pennsylvania v. West Virginia*, 262 U.S. 553 (1923). Aside from the constitutional question, Draper and Olds thought that the multiplicity of producing and consuming states would make state attempts to regulate extra-state end-use a source of “utter confusion.” DRAPER-OLDS at 73.

142. *Id.* at 85-98.

143. *Id.* at 98-111.

144. *Id.* at 12-13. A heavy emphasis is also placed upon the development of storage projects in the Midwest, Appalachian and Eastern Seaboard regions, as an alternative to boiler fuel sales. See *id.* at 13, 105, 109, 116.

policy advocated is one concerning which there is nothing approaching general agreement. To officials of the state of Tennessee, Louisiana's attempt to conserve gas for itself was "discrimination"¹⁴⁵ and at least one student of world resources conservation considers the Olds-Draper regional development ideal a particularistic barrier to healthy national growth.¹⁴⁶ The problem is entirely too broad for evaluation here, but it should be noted that there is no indication that Congress ever contemplated such a function for the FPC.¹⁴⁷ Granting that such basic policy decisions are for Congress to make, there is little disparagement of the merits of the Olds-Draper argument in the conclusion that they asked for Commission action not justified by the statutory base of regulation. In the absence of legislative discussion, the failure of governmental responsibility in the tacit decision against them is Congressional.

In addition to certification problems the NGI dealt with FPC jurisdiction over "independent" producers of natural gas and with the question of standards for the valuation of pipeline-owned producing and gathering properties.¹⁴⁸ The issues raised in this regard relate to conservation and interfuel competition in two significant respects. The first is the oft-discussed discontent with low natural gas field prices.¹⁴⁹ Many have argued for field price increase as a conservation measure aimed at both physical and economic waste.¹⁵⁰ The uses of such an increase as an aid

145. See *Memphis Natural Gas Co.*, 4 F.P.C. 197, 208-209 (1944).

146. ZIMMERMAN, *WORLD RESOURCES AND INDUSTRIES* 564-565 (1951). The National Resources Committee, hardly a tool in the hands of oil and gas interests, did not find the issues of "balanced" regional development versus an integrated national planning unit an easy one to resolve. See NATIONAL RESOURCES COMMITTEE, *REGIONAL FACTORS IN NATIONAL PLANNING AND DEVELOPMENT* 156 *et seq.* (1935).

147. See *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 609-615 (1944). Mr. Justice Jackson's arguments, *id.* at 637-639, run from the Commission's authorization to deal with price discrimination between industrial and other consumers and hence prove only the Commission's ability to consider end-use of natural gas in general. But the position of West Virginia in that case and of the Draper-Olds report goes beyond the end-use considerations which *national* conservation or interfuel competition require. While attention is restricted to the Appalachian region and the Southwest, the fact that transportation costs substantially eliminate coal from Southwestern fuel markets reduces the coal argument to opposition to boiler fuel use in the Appalachian states—exactly the position at which Olds and Draper arrive. But they also arrive at the notion that each region's need for natural gas as an industrial fuel must be viewed on its own merits, which depend largely upon the availability of alternative fuels. DRAPER-OLDS at 116. Areas without indigenous fuel resources present a claim for industrial use of natural gas which the coal industry would hardly favor, though Draper and Olds almost certainly would. *Ibid.*

148. See SMITH-WIMBERLY, Parts IV, V; DRAPER-OLDS, Sections IX, X.

149. See BLACHLY AND OATMAN, *op. cit. supra* note 98, at 37, 96, 134; Holloway, *State Regulation of Minimum Field Gas Prices*, 4 OKLA. L. REV. 69 (1951); SMITH-WIMBERLY at 175.

150. See BLACHLY AND OATMAN, *op. cit. supra* note 98, at 148-149; SMITH-WIMBERLY at 176-177. Coal interests joined the natural gas industry in advocating

to the elimination of physical waste are usually undisputed,¹⁵¹ but in the broader context it is by no means a predictable tool. The Olds-Draper report is against such indirect action and for direct conservation control through the certification process, arguing for protection of consumers—especially industrial consumers in regions such as the Southwest.¹⁵² Aside from this, as has been noted in connection with oil conservation, the raising of price at points of production in order to eliminate “low-valued” uses is likely to run into discriminatory practices on the part of distributors, which shift the weight of the increase to consumers for “superior” purposes.¹⁵³ The validity of the Olds-Draper regional development ideal is subject to dispute, of course, and the extent of discrimination uncertain, but a minimal conclusion is that control of end-use via the field price variable is of equivocal value as an addition or alternative to control through the certificate device, so long as the structure of prices to ultimate consumers is undetermined.

Reference to oil conservation illuminates the second and more general relation between interfuel competition and other aspects of the NGI. A basic contention of oil and gas interests has been that production and gathering of natural gas are so uncertain and risky as not to be “public utility functions.”¹⁵⁴ It follows, along these lines, that “independents” should not be regulated and pipeline producers should receive “fair market value” rather than “cost” for the gas they produce. The question arises as to why industrial sales, fluctuating with the business cycle and in keen competition with other fuels, should be considered “utility functions.” Why should functions other than transportation, such as the sale of gas, be included in the regulated sector of the industry in the first instance? Broadly stated, why are the pipelines not common carriers, as are most oil pipelines,¹⁵⁵ and why should they not be divorced from

higher field prices for natural gas. See *id.* at 301-302. Some would have the FPC handle these raises, see BLACHLY AND OATMAN, *supra*. Others would leave it to state commissions. See Holloway, *supra* note 149. The FPC could not control rates for direct or indirect industrial sales without amendment of the NGA. See 15 U.S.C. § 717c (1946); 31 FPC ANN. REP. 144 (1951); note 50 *supra* and appended text. It has been suggested that, by use of price discrimination favoring regions such as the Southwest, rate control can be used to implement Olds-Draper ideals. See Comment, 59 YALE L.J. 1468, 1510 (1950). Such use of rate controls would be limited to agencies of the federal government, since there is little reason to distinguish the constitutionality significant effects of such price discrimination upon interstate commerce from those of direct state prohibitions upon the export of natural resources. Cf. *Pennsylvania v. West Virginia*, 262 U.S. 553 (1923).

151. SMITH-WIMBERLY at 190-191. But see DRAPER-OLDS at 123-131.

152. DRAPER-OLDS at 150-157.

153. See Rostow, *A Reply*, 57 J. POL. ECON. 60, 62 (1949); DRAPER-OLDS at 152-154; BLACHLY AND OATMAN, *op. cit. supra* note 98, at 159.

154. SMITH-WIMBERLY at 206-209, and see note 5 *supra*.

155. See Wolbert, *The Pipe Line Story*, 4 OKL. L. REV. 1, 199, 335, 445 (1951).

both production and distribution, as has been advocated for their oil analogues?¹⁵⁶

The answers are, in part, historical. Manufactured gas distributors, traditionally utilities, have always played an important part in developing long-distance natural gas pipelines.¹⁵⁷ The NGA itself was passed largely to aid state and local regulation of utilities whose affiliate pipeline companies were beyond control.¹⁵⁸ More basically, the answers may be found in the proposition that seams in the web of our economy are not always easy to find. The decision placing the gas industry in the public utility category is taken at the level of the ultimate consumer. *He* requires protection where it is generally agreed that the best organization of gas transportation and distribution facilities leaves them in the hands of one or, at most, a few sellers per market, as opposed to the consumer of oil products who faces a much larger array of distributors.¹⁵⁹ If that decision is sound, then there is good sense in the refusal to attempt general divorcement of producing facilities and pipeline owners on the grounds that the pipelines do not have the incentives to quick exploitation of gas reserves characteristic of the independent owner and that, with the market for gas in the field rapidly shifting to a "seller's market," the pipelines are in need of a bargaining weapon.¹⁶⁰ That good sense is the protection of consumers, both as to price and reliability of supply.

Much the same kind of argument applies to the question of natural gas industrial sales. Conservation links the interest of the consumer and competing fuels. The Smith-Wimberly refusal to take more than nominal action toward differentiating the functions of coal and natural gas in industrial markets is made feasible by the uncertainties in the growth of natural gas reserves and the technological development of the coal

156. See ROSTOW, *A NATIONAL POLICY FOR THE OIL INDUSTRY* (1948); but see Wolbert, *supra* note 155, at 224-255.

157. See BLACHLY AND OATMAN, *op. cit. supra* note 98, c. V; REPORT ON NATURAL GAS AND NATURAL GAS PIPELINES (TNEC Monograph 36, 1940).

158. See *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 610 (1944). See also TROXEL, *ECONOMICS OF PUBLIC UTILITIES* 95 *et seq.* (1947).

159. It is not suggested that the "natural monopoly" criterion is a sufficient one to distinguish public utility industries from those to which anti-trust action rather than regulation would be applicable. See BARNES, *THE ECONOMICS OF PUBLIC UTILITY REGULATION* c. I (1942); TROXEL, *ECONOMICS OF PUBLIC UTILITIES* c. 1, 2 (1947). It is the existence of such monopolies in markets where they sell directly to ultimate consumers which distinguishes the natural gas industry from the oil industry. See TROXEL, *supra* at 46-48; *Symposium: Preserving Competition Versus Regulating Monopoly*, 30 AM. ECON. REV. 164-218 (Supp. 1940); Wolbert, *supra* note 155.

160. See SMITH-WIMBERLY at 142-143, 212-213. A similar argument applies to the relation of pipelines to distributing companies. See *Michigan-Wisconsin Pipe Line Co.*, 6 F.P.C. 1, 34 (1947). If these arguments are granted, the notion of a pipeline as a common carrier is superfluous.

industry. A sharp dip in the ratio of gas reserves to annual demand, for instance, would render much of their argument nugatory.

C. *Aftermath*

The breadth and complexity of the issues covered by the NGI ensured that resolutions following upon it would not be clear-cut dramatic finales. Certain FPC tendencies, however, can be perceived by reference to the background of information and conflict which the investigation represents. In 1947 and 1948 the Commission issued certificates for two new major systems carrying gas from the Southwestern to the Appalachian, Midwest, and Eastern Seaboard regions, without any attempt to restrict the functions for which gas could be used.¹⁶¹ It was bolstered in such action by the boom on the natural gas space-heating market. Shortages, particularly on the Panhandle system, required imposition of emergency rules for the allocation of available gas during winters from 1945 through 1948, with the net effect of making the finding of demand for new lines in certificate proceedings a more or less foregone conclusion.¹⁶² Natural gas quality was and is the main attraction in space-heating markets, so that there was little chance to label such use "inferior." Coal interests were reduced to arguing the effects of displacement, which were not immediately striking.¹⁶³

At the same time, the Commission placed a heavy emphasis on the development of storage projects, a point upon which both reports in the NGI had agreed.¹⁶⁴ The position of such pools as an alternative to interruptible boiler fuel sales has been consistently maintained and, since 1948, increasingly pushed.¹⁶⁵ Still, during 1947 and 1948 the incentives toward federal conservation action were not strong. Despite increased withdrawals, Southwestern known reserves were still growing at a faster rate than demand.¹⁶⁶

In 1949 the large increases in natural gas consumption began to tell on the reserve-annual demand ratio, which has since continued to move

161. Texas Eastern Transmission Corp., 6 F.P.C. 148 (1947); Transcontinental Gas Pipe Line Co., 7 F.P.C. 24 (1948).

162. See, e.g., Panhandle Eastern Pipeline Co., 6 F.P.C. 137, 196 (1947). The Smith-Wimberly report considered such shortages "... the foremost problem confronting both the natural- and manufactured-gas industries." SMITH-WIMBERLY at 411.

163. See Transcontinental Gas Pipe Line Co., 7 F.P.C. 24, 42-44 (1948). The major fuel replaced was fuel oil rather than coal and there was at the time an oil shortage. *Ibid.*

164. See Transcontinental Gas Pipe Line Co., *supra* note 163, at 39 *et seq.*, and see note 144 and p. 608 *supra*.

165. See, e.g., Transcontinental Gas Pipe Line Co., 9 F.P.C. 32, 47-55 (1950); see also 32 FPC ANN. REP. 77-78 (1952).

166. See 28 FPC ANN. REP. 12 (1948); 29 FPC ANN. REP. 14 (1949).

downward.¹⁶⁷ The first effect of this movement was a conflict over the supply requirement for certificates.¹⁶⁸ While there had been no set number of years for which a showing of adequate supply had been necessary, the 20-year period had been common. There was a consensus on the Commission that a flat insistence upon a showing of a 20-year supply at the time of application would be arbitrary, but Commissioner Olds was much less disposed to be content with a minimal showing of possibilities of future purchases than were his fellow commissioners. With the limits in the growth of reserves in Kansas and Louisiana in sight, he foresaw increasing competition among large pipeline purchasers for Texas gas, with price rises seriously affecting Southwestern industries as well as consumers in other areas. His views did not prevail, but the increased attention to the limits of supply and physical deliverability, manifest in Commission opinions since the NGI, has been particularly accentuated since 1949.¹⁶⁹

With the future of gas reserves constricting, the end-use issue could hardly be considered dead. Early in 1950, when two applications to serve the Tidewater area of Virginia conflicted in the *Commonwealth* case, a partial basis for the choice of the successful company was its agreement to reduce boiler fuel sales to a minimum, while its rival would have depended largely upon such sales to one customer.¹⁷⁰ The following year the TVA failed to convince the Commission that natural gas, rather than coal, was necessary for use as boiler fuel in a new electric power generating plant, with the result that an entire Texas Gas Transmission Corporation project fell through.¹⁷¹ In both cases there was a definite showing of the projected displacement of substantial amounts of coal, and the opinion in the earlier case took pains to declare that such displacement would not “. . . be determinative of the question of whether or not a certificate should issue in a proceeding where consideration of the broad public interest—the interest of all potential consumers, the public welfare or national defense—outweigh the adverse effect that natural gas service

167. See 30 FPC ANN. REP. 13 (1950); 31 FPC ANN. REP. 20 (1951); 32 FPC ANN. REP. 19 (1952). This does not mean that the total amount of reserves has been decreasing, but that consumption has grown more quickly.

168. See Texas Gas Transmission Corp., 8 F.P.C. 190 (1949).

169. See 30 FPC ANN. REP. 80-82 (1950).

170. Commonwealth Natural Gas Corp., 9 F.P.C. 70 (1950).

171. Texas Gas Transmission Corp., F.P.C. Opinion No. 220 (1951). Earlier the same year the Commission refused to allow Texas Eastern Transmission Company to make boiler fuel sales to an electric utility company in New Jersey. United Gas Pipe Line Co., F.P.C. Opinion No. 206, at 27-28 (1951). The Commission's annual report for 1951 recommends that explicit statutory authority to control end-use be given it. 31 FPC ANN. REP. 145 (1951).

might have on competitive fuels."¹⁷² An illustration of the principle was provided late in 1951, when coal interests failed to prevent authorization of the importation of natural gas from Canada. The displacement involved, in the opinion of the FPC, was much more likely to be of fuel oil than of coal, and the plant affected was a copper refinery considered vital to national defense.¹⁷³

Other contexts of such cases undoubtedly have a great deal to do with the success or failure of coal interveners. The action they can ask from the FPC is limited to denial of certificates on the ground that too large a component of the prospective market would be devoted to inferior uses or, perhaps, the conditioning of certificates to require that direct sales to industry for boiler fuel not be made. A denial can take place much more easily where there is an alternative seller before the Commission whose service would not have the objectionable features of its rival's plan, as in the *Commonwealth* case,¹⁷⁴ or where a failure to meet other minimum requirements gives a stronger basis for the refusal of the certificate.¹⁷⁵ Given such limitations, it is clear that, if coal competitors of natural gas can show definite displacement of coal in boiler fuel use, they will get a sympathetic hearing. Although pre-emption of supply for the boiler fuel market is undoubtedly a minimal goal to them, it is unlikely that the Commission will be moved to label other functions of natural gas "inferior" unless there should be a disastrous drop in reserves or deliverability. The coal industry's arguments relate to long-run conditions of a comparatively uncertain nature, and—subject to the unknown impact of atomic energy—long-run prospects for coal seem bright. Of at least equal importance is the ticklish problem which commission apportionment of natural gas to various uses poses for anyone who takes "consumer sovereignty" seriously.

It should be noted, finally, that the regional development issue is not completely moribund. In the bitter struggle over extension of natural gas service to New England it was, surprisingly, Commissioner Wimberly who adverted to the fears of producing states that their prime resource was being sold out from under them.¹⁷⁶ If Kansas and Louisiana supplies commence to decline sharply, a long over-due Congressional discussion of the problem which Draper and Olds considered so significant may perhaps be expected.

172. *Commonwealth Natural Gas Corp.*, 9 F.P.C. 70, 90 (1950).

173. *Montana Power Co.*, F.P.C. Opinion No. 223 (1952).

174. *Commonwealth Natural Gas Corp.*, 9 F.P.C. 70 (1950).

175. In the *Commonwealth* case, *supra* note 174, the applicant denied a certificate did not adequately meet the supply requirement, nor did the Texas Gas Transmission Corp., F.P.C. Opinion 220 (1951) See also *Mississippi River Fuel Corp.*, F.P.C. Opinion No. 250 (1953).

176. *United Gas Pipe Line Co.*, F.P.C. Opinion No. 206, at 6 of his opinion.

III. *Natural Gas Certification and the Business Cycle*

Certificate problems relate to overall business fluctuations as both causes and effects. The FPC's concern with the effect which cyclical swings in national income and employment may have upon the natural gas industry is manifest in its approach to the financing requirement. The incentives leading to extensive debt financing are well-known, and the dangers flowing from too small a proportion of risk capital equally clear.¹⁷⁷ Such dangers would be multiplied if a rescission in business activity were to hit the industrial market for gas. The comparative stability of gas and electric utilities, however, has enabled them to maintain an extraordinarily high ratio of debt to equity financing.¹⁷⁸ The sharp post-war expansion found them in need of large external sources of capital.¹⁷⁹

The Commission initially refused to control the extent of debt financing¹⁸⁰ but in 1950 it evolved a general rule for the financing of projects subject to certification governing the level to which it would allow the proportion of risk capital to sink.¹⁸¹ Although its authority to enter so far into the financial structure of natural gas companies has been challenged on grounds of lack of specific statutory authorization,¹⁸²

177. Among incentives most prominent would seem to be the desire to get "stock leverage," *i.e.*, to concentrate control of the corporation involved in the hands of a few people, both for the sake of the power itself and the relatively greater return falling to common stock-holders where the overall return on capital is limited by public utility regulation. See *Hearings before the Subcommittee of the House Committee on Interstate and Foreign Commerce on H.R. 5306*, 81st Cong., 2d Sess. 4, 19 (1950). As to the dangers, briefly, the greater the amount of financing which will require the company to meet fixed charges, the weaker its financial structure. See FINANCING UTILITY CAPITAL REQUIREMENTS 9 (American Gas Institute and Edison Electric Institute, 1949); STUDY OF LEGAL RESERVE LIFE INSURANCE COMPANIES 370-378 (TNEC Monograph 28, 1941); Cf. LOCKLIN, *ECONOMICS OF TRANSPORTATION* 592 *et seq.* (3rd ed. 1951). The incentives to debt financing are made greater by the preference of institutional investors, particularly life insurance companies, for such supposedly safer investments. See FINANCING UTILITY CAPITAL REQUIREMENTS, *supra* at 13-14; STUDY OF LEGAL RESERVE LIFE INSURANCE COMPANIES, *supra* at 37, and supplemental Monograph 28-A; *Hearings, supra, loc. cit.* The TNEC study, *supra*, came to the conclusion that such conservatism on the part of institutional investors was a "drag" on the economy in general. But see Guthman, *Institutional Investment and the Problem of Equity Financing*, 17 LAW & CONTEMP. PROB. 172 (1952).

178. FINANCING UTILITY CAPITAL REQUIREMENTS 15, 47 (American Gas Institute and Edison Electric Institute, 1949).

179. *Id.* at 9, 12, 18.

180. Texas Gas Transmission Corp., 8 F.P.C. 190 (1949).

181. Transcontinental Gas Pipe Line Corp., 9 F.P.C. 32 (1950); San Juan Pipe Line Co., 9 F.P.C. 170 (1950). See also East Tennessee Natural Gas Co., F.P.C. Opinion No. 240 (1952); Permian Basin Pipeline Co., F.P.C. Opinion No. 249 (1953).

182. Commissioners Smith, concurring in Texas Gas Transmission Corp., 8 F.P.C. 190 (1949), at 204-207, and Draper, dissenting in San Juan Pipe Line Co., *supra* note 181, at 193, both take this position.

there is definite warrant in the legislative history of the 1942 amendment for the FPC's action.¹⁸³ It is one of the essential features of public utility regulation that the balance between arbitrary interference with management and proper regulatory action is always a delicate one. There is no indication that the Commission has abused the power it has assumed in this regard.

The significance of certification as a causal influence on the cycle lies in its control over investment by the natural gas industry.¹⁸⁴ The Commission might try to "plan" natural gas investment, attempting to stimulate it during depressions and controlling its rate in inflationary periods.¹⁸⁵ While the FPC has not indicated in certificate proceedings cognizance of the relation between its actions and this broad problem, in response to inquiry concerning views on anti-cyclical policy with respect to electric power, it stated a definite belief in the importance of its influence on the flow of investment in regulated industries.¹⁸⁶ Its letter emphasized, in common with those of all the public utility commissions covered by the survey, that its control over investment did not extend to the power to initiate expansion, but only to the negative device of preventing it.¹⁸⁷

This throws crucial emphasis on the "shortage" or "backlog" situation, which did in fact obtain in the natural gas industry following the last war. The Commission's "negative" controls could have been used at that point in restricting the growth of the industry with a view to "orderly" expansion which would not "dislocate" other sectors of the economy. As it stated in regard to control over electric power, however, the FPC did

183. See H. R. REP. No. 1290, 77th Cong., 1st Sess. 2-3 (1942), and *Hearings before the House Committee on Interstate and Foreign Commerce on H.R. 5249*, 77th Cong., 1st Sess. 6 (1941). In 1950, a bill was introduced into Congress which would have given the FPC complete control over all securities issued by natural gas companies, rather than over only those issued in connection with a project for which a certificate is required. The bill was never reported out of committee, but see *Hearings, supra* note 177.

184. Granted that business cycle analysts have many differences, there is little dispute over the contention that the flow of investment in durable goods is a vital factor. See HABERLER, *PROSPERITY AND DEPRESSION* c. 8, 9, 10, and in particular 205, 239, 272, 290 (1937); HANSEN, *BUSINESS CYCLES AND NATIONAL INCOME* c. 16 (1951). From 1942 through 1952, natural gas investment certificated by the FPC totalled \$3,165,000,000. See 32 FPC ANN. REP. 15 (1952). Total natural gas investment planned for the period running from 1952-1956 is about \$5,000,000,000. See OIL AND GAS JOURN., April 20, 1953, p. 101.

185. Tyndall, *The Stabilization of Investment in Two Public Utility Industries*, 25 LAND ECONOMICS 382 (1949).

186. *Id.* at 394-395.

187. *Ibid.* The same letter pointed out, however, that informal means such as publication of forecasts of long run demand and the "advising" of natural gas companies could be used to stimulate investment in slack periods.

not feel justified in applying anti-cyclical control in shortage situations.¹⁸⁸ The dilemma raised is a fundamental one for democratic attempts at "planned" investment. Where backlog conditions prevail, a "planning" Commission may have to choose between satisfying consumers as fast as they want to be satisfied and risking dislocations over broad areas of the economic system.¹⁸⁹

Here again, at the point where the Commission is asked to lead rather than follow consumers, the limits of the administrative process are reached. The FPC starts, as a public utility commission must, with the protection of consumers. At every level of the certification process one finds that the demand criterion is primary. The "natural" monopoly issue, in the first instance, is a conflict over the best means for the provision of adequate service to consumers. The 1942 amendment does provide a statutory basis for the protection of coal interests, but even here the Commission has been loath to act, except where it is clear that the interests of natural gas consumers are identified with those of coal and the railroads through the medium of conservation policy. When Olds and Draper suggest that the FPC should enter further into control over the end-use of gas, in becoming a "regional planning" commission, the conflict of ideals engendered makes resort to political and legislative discussion necessary.

Similarly, the magnitude of the investments involved in the building of natural gas pipelines makes even negative control over their flow a potent source of power in the American economy. Without legislative discussion, such control in the name of anti-cyclical policy is no more to be desired than the implementation of Olds-Draper regional development ideals under similar circumstances. There is little surprise in the conclusion that ultimate federal responsibility, in public utility fields as elsewhere, lies with Congress. To single out the Commission in an attack upon "narrowness" is to attempt to make one aspect of the governmental process bear responsibility for the whole.

188. *Ibid.*

189. See WRIGHT, DEMOCRACY AND PROGRESS 76-78 (1949).