COMPETITIVE ACCESS: A COMPARATIVE INDUSTRY APPROACH TO THE ESSENTIAL FACILITY DOCTRINE

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I. THE COMPETITIVE ACCESS PROBLEM

The regulated industries are currently subject to differing and possibly conflicting standards of regulation and antitrust governing "competitive access," which may be broadly defined as the terms governing joint agreements among vertically related (end-to-end) firms that are also horizontal (parallel) competitors. Presumably, common economic principles should apply to them all—railroads, electric utilities, natural gas, and telecommunications—despite the differences in circumstances. Public policy, however, has differed significantly, varying paradoxically from mandatory requirements for open interconnection in the once-closed telecommunications industries to an extremely permissive policy by the ICC that has permitted massive cancellations of the open competitive access that previously had prevailed in the rail industry under strict regulation.[1]

The purpose of this article is to provide a set of economic standards to judge the soundness of these possibly inconsistent approaches. The analysis begins by addressing fundamental economic issues relevant to developing the necessary economic principles. These in turn are used to develop standards for defining a recommended approach to the "essential facility" (or "bottleneck") doctrine, the nomenclature often used to describe the competitive access problem. These standards are applied in a succinct evaluation of the typical circumstances of the railroad, electric utility, and natural gas cases to develop policy recommendations for those industries.[2]

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1. *See* Brand & Leckie, *'Wheeling' Coal: An Antitrust Alternative to ICC Ratemaking*, PUB. UTIL. FORT., Aug. 30, 1984, at 23; Collins, *Competitive Access Under Staggers*, 52 TRANSP. PRAC. J. 468 (1985); Grimm & Harris, *Vertical Foreclosure in the Rail Industry: Economic Analysis and Policy Prescriptions*, 50 ICC PRAC. J. 508 (1983); Grimm, *Promoting Competition in the Railroad Industry: A Public Policy Analysis*, 25 TRANSP. RESEARCH F. 222 (1984); Wheeler & Freeland, *Joint Rate Cancellations Since the Staggers Rail Act of 1980*, 27 TRANSP. RESEARCH F. 122 (1986); C. Grimm, Preserving and Promoting Rail Competition (1984) (National Industrial Transportation League, Washington, D.C.).

2. Obviously, circumstances differ across and within industries and the recommended approach calls for a detailed case-by-case application of a "rule of reason." Any legal doctrine governed by the rule of reason presumably must be capable of producing results that depend significantly on the particular circumstances. The generalizations therefore are intended only to illustrate how the methodology would be applied in typical situations in the respective industries.

A. The Problem Defined

The introduction of competition and the transition to deregulation have introduced to a wide variety of formerly strictly regulated industries a series of issues that have become collectively known as the competitive access problem. The problem as generally perceived may be briefly stated: some elements of service in an integrated network are characterized by economies of scale or barriers to entry (at least in the short run). Consequently, effective competition is not always immediately possible across the entire spectrum of services offered in these industries undergoing a transition to deregulation. The competitive access problem in industries to be deregulated is to design regulatory and antitrust policies to enhance competition where desirable by giving all competitors "equal access" to "bottleneck" portions of the formerly regulated systems, i.e., to prevent "vertical foreclosures" of competition across competitive portions of the network, while not foresaking the ultimate goal of deregulation. In some cases, these bottlenecks could be expected to be eliminated over time as the industry undergoes a transition to deregulation. In others, it is possible that some provision for access on equal terms and for pricing rules for access to the remaing bottleneck portions of the system may be a permanent feature of the marketplace.

Legal doctrine has traditionally held that the antitrust laws will apply to regulated industries without an explicit constitutional or statutory exemption, unless there is a "plain repugnancy" between antitrust doctrine and regulatory policy.[3] However, the courts have considered the special circumstances of regulation in a particular industry in evaluating the reasonableness of a business practice.[4] This tension has created substantial uncertainty over the legality of many activities of regulated firms, particularly regarding the circumstances where regulated firms are legally obligated to make access to their property available to their competitors. Furthermore, as a practical matter, there are many circumstances where regulation and antitrust principles are mutually exclusive in their practical application. In other cases, they are an alternative means of accomplishing the same ends, and the two institutions stand side by side in an uneasy struggle over jurisdiction.[5]

These uncertainties can create paradoxes for establishing acceptable regulatory and antitrust policies for competitive access in industries undergoing a transition to deregulation. Generally speaking, the goal is to maximize the reliance on competition. But maximizing the reliance on competition for some portions of the network can require active regulation of the terms of competitive access for other portions of the network and a perception of backsliding from the goal of deregulation. Conversely, the need to ensure competitive access on equal terms is less compelling in industries subject to comprehensive regulatory controls, precisely because of a lesser reliance on competition.

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3. Otter Tail Power Co. v. United States, 410 U.S. 366, 372 (1973). For a discussion of recent exceptions, see WILLIAM B. TYE, ENCOURAGING COMPETITION AMONG COMPETITORS: THE CASE OF MOTOR CARRIER DEREGULATION AND COLLECTIVE RATEMAKING (1987).

4. *See* Norton & Early, *Limitations on the Obligation to Provide Access to Electric Transmission and Distribution Lines*, 5 ENERGY L.J. 47, 55-57 (1984) [hereinafter Norton & Early].

5. Areeda, *Antitrust Laws and Public Utility Regulation*, 3 BELL J. ECON. & MGMT. SCI. 42 (1972).

Indeed, as discussed below, under comprehensive regulation there can be examples of demands for competitive access to "game" the regulatory rules with little expectation of the static efficiency benefits of a true competitive situation. These possibilities point to the dangers of applying general rules without heed to the particular circumstances of the case at hand and call for special care in constructing the "rule of reason" by which access will be granted in regulated industries.

Figure 1 illustrates the issues that are raised over competitive access with some simple hypothetical examples in the rail industry. In the "Y" problem, the ABC and BD railroads are "source" or geographic competitors[6] for the market at A, but both must connect with route segment AB at the rail junction at B. The ABC system is in a position to eliminate this source competition by cancelling the BD routing or squeezing the revenue divisions. In antitrust analysis, the behavior of the merged entity could be described as a "vertical foreclosure" of the nonintegrated producer (BD), and concerns would arise that ABC not be allowed to "extend" the AB monopoly as a destination rail carrier by conferring a rail monopoly on BC as the origin carrier by "foreclosing" BD's ability to compete. The "rat tail" example in Figure 1 is similar, except that the market relationship between ABC and BC is characterized by the ICC's market-dominance standards as "intramodal competition" between B and C rather than geographic competition. More generally, in the antitrust field these issues have been addressed in the context of "essential facility," "bottleneck," "price squeeze," "vertical foreclosures," "tying," "dual distribution," and other related law of vertical competitive relationships.[7]

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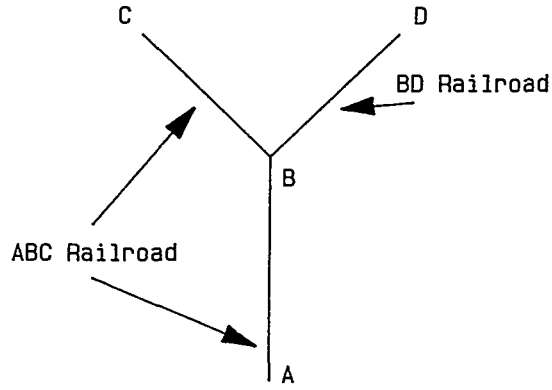
6. *See* Tye, *On the Effectiveness of Product and Geographic Competition in Determining Market Dominance*, 24 TRANSP. J. 5 (1984) (discussing geographic competition).

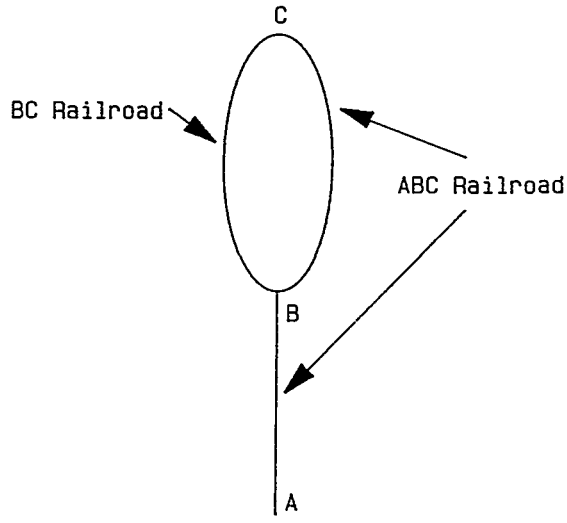
7. *See U.S. Department of Justice: Vertical Restraints Guidelines*, [Jan.-June] Antitrust & Trade Reg. Rep. (BNA) No. 1199, at 3 (Jan. 23, 1985); *NAAG's Vertical Restraints Guidelines*, [July-Dec.] Antitrust & Trade Reg. Rep. (BNA) No. 1243, at 996 (Dec. 4, 1985). For an economic review of these issues, see R. M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE (1980). For a review of some of the legal issues, see Troy, *Unclogging the Bottleneck: A New Essential Facility Doctrine*, 83 COLUM. L. REV. 441 (1983). *See also* Otter Tail Power Co. v. United States, 410 U.S. 366 (1973); Brown Shoe Co. v. United States, 370 U.S. 294 (1962); United States v. Terminal R.R. Ass'n, 224 U.S. 383 (1912); Mt. Hood Stages, Inc. v. Greyhound, 555 F.2d 687 (9th Cir. 1977); United States v. Aluminum Co. of America, 148 F.2d 416 (2d Cir. 1945).

Figure 1

PATTERNS OF VERTICAL FORECLOSURE IN THE RAIL INDUSTRY



The "Y" Problem



The "Rat Tail" Problem

B. The Rationale for Procompetitive Access Policies

The theory of "contestable markets"[8] has recently been cited in support of regulatory intervention to ensure that limitations on competition at one stage of vertical relationship in markets undergoing a transition to deregulation not be allowed to foreclose competition at a prior or subsequent stage. The basic idea is that regulators in an industry seeking a transition to deregulation should implement policies that approximate the results of a contestable market.[9] The advice to regulators was that "[r]ather than relying exclusively on traditional rate and entry regulation,"[10] the appropriate policy was "government intervention to ensure equal access to the sunk facility";[11] that all firms seeking such competitive access should get it; and that "the access price be reasonable."[12]

Support for a procompetitive access policy also came from more recent research on the potential anticompetitive consequences of vertical foreclosures of competition. The "conventional economic learning" as promulgated by the Chicago School[13] said that since the profit-maximizing objective could always be accomplished by establishing the appropriate price for the use of the bottleneck, the only objective of a vertical foreclosure must be increased efficiency.[14] Indeed, the Chicago School urged a permissive approach to vertical foreclosures on the grounds that the availability of a "perfect price squeeze" would create incentives for monopolists actually to encourage competition at prior or subsequent stages in a vertical market relationship so that the efficiency advantages of entrants could be appropriated by the firm with market power when it established the price of market access.[15]

New research, however, showed that the widespread permissive attitude by economists toward vertical foreclosures generally was not justified by the set of assumptions required to support the conclusion that such behavior in

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8. *See* Baumol, *Contestable Markets: An Uprising in the Theory of Industrial Structure*, 72 AM. ECON. REV., Mar. 1982, at 1. The theory assumes frictionless entry and exit:

> the entrant suffers no disadvantage in terms of production technique or perceived product quality relative to the incumbent . . . . [I]t is a requirement of contestability that there be no cost discrimination against entrants . . . . [A]ny firm can leave without impediment, and in the process of departure can recoup any costs incurred in the entry process . . . . The crucial feature of a contestable market is its vulnerability to hit-and-run entry.

Id. at 3-4.

9. For example, regulators in the rail industry were told that they should seek to become "surrogates" for contestability when setting rates for "captive traffic." *See* Verified Statement of William J. Baumol and Robert D. Willig before the ICC in *Coal Rate Guidelines—Nationwide, Ex Parte* No. 347 (Sub-No. 1) at 25 (July 28, 1983). *See also* Baumol & Willig, *Contestability: Developments Since the Book*, 38 OXFORD ECON. PAPERS 9 (Supp. 1986).

10. Bailey & Baumol, *Deregulation and the Theory of Contestable Markets*, 1 YALE J. ON REG. 111, 124 (1984).

11. *Id.*

12. *Id.* at 137. Bailey applied these concepts to suggest policies for advancing open competitive access in the rail industry. *See* Bailey, *Contestability and the Design of Regulatory Policy*, AM. ECON. REV., May 1981, at 178.

13. *See* Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925 (1979).

14. *See id.*

15. *See id.*

unregulated industries could only be explained by the pursuit of efficiency gains.[16] This "new learning" was generally premised on the fact that the ability to impose a perfect price squeeze was not always satisfied, and vertical foreclosures could thus offer new opportunities for anticompetitive behavior.[17]

C. *Examples of Responses to the Problem*

A variety of solutions to the competitive access problem has arisen in industries seeking to replace regulation with competition. Typical examples are mandatory interconnections with competitors, line-of-business restrictions (*e.g.*, the divestiture of the "Bell Operating Companies" from AT&T),[18] and "unbundling" (*i.e.*, establishing separate prices for components of service rather than offering one "unbundled" price for the total service) of the transportation and energy components of price in natural gas markets,[19] and trackage rights to restore competition eliminated as a consequence of railroad mergers.[20] Despite the differences in industries and approaches to the problem, there is a common feature of each of these responses to vertical relationships among competitors formerly subject to strict economic regulation. Regulators have established a reasonable price of access by "nonintegrated competitors" to the restricted access portions of the network so that effective "competition on equal terms" may replace regulation in the rest of the system.

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16. *See* R. BLAIR & D. KASERMAN, LAW AND ECONOMICS OF VERTICAL INTEGRATION AND CONTROL (1983); FREDERICK R. WARREN-BOULTON, VERTICAL CONTROL OF MARKETS: BUSINESS AND LABOR PRACTICES (1978) [hereinafter WARREN-BOULTON]; O. WILLIAMSON, MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS (1975); Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515 (1985).

17. Ordover, Sykes & Willig, *Non-Price Anticompetitive Behavior by Dominant Firms Toward the Producers of Complementary Products*, in ANTITRUST AND REGULATION: ESSAYS IN HONOR OF JOHN MCGOWAN (F. Fisher ed. 1985); Ordover & Willig, *The 1982 Department of Justice Merger Guidelines: An Economic Assessment*, 71 CALIF. L. REV. 535, 572 (1983).

18. For a review of the competitive access issues and solutions in the telecommunications industry, see A. BAUGHCUM & G. R. FAULHABER, TELECOMMUNICATIONS ACCESS AND PUBLIC POLICY (1984); W. BOLTER, TELECOMMUNICATIONS POLICY FOR THE 1980S THE TRANSITION TO COMPETITION (1984); MARKETPLACE FOR TELECOMMUNICATIONS (M. Snow ed. 1986); Baker & Baker, *Antitrust And Communications Deregulation*, 28 ANTITRUST BULL. 1 (1983); Kahn, *The Road to More Intelligent Telephone Pricing*, 1 YALE J. ON REG. 139 (1983); MacAvoy & Robinson, *Losing by Judicial Policymaking: The First Year of the AT&T Divestiture*, 2 YALE J. ON REG. 225 (1985); MacAvoy & Robinson, *Winning by Losing: The AT&T Settlement and its Impact on Telecommunications*, 1 YALE J. ON REG. 1 (1983). *See also* MCI Communications Corp. v. AT&T, 708 F.2d 1081 (7th Cir.), *cert. denied*, 464 U.S. 891 (1983); United States v. AT&T, 524 F. Supp. 1336 (D.D.C. 1981).

19. *See* Order 436, *Regulation of Natural Gas Pipelines after Partial Wellhead Decontrol*, [1982-1985 Regs. Preambles] F.E.R.C. Stats & Regs. ¶ 30,665, 50 Fed. Reg. 42,408 (1985); Order No. 436-A, [1982-1985 Regs. Preambles] F.E.R.C. Stats. & Regs. ¶ 30,675, 50 Fed. Reg. 52,217 (1985). For a review of the antitrust issues, see Mahinka & Johnson, *New Antitrust Issues in a Deregulated Environment: Access to Pipelines*, 4 ENERGY L.J. 211 (1983) [hereinafter Mahinka & Johnson] Mogel & Gregg, *Appropriateness of Imposing Common Carrier Status on Interstate Natural Gas Pipelines*, 4 ENERGY L.J. 155 (1983) [hereinafter Mogel & Gregg].

20. Tye, *Post-Merger Denials of Competitive Access and Trackage Rights in the Rail Industry*, 53 TRANSP. PRAC. J. 413 (1986) [hereinafter Tye, *Post-Merger Denials*].

D. Concerns over Procompetitive Policies

Concerns over competitive access issues in the rail industry have produced probably the most articulate exposition of the alternative theories of the economics of competitive access. Numerous proposals have been made to change regulatory policy to enhance competitive access[21] or to amend the antitrust laws to require railroads to open up their tracks to competitors.[22] Yet the most likely supporters of such policies, the coal-burning electric utilities, have often shrunk from whole-hearted endorsement of policies to open up access to rail lines in the face of taunts from the rail industry that they vigorously oppose having comparable policies applied to their electric transmission lines. Similar concerns may also still the voices of local distribution companies (LDCs) in natural gas markets, who fear that support for the principles of open competitive access to interstate gas pipelines would, if applied to all, open their own systems up to demands by interstate pipelines for direct access to their large industrial customers (the "local bypass").

These concerns over the consequences of unrestricted open competitive access in regulated industries are not totally unfounded.[23] Concerns over incentives for "uneconomic bypass" have long been the justification for restriction of entry in regulated industries. Critics of introducing more competition into an industry regulated by traditional public utility principles complain that such competition is introduced differentially and in markets where most prices are set by regulation, not competitive forces. Since regulated prices based on average embedded costs may not reflect relative efficiency advantages of competitors, it may be possible for a new entrant to divert business from the regulated firm at a profit even when its incremental costs for that business exceed those of the regulated firm. They also claim that the result may not be competition among alternative suppliers to enhance economic welfare but rather competition among customers to make somebody else pay the sunk costs of the system, and may actually lead to static economic inefficiency.[24]

As the ICC's former policy on entry in the motor carrier industry recognized and recent events in telecommunications and transportation amply demonstrate, a policy of free entry and open competitive access undermines regulatory options. If regulators are going to regulate price, service, and entry according to traditional standards of public utility regulation, a policy of une-

21. *See* Emrich & Haan, *A Fair Rate to the Junction: Creating the Competition to Make Staggers Work*, TRAFFIC WORLD, Mar. 18, 1985, at 133; Tye, *Pricing Rail Competitive Access in the Transition to Deregulation with the Revenue/Variable Cost Test*, 32 ANTITRUST BULL. 101 (1987) [hereinafter Tye, *Pricing Rail Competitive Access*].

22. Calderwood, *The Railroad Antimonopoly Act—A Bill Whose Time Has Come*, TRAFFIC WORLD, April 14, 1986, at 40, 78-79.

23. These concerns for regulated industries are in addition to the objections to antitrust intervention into vertical economic relationships for unregulated industries raised by the Chicago school. *See supra* note 13.

24. *See, e.g.*, Pace & Landon, *Introducing Competition into the Electric Utility Industry: An Economic Appraisal*, 3 ENERGY L.J. 1 (1982) [hereinafter Pace & Landon]. Address by Charles G. Stalon, Commissioner of the Federal Energy Regulatory Commission, Some Thoughts and Concerns About FERC Wheeling Policies, Federal Energy Bar Association (Jan. 10, 1985).

qual competitive access could in the presence of substantial sunk costs or problems of "unsustainability"[25] quite likely harm remaining captive customers. Certainly regulators desiring to protect the interests of all consumers and a utility burdened with a public service obligation to meet all demands for its services on a nondiscriminatory basis (including regulatory imposed cross-subsidies) might reasonably object to unrestricted competitive access. For this reason, obligations to serve and regulatory imposed cross-subsidies have traditionally been accompanied both by regulatory constraints on new entrants and by limits on direct intramodal price competition. At a minimum, public utilities may in some circumstances be able to make credible arguments that there should be an explicit transition if competition is to supplant regulation.[26]

The development of appropriate standards for enforcing the "essential facility" approach to the "competitive access" problem ultimately requires taking a position on the disputes over exactly what constitutes an "anticompetitive practice" in vertical economic relationships. The approach to the bottleneck concept recommended here does not embrace either of the two contending positions on vertical foreclosure doctrine. Nevertheless, the results will obviously depend on whether one accepts the Chicago School approach, the "new learning," or some additional factors discussed below in particular circumstances. This, of course, is the essence of a "rule of reason" approach to the bottleneck concept called for in the law.

II. THE CONCEPT OF AN "ESSENTIAL FACILITY"

The gist of the "essential facility" concept as applied in the antitrust law is that one competitor has control of the facility and is able to foreclose effective competition in one or more other relevant markets by denying a competitor's access to the facility. While the principle of an essential facility seems simple enough, in practice the concept has proved to be quite elusive.

The resulting confusion arises from several sources. First, the concept of an essential facility arose initially in the case law, but no single case is comprehensive in its treatment of the issue. The Supreme Court is often reputed to have articulated the concept in the famous *Otter Tail Power Co. v. United States*[27] case, but legal scholars debate whether it was an essential facility case at all.[28] A number of cases have been decided by the various district and appeals courts, but the standards that have emerged are by no means clear and consistent. The lack of a general theory and a perception that the correct

25. An "unsustainable" monopoly is unable to establish prices that foreclose uneconomic bypass even in the absence of regulatory constraint on prices. *See* W. J. BAUMOL, J. C. PANZAR & R. D. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE 191-242 (1982); Panzar & Willig, *Free Entry and Sustainability of Natural Monopoly*, 8 BELL J. ECON. 1 (1977).

26. *See* Meyer & Tye, *The Regulatory Transition*, 75 AM. ECON. REV. 46 (1985).

27. Otter Tail Power Co. v. United States, 410 U.S. 366 (1973).

28. *See* Norton & Early, *supra* note 4, at 54; Troy, *supra* note 7, at 451. The Court referred to the "strategic dominance in the transmission of power" but did not specifically cite the essential facilities doctrine. *Otter Tail*, 410 U.S. at 377. The court placed significance on the predatory behavior of the defendant who relied heavily on claims of immunity from the antitrust laws as a regulated firm. *Id.* at 373-75. Most other relevant Supreme Court precedents involved collusive behavior, not unilateral behavior by a single owner of a facility.

answer depends on the facts of the case may have caused courts to resist general pronouncements of principle that could be widely applied.

Second, economists have devoted considerable attention to a close cousin of the essential facility concept, the theory of vertical foreclosure, but the concept of an essential facility has received little or no attention in the literature on antitrust economics. Consequently, attempts to apply the doctrine in practice frequently encounter poorly perceived problems of economic theory not clearly addressed in the extant law.

Furthermore, in attempting to define what makes a facility so essential that it must be made available to a competitor, the courts and legal scholars have not addressed the special problems of applying the concept to regulated industries undergoing a transition to deregulation. For example, Troy offers the following test:

> The determination of whether such a facility is "essential" to a particular plaintiff, such that a duty to deal should be imposed, turns upon three questions: (1) can the plaintiff's end-product or service be produced or marketed within a relevant geographic market without the use of the facility or, put another way, is access to the facility necessary to participate in the relevant market; (2) should the plaintiff be expected to duplicate the facility; and (3) is a party's ability to produce the particular end-product or service in that geographic market necessary to the party's commercial existence in that product line?[29]

Nothing in this test would account for the above-mentioned concerns of the courts that enforcement of the concept should not conflict with regulatory goals. Troy's test also does not require that there be a foreclosure of competition in an upstream or downstream market in which the monopolist also competes. Indeed, he specifically states that the test should not be limited to denials of access to competitors in upstream or downstream markets.[30] Any denial of ability to compete would suffice for Troy.

Even apart from the inconsistency of the test and the numerous prominent cases,[31] Troy never answers the fundamental question: if the two firms are not competitors in an upstream or downstream market, what besides efficiency considerations would motivate the denial of access? Troy never explains why a monopolist would be motivated to foreclose competition in a market in which it did not compete.[32] Put another way, the test focuses unduly on the effect of the denial of access on the plaintiff's ability to compete—not on the infringement of competition which is the objective of the antitrust laws.

A recent prominent case defined the test for essentiality as follows:

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29. Troy, *supra* note 7, at 464.

30. *Id.* at 471-74.

31. "[I]n the absence of competition . . . there is no room to apply the essential facilities doctrine." *MCI*, 708 F.2d at 1147 n.100. *See also* Official Airline Guides, Inc. v. FTC, 630 F.2d. 920 (2d. Cir. 1980), *cert. denied*, 450 U.S. 917 (1981).

32. This is not to imply that a specific intent to monopolize must necessarily be demonstrated as a point of law in a bottleneck case. *See* Norton & Early, *supra* note 4, at 55. Most commentators seem to believe that once anticompetitive effect has been demonstrated, the burden seems to shift to the defendant to demonstrate a legitimate business rationale for the practice. *See* Mahinka & Johnson, *supra* note 19, at 213. *See also* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985).

> The case law sets forth four elements necessary to establish liability under the essential facilities doctrine: (1) control of the essential facility by a monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.[33]

The Court's test is an improvement over Troy's but it too does not look specifically at the degree of foreclosure of competition in upstream or downstream markets.[34] Furthermore, this particular version of the test ignores the the fact that the Supreme Court has cited "valid business reasons" as a rationale for a refusal to deal with a direct competitor.[35]

A comprehensive review of the literature, case law, and recent attempts to give the essential facility concept a needed empirical foundation suggests that the necessary tests can be boiled down to four requirements applicable to a wide variety of circumstances. All of the following must be passed before imposing an obligation to make a facility available to competitors:

1. Control of the facility by a monopolist or a group of competitors with monopoly power.
2. The foreclosed competitor's inability practically or reasonably to duplicate the facility or its economic function.
3. The denial of the use of the facility or the imposition of restrictive terms for use of the facility with the consequence of substantial harm to competition in a relevant market in which the monopolist competes (or would be forced to compete with plaintiff(s) absent the practice).
4. The absence of a "valid business reason."

Each of these will be addressed in turn.

A. Control of the Facility

Since the essential facility doctrine is a basis for an antitrust complaint under the Sherman Act, the control of the essential facility must presumably endow monopoly power.[36] "Free trader values" are often cited in defense of

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33. *MCI*, 708 F.2d at 1132-33.

34. In Hecht v. Pro-Football, Inc., 570 F.2d. 982, 992 (D.C. Cir. 1977), *cert. denied*, 436 U.S. 956 (1978), the Court defined an essential facility as one where "duplication of the facility would be economically infeasible and if denial of its use inflicts a severe handicap on potential market entrants." *Id.* Troy, *supra* note 7, at 468, would require "serious anticompetitive consequences." *See also* Venture Technology, Inc. v. National Fuel Gas Co., 685 F.2d 41 (2d Cir.), *cert. denied*, 459 U.S. 1138 (1982); General Motors Corp. (Crash Parts), 3 Trade Reg. Rep. (CCH) ¶ 21,931, at 22,317 (F.T.C. 1982).

35. In *Aspen Skiing Co.*, the Supreme Court noted that "valid business reasons" were a legitimate defense against a complaint of a refusal to deal with a competitor. *Aspen Skiing Co.*, 472 U.S. at 601-05. However, the Court noted that none were offered by the defendant and thus concluded that anticompetitive motivations were the only remaining explanation. *Id.* at 608-09. Mahinka and Johnson, state that "non-predatory denials of access, based on such legitimate business considerations as efficiency and profitability, are appropriate and consistent with both antitrust policy and the competitive purposes of industry deregulation." Mahinka and Johnson, *supra* note 19, at 211. *Town of Massena v. Niagara Mohawk Power Corp.*, 1980-2 Trade Cas. (CCH) ¶ 63,526, at 76,812-14 (N.D.N.Y. 1980), cited "legitimate business justifications" as grounds for refusing to grant access to electric transmission lines. Even if the facility were otherwise judged to be essential, a refusal to transmit could be justified by "valid business reasons." *Id.* at 76,812-14. Another Court cited the "public interest" as an acceptable defense if a refusal of access were made in "good faith." Southern Pacific Communications Co. v. AT&T, 740 F.2d 980, 1009 (D.C. Cir. 1984), *cert. denied*, 470 U.S. 1005 (1985).

36. Although the doctrine was apparently conceived as a means of eliding some of the difficulties

the idea that a requirement to make facilities available to competitors should be imposed only on firms with monopoly power, and only to rectify some specific anticompetitive practice.[37] Competitors should not be encouraged to become "free riders" on the efforts of others by appeals to the antitrust law.[38] Since ownership of the facility must already confer monopoly power in order to be "essential," it is clear that the foreclosure of competition must be in a market other than the one directly served by the facility itself (it is here that the essential facility doctrine parallels the more general theory of vertical foreclosure).[39]

While the first and clearest cases of the essential facility doctrine involved control of the facility by a group of competitors engaged in concerted activity[40] (and hence pertaining generally to section 1 of the Sherman Act), the concept has been applied more recently to control by a single competitor (thus pertaining generally to section 2 of the Sherman Act). The consequences of the denial might appear to be the same from the point of view of the underlying economics, but an elaborate theory has been developed by the Chicago School in an attempt to demonstrate that individual firms have little incentive to engage in an anticompetitive denial of access.

The first test is nevertheless likely to be relatively uncontroversial. The more difficult issue is likely to be whether or not ownership confers a monopoly, and this question turns on the answer to the second test.

B. The Competitor's Inability Reasonably to Duplicate the Facility

If denial of access is to have a substantial adverse impact on competition,

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under other antitrust concepts (*i.e.*, by substituting an "objective test" for the "intent to monopolize") with a "short cut" method, Norton and Early state that this objective has not been wholly successful. Norton & Early, *supra* note 4, at 51.

37. Because of "free trader values," even a lawful monopolist should be allowed to refuse access except when the "decisions have serious anticompetitive consequences." Troy, *supra* note 7, at 468. *See* United States v. Colgate Co., 250 U.S. 300 (1919).

38. Note that Troy's "focus upon the 'standard cost of entry' serves to prevent 'free riders' from taking advantage of the essential facility analysis to benefit from a lawful monopolist's investment when they would ordinarily be expected to make the same investment themselves" (footnote omitted). Troy, *supra* note 7, at 465-66. *See also* opinion of Judge Richard A. Posner in Olympia Equip. Leasing Co. v. Western Union Tel. Co., 797 F.2d 794 (7th Cir. 1986), *reh'g denied*, 802 F.2d 217 (7th Cir. 1986), *cert. denied*, 107 S. Ct. 1574 (1987).

39. Two elements are necessary to establish a monopolizing violation under section 2 of the Sherman Act: "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident." United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966). Monopoly power has been defined as "the power to control prices or exclude competition." United States v. E. I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956). It is violative of section 2 "provided it is coupled with the purpose or intent to exercise that power." United States v. Griffith, 334 U.S. 100, 107 (1948). Furthermore, "the use of monopoly power attained in one market to gain a competitive advantage in another is a violation of § 2, even if there has not been an attempt to monopolize the second market. It is the use of economic power that creates the liability." Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980).

40. *See* United States v. Terminal R.R. Ass'n, 224 U.S. 383 (1911); Associated Press v. United States, 326 U.S. 1 (1945); Gamco, Inc. v. Providence Fruit & Produce Bldg., Inc., 194 F.2d 484 (1st Cir. 1952), *cert. denied*, 344 U.S. 817 (1952).

clearly resorting to the use of whatever alternatives are otherwise available to the denied competitor (hereinafter "the bypass") must preclude its ability to compete effectively with the defendant. If the "harm to competition" under the third test (below) is to be "substantial," then presumably the denial must impose a "severe handicap" because the available alternatives under the second test are "unreasonable" or "impractical." This in turn raises the questions of whether the second and third tests are independent and what specifically constitutes an "impractical alternative."

The two tests are independent because the impracticality of a bypass in the second test is a necessary but insufficient condition for a substantial harm to competition in the upstream or downstream market in the third. An individual competitor could suffer a severe handicap as a result of the denial without there being a significant effect on competition—harm to a competitor is not necessarily the same as harm to competition.[41]

Courts have generally defined an essential facility as one where the harm to competition must be "severe" as a consequence of the "impracticality" of duplicating the denied facility. Simply stated as such, the test lacks sufficient concreteness to serve as an objective standard. Must the proposed alternative be physically impossible or just uneconomic?

Sheer physical impossibility of the alternative is not necessary; there is often some cost high enough for which the essential facility (or its services) could be duplicated. It is clear therefore that the test must be economic.[42] It is the magnitude of the cost of bypassing the essentinal facility, not physical impossibility, that often permits the foreclosure of effective competition in the upstream or downstream market.[43]

However, the difficulties of applying an economic test become apparent once a particular claim of essentiality is made. If the test is economic feasibility, what is the "bogey" against which the feasibility of the bypass is to be measured? Is the economic feasibility of the bypass to be compared with (1) the current wholesale price paid by the customer (the "bundled rate") or (2) the price of access the customer would pay if the desired relief were granted (the "unbundled rate")?

A paradox is immediately encountered in attempting to answer this ques-

41. Otherwise, by means of the expedient of the essential facility doctrine, Larry Bird could be made an essential facility for all the basketball teams in the league who could not win without having him play on their side for one half of every game. Carried to its logical extreme, this principle would require any restaurant with empty tables to be forced to include on its menu the offerings of an outside sidewalk hot-dog vendor if the vendor could not itself supply seating for its customers elsewhere at lower cost. The entire emphasis of the antitrust laws to force firms to compete would be stood on its head and firms would otherwise appear to have an obligation to affirmatively take steps to achieve the success of a competitor. *See* Watson & Brunner, *Monopolization by Regulated "Monopolies": The Search for Substantive Standards*, 22 ANTITRUST BULL. 559 (1977). *See also* Crew & Linzenr, *Joint Rates between Competitors—A True Antitrust Dilemma*, TRAFFIC WORLD, May 2, 1983, at 77.

42. The fact that the test is fundamentally economic is further confirmed by the fact that the terms on which access is offered must be considered as well as the case of a flat denial of access.

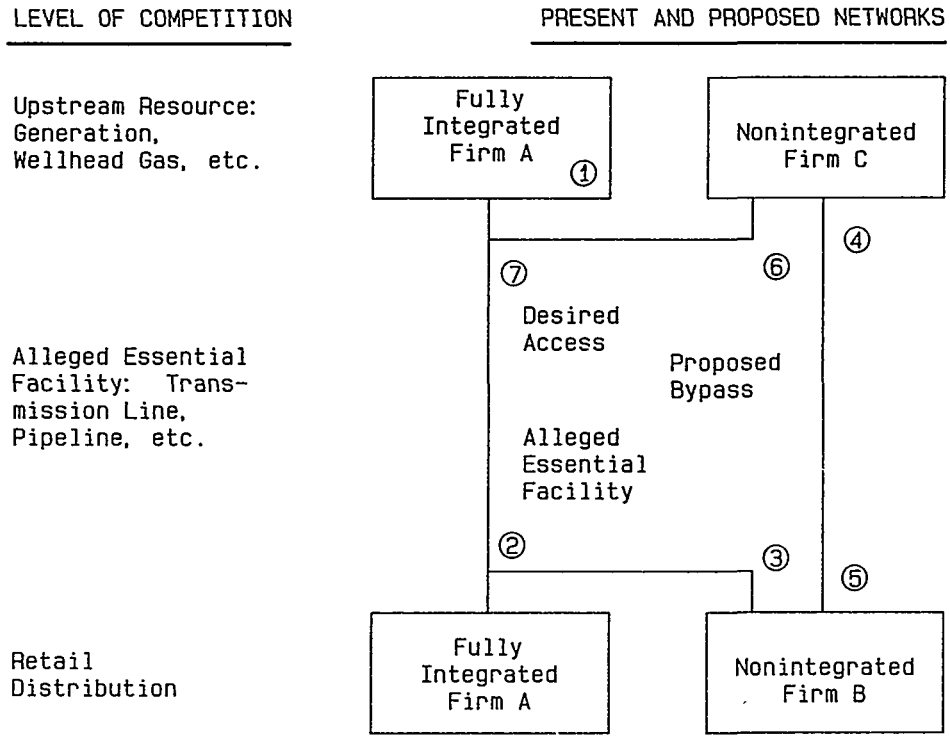
43. Hecht v. Pro-Football, Inc., 570 F.2d 982, 992 (D.C. Cir. 1977), *cert. denied*, 436 U.S. 956 (1978), held that the facility "need not be indispensable; it is sufficient if duplication of the facility would be economically infeasible and if denial of its use inflicts a severe handicap on potential market entrants." *Id.* at 992.

tion: (1) the owner of the facility often controls (or, in the case of a regulated firm, at least has influence over) the bundled and unbundled rates which in turn affect the economic feasibility of the bypass, and (2) the more reasonable are the terms on which access is granted in the bundled price, the less economically attractive is the bypass and the more likely is the facility therefore to be perceived as "essential" by an alternative seller seeking access.

The paradox may be illustrated by a typical case of competitive access as illustrated in Figure 2. In the typical allegation, a fully integrated, investor-owned producer (Firm A) supplies a bundled service consisting of a single price for both (1) a transmission service and (2) an upstream resource such as electric generation or wellhead gas (or gas from another pipeline under contract, etc.) to the downstream wholesale customer, a municipal or cooperative electric distribution system (Firm B). The wholesale customer claims that competition in the downstream market for retail distribution services and the upstream market for electric generation resources is severely harmed as a result of denial of access to the investor-owned utility's transmission facility. Firm B therefore demands access to the transmission system via an unbundled rate for use of only the facility without purchase of the upstream resource. This competitive access to transmission is allegedly essential to Firm B's acquisition of wholesale electricity supply from another source (Firm C).

Figure 2

EXAMPLE OF TYPICAL DEMAND FOR COMPETITIVE ACCESS



CONTRACTING PATHS	NODES
"Bundled Service":	① - ② - ③
"Bypass":	④ - ⑤
"Unbundled Service":	⑥ - ⑦ - ② - ③

The integrated firm may also refuse access outright to both Firm B and Firm C by refusing to sell at wholesale, but more likely in cases involving regulated industries,[44] Firm A offers prices and terms that make the alternatives unattractive to Firm B in comparison to continued use of its own bundled wholesale service. Note that in the latter case, Firm B has not been denied access to the facility in a strict sense, since Firm A has not refused to deal. Whether competition has been foreclosed upstream or downstream by the prices offered remains to be seen.

The wholesale customer and alternative supplier[45] then sue the integrated supplier under the antitrust laws, claiming that the facility is essential and demanding unbundled access to it at a reasonable price. The plaintiffs claim that the refusal to provide access to the essential facility forecloses effective competition between Firm A and Firm C in the upstream market to serve Firm B's load, and between Firm A and Firm B in the downstream market. In its defense, the integrated competitor points to (among other things) the option of pursuing a bypass as an alternative to the alleged bottleneck or essential facility.

What cost and price relationships among the bundled wholesale service, the unbundled price of access, and the bypass are sufficient to conclude that the bypass is infeasible? We may safely assume that the bundled rate exceeds that of the unbundled rate plus the price of the alternative source—otherwise the plaintiffs would not be seeking access to the unbundled service. The remaining question is whether the "bogey" for testing the feasibility of the bypass should be the bundled or the unbundled rate. We begin with examination of alleged foreclosure of Firm C's ability to compete in the upstream market.

1. Upstream Competition: The Shepherd Test

William G. Shepherd[46] proposes a sufficient test of essentiality by simply inquiring whether the price of unbundled access plus the price of the upstream resource from Firm C is less than the price of the bundled service. Unfortunately, results of the test alone are inadequate.[47] Shepherd's test assumes at the outset the plaintiffs' right to an unbundled access rate even though the purpose of the test is to determine if such a right should be granted. Passing

44. Note that the integrated competitor is supplying a bundled wholesale service to a firm alleged to be a retail competitor either because of a public service obligation or because it has a profit incentive to do so in any event. The outright refusal to deal in the downstream market found in many of the cases in unregulated industries is less common.

45. The alternative supplier may be selling into a competitive market or not perceive an injury from the denial or access. Likewise, the buyer may have alternatives while the seller may not. All three situations must be encompassed by the proposed second test.

46. *See* Affidavit of William G. Shepherd, Farmers Elec. Coop. Corp. v. Arkansas Power and Light, No. LR-C-86-118 (E.D. Ark. filed Mar. 7, 1986).

47. Nor does the test prove useful in examining alleged foreclosure of competition in the downstream market. The test may fail to establish the presence of an essential facility, yet the owner may have established a rate for both the bundled and unbundled service that puts a "price squeeze" on Firm B's ability to compete in the retail market. (See discussion below).

the Shepherd test would appear to be necessary to proceed with a case, but the test is not sufficient to establish a foreclosure of competition:

1. The cost of the bypass plays no part in the test; labelling a facility "essential" presumably requires that the cost of bypassing the facility should play a major role in establishing the bypass as unreasonable.[48]
2. The test therefore establishes a *per se* right of the plaintiffs to use the defendant's facilities regardless of their "essentiality"; competitive advantage to the plaintiffs as a consequence of winning the case would be the only test.[49]
3. The test does not consider the effects of the denial of access on upstream or downstream competition (as required by the relevant antitrust principles), much less whether the effect is substantial.
4. The test does not consider how the bundled wholesale and unbundled access rates were established.[50]

2. Upstream Competition: The Borough of Landsdale Test

The jury in *Borough of Landsdale v. Philadelphia Electric Co.*,[51] concluded that there was no monopoly power, apparently on the basis of testimony that the cost of the bypass was less than the price of the desired access. The Court of Appeals determined that the jury could have reasonably relied on this evidence.[52] If so, the facility is clearly not essential (as long as the test is applied using the price of competitive access that would be required if relief were granted). Otherwise, the plaintiffs would find the bypass cheaper than the desired relief.

The reverse—the fact that the cost of the bypass exceeds the cost of the desired relief—does not, however, provide a conclusive demonstration of essentiality. The unbundled price of access may have been established at unreasonably low levels through regulation or even the unilateral decision of the defendant, so that its low price is an artificial indication of the essentiality of the facility. While the test does at least consider the cost of the bypass, it is not a sufficient test. It merely questions whether the plaintiffs were correctly perceiving their own interests in bringing the lawsuit. If it were a sufficient test, it would mean that plaintiffs would always get access to any facility when it served their best interests. Like the Shepherd test, as a sufficient condition:

1. it ignores the effects of denial of access on foreclosure of upstream and downstream competition;
2. it establishes a *per se* right to competitive access as long as it would benefit

48. Shepherd's test would impose antitrust liability if access were feasible, even if the bypass were profitable. *See* Affidavit, *supra* note 46, at 16-17.

49. Troy, *supra* note 7, at 450 and Note, *Refusals to Deal by Vertically Integrated Monopolists*, 87 HARV. L. REV. 1720 (1974), state that *Otter Tail* does not establish a *per se* rule in essential facility cases. Troy states that "[t]he question is one of necessity not of commerical prosperity." *Id.* at 464. He would impose a test of whether the facility is "necessary to the party's commercial existence in that line of business." *Id.* at 466.

50. Indeed, for unregulated industries the unbundled rate might not exist and for regulated industries there would be disputes as to what the unbundled rate should be.

51. Borough of Landsdale v. Philadelphia Elec. Co., 692 F.2d 307, 312 (3d Cir. 1982).

52. *Id. See also* City of Chanute v. Kansas Gas and Elec. Co., 564 F. Supp. 1416 (D. Kan. 1983), *rev'd in part, aff'd in part*, 754 F.2d 310 (10th Cir. 1985); SECTION ON ANTITRUST LAW, AMERICAN BAR ASSOCIATION, SUPPLEMENT TO ANTITRUST CIVIL JURY INSTRUCTIONS (1986).

the plaintiff(s);[53]

3. it does not explicitly consider how the prices of the bundled and unbundled services were or should be established; and
4. the test does not consider whether there is a "valid business reason" (the fourth test below) for the refusal.

3. Upstream Competition: The Town of Massena Test

The Court in *Town of Massena*[54] compared the cost of the bypass plus the price of the alternative supply with the bundled wholesale rate. If the cost of the bypass plus the price of the alternative resource were less than or equal to the price of the existing bundled service, then the plaintiff could achieve an equal or lower total price by avoiding purchases from the integrated supplier altogether. A successful bypass is economically feasible and thus is deemed to be an effective alternative to the bundled rate for Firm C to serve Firm B's load under this test.[55]

The merits of the *Town of Massena* test are that (1) it directly considers the cost of the bypass, (2) it does not depend on the method used to establish the access price for the unbundled service or even the existence of such a price, and that (3) the upstream (or downstream) efficiency gains from opening a competitive alternative are also taken into account (if present, they would constitute savings which could be used in part to finance the cost of the bypass). Furthermore, the test is objective and could fail to demonstrate essentiality even when plaintiffs would find access to the unbundled service to be even more attractive than the bypass. Thus it assures that the plaintiffs would not have a *per se* right to the unbundled service merely because it increased their profits.

However, the test has been objected to on several grounds. The first objection originates with the same point mentioned above as a benefit: while it considers the effect of the denial on access to alternative sources upstream, it does not consider the possibility that even greater static efficiency gains might be achieved by forcing competitive access to the facility.[56] Under the test, a sufficiently large efficiency gain (as measured by price differences) in opening up competition in the upstream market will offset a lesser downstream cost disadvantage of the bypass. The test does not account for the fact that requiring entry at the transmission level may be an effective but relatively expensive

53. "[T]he embedded costs reflected in the actual wheeling [unbundled] rate will almost always, when compared to the current construction costs of an alternative line, assure the finding of an essential facility." Norton & Early, *supra* note 4, at 67.

54. Town of Massena, 1980-2 Trade Cas. (CCH) ¶ 63,526, at 76,801. Although deeming the facility to be essential by virtue of this test, the Court concluded that the defendant had "legitimate business reasons" for refusing the terms for access demanded by the plaintiff.

55. This version of the test implicitly assumes that the price of the alternative resource is established in a competitive market. The complete test must also ensure that the unbundled price of access does not impose a price squeeze on the nonintegrated firms as well, as discussed below. Other cases could involve situations where allocation of economic rents between Firm B and Firm C were involved. In this case, an extended *Town of Massena* test would be whether the minimum price acceptable to Firm C plus the cost of the bypass exceeded the bundled rate; *i.e.*, is there a price for the alternative supply that Firm B and Firm C would find mutually profitable in spite of the cost of the bypass?

56. *See* Affidavit, *supra* note 46, at 16-17.

way of eliminating restraints on competition upstream. Put another way, the essentiality of the facility is not measured in terms of the cost advantages of the alleged essential facility versus the proposed bypass; the comparison is between the fully integrated competitor's present wholesale rate to the downstream customer and the costs required to make the upstream supplier an integrated competitor in the downstream market via the bypass.

This property, however, is not a weakness of the test, but a feature of the "essential facility" doctrine itself. The doctrine is not designed simply to measure market power at the transmission level but rather to prevent its use to foreclose competition upstream or downstream. If the efficiency advantages of the upstream alternative supplier are enough to equal or offset a large cost disadvantage of the bypass at the transmission level, competition in that upstream market is not foreclosed. Both the vertically integrated and previously nonintegrated firms would be competing on the basis of their relative efficiencies in the two levels of production after the bypass.[57]

In any event, this objection is likely to be undercut in practice by the second and more compelling objection to the *Town of Massena* test: a rational monopolist would not have established the price of the wholesale bundled service so that the bypass would be perceived to be economically viable under the test in the first place. Rather, it would "limit price" such that the bypass was barely uneconomic, at which point it would cite the availability of the bypass as a limit on any further exploitation of market power.[58] The real difficulty is that the test does not consider that the owner of the facility determines (or, as a regulated firm, strongly influences) the price of the wholesale service that in turn determines the feasibility of the bypass.[59] In the absence of regulatory constraints on the wholesale rate, the *Town of Massena* test is likely to produce the ambiguous conclusion that a bypass is only slightly economically infeasible precisely because the owner of the facility would always be motivated to price the wholesale service to produce this result.

Suppose such regulatory constraints are effective and the additional cost of the bypass more than offsets the price advantage to Firm B from purchasing from Firm C. Does this constitute a sufficient condition for essentiality? Such a simple cost comparison alone would not appear to be enough, because it does not take into account the magnitude of the cost disadvantage for the bypass nor the magnitude of the upstream or downstream distortions of competition resulting from denied competitive access. Such a test would consti-

57. Otherwise, the integrated firm could point to the asymmetry of the situation and demand access to the more efficient upstream resource of the firm seeking competitive access. Troy, *supra* note 7, at 443, and Norton & Early, *supra* note 4, at 63, state that new entrants should be required to bear "the standard cost of entry" and "ordinary start up costs," even though it might be even more profitable to force a competitor to make its facilities available. Firms should have no general obligation to make economies of scale available to a competitor. Berkey Photo, Inc., v. Eastman Kodak Co., 603 F.2d 263, 274 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980).

58. Tye, *Balancing the Ratemaking Goals of the Staggers Rail Act*, 22 TRANSP. J. 17 (1983).

59. As William M. Landes and Richard A. Posner put it, "Because every monopolist faces an elastic demand . . . at its profit-maximizing output and price, there is bound to be some substitution of other products for its own when it is maximizing profits, even if it has great market power." Landes & Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 961 (1981).

tute a *per se* standard by which the competitor seeking to use another firm's facilities would have a unilateral right to do so whenever it could save money rather than construct its own facilities.

Applying the *Town of Massena* test as a sufficient condition for essentiality also suffers from a paradox. Application of the test as a sufficient condition for essentiality would force the owner of the facility to fully exploit its monopoly of the essential facility by charging a sufficiently high bundled wholesale rate to make the bypass appear only marginally unattractive and thus hope to escape a finding of essentiality. But, as we shall see below, the integrated firm must charge a sufficiently low bundled price to its downstream competitor, Firm B, to avoid the charge of a "price squeeze" in the downstream market.[60] But the lower is the bundled wholesale rate offered by the owner of the facility, the more the facility is to be deemed essential insofar as its effect on upstream competition (the low bundled rate implies a low implicit price for access to the facility, thus accentuating its essentiality under the test).

Another difficulty is that the *Town of Massena* test assumes that Firm C's price is a competitive price that has not itself been driven down by the leverage inherent in the ownership of an essential facility. Put another way, it was assumed that price differences in upstream markets reflect efficiency differences, but they may in fact reflect Firm A's market power over the essential facility. But if Firm C's price is a competitive price, then Firm C may not need access to the facility because it has access to other buyers.

As discussed below, the most likely examples of alleged anticompetitive denials of competitive access are where Firm C has sunk costs in a regulatory environment that guaranteed competitive access to Firm B's market, but Firm A raises its price of access or denies it altogether after deregulation to appropriate these sunk costs for itself. The test might give a false signal in this circumstance because it assumes the ability of Firm C to stay competitive in the long run. The *Town of Massena* test must be applied using a competitive price for Firm C's supply, not one artificially deflated by a high price of access.

The second test for the reasonableness of duplicating the facility insofar as foreclosures of downstream access to upstream competition are concerned therefore comes down to a relatively weak, necessary but not sufficient condition:

1. If the cost of the wholesale service is greater than or equal to the cost of the bypass plus the competitive price of the alternative source,[61] the facility is not essential to effective competition upstream.
2. If the wholesale service is less than the bypass plus the competitive price of

60. A. Phillips, *Theory and Practice in Public Utility Regulation,* in ECONOMIC REGULATION: ESSAYS IN HONOR OF JAMES R. NELSON 191 (K. Boyer & W. Shepherd eds. 1981). Phillips complains that "whatever it [the regulated firm] does with intermediate goods prices, some aspect of conventionally accepted antitrust principles runs against it."

61. Another complication is that the alternative source may not provide an equivalent service to that of the integrated supplier (reliability may be inferior, for example) and there may be a variety of bypass options, not all providing equivalent service to that of the integrated supplier. The cost of the bypass is uncertain, while that of the wholesale service is generally known. The cost of the bypass could vary from very feasible to possibly feasible to clearly infeasible. All of these factors ultimately must be weighed according to a "rule of reason" in actual practice under the third test.

> the alternative source, the bypass is not economically attractive; therefore its availability is not adequate to remedy any possible anticompetitive consequences in upstream markets arising from denial of access; thus the effect of denial of access on effective competition must be tested on a case-by-case approach by proceeding to the third test.

The *Town of Massena* test thus amounts to a determination of whether Firm C could successfully integrate forward to compete with Firm A's wholesale rate to Firm B. If so, then Firm C should not be able to claim anticompetitive foreclosure of its ability to compete because of denial of access, even though it might increase profits by forced access to the facility.[62]

4. Alleged Foreclosure of Competition in Downstream Markets

So far the proposed tests look only at potential foreclosures of upstream competition. Nothing has been said explicitly about alleged foreclosure of downstream competition (at the retail level in Figure 2). If the competition that is alleged to be foreclosed is between Firm A and Firm B in the downstream markets, the cost of unbundled access and the cost of the bypass might well be irrelevant. Put most simply, there is only one real plaintiff in the downstream market because the upstream supplier does not compete directly in this market. In most circumstances in regulated industries, the integrated owner of the facility already has a public service obligation to serve (or would find it profitable to do so anyway), so an outright refusal to deal is often not an issue insofar as downstream competition is concerned. Unlike Firm C's allegations, Firm B is not being denied access to the facility via a refusal to deal or a *de facto* refusal to deal. Indeed, the usual claim is that Firm C is denied an unbundled rate precisely to make access to the facility by Firm B available only for use of Firm A's upsteam resource. While Firm C's chief interest is in the unbundled access rate, Firm B's chief interest is in the bundled wholesale rate, at least insofar as downstream competition with Firm A is concerned.

The principal issue at the retail level is therefore the "price squeeze," the difference between integrated Firm A's retail price and its wholesale price to Firm B.[63] As long as the price of the wholesale service provides a sufficient

62. In practice, the test will confront the fact that Firm B's wholesale rates are based on standard utility accounting practices if Firm A is regulated. The resulting "front-end load" to rates over time acts as a regulatory-imposed barrier to entry. *See* Myers, Kolbe & Tye, *Inflation and Rate of Return Regulation*, 2 RESEARCH IN TRANSP. ECON. 83 (1985); Tye, *Financing the Stand-Alone Railroad*, 19 LOGISTICS AND TRANSP. REV. 291 (1984); Tye, *Rate Base and Rate of Return Methodologies for Determining Reasonable Rates for Captive Coal Traffic*, 20A TRANSP. RES. 1 (1986).

63. For discussion of the price squeeze issue, which has been raised mostly in connection with demands for transmission access in the electric utility industry, see Dym & Sussman, *Antitrust and Electric Utility Regulation*, 28 ANTITRUST BULL. 69 (1983); Joskow, *Mixing Regulatory and Antitrust Policies in the Electric Power Industry: The Price Squeeze and Retail Market Competition* in ANTITRUST AND REGULATION (F. Fisher ed. 1985). *See also* City of Kirkwood v. Union Elec. Co., 671 F.2d 1173 (8th Cir. 1982), *cert. denied*, 459 U.S. 1170 (1983); City of Groton v. Connecticut Light & Power Co., 622 F.2d 921 (2d Cir. 1981); City of Mishawaka v. Indiana & Michigan Elec. Co., 560 F.2d 1314 (7th Cir. 1977), *cert. denied*, 436 U.S. 922 (1978); Conway Corp. v. FPC, 510 F.2d 1264 (D.C. Cir. 1975), *aff'd* 426 U.S. 271 (1976); City of Mishawaka v. American Elec. Power Co., 465 F. Supp. 1320 (N.D. Ind. 1979), *rev'd on other grounds*, 616 F.2d 976 (7th Cir. 1980), *cert. denied*, 449 U.S. 1096 (1981), *reh'g. denied*, 450 U.S. 960 (1981).

revenue margin for Firm B to compete with Firm A on equal terms *at retail*, the cost of a bypass or access to an unbundled transmission service is not relevant to downstream competition. Even if the wholesale price entirely reflects the exploitation of a monopoly at the bottleneck, the facility is not "essential" in the context of vertical foreclosure of competition between Firm A and Firm B in the downstream retail market as long as competition on equal terms is unimpaired at the retail level.

This might appear to be a defect of the proposed test, but once again it is inherent in the concept of the essential facility. The test is not designed to address monopoly power at the bottleneck *per se*, but rather the consequences of the exercise of that monopoly power on competition in upstream or downstream markets.[64] If the integrated firm is not simply refusing to deal but is selling at wholesale prices to its retail competitors, a "price squeeze" measures the degree of infringement *at the retail level* and therefore incorporates the most important downstream competitive effects (at least insofar as competition between Firm A and Firm B at the retail level are concerned).[65]

While it could be argued that the remedy of forcing Firm A to offer an economically appropriate unbundled rate for access could be used to eliminate the downstream price squeeze, so would the requirement to offer an economically appropriate wholesale bundled rate. Of course, denial of access may infringe on Firm B's ability to compete on equal terms with others at the retail level (who may not be foreclosed from access to other suppliers), but the motivation for anticompetitive behavior originates in the competition between Firm A and Firm B at retail (Firm A has no anticompetitive incentive to foreclose Firm B's ability to compete *with others*, although that may be a consequence of an upstream foreclosure).

Now it is also the case that Firm B's ability to compete successfully at retail may depend on its access to alternative suppliers such as Firm C in the upstream market. One of the attributes on which Firm A and Firm B may be thought to compete at retail is the ability to contract for upstream supplies at a low cost on behalf of their customers. This, however, involves most directly an infringement of upstream competition, not downstream competition at retail. (Although downstream customers at retail certainly may have an interest in maintaining effective competition upstream, the effect of the foreclosure

64. Perhaps it might be thought that all these issues might be avoided by simply addressing the question of whether Firm A possesses monopoly power at the transmission level. This alternative is not as attractive as might be supposed because the mere possession of monopoly power at the bottleneck is not an antitrust offense according to the courts. The maintenance or extension of that power, upstream or downstream, is required to establish vertical foreclosure. Furthermore, in a regulated industry, customers are afforded some degree of protection at the transmission level by regulation of prices. In any event, such a test is not of interest to plaintiffs because the "filed rate doctrine" prohibits recovery if damages are based on complaints about a regulated rate itself. *See* Keogh v. Chicago & Northwestern Ry. Co., 260 U.S. 156 (1922); Square D Co. v. Niagara Frontier Tariff Bureau, Inc., 106 S. Ct. 1922 (1986).

65. *See* City of Cleveland v. Cleveland Elec. Illuminating, 734 F.2d 1157 (6th Cir. 1984). Of course, those prices might create a market distortion further downstream in the competition of both A and B's retail service with other substitutes, if such a larger relevant market could be established. Often the relevant market is defined to be constituted by the retail utilities in competition with one another, not, say, in competition with other energy sources, etc.

of competition on Firm B should have already been assessed [see above] in the upstream market.[66]) Thus an unbundled access rate is not necessary for effective downstream competition on equal terms.

Application of the third element of the test to downstream competition therefore requires that the *Town of Massena* test be extended to determine whether a successful bypass is Firm B's appropriate response to Firm A's alleged retail price squeeze. To purge the test of any influence of Firm A's control of the facility over Firm B's price, the downstream test would compare the defendant firm's retail rate with the sum of (1) the alternative upstream supplier's competitive price, (2) the cost of the bypass, and (3) the competitive value added of a competing retail supplier. If the latter sum is lower, the facility is not essential to effective downstream competition because a successful bypass would relieve any alleged price squeeze.[67] If the latter is materially greater than the integrated firm's retail price, the analysis proceeds to the fourth test.

The downstream analysis would also be called for in the case of the outright refusals to grant access and to sell at wholesale to Firm B. No bundled or unbundled rate is available for comparison with the costs of the bypass for the upstream version of the test, but the integrated seller's retail rate is available for applying the downstream test of a price squeeze.

5. Conclusions on the Second Test

If the bypass cost plus the competitive price of the alternative resource is less than or equal to the bundled wholesale rate, the facility is clearly not essential to effective upstream competition. The issue of effective downstream competition depends on a price squeeze between the wholesale and retail rates offered by the integrated supplier. Access to an unbundled rate would not be necessary to correct this alleged price squeeze because the appropriate relief may be simply to correct the problem by lowering Firm A's wholesale rate; but the cost of the bypass may be sufficiently low that the foreclosure of downstream competition via the price squeeze may be obviated. Outright refusals to deal by the owner of the facility (absence of both a bundled wholesale and an unbundled access rate) would be treated by determining whether a successful bypass would allow Firms C and B to integrate fully to compete effectively at retail.

If the bypass is shown to be economically unattractive under one or both tests, then the investigation turns on the next test, whether the denial has severely harmed upstream competition.

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66. Of course, any market imperfections in the upstream market will be compounded by market imperfections downstream. *See* WARREN-BOULTON, *supra* note 16. But testing for the feasibility of the bypass via *Town of Massena,* we know only whether denial has foreclosed Firm C from competing effectively and know nothing one way or another about a price squeeze at the retail level.

67. As Norton and Early note: "Certainly, if the resulting municipal rate would be less than the retail rate [via the bypass] if the franachise had been awarded to the utility possessing the purported essential facility, then the facility is *not* essential." Norton & Early, *supra* note 4, at 65.

C. *Denial or Restrictions on Access with Substantial Harm to Competition*

The first thing to notice about the third test is that a total denial of the access by refusing to offer both a bundled and an unbundled rate is not necessary. Although the first essential facility cases involved an absolute denial of access, it is clear that access could be offered on such burdensome terms that the foreclosure of competition had the same effect. For reasons already given, this is likely to be a common type of complaint observed in regulated industries. It is frequently argued that access has been granted but offered in such a way as to impose a price squeeze on an unintegrated upstream or downstream competitor.

More difficult is what is meant by "harm to competition." An elaborate set of theories attributed to the Chicago School has defined "harm to competition" as a foreclosure of competition that results in an "economic inefficiency" as measured by losses of welfare in downstream consumer markets.[68] Based on this theory, the Chicago School asserts that most if not all examples of vertical foreclosure have a plausible rationale in the pursuit of efficiency gains.[69] According to the doctrine, denials of access to essential facilities are redundant as a tool of market power because the bottleneck carrier can achieve a monopoly profit simply by charging a high price for access to the bundled and unbundled service rather than to deny access to efficient competitors.[70] Indeed, the most profitable course for the bottleneck monopolist is to improve profits by appropriating competitors' efficiency gains in the price of access, according to the theory. Downstream consumers will therefore be unaffected by any vertical foreclosure. But denial of competitive access may be necessary, according to the theory, to block entry of inefficient competitors or prevent inefficient market practices. The Chicago School analysis therefore claims that substantial harm to competition as a result of denials of competitive access would be rare if not nonexistent.

The dispute has sparked a lively debate,[71] which will be illustrated by the application of the essential facility concepts to the regulated industries. As a practical matter, the courts have not endorsed the idea that an "anticompetitive practice" is limited to those with measurable efficiency losses to consumers,[72] and defendants are often loath to defend their actions by claiming that

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68. Posner, *supra* note 13.

69. *See* Note, *Refusals to Deal by Vertically Integrated Monopolists*, 87 HARV. L. REV. 1720 (1974), for a discussion of the efficiency rationale for vertical foreclosures in the context of the essential facility doctrine.

70. Put another way, the Chicago School would argue that integrated Firm A in Figure 2 has no incentive to purchase its upstream resource from an inefficient source. If the nonintegrated Firm B could achieve an efficiency advantage from purchasing its resource from Firm C, Firm A would also perceive such an advantage. Circumstances of whether this is true or not are illustrated in the examples below.

71. For advancement of the idea that the antitrust laws are designed to address income distribution as well as efficiency concerns, *see* Fisher & Lande, *Efficiency Considerations in Merger Enforcement*, 71 CALIF. L. REV. 1582, 1624-30, 1663 (1983).

72. *See* Klor's, Inc. v. Broadway-Hale Stores, Inc., 359 U.S. 207 (1959), in which the Supreme Court explicitly rejected the idea that a foreclosure of competition would be anticompetitive only if consumers in downstream markets were adversely affected.

they are able to use all the market power there is to be had even without the challenged practice.

The third test thus raises profound issues about vertical antitrust policy that go beyond the scope of the present topic. Rather than attempt to reach conclusions, the relevant issues will be illustrated below in the discussion of those industries where the essential facility issue has been raised. This exposition will become the basis for conclusions about applying the tests at the end.

D. Absence of a "Valid Business Reason"

While the Supreme Court acknowledged that the owner of a facility that is deemed to have passed the previous tests may nevertheless refuse to grant access if it has a "valid business reason,"[73] it is unclear what would constitute validity. For the most part, defendants have concentrated on technical obstacles to granting access, such as engineering difficulties or interference with the defendant's own use of the facilities (congestion).[74]

Obviously, the fact that granting access would reduce the profit of the owner of the facility would not by itself constitute a "valid business reason." If the owner is using control of the facility to foreclose competition upstream or downstream, the whole idea of the essential facility concept is to contravene the monopolist's profit incentive to foreclose effective competition.[75] Furthermore, the same logic applied to the plaintiff should apply to the defendant. (Note above that the plaintiffs' profit interest in achieving access was rejected as being sufficient.)

Technical objections or concerns over congestion of the facility are in reality part of a larger class of "efficiency" defenses discussed in connection with the definition of "anticompetitive" in the third test.[76] The essence of the argument is that the owner must deny access because economies such as from vertical integration make the owner the lowest cost supplier of the upstream resource. Granting access will allegedly permit a higher cost entrant to divert business away from the owner ("uneconomic bypass").

If the price of access is freely established by the owner of the bottleneck, these efficiency concerns will generally not be valid. With the price of access

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73. *See* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985); Byars v. Bluff City News Co., 609 F.2d 843, 862 (6th Cir. 1979); *Town of Massena v. Niagara Mohawk Power Corp.*, 1980-2 Trade Cas. (CCH) ¶ 63,526, at 76,823 (N.D.N.Y. 1980) (citing an "obligation to protect the legitimate interests of its customers, shareholders, and employees.").

74. *Hecht*, 570 F.2d at 993, stated that the "antitrust laws do not require that an essential facility be shared if such sharing would be impractical or would inhibit the defendant's ability to serve its customers adequately." *See also* Troy, *supra* note 7, at 474-77.

75. In Otter Tail Power Co. v. United States, 410 U.S. 366 (1973), the Court quoted United States v. Arnold Schwinn & Co., 388 U.S. 365 (1967), *rev'd*, 433 U.S. 36 (1977), "[t]he promotion of self interest alone does not invoke the rule of reason to immunize otherwise illegal conduct." *Id.* at 375.

76. In *Aspen Skiing Co.*, 472 U.S. at 609, the Supreme Court identified efficiency considerations as the key factor in establishing whether there were "valid business reasons." According to the Chicago School, this is also the key determinant of whether the practice is anticompetitive. Thus the case does not shed much light on whether there are any independent grounds for a "valid business reason" apart from the efficiency defense under the third test. *See* Bouknight, Aspen Skiing Co. v Aspen Highlands Skiing—*The Conduct Standard under Section 2 of the Sherman Act*, 6 ENERGY L.J. 275 (1985).

reflecting congestion, etc., and allowing the owner a reasonable opportunity to profit from its investment in the facility, both Firm A and Firm B in the above example would compete on the basis of their relative competitive advantages in the upstream market. This points to a more general difficulty of the Chicago School theory of vertical foreclosures as applied to unregulated industries: If the owner of the facility is unconstrained in its ability to set a profit-maximizing price of access, the price established for the bottleneck will ordinarily foreclose competition by less efficient competitors without the need to deny access on efficiency grounds.[77]

In markets unconstrained by regulation, determining the existence of a "valid business reason" for denying competitive access thus ultimately turns on the results of the third test: whether there are substantial market imperfections upstream or downstream that would be cured by granting access on the terms proposed by the plaintiffs and whether there are any efficiency losses incurred in granting use of the facility itself (which should be incorporated into the price of access).

In a market undergoing a transition to deregulation, there is often a presumption of the desirability of promoting competition in the upstream or downstream market. Particularly where regulatory policy is seeking to replace regulation with competition, granting competitive access on equal terms may be essential in preventing the existence of a bottleneck from thwarting the transition to deregulation. In the absence of a credible efficiency defense, this would suggest that for many industries undergoing deregulation, there would be a presumption of the desirability of a procompetitive access policy unless there is a "valid business reason" during the transition to deregulation.

However, the more interesting cases are in markets subject to comprehensive regulation, particularly where demands for competitive access would enforce or undermine prior "regulatory contracts" for recovery of sunk costs. In the latter case, there is likely to be a "plain repugnance" between granting access and the regulatory scheme or other public policy objectives. Returning to the example in Figure 2, suppose that the situation were as follows:

1. Firm A is currently a regulated firm and Firm B is a wholesale customer for which Firm A has a public service obligation to meet Firm B's "full requirements" upon demand at rates reflecting average embedded costs.
2. Firm A's acquisitions in the upstream market are governed by cost of service principles of economic regulation, including supervision of the prudency of its actions as agent on behalf of wholesale and retail customers.
3. Firm A is already acquiring the upstream resource from the most efficient source.

Under these assumptions, there is no role for granting forced competitive access to improve static efficiency, although there may be a substantial incentive under the regulatory rules for Firm B and its alternative upstream supplier, Firm C, to engage in expedient behavior. If the upstream market is already operating efficiently, granting competitive access can possibly reduce static efficiency (see below for examples). By definition in this example, the

77. *See* Tye, *Post-Merger Denials*, *supra* note 20.

best that can be hoped for from the granting of competitive access is that static economic efficiency will be unchanged. During periods of excess supply in the upstream market, Firm B and Firm C have an opportunity to engage in transactions at market prices that are below the regulated firm's embedded costs of service (based on past contracts and sunk costs). These deprive Firm A of net revenues, which are shifted to retail customers who are required to pay higher rates under the rules of cost of service regulation. Alternatively, when the market is tight and market prices are above Firm A's embedded cost of service, Firm B then will be motivated to throw its demand back on the regulated system and demand service at regulated prices (which are then lower than current market prices). Firm A must either maintain excess capacity to meet that contingency or acquire supplies on the open market—again burdening the other retail customers. In antitrust language, there would be in this case "plain repugnancy" between the regulatory scheme and the antitrust principles that would force access to the facility.[78] The regulatory scheme for recovery of sunk costs thus can be highly significant in evaluating whether a "valid business reason" exists.[79]

Suppose, on the other hand, that the roles of Firm A and Firm C were reversed, so that Firm C was the supplier that had sunk costs to meet Firm B's demand and had relied on regulation to assure open competitive access to Firm A's facility. Suppose that the industry was partially deregulated on the basis of the effectiveness of the competition between Firm A and Firm C. If Firm A took this opportunity to deny competitive access to Firm C or to establish a price of competitive access that would appropriate Firm C's sunk costs, the denial could be anticompetitive.

III. Issues Raised in Applying the Tests

Table 1 summarizes some of the major issues that have been raised in applying the test in various industries. Most of the differences among the industries appear to arise from disputes over what constitutes an anticompetitive consequence of a denial of access and what constitutes a "valid business reason," not the first two parts of the test. Rather than discuss these issues generically, they will be illustrated by reference to the railroad, electric utility, and natural gas markets.

78. *See* Almeda Mall, Inc. v. Houston Lighting & Power Co., 615 F.2d 343 (5th Cir.), *cert. denied,* 449 U.S. 870 (1980), where the "public interest" as embodied in the regulatory scheme must be the test of the unreasonableness of the alleged anticompetitive constraint. *See also MCI,* 708 F.2d at 1107, which refers to "close scrutiny of the regulatory scheme in question"; Mid-Texas Communications Systems v. AT&T Co., 615 F.2d 1372 (5th Cir.), *cert. denied,* 449 U.S. 912 (1980).

79. The Supreme Court in *Otter Tail,* 410 U.S. at 381 stated that a court must not be "impervious" to concerns that "compulsory interconnection or wheeling will erode [the] integrated system and threaten its ability to adequately serve the public." The Court, however, found the motivation of predation to be more supported by the record than legitimate concerns over "erosion."

Table 1

ISSUES OFTEN RAISED IN APPLYING THE STANDARDS

Test	Major Issues
1. Control by a monopolist	• Varies.
2. Inability practically to duplicate	• Barriers to entry? • Economies of scale? • Magnitude of sunk costs?
3. Denial with substantial harm to competition	• Part of a broader pattern of anticompetitive conduct? • Transactions costs and information costs that impede "voluntary negotiations" from working? • Substantial sunk and fixed costs that create incentives for "price squeezes" or (quasi-) "rent-seeking"? • Scope of regulatory scheme and consistency with that scheme? • Regulatory and antitrust rules on competitive access relied upon when costs were sunk? • Effects on efficiency, recovery of long-run costs, or incentives in long- and short-run? • Breakdowns in agent/principal relationship in acquiring the upstream resource?
4. Absence of a "valid business reason"	• Role of sunk costs and present or prior regulatory rules? • Regulatory or antitrust interest in diversions of net revenues among competitors? • Access made available only in discriminatory manner with adverse effects on other customers? • Effects on economic efficiency? • Responding to economically appropriate prices or to incentives for "gaming the rules" or "uneconomic bypass"? • Feasibility of substituting long-term contracts for regulation (e.g., enforceability, scale of the actors, size of transactions, information requirements, transaction costs, etc.) and need for access to encourage such substitution? • Ability to prevent "cherry picking" between regulated and free market prices? (Enforceability of renunciation of obligation to serve?) • Conflicts between regulatory and antitrust principles? (Cooperation versus competition?) • Regulatory approach toward abandonment of service or obligation to serve?

IV. APPLICATION OF THE STANDARD: RAILROADS

Table 2 summarizes the findings when the tests are applied to the rail industry. The competitive access issue in the rail industry has generated considerable literature, the results of which can only be summarized here.

Table 2

APPLICATION TO RAILROADS

Test	Facts in the Typical Situation
1. Control by a monopolist	• Lack of effective competition for certain market dominant traffic. • Need for competitive access for traffic interconnection among railroads.
2. Inability practically to duplicate	• Substantial sunk costs and barriers to entry.
3. Denial with substantial harm to competition	• Substantial transactions costs and information costs that prevent the "voluntary negotiations" model from working. • Substantial sunk and fixed costs by carriers denied competitive access that also make "price squeezes" profitable (incentives for "rent seeking"). • Widespread examples of denied competitive access without efficiency gain rationale. • Reliance on intramodal competition as a rationale for deregulation. • Permissive regulation of rates with no regulatory oversight of "prudence." • Foreclosures deny carriers seeking competitive access the revenues above variable costs necessary to recover total costs.
4. Absence of a "valid business reason"	• History of open competitive access and legislative commitment to intramodal competition. • No compelling rationale of efficiency gains or regulatory policy for denied access. • Permissive regulatory approach to abandonment of service.

A. Consistency with Deregulation Objectives

The easiest issue raised by the proposed tests of an essential facility addresses the potential conflict between regulation and competition. Strong procompetitive language on rail transportation policy is found in the Interstate Commerce Act[80] as amended by the Staggers Rail Act.[81] The clear policy of the Interstate Commerce Act with regard to rail transportation is to maximize and enhance competition and economic efficiency, and to preserve and promote the structure of a competitive marketplace for transportation services.[82]

B. The Static Efficiency Defense

These denials of competitive access were condoned by economists who urged regulators to avert their eyes from foreclosures of competitive access and to rely instead on "voluntary negotiations"[83] among the involved carriers,

80. 49 U.S.C. §§ 10,301-11,914 (1982 & Supp. III 1985).

81. 49 U.S.C. § 10,101 (1982).

82. *See* Tye, *Pricing Rail Competitive Access*, *supra* note 21.

83. For the exposition of the theory of voluntary negotiations, see the ICC's reasoning in the *Rulemaking on DT&I Conditions*, 366 I.C.C. 112 (1982); *Exemption From Regulation—Boxcar Traffic*, 367

even in a deregulated environment. Policy recommendations to open up competitive access in the rail industry (for example, via trackage rights after mergers to cure anticompetitive consequences) in an effort to make rail markets as competitive as possible were viewed as encouraging static inefficiency.[84]

The ostensible rationale for the opposition to open competitive access was that such policies would create an umbrella that would allow inefficient connecting carriers to attract business successfully. Competition on equal terms allegedly would be "wasteful" because there would be no assurance that the most static efficient firm would prevail in the struggle for a particular piece of business at prices that ensured each firm's viability. In the rail industry, for example, it was argued that any intervention by regulators to keep open competitive access in the circumstances of Figure 1 would have the unfortunate consequence of forcing open inefficient joint-line routes. Opponents of open competitive access, using arguments inspired by the Chicago School, argued that it was better to leave the whole situation to voluntary negotiations, which, it was argued, would be sure to guarantee static efficient routing.

Space precludes an exhaustive demonstration of the problems with the efficiency defense. Rail carriers in fact were engaging in widespread cancellations of competitive access regardless of efficiency concerns.[85] And the claimed inefficiencies of the proposed remedies to open up competitive access were shown to be incorrect.[86] The "voluntary negotiations" alternative, moreover, was shown to have serious drawbacks.[87]

I.C.C. 425, 444 (1983); *Exemption from Regulation—Boxcar Traffic*, 367 I.C.C. 747, 753-54 (1983). For support for the Commission's theory, see Verified Statement of William J. Baumol and Robert D. Willig before the ICC in *The Staggers Rail Act of 1980—Conference of Interested Parties, Ex Parte* No. 456 (Jan. 16, 1985); a similar statement by the Association of American Railroads in *Intramodel Rail Competition, Ex Parte* No. 445 (Sub-No. 1) (May 31, 1985); and Verified Statement of Robert D. Willig in *Pittsburg and Lake Erie Railroad v. Conrail*, Docket No. 39,176 (Sub-No. 1) (Mar. 5, 1984). For applications of these principles to post-merger reductions in rail competition and trackage rights, see Verified Statement of William J. Baumol before the ICC in *CSX Corporation—Control—American Commercial Lines, Inc.*, Finance Docket No. 30,300 (Nov. 4, 1983); *Santa Fe Southern Pacific Corporation—Control—Southern Pacific Transportation Company: Merger—the Atchison, Topeka and Santa Fe Railway Company and Southern Pacific Transportation Company*, Finance Docket No. 30,400 (Mar. 1984); Baumol, *Some Subtle Pricing Issues in Railroad Rate Regulation*, 10 INT'L J. TRANSPORT ECON. 341 (1983). *See also* H. McFarland, *The Economics of Vertical Restraints and the Relationship Between Connecting Railroads*, 23 LOGISTICS TRANSP. REV. 207 (1987); H. McFarland, Railroad Competitive Access: An Economic Analysis (Nov. 20, 1985) (U.S. Department of Justice Antitrust Division, Economic Analysis Group Discussion Paper No. EPO-85-14). For a proposal to apply the voluntary negotiations theory to the computer reservations systems of air carriers, see Baumol, The Apollo Reservation System and the Public Interest, before the CAB in *Comments of United Airlines, Inc.*, Docket No. 41,686 (Nov. 17, 1982).

84. The objections specific to the rail industry were in addition to the more general objections to the traditional antitrust law on vertical competitive relationships in unregulated industries. *See* E. Seiden, Chief, Antitrust Section, Antitrust Division, U.S. Department of Justice, Vertical Relationships in the Rail Industry: New Possibilities under Staggers 208—Outdated Restrictions under Clayton 10 (May 20, 1981). Indeed, this antagonism came close to a Supreme Court majority in Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2 (1984).

85. *See* Chesapeake and Ohio R.R. Co. v. United States, 704 F.2d 373 (7th Cir. 1983); Tye, *Post-Merger Denials, supra* note 20.

86. *See* Tye, *Pricing Rail Competitive Access, supra* note 21.

87. *See* Tye, *Preserving Post-Merger Rail Competition via the Parity Principle*, 26 TRANSP. J. 39 (1986);

C. *The Revenue-Adequacy Defense*

As the weakness of the case for voluntary negotiations on efficiency grounds in the rail industry was revealed, new bases emerged: (1) assertions that promotion of intramodal competition leads in effect to "destructive competition" for the rail industry and should be foreclosed by carriers controlling competitive access,[88] and (2) a belief that carriers with exclusive access should be encouraged to apply a "price squeeze" on the connecting carrier to capture all the net revenues regardless of which route is the most efficient.[89] Both of these amount to preferences for a particular distribution of net income in a deregulated market in the guise of revenue-adequacy concerns, rather than static efficiency considerations.

The weakness of this version of the revenue-adequacy argument in a regime of deregulation is rather obvious. The carrier controlling competitive access is improving its revenue adequacy only by foreclosing the connecting carrier's ability to compete, thus causing a deterioration in its revenue adequacy. The voluntary negotiations theory is in reality merely an argument that all the net revenues should go to the carrier willing to deny competitive access to foreclose competition. If the principal consideration is revenue adequacy in an industry where the majority of movements are joint-line, the problem must be addressed at the level of the industry, not through the self-interest of bottleneck firms in having the revenue-adequacy problem solved for themselves.[90] At this level, the fact that all carriers have a similar revenue-adequacy problem and substantial sunk costs is crucial. And making the revenue adequacy of incumbent firms the chief goal of regulators cannot be a recipe for a successful transition to deregulation.

V. APPLICATION OF THE STANDARD: ELECTRIC UTILITIES

Table 3 summarizes the situation commonly found in the electric utility industry. The potential for procompetitive policies depends on the level at which competition is to take place (generation, transmission, or distribution), the time horizon over which the potential for competition is to be assessed (static versus dynamic), and the regulatory environment (current versus a transition to deregulation).

Tye, *The Voluntary Negotiations Approach to Rail Competitive Access in the Transition to Deregulation*, 32 ANTITRUST BULL. (in the forthcoming Summer 1987 volume).

88. Verified Statement of William J. Baumol in Finance Docket No. 30,400, SFSP Merger Proceeding, Before the ICC, SFSP-48, (July 10, 1985).

89. Reply Verified Statement of William J. Baumol and Robert D. Willig, in *Ex Parte* No. 445 (Sub-No. 1), *Intramodal Rail Competition*, (July 8, 1985).

90. The revenue adequacy problem must be defined from the industry point of view, not from that of an individual firm. For proposals to deal with the issue of pricing in vertically related regulated firms where it is possible to make all firms revenue adequate, see McFarland, *Ramsey Pricing of Inputs with Downstream Monopoly Power and Regulation,* 20 J. OF TRANSPORT ECON. & POL. 81 (1986); Spencer & Brander, *Second Best Pricing of Publicly Produced Inputs,* 20 J. OF PUB. ECON. 113 (1983). More difficult issues must be addressed when all revenue constraints cannot be satisfied simultaneously.

Table 3

APPLICATION TO ELECTRIC UTILITIES

Test	Facts in the Typical Situation
1. Control by a monopolist	• Varies.
2. Inability practically to duplicate	• Varies.
3. Denial with substantial harm to competition	• Opportunities for competition to enhance static efficiency often limited. • Operation of integrated network often replaces competition; need for cooperation among suppliers for both short- and long-run planning. • System usually operated via voluntary cooperative engineering decisions to achieve static economic efficiency. • Because of regulation, prices for wholesale service and transmission access do not reflect relative cost advantages of suppliers. • Differential access to subsidies may give artificial indicators of relative efficiency advantages of competitors.
4. Absence of a "valid business reason"	• Regulation of prudent investment and system operation often replaces competition. • Substantial sunk costs to meet obligation to serve and provide reserves for service reliability. • The current regulatory environment may create incentives for gaming the regulatory rules in the short-run with adverse effects on other ratepayers and possible adverse effects on efficiency. • Incentives of customers to choose the "best of both worlds" (regulated or market prices) with adverse effects on other customers and supplier incentives in longer run. • Public service obligation to meet all demands in a nondiscriminatory manner. • No option to abandon service.

The potential for more competition is generally believed to be ranked by hierarchy in the vertical chain—from generation to transmission to distribution. But the potential for using procompetitive access policies in the existing regulatory environment to achieve static efficiency gains may be readily summarized: they range from little to counterproductive.

The departure of the case of electric utilities from the usual prescription in favor of procompetitive access to achieve static economic efficiency has its roots in system operations and regulatory policies. In many cases, the incentives for static efficiency inherent in competitve markets are already incorporated in the engineering and operational standards for system operation.[91]

91. One way to think of the operation of the electric utility transmission system is that, unlike the railroads, there is good information on the cost advantages and disadvantages of competitors (computed in real time by system engineers) and low transactions costs in consummating mutually beneficial transactions among alternative suppliers. Indeed, these are often done by computers in power pools.

Transmission access, or "wheeling,"[92] often is an accounting fiction that moves dollars around among customer groups with relatively little or no effect on system operation—except in those situations where static efficiency is degraded. "Free wheeling" access policies are, moreover, likely to be implemented in a highly discriminatory fashion, powered by strong incentives for (quasi-) "rent seeking" behavior[93] by wholesale customers.

To see why, we must review the existing regulatory and industry structure. After demonstrating the problems of pro-competitive access policies in this regime, we examine other possibilities.

A. Regulation and Industry Structure

Public policy currently relies on a combination of economic regulation, competition, and antitrust in the electric utility industry. At both the state and federal levels, the electric utility industry is presently the most highly regulated industry in America. Competition is also present in the electric utility industry but plays a far less significant role than in unregulated industries or in other regulated industries now undergoing a transition to deregulation (such as the transportation and natural gas industries).[94] The reasons are highly relevant to the issues in competitive access. First, the usual prerequisites for a highly competitive market are not universally present in the electric utility industry: large numbers of buyers and sellers, freedom of entry and exit, and

92. In electricity markets, transmission services are dubbed "wheeling," which is defined as "transfer by direct transmission or displacement electric power from one utility to another over the facilities of an intermediate utility." *Otter Tail*, 410 U.S. at 368. *See* Reiter, *Competition and Access to the Bottleneck: The Scope of Contract Carrier Regulation Under the Federal Power and Natural Gas Acts*, 18 LAND & WATER L. REV. 1 (1983). Tiano & Zimmer, *Wheeling for Cogeneration and Small Power Production Facilities*, 3 ENERGY L.J. 95 (1982).

93. "Rent-seeking" behavior is a term of art describing competition for "economic rent," which in turn is defined to be a windfall gain to a factor of production arising from receipt of income not necessary to assure continued commitment of the resource to a designated use. *See* NEOCLASSICAL POLITICAL ECONOMY: THE ANALYSIS OF RENT-SEEKING AND DUP ACTIVITIES (D. Colander ed. 1984). The pure case of economic rent would be the income derived by a land owner because of the location of the property. "Quasi-rent" is a term applied to the income accruing to a depreciating asset temporarily sunk to a particular use. Sunk costs by definition mean that the income is not necessary to assure continued employment of the resource in the designated use in the short run. When vertically related firms sink costs into specialized investments that are idiosyncratic to the relationship, the resulting quasi-rents are said to be "appropriable" by opportunistic behavior designed to change the income shares specified by the terms of the relationship. Contracts are usually signed in competitive markets prior to sinking costs to eliminate such incentives. It is too late for such contracts governing previous investments in an industry with substantial sunk costs undergoing a transition to deregulation. For discussion of the role of specialized sunk costs in creating short-term monopoly power to practice opportunistic behavior between vertically related firms, see Klein, Crawford & Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J. OF L. & ECON. 297 (1978).

94. Despite attempts by municipal and cooperative electrical systems to change the law, Congress has imposed severe restrictions on the FERC's power to impose transmission access to further competition in the electric utility industry. Indeed, section 211(c)(1) of the Public Utilities Regulatory Policies Act of 1978 (PURPA), 16 U.S.C.S. § 824(c)(1), states that "no [wheeling] order may be issued . . . unless the Commission determines that such order would reasonably preserve existing competitive relationships." Section 824(c)(4) provides that "no [wheeling] order may be issued . . . which provides for the transmission of electric energy directly to an ultimate consumer." *See* Fels & Heap, *Compulsory Wheeling of Electric Power to Industrial Customers*, 52 FORDHAM L. REV. 219 (1983).

so forth.[95] Indeed, this structural aspect of the electric utility industry is the reason for its strict regulation by both state and federal governments.

A second reason for the reliance on regulation rather than on competition is that customers and suppliers are interconnected in a transmission network that requires a substantial degree of engineering control to maintain reliability and efficient operations. This high degree of engineering control of the system has two major implications for the role of competition. First, suppliers often cooperate to employ "economic dispatch" of the system to achieve the goals of static economic efficiency normally attributed to competitive markets. Because the integrity of the network must be maintained, cooperation often replaces competition. As a consequence of this high degree of "interconnectedness," which is not present in unregulated industries, regulators have often encouraged alternative suppliers to coordinate their decisions (particularly large construction programs) rather than to engage in the kind of self-interested stand-alone competition found in unregulated industries. Indeed, certain behavior that might be characterized as "competitive" in other industries may not be true competition, but rather "gaming the system" at the expense of one's neighbors in the electric utility industry. Examples shown below demonstrate that self-serving behavior which might be labeled "competitive" in other industries can easily reduce the efficiency of an electric utility system operated as a service network.

Thus it is particularly dangerous to apply anticompetitive labels based on a naive assumption of an electric utility industry composed of free-standing rivals who go their own way oblivious of their interdependencies with neighboring systems. Rather, the competitive effects of any particular practice in the electric utility industry must be appraised in light of the special circumstances of each particular case.

B. Short-Run Consequences of Unrestricted Competitive Access Under Current Regulatory Rules

Attempts to achieve greater competition via opening up access to transmission lines[96] run into an immediate problem: it may be exceedingly difficult to show any static efficiency gains because the system is ordinarily operated using coordinated system engineering and operational decisions to achieve the efficiency goals normally attributed to competitive markets.

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95. *See* Pace & Landon, *supra* note 24, at 26-61; Joskow, *supra* note 63, for a skeptical view of the potential benefits of competition in the electric utility industry. Skeptics point to the fact that proponents of transmission access do not demonstrate widespread examples of utilities with control over transmission access using that control to deny access to more static efficient suppliers. By use of "split savings," power pooling, and other contractual relations among potential suppliers, utilities frequently shut back their own generating resources in preference to a lower cost unit owned by another utility.

96. For examples of proposals to open up electricity markets to greater competition, see Primeaux, *A Reexamination of the Monopoly Market Structure for Electric Utilities* and Weiss, *Antitrust in the Electric Power Industry* both in PROMOTING COMPETITION IN REGULATED MARKETS (A. Phillips ed. 1975); Cohen, *Efficiency and Competition in the Electric-Power Industry*, 88 YALE L.J. 1511 (1979); Meeks, *Concentration in the Electric Power Industry: The Impact of the Antitrust Policy*, 72 COLUM. L. REV. 64 (1972). *See also* ELECTRIC POWER: DEREGULATION AND THE PUBLIC INTEREST (J. Moorhouse ed. 1986).

The limits of applying concepts of open competitive access to the electric utility industry to achieve the results normally attributed to competition may be illustrated by examining the claims of plaintiffs in a recent antitrust proceeding.[97] It was claimed that there were no "valid business reasons" to refuse wheeling precisely because nothing whatsoever would change except cash payments:

> The transmission service requested by [plaintiffs] *would not change in any way the flow of power and energy on [defendant's] transmission network* or impose any greater load on [defendant's] facilities than continuing wholesale power sales by [defendant] to [plaintiff].
>
> * * *
>
> [W]e can conclude that [plaintiff's] requirements will actually be provided by the same resources, regardless of whether it purchases power from [defendant] or [other plaintiff]. The only difference will be in accounting for the differential costs from either supplier, which is *strictly an accounting and not an operating transaction*. The loading on the [defendant] transmission lines which serve [plaintiff] will thus not change under the . . . contract and thus there will be no adverse impact on the [defendant] system operation.
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> * * *
>
> Indeed, by virtue of these factors the mode by which [plaintiff's] capacity and energy will be delivered to [other plaintiff] will be no different that [sic] it is at this time. Only the after-the-fact paper accounting will change since all [defendant's] generating units are employed in the most economical fashion to meet the aggregate [defendant] load, including [plaintiffs].[98]

Plaintiffs allege that the electricity that is to be supplied to them under wheeling is exactly the same electricity that would have been supplied if the plaintiff providing retail service had signed defendant's wholesale contract. The only thing that changes is the "accounting fiction" that these electrons are generated from plaintiff's percent share in plants jointly owned with the defendant, not defendant's system resources.[99]

C. *Incentives for (Quasi-) "Rent Seeking" Behavior Under Current Regulatory Rules*

But if nothing really changes, what is all the fuss about? The answer is that while there may be no static efficiency gains, there may be substantial opportunities for "robbing Peter to pay Paul." More specifically in the electric utility industry, it is called "wheeling money, not electricity."[100]

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97. *See also* Casazza, *Understanding the Transmission Access and Wheeling Problem,* 116 PUB. UTIL. FORT., Oct. 31, 1985, at 35; Marshall, *Deregulation of Generation Would Be a Bust,* 109 PUB. UTIL. FORT., May 13, 1982, at 24; Pace & Landon, *supra* note 24, at 26-61.

98. Brief for Plaintiff, Farmers Elec. Coop. Corp. v. Arkansas Power and Light, No. LR-C-86-118 (E.D. Ark. filed Mar. 7, 1986).

99. Obviously, rivalry between alternative joint owners of a power plant to have their respective shares nominated as the "contractual path" for computing payments for generating capacity can never achieve static operating efficiency gains if the capacity utilization of the jointly owned plant is exactly the same in any case because it is run via dispatch procedures which are totally independent of ownership.

100. *See* Pace & Landon, *supra* note 24, at 29; Pfeffer, *Policies Governing Transmission Access and Pricing: The Wheeling Debate Revisited,* 116 PUB. UTIL. FORT., OCT. 31, 1985, at 26; Stalon, *supra* note 24; Joskow, Transmission Access and Competition, (Dec. 12, 1985) (prepared for the Future Utility Conference).

If plaintiffs gain from creating this accounting fiction of "wheeling" under such circumstances, who loses? Since there are no static efficiency gains, by definition winners imply losers by an equal amount in the short run in a regulated industry. *The gains to the plaintiffs therefore usually come right out of the hide of the remaining ratepayers.*

Demands for wheeling under such circumstances can make "gaming the system" into a new art form. The incentive to engage in such (quasi-) "rent-seeking" behavior arises because the possibility of access to a competitive market is offered differentially to a selected group of customers while applying traditional rate of return regulation to the remainder. The wholesale customer retains the right to be served at wholesale at average embedded costs of the fully integrated firm, and will threaten a "price squeeze" case if he is not, but wants the right to switch to the open market whenever current prices are depressed below the regulated firm's long-term contract levels in the upstream market.

Demands for competitive access under such circumstances fail to consider that in an industry subject to strict regulation such as the electric utility industry, regulated suppliers have the right to recover costs that are "prudently incurred." If wholesale customers have the unilateral right to demand wheeling whenever it serves their own interests, the entire system could be degraded by the accounting fiction of "wheeling" as wholesale customers with preferential access to transmission attempt to leave retail customers bearing the costs of capacity which the wholesale supplier was legally obliged to have available to meet its obligation to serve.[101] The result would not be real competition, but a true "zero sum" economy. Wholesale customers would be citing "competition" to force somebody else to bear the cost of providing an integrated electric system while preferentially claiming the discriminatory benefits of a competitive market for themselves.[102] If the defendant is not legally obliged to wheel under such circumstances, the refusal to do so on the terms demanded by plaintiffs is not simply a "valid business reason"—it is an obligatory responsibility for an enterprise operated in the public interest.

Indeed, while such demands for wheeling cannot increase static efficiency if that is already being accomplished by economic dispatch in the current regulatory regime, it is widely recognized that such demands do have the potential of actually decreasing static efficiency.[103] The Federal Energy Regulatory

101. If the resulting rate structure were proposed in a rate proceeding, it would undoubtedly be found to be highly discriminatory.

102. The allocation of quasi-rents (net revenues to amortize sunk costs incurred in the prior regulatory regime) can matter in competitive access policy, but this consideration does not always imply the same answer. Note the difference between the consequences of sunk costs from a prior regulatory regime for the rail and electric utility industries. The difference in treatment turns on the difference in the regulatory rules for competitive access (particularly the *status quo ante* transition to deregulation and competition) at the time of sinking the costs as well as the other factors discussed above. While consumers may have a stake in precluding competitive access being offered selectively to other customers for "rent seeking" behavior in the electric industry, they may have an opposite stake in assuring competitive access necessary for survival of competitors with sunk costs in a transition to deregulation in the rail industry.

103. *See* Pace & Landon, *supra* note 24, at 40-46; Joskow, *Transmission Access and Competition*, *supra* note 100, at 7-11. The potential for inefficiency arises because the customer is comparing a regulated price

Commission recognized in a recent Notice of Inquiry that the problem arises because prices in a regulated industry, unlike the theoretical model of perfect competition, do not necessarily reflect relative efficiency advantages and disadvantages of sellers.[104] In the hypothetical example offered by the commission, such decisions would cause wheeling to result in higher rates for other customers.[105]

D. Longer-Run Consequences of Unrestricted Competitive Access Under Current Regulatory Rules

Demands for free access to wheeling motivated only by the expediency of current low market prices for power fail to come to grips with the longer-run problems potentially raised by demands for wheeling; under the present circumstances, the owner of the transmission systems, other ratepayers, regulatory commissions, and the courts must guard against creating incentives for wholesale customers to "game" the regulatory structure by selectively choosing regulated prices from the integrated supplier or free market competition, whichever produces the more favorable outcome for their particular interest. Otherwise, wholesale customer plaintiffs in antitrust cases would be motivated to engage in a series of ploys designed to shift the cost of electric generation from themselves to other customers. During periods of excess capacity and low prices for electricity in the wholesale market, the strategy would be for plaintiffs to profess to rely on competition and demand wheeling under the essential facility doctrine.

Later, during a shortage of generating capacity when market prices exceeded the integrated suppliers' average price under regulation, they would throw their loads back onto the regulated system and demand "non-discrimi-

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with a competing offer, neither of which may reflect true incremental costs (one of the necessary conditions for free market transactions to lead to system economic efficiency). Regulated prices are usually based on system average cost and often employ accounting practices for cost recovery that depart significantly from prices that would be observed under the competitive ideal. The regulated price for both the wholesale service and the access to transmission may therefore not be designed to create appropriate signals for efficient choices. The net result is "uneconomic bypass," but the nonsustainability originates in the regulated pricing system, not technology and demand.

104. Notice of Inquiry, *Regulation of Electricity Sales for Resale and Transmission Service (Phase II)*, IV F.E.R.C. Stats. & Regs. ¶ 35,519, 50 Fed. Reg. 27,604 (1985).

105. *Id.* at 12, 14. 1 A. KAHN, ECONOMICS OF REGULATION 181 (1970), also notes that competition in other circumstances can result in inefficiency and certainly will result in price discrimination:

> Where, instead, the competition is between suppliers with essentially similar cost structures, *it is not necessarily true that the transfer of business from one supplier to the other contributes to greater efficiency;* in these circumstances, and particularly when there is some danger of distortion at the buying end, price discrimination may be unjustifiable.

Id. (emphasis added).

Kahn devotes an entire chapter of the ECONOMICS OF REGULATION (Vol. 1, Ch. 6) to analysis of the distorting effects of selective use of intramodal competition in regulated industries. In these circumstances, it is "not necessarily true" that selective introduction of competition enhances efficiency. In fact, where there is what Kahn calls "downstream competition at the buying end" (in this case, retail competition between the plaintiff and other retail suppliers), the result of the selectively offered "competition" will distort that competition by giving the plaintiff an artificial advantage over its competitors. *See also* Kahn Verified Statement before the ICC in *Coal Rate Guidelines—Nationwide, Ex Parte* No. 347 (Sub-No. 1) at 23 (Sept. 28, 1981).

natory service" at "rolled in" prices. Refusal to do so would provoke a "price squeeze" antitrust complaint.[106] Good public policy must prevent this effort of one special group to have the best of both possible worlds ("cherry picking" or "shopping around") always at the expense of other ratepayers.

Acceding to demands for unrestricted wheeling with no fundamental change in the regulatory system could create other bad incentives in the long run. Customers would have an incentive to change their status from retail to municipal system or cooperative for no reason other than to make themselves eligible for this gaming behavior and to avoid paying the cost of this behavior on the part of others. If large industrials, co-ops, and municipal systems were allowed to "play the market" in the short run, investor-owned utilities might well decide not to cross-subsidize these buyers in the long run by refusing to construct capacity to meet their needs (or may be unable to do so because of inability to raise rates high enough or refusals of regulatory commissions to approve new capacity additions to perpetuate the cross-subsidy). Incentives of suppliers of generation to hold adequate reserves could be eliminated or severely reduced.[107]

E. Potential for Competition

Opening up the present electric transmission system to demands for transmission access under the current regulatory regime offers little possibility for static efficiency gains, creates incentives for unproductive (quasi-) rent-seeking behavior, and can actually lead to static efficiency losses. The distinguishing features of the regulatory system that cause the problems in the electric utility industry are (1) comprehensive retail and wholesale rate regulation that does not necessarily give appropriate price signals found in more competitive markets, (2) the ability of the wholesale customer to enforce an obligation to serve at embedded average costs of service, and (3) engineering systems that achieve static efficiency goals via integrated system operation rather than reliance on uncoordinated market transactions.

Opening up competitive access generally in the electric utility industry to achieve dynamic efficiency gains makes sense only if it is part of overall fundamental changes in the regulatory system designed to achieve a transition to greater deregulation.[108] The objective must be to assure that the transition to competition will be efficiency enhancing by assuring that the perceived gains

106. There is a long history of disputes over "price squeezes" whereby municipal and cooperative electric systems have demanded wholesale service at rates that give them the benefit of "rolled in" regulated prices. Past interest in price squeeze cases has been almost eliminated as market prices fell below cost of service and interest has now turned to using the essential facility doctrine. It is not reasonable to impose an obligation to serve on the regulated firm while imposing no obligation to buy on the part of the wholesale customer if this asymmetry has adverse effects on other customers.

107. Critics often allege that integrated suppliers' incentives to provide generation at least cost would be heightened by giving customers competitive alternatives. This incentive must be tempered by the fact that suppliers may have no incentive to supply capacity at all without a long-term commitment from the buyer.

108. For a discussion of some proposals see J. Acton, Regulation, Efficiency and Competition in the Exchange of Electricity (1985) (Rand Corp.); P. JOSKOW & R. SCHMALENSEE, MARKETS FOR POWER: AN ANALYSIS OF ELECTRIC UTILITY DEREGULATION (1985).

from open access are simply not at the expense of other customers. If coupled with (1) an irreversible repudiation of any rights to demand service at embedded costs under regulation in the future (relief from a common carrier obligation to serve) and (2) sufficient notice to allow the amortization of prudently incurred sunk costs previously incurred by the integrated supplier to meet an imposed public service obligation to serve the wholesale customer, a regime of competition could possibly be more attractive to some wholesale customers than a continued regime of regulation. These caveats, however, force wholesale customers to enter, irreversibly, a highly uncertain future competitive environment for wholesale power where the cards are not face up as they are today.

VI. APPLICATION OF THE STANDARD: INTERSTATE NATURAL GAS PIPELINES

Table 4 identifies some of the competitive access issues commonly found in interstate natural gas transmission. Local distribution companies (LDCs) historically purchased their supplies of gas from interstate pipeline companies and pass these costs along, generally automatically and without markup, to their retail customers, using "purchased gas adjustment" (PGA) rate changes. LDCs were until recently ordinarily "full requirements" customers of the interstate pipeline, which acquired gas from wellhead suppliers or other pipelines at prices that were historically regulated for reasonableness and prudence by the Federal Energy Regulatory Commission (FERC). LDCs are often interconnected with only one interstate pipeline and often would find construction of alternative facilities very expensive or even prohibitive. They are also bound by long-term contracts that typically specify "demand charges"—fixed fees that charge for capacity made available but are independent of actual sales—and (until recently) "minimum bills" (or purchases).[109]

109. *See* Kalt, *Market Power and the Possibilities for Competition,* in DRAWING THE LINE ON NATURAL GAS REGULATION 89 (J. Kaltz & F. Schuller eds. 1987); Cramer, *The Structural Implications of a Minimum Bill Provision in the Transportation of Natural Gas in the United States,* 13 INT'L J. OF TRANSPORT ECON. 77 (1986).

Table 4

APPLICATION TO INTERSTATE NATURAL GAS PIPELINES

Test	Facts in the Typical Situation
1. Control by a monopolist	• Many wholesale customers have access to only one interstate gas transmission system and have sunk substantial costs which are specific to that supplier. They also have usually signed exclusive long-term service agreements.
2. Inability practically to duplicate	• This varies. Often construction of alternative systems is very expensive or even prohibitive.
3. Denial with substantial harm to competition	• The Natural Gas Policy Act of 1978 began a phased transition to deregulation of the wellhead price of gas and eliminated federal regulatory supervision of the prudence of gas acquisition by interstate pipelines. • Upstream competiton for wellhead gas encouraged by access of sellers to downstream customers; downstream customers dependent on competitive forces influencing gas acquisition. • Claims of substantial inefficiencies in wellhead gas markets arising from conflicts of interest and denial of access by pipelines.
4. Absence of a "valid business reason"	• FERC has no regulatory authority to order transportation (unbundling). • Competition is not "plainly repugnant" to the regulatory scheme. Indeed, Order 436 by FERC is designed to encourage but not compel unbundling of transportation and gas supply.

A commitment to deregulation of upstream well head gas markets was made in the Natural Gas Policy Act (NGPA) of 1978.[110] Phased deregulation of wellhead gas prices was accompanied by elimination of most regulatory supervision over the prices paid. This meant that downstream LDCs were dependent on interstate pipelines to act prudently in the increasingly competitive wellhead gas market in acquiring gas supplies on their behalf. The FERC itself had no authority to disallow PGA costs as "imprudent." With very little regulatory protection, the only alternative consumers often had (other than shifting business to competing fuels, which was available only to selected large customers) was the option of the LDC to acquire alternative supplies and transport them over the pipeline. However, the FERC did not have authority to compel the pipeline to offer transportation.

Without access to transportation, LDCs claimed that legislative efforts to deregulate wellhead prices were being frustrated. They claimed that interstate pipelines were not acting in the best interests of their wholesale customers but were actually motivated perversely to inflate purchased gas costs.[111] Particu-

110. The NGPA deregulated the price of a substantial part of total supply on January 1, 1985. *See* Ringleb, *The Natural Gas Regulatory Dilemma: A Market Solution, Another Complex Compromise, or the Status Quo?* 6 J. OF ENERGY L. & POL'Y 107 (1985).

111. *See* PUTNAM, HAYES & BARTLETT, INC., MANDATORY CONTRACT CARRIAGE: AN ESSENTIAL CONDITION FOR NATURAL GAS WELLHEAD COMPETITION AND LEAST CONSUMER COST (Sept. 1974);

larly distressing was the fact that pipelines were "shutting in" lower-cost gas and taking higher-cost gas under "take or pay" contracts, some of it owned by the pipeline itself. Meanwhile, the Special Marketing Program (SMP) made unbundled rates (i.e., transportation) available only to customers who had competing alternatives, usually fuel oil (which had decreased substantially in price).[112] Captive customers (the "core market") had generally been denied such opportunities. Indeed, they were being asked to pay the exceedingly high prices which the pipelines had contracted for in the form of "take or pay" contracts. Not only were these prices high, but the interstate pipelines had contracted for supplies that were vastly in excess of the ability of the market to absorb (creating the "gas bubble"). As the pipelines were "shutting in" lower-cost supplies, they were reducing the amount of low-price gas that was supposed to cross-subsidize the high-cost gas under the "rolled-in pricing" concept. The gas acquisition system was said to be rife with inefficiencies, abuses, and conflicts of interest. The only answer was "mandatory contract carriage," as forced unbundling was often called in gas transmission.[113]

The interstate gas pipelines responded that the cost savings to those benefiting from forced unbundling of transportation and gas supply would come at the expense of the "little guy" and offered other objections.[114] The pipelines claimed that they had incurred substantial oversupplies of gas under "take-or-pay contracts" and would be financially ruined if transportation were obligatory. Furthermore, they would still have a service obligation to the LDC which they would have to plan for in the future. They also maintained that the ability to deny transportation was needed in order to force gas suppliers to renegotiate take-or-pay contracts. Finally, they maintained that they would not have the capacity to meet all the demands for transportation that would ensue, and that they were already transporting gas voluntarily.

These issues were partly resolved from a regulatory point of view[115] in

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Pierce, *Reconsidering the Roles of Regulation and Competition in the Natural Gas Industry*, 97 HARV. L. REV. 345 (1983). According to critics, interstate pipelines had an incentive to inflate their costs of gas purchased from others so as to raise the price allowed by regulators to be paid to their own gas supply subsidiaries.

112. *See* Means & Angyal, *The Regulation and Future Role of Direct Producer Sales*, 5 ENERGY L.J. 1 (1984); Sawhill & Coda, *Responding to Competition—Regulators Trail the Gas Industry*, PUB. UTIL. FORT., Oct. 25, 1984, at 24; Paul & Rose, *Fuel Oil Use Surges as Firms Abandon Gas*, Wall St. J., Mar. 13, 1986, at 6, col. 1; *Oil-Price Drop Spurs Many Firms to Switch from Using Gas, Coal*, Wall St. J., Apr. 7, 1986, at 1, col. 5.

113. *See* Lambert & Gilfoyle, *Reforming Natural Gas Markets: The Antitrust Alternative*, PUB. UTIL. FORT., May 12, 1985, at 15; Lambert & Pedelty, *Mandatory Contract Carriage: The Changing Role of Pipelines in Competitive Natural Gas Markets*, PUB. UTIL. FORT., Feb. 7, 1985, at 1; Mogel & Gregg, *Appropriateness of Imposing Common Carrier Status on Interstate Natural Gas Pipelines*, 4 ENERGY L.J. 155 (1983).

114. For a sample, see Cambridge Energy Research Associates, Mandatory Carriage: Consequences for the Natural Gas Industry and for Consumers (Apr. 1984) (Cambridge, Mass.); Interstate Natural Gas Association of America, Natural Gas Carrier Status During the Current Transition: A Critique of Mandatory Contract Carriage (Jan. 1984) (Washington, D.C.); Erickson, *Operating Problems Under Mandatory Carriage*, 12 GAS ENERGY REV. 5 (1984); German & Roland, *The Case Against Mandatory Carriage*, PUB. UTIL. FORT., Sept. 5, 1985, at 37.

115. From an antitrust point of view, of course, the issues must still be resolved on a case-by-case basis. For a discussion of the issues, see State of Ill. v. Panhandle E. Pipeline Co., 603 F. Supp. 786 (C.D. Ill.

1985 when the D.C. Court of Appeals rejected the FERC's "special marketing programs."[116] In response, the FERC issued Order 436: Regulation of Natural Gas Pipelines After Parital Wellhead Decontrol.[117] This order stated that interstate pipelines could only offer nondiscriminatiory access to transportation, but could refuse to transport altogether; a reservation charge could be used for firm as opposed to interruptible transportation; and take-or-pay settlements were to be treated on a case-by-case approach. Although an extremely complex order, the overall purpose is clear: to give all customers access to current market energy prices via access to the pipeline itself, thus placing significant pressure on pipelines to renegotiate downward price levels of contract gas to current market levels.

Despite claims by the interstate pipeline companies that requirements to transport would exacerbate the take-or-pay problem and bring ruin to the industry, the transition has not been as rocky as projected.[118] Take-or-pay contracts have been settled on average for twelve cents on the dollar.[119] These low values suggest that many of the take-or-pay contracts involved substantial costs that could be avoided by contract renegotiation. These avoidable costs represent substantial efficiency gains to be realized by exerting competitive pressures to renegotiate such contracts. Most pipelines are eventually expected to offer nondiscriminatory transportation, and some are presently seeking the FERC approval of specific plans. The industry appears to be adjusting to the new, more competitive regime.[120]

VII. CONCLUSION

Application of the essential facility concept usually involves most of the issues involved in a monopolization claim—defining relevant markets, measuring monopoly power, and identifying any "willful acquistion or maintenance of that power"—while sharpening the disputes that commonly arise in any claim of vertical foreclosure.[121] Resolution of these ultimately depends on decisions about the proper role of efficiency concerns and the allocation of net revenues among competitiors and customers in antitrust analysis.

Distinctions over efficiency concerns emerged in the industries considered

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1985). *See also* Woods Exploration & Prod. Co. v. Aluminum Co. of Am., 438 F.2d 1286, 1308 (5th Cir. 1971), *cert. denied*, 404 U.S. 1047 (1972); Bouknight, *Antitrust Issues Arising from Vertical Integration in the Natural Gas Industry*, 52 ANTITRUST L.J. 271 (1983).

116. Maryland People's Counsel v. FERC, 761 F.2d 768, 777-78 (D.C. Cir. 1985). For a demonstration that the SMP program did not benefit the captive customer, see testimony of William W. Hogan before the FERC, Notice of Inquiry, *Impact of Special Marketing Programs on Natural Gas Companies and Consumers*, IV F.E.R.C. Stats. & Regs. ¶ 35,513, 49 Fed. Reg. 3193 (1984).

117. Order 436, *supra* note 19. Orders 436-A and 436-B made numerous revisions to the original order. *See* Associated Gas Distributors v. FERC, 824 F.2d 981 (D.C. Cir. 1987).

118. Sander, *Gas Pipeline Industry May Be Facing Shakeout as More Companies Become Common Carriers*, Wall St. J., Apr. 16, 1986, at 63, col. 1.

119. ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, AN ANALYSIS OF FEDERAL ENERGY REGULATORY COMMISSION (FERC) ORDER 436 (1986).

120. Bayless, *Natural Gas Industry is Learning Marketing*, Wall St. J., July 17, 1986, at 6, col. 1.

121. Note that the second test above substitutes for usual procedures of defining the relevant market and testing for the existence of monopoly power, while the third test determines whether there has been a foreclosure of competition upstream or downstream as a result of leveraging the market power.

above based on (1) location (upstream, essential facility, downstream) and (2) time (static versus dynamic). Static efficiency concerns arise because of fear that the regulated firm might use its control over competitive access to deny entry to more efficient entrants. Conversely, either regulated prices or "sustainability" concerns might enable a less static efficient entrant to divert business away from the incumbent (the "uneconomic bypass" problem). Long-run dynamic concerns over efficiency arise because of the belief that the active competition among incumbents stimulates innovation and cost-consciousness, or conversely that provision of wrong price signals may subsidize entry of inefficient competitors or encourage "cherry picking" behavior as buyers choose the best of regulation or competition as market conditions dictate.

Even apart from equity concerns, the distribution of net revenues among vertically related competitors may not be a matter of indifference to the preservation and promotion of competition as claimed by the Chicago School. Competitors controlling market access may use the presence of sunk costs incurred by nonintegrated competitors under prior regulatory rules to employ a price squeeze that would appropriate for themselves the net revenues needed by competitors to amortize those sunk costs.[122] Applying the price squeeze as the preferred alternative to a vertical foreclosure in the Chicago School doctrine may preclude the competitor from recovering its total costs, an expectation necessary for competition to prevail in the longer run. Thus the need to consider (1) whether demands for competitive access would enforce or undermine prior regulatory contracts[123] for recovery of sunk costs, and (2) the implications of the allocation of quasi-rents for recovery of sunk costs[124] in the new competitive equilibrium must be considered along with (3) static and longer-run efficiency in any assessment of anticompetitive consequences.

Additional issues that arise from applying these concepts to regulated industries relate to (4) obstacles to applying the perfect price squeeze said by the permissive approach to be the answer to anticompetitive consequences of vertical foreclosures, (5) obstacles to the replacement of regulation with long-run contracts to protect the interests of buyers and sellers, and (6) using the rules on competitive access to "game the rules" of regulation. These concerns all arise because of the existence of substantial sunk costs incurred in a prior

122. Conversely, if access were previously made available under regulation, the repeal of these regulatory enforced agreements via deregulation would create incentives for "opportunistic behavior" (or (quas-) "rent seeking") because regulation had supplanted the contracts that would have otherwise deterred such behavior.

123. For a discussion of regulation as a surrogate for such contracts, see Goldberg, *Regulation and Administered Contracts,* 7 BELL J. OF ECON. 426 (1976).

124. Even when a firm controlling an essential facility could use denial of access or a price squeeze to appropriate an unintegrated competitor's sunk costs and make it impossible for that firm to amortize sunk costs, it has been argued that recovery of such costs is not required for static efficiency in the short run. Whether the practice is considered anticompetitive would depend on whether this were true, whether the price squeeze is considered anticompetitive even if efficient, and on longer-run dynamic efficiency issues (the difficulty of reestablishing competition after the squeezed competitor is denied the revenues necessary to survive).

or present regime of regulation and the interaction of antitrust with regulatory institutions.

This article has presented a framework for analysis while giving only indications of the directions of possible conclusions in typical situations for a few of the industries where these issues have been raised. Because these issues have not been addressed in a comprehensive way in previous litigation, it is likely that the recommended methodology will require revision as experience accumulates from its use. Consistent with a true "rule of reason," determination of liability, computation of damages, and recommended relief ultimately depend on the facts to be interpreted within the recommended approach.