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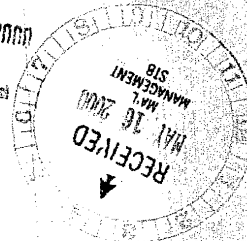
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May 16, 2000

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The Honorable Vernon A. Williams
Secretary, Surface Transportation Board
Case Control Branch
1925 K Street, N.W.
Washington, DC 20423-0001

Re: **STB Ex Parte No. 582 (Sub-No. 1), Major Rail
Consolidation Procedures**

Dear Secretary Williams:

Enclosed for filing in the above-referenced docket are an original and twenty-five copies of the Comments of the Committee to Improve American Coal Transportation. Also enclosed is a 3.5-inch diskette, formatted for WordPerfect 7.0, containing the pleading.

Thank you for your assistance.

Sincerely,

Eric Von Salzen
Attorney for the Committee to
Improve American Coal Transportation

MIT/npr

Enclosures

cc: All Parties of Record To Be Served

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Ex Parte No. 582 (Sub-No. 1)

MAJOR RAIL CONSOLIDATION PROCEDURES

**COMMENTS OF
THE COMMITTEE TO IMPROVE
AMERICAN COAL TRANSPORTATION**

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SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 582 (Sub-No. 1)

MAJOR RAIL CONSOLIDATION PROCEDURES

COMMENTS OF
THE COMMITTEE TO IMPROVE
AMERICAN COAL TRANSPORTATION

Pursuant to the Board's March 31, 2000 Advance Notice of Rulemaking, these Comments are being submitted by the Committee To Improve American Coal Transportation ("IMPACT"). ¹

SUMMARY OF COMMENTS

By any objective reckoning, the regulatory reforms that were accomplished by the Staggers Act 20 years ago must be regarded as a well-conceived, but as yet incomplete, endeavor. The Staggers Act "end game" is underway, and what the Board does to adjust its merger policies to the new realities of the railroad industry and the customers of that industry will determine whether the reforms of two decades ago will achieve ultimate success or failure.

If the Board adheres to its current policies on mergers among Class I railroads, then well before the 30th anniversary of the Staggers Act, the North

^{1/} IMPACT is an ad hoc group of energy companies that operate coal-fired electricity generation assets. The members of IMPACT are listed, with information about each of them, in Appendix A.

American rail industry will consist of two massive transcontinental railroads. An unprecedented rail duopoly would dictate rates and service terms for enormous regional, national, and even international traffic flows, and effective competition among railroads will be impossible. The public would demand that the industry be reregulated to prevent abuse of market power. A regulated duopoly is not the result that the Staggers Act intended.

But that result is not – at least, not yet – inevitable. If the Board adjusts its merger policies to preserve and enhance competition within the rail industry, then the marketplace will be, as the Staggers Act intended, the primary regulator of the railroad industry.

In these Comments, IMPACT explains, first, why the Board should adopt, now, a pro-competitive merger policy. In summary, we explain that the essential benefits of competition, in the form of market-driven low rates and quality service to shippers, cannot be realized in the duopoly setting of a nationwide (or North America-wide) two railroad system. Accordingly, we urge the Board to adopt policies to ensure that the slide to railroad duopoly be ended, and that as contemplated under the Board's statutory mandate, vigorous rail competition be preserved and enhanced.

Second, IMPACT proposes several specific changes in the Board's merger policies to make them pro-competitive; in Appendix B, we suggest the language of new regulations to accomplish these changes. Specifically, we propose that: (1) any future rail mergers be accompanied by concrete and enforceable

service assurances; (2) Board review of any merger application should take into account all downstream effects, and the application itself should be required to address the competitive and public interest implications of such effects; (3) there should be a three-year "cooling off" period between Class I rail mergers; (4) the Board's rules should be amended to establish an exemption for new rail line construction; (5) 3-to-2 reductions in rail competition should be presumed to have an anticompetitive effect, and the Board should assess proposed rail mergers in light of the merger guidelines adopted by the Department of Justice and the Federal Trade Commission (appropriately modified to address any particular circumstances of the railroad industry); (6) the "one lump" theory should be abandoned as an established economic principle, and merger applicants should be required to prove the applicability of the theory as a matter of fact if they seek to rely upon it; (7) divestiture should be employed as a primary remedy in curing competitive harm identified in a proposed rail merger; and (8) merger conditions should be employed in appropriate circumstances to enhance competition, not just to preserve it.

Attached to these Comments are Statements by two experts in transportation economics that support and explain IMPACT's recommendations. Michael A. Nelson is a transportation consultant who has testified numerous times before the Board and the Interstate Commerce Commission over the last 15 years. William B. Tye is an economist who has also appeared frequently before the Board and the ICC. Together they bring a wealth of knowledge, expertise, and analysis to bear on this important subject.

**A. THE OBJECTIVE OF CHANGES IN STB MERGER POLICIES:
ENHANCED INTRAMODAL COMPETITION
IN THE RAILROAD INDUSTRY**

As the Board observed in its March 31, 2000 Advance Notice of Proposed Rulemaking, the railroad industry has changed dramatically in the 20 years since the enactment of the Staggers Act. Twenty years ago, the railroad industry was financially weak, it was saddled with a huge burden of excess capacity, many of its assets were antiquated, and the rail network was Balkanized. Periodic bankruptcies were a normal fact of life for many railroads.

Today, the U.S. railroad industry is dominated by four huge systems, two controlling the East, and two controlling the West. Billions of dollars in acquisition premiums were paid by these railroads to obtain their dominant positions.

And it is not over. If the Board had not taken timely action to impose a temporary moratorium on major rail mergers, proceedings on the merger of the Burlington Northern and Santa Fe Railway ("BNSF") and the Canadian National Railway ("CN") would be underway today – and planning for responsive mergers among the other three U.S. (and one Canadian) rail megasystems would undoubtedly already have started.

If the Board does not modify the merger policies and procedures that created the current situation, the giant rail systems will continue compulsively buying each other up, as they have been doing for the last two decades. In this game of musical chairs, no railroad dares risk being left standing alone when the music stops. If this goes on, it is inevitable that within a few years the North

American Class I railroads will have merged their way down to no more than two mammoth rail systems, i.e., a continent-wide "duopoly".

This "end game" would betray the promise of the Staggers Act. That promise was described as follows by the Board's predecessor in its opinion disapproving the proposed merger of the Atchison, Topeka & Santa Fe Railway ("SF") and Southern Pacific Railroad ("SP") (the last major rail merger the ICC disapproved):

The Staggers Act was intended to modernize "economic regulation of the railroad industry with greater reliance on the marketplace." . . . [T]he primary theme of the 15 elements of the Rail Transportation Policy (added by the Staggers Act) is that we "ensure the development and continuation of a sound rail transportation system with effective competition among rail carriers and with other modes"

Santa Fe Southern Pacific Corp. - Control - Southern Pacific Transportation Co., 2 I.C.C. 2d 709, 722 (1986) ("SF/SP") (quoting Norfolk Southern Corp. - Control - Norfolk & Western Ry., 366 I.C.C. 171, 190 (1982) (emphasis added)).

The Staggers Act emphasizes "the importance of the relationship between ensuring adequacy of transportation and retention of competition", and it mandates that the ICC and now the Board:

- "allow * * * competition and the demand for services to establish reasonable [rail] rates",
- "ensure effective competition . . . between rail carriers",
- "minimize the need for Federal regulatory control over the rail transportation system" and

- "avoid undue concentrations of market power".

Id. (emphasis added).

Competition requires competitors, and if the railroad industry is allowed to merge down to two monolithic rail systems, "undue concentration of market power" will destroy any hope for "effective competition * * * between rail carriers"; there will be no alternative to increased "Federal regulatory control over the rail transportation system". Id.

The railroads argue that they always face "intermodal" competition, principally from trucks, so rail monopolies should be of little concern. But certainly for large, long-distance, and continuing shipments of coal to electric generating plants, there is no meaningful "intermodal" alternative. Operators of coal-fired electric generation plants, like the members of IMPACT, must receive coal by rail. ^{2/}

The railroads also argue that two railroads are enough to ensure adequate "intramodal" competition. This contention is refuted by the analyses described in the attached statements of Dr. Tye and Mr. Nelson. Both of these experts have many years of experience in dealing with competition issues affecting the railroad industry, and they have testified frequently before the Board and its

^{2/} There are, of course, occasional exceptions to the need for rail transportation of coal, such as a power plant located at the mouth of a coal mine. In addition, some plants receive their coal by barge. As Mr. Nelson points out in his attached statement, these factors generally do not protect plants that use western coal. Because western coal fields are not located close to navigable waterways, even if the

predecessor. Mr. Nelson shows that with two railroads now controlling western coal transportation, the Union Pacific Railroad ("UP") and BNSF, competition is not as vigorous as it was when there was a third western rail carrier, SP. If continuing rail mergers are allowed to expand that "duopoly" to the entire United States -- indeed, to the entire North American continent -- as is now in prospect, intramodal competition will be reduced even further; as Dr. Tye explains, two railroads with a continent-wide rail duopoly are likely to compete even less vigorously than they do with a duopoly in a particular market.

It would not be enough for the Board to adopt merger policies that merely arrest the slide to duopoly and preserve the status quo. As a result of mergers approved by the Board and the ICC over the past two decades, the existing structure of the Class I railroad industry is already too concentrated. Mergers have already brought the railroad industry to the point that very small numbers of railroads exercise market power over major regional and national commodity flows, to the detriment of shippers and the economy as a whole. Few railroad-dependent shippers are served by more than two independent Class I railroads, and many are served by only one.

The Board should seek to foster enhanced intramodal competition in the railroad industry and to increase the number of markets in which at least three railroads compete. Specific proposals toward that end are discussed below.

power plant is, coal must be transported very long distances by rail from the coal fields to the waterway.

**B. SPECIFIC PROPOSALS TO ACHIEVE
ENHANCEMENT OF INTRAMODAL RAIL COMPETITION**

IMPACT proposes that the Board adopt the following changes to its merger regulations to foster intramodal rail competition.

1. Service Assurances.

The proponents of every major rail merger have promised increased efficiency and better service for customers. In approving every major rail merger proposed since 1986, the Board and its predecessor made findings that such merger benefits would be realized. Yet service disruptions, ranging from significant to "meltdown" have followed most recent major rail mergers, notwithstanding the predictions of efficiencies and better service.

Moreover, even after service has been restored to a normal level, customers may continue to bear the costs of the service disruption for years to come. The experiences of IMPACT members illustrate the consequences of the severe service disruptions that resulted from the western rail mergers of the 1990's.

Edison Mission Energy Still Bears the Costs of Service Disruptions Caused by the UP/CNW and UP/SP Mergers

The merger of UP with the Chicago & North Western Railroad ("CNW"), which was approved by the ICC in 1995, resulted in severe degradation of the rail service received by Edison Mission Energy's predecessor, Commonwealth Edison. The UP/CNW experience is particularly significant to the issues that the Board is now considering, because (1) it was largely an "end-to-end" merger - which merger proponents claim is least likely to have adverse effects on the public interest; (2) there had been substantial coordination and cooperation between CNW

and UP before the merger; and (3) it was a much smaller-scale transaction than the transcontinental mergers that are expected if the Board makes no changes in its merger policies. If service disruptions could occur in the implementation of the UP/CNW merger – as they did – there is no merger of Class I railroads that the Board can be sure will be implemented without service disruptions.

Following only a year later, the UP/SP merger (approved by the Board in 1996) ^{3/}compounded the service problems that Commonwealth Edison was already suffering as a result of the UP/CNW merger. UP assured its customers and the ICC/Board that it would absorb CNW and shortly thereafter SP while maintaining service levels, but the result instead was universally recognized as a service “meltdown”.

As a result of UP's back-to-back CNW and SP mergers, the cycle times for Commonwealth Edison's fleet of rail cars fell to 60% of contract-guaranteed levels. It took almost a year for service even to begin to show significant improvement. Commonwealth Edison had to invest in additional rail cars to assure delivery of adequate quantities of coal to meet its obligations to provide electricity to its customers. As a result, Midwest Generation today operates 10-12 excess trainsets, each consisting of approximately 120 railcars; each trainset represents an investment of \$6.0 million, plus an obligation to incur substantial storage and

^{3/} Union Pacific Corp. – Control and Merger – Southern Pacific Rail Corp., Decision No. 44, FD No. 32760 (STB, Served Aug. 12, 1996) (hereinafter cited as “UP/SP”).

maintenance costs. Thus, even though UP has finally restored its service levels, Midwest Generation continues to bear \$60-72 million of extra capital costs (and attendant storage and operating expenses) as a result of the service disruptions caused by the rail mergers of the '90's.

Disruption of Rail Service Caused Severe Injury to Arkansas Electric Cooperative

Arkansas Electric Cooperative ("AECC") depends on UP/SP for the delivery of Powder River Basin coal to its three coal-fired plants in Arkansas. For at least 18 months, until around the first of this year, the railroad could not deliver enough coal to these power plants for them to be dispatched normally. The level of service provided was far below the standard set forth in the governing rail service contract. This service disruption reduced the reliability of AECC's electrical system, required that AECC incur additional costs to purchase power and energy from other generators, and required it to use additional personnel to develop alternative plans to keep the lights on in Arkansas.

In the summer of 1998, the situation became so critical that AECC had to bring coal into one of its plants by barge, where it was transferred to trucks for delivery to the coal pile. As described in more detail by Mr. Nelson, this allowed some of the rail-transported coal to be diverted to another plant, in order to keep AECC's two largest plants from running out of coal completely. When the Board approved the UP/SP merger in the name of increased efficiency and intermodal competition, the Board presumably did not have in mind forcing electric power generators to rely on emergency barge/truck transportation of coal.

* * *

The UP/SP "meltdown" was not a fluke. The other major rail mergers of the 1990's also led to serious service problems. As the experience of Commonwealth Edison shows, there were substantial service disruptions in connection with the UP/CNW merger; the BN/SF merger went smoothly only in comparison to the UP/SP merger that followed, and recently the take-over of Conrail by Norfolk Southern Railway ("NS") and CSX Transportation, Inc. ("CSX") has caused severe disruptions, despite all the planning and all the promises to prevent "another UP/SP".

Experience teaches that any major rail merger is likely to be accompanied by significant service problems, despite the familiar assurances to the contrary from the applicants. Class I railroads are large, complex organizations, and they function as part of an even more complex network, that includes other large railroads, shortlines and regional carriers, customers (which often supply equipment to carry their loads), other transportation modes, and so forth. As the railroads grow larger and larger through mergers, while downsizing supposedly excess facilities and personnel, integration becomes more and more difficult. Apparently, even the managements of what were formerly regarded as well-run railroads failed to appreciate how complicated these enterprises are. ^{4/}

^{4/} The service breakdowns raise a serious question whether the big railroads may not already be "too big" in the economic sense -- that is, that difficulties in management and control may make them less efficient than they would be if they were smaller.

IMPACT member Edison Mission/Midwest Generation made this point in Comments filed in the first phase of Ex Parte No. 582. In this second phase, IMPACT is recommending to the Board that it modify its merger rules so that it can take a much harder look at service issues in future mergers. The Board should require merger applicants, as a condition of merger approval, to provide specific and enforceable assurances against service disruptions. These assurances should include damage recovery and financial penalties to compensate customers if the merger results in service disruptions. They should also include back-up plans to allow independent carriers to provide service (including the right to operate over lines of the merged system, and the right to override paper barriers that restrict otherwise-accessible shortlines). Such replacement service should be available when a merged carrier is unable to restore its normal service within a short period of time, and should not require lengthy administrative proceedings, such as were used to address the UP/SP service meltdown.

2. Downstream Effects.

As IMPACT member Edison Mission/Midwest Generation said in the first phase of Ex Parte No. 582, the Board should follow through on its commitment to jettison the "one case at a time" approach embodied in its current merger regulations. That approach led to the approval of the BNSF merger, on the ground that it left the West with three major railroads, even though it was no secret that the creation of BNSF made it inevitable that UP would acquire SP, thus creating a duopoly in the West. Such disregard of the consequences of rail mergers can no

longer be tolerated. In the future, if the Board is reviewing (say) the proposed merger of BNSF and CN, it should not approve that merger without considering whether it would trigger responsive mergers by the other four major U.S. and Canadian railroads (as it certainly would).

The Board should also recognize the dynamic nature of transportation economics by considering, with respect to each proposed merger, not only its effect on current competition and service, but also the extent to which it may interfere with future improvements in competition and service. As discussed below, and in the statements of Dr. Tye and Mr. Nelson, there is inadequate intramodal competition in many markets today, so the Board's policies should not merely seek to preserve what rail competition now exists, it should foster enhanced competition.

Consider, for example, rail service for coal from the Powder River Basin, which is so vital to the members of IMPACT and others. Although a merger of BNSF with CN would not reduce the number of rail carriers currently serving the Powder River Basin, it would as a practical matter foreclose possible ways through which a third rail carrier might be introduced into that market, because it would eliminate the former Illinois Central Railroad ("IC") (now a member of the CN family as a consequence of a 1998 merger) as a "friendly" east-end connection for the third carrier. A merger by UP with the Canadian Pacific Railroad and/or one of the eastern carriers, which would be an almost certain response to approval of a BNSF/CN merger, would likely eliminate other potential friendly connections.

The Board's institutional knowledge and expertise about the railroad industry makes it uniquely capable of evaluating the downstream effects of rail consolidations. Its merger policies should focus that expertise on these sometimes subtle issues.

3. A "Cooling Off" Period Between Mergers.

One modification of the Board's merger regulations that would reduce the risks of both service disruptions and downstream merger effects would be to require a reasonable "cooling off" period between major rail mergers, as proposed by IMPACT member Edison Mission/Midwest Generation in the first phase of Ex Parte No. 582. The Board should adopt new regulations under which it may refuse to consider any merger application involving Class I railroads that is filed within 36 months after the implementation of a previous merger of Class I's. ⁵

A requirement for a pause in merger activity would address merger-related service problems by providing a breathing spell for rail customers, as well as for the railroad industry itself, to adjust to the new service and competitive realities created by one merger before having to address the next merger proposal.

⁵ IMPACT supports the Board's temporary merger moratorium while it considers adopting new merger policies, but urges the Board to go beyond this to adopt a permanent rule that would apply to all future mergers between Class I railroads. Although BNSF and CN, along with some unlikely allies, are challenging the Board's authority to impose a moratorium on a single proposed merger, the Board clearly has the rulemaking authority, as well as the inherent power to control its own docket, to adopt the general rule proposed by IMPACT (note that the proposed rule would allow the Board to grant exceptions if it found that a "cooling off" period between mergers was not necessary in a particular case).

This proposal would address the downstream merger effects problem in two ways. First, the Board would be in a better position to evaluate the competitive impact of the second merger, because the competitive relationships created by the first merger would at least have begun to emerge, and thus the Board would have a new baseline for evaluating the second merger.

Second, the regulation could allow other railroads to avoid the three-year cooling off period by filing "responsive" merger applications as part of the proceedings on the initial merger. Thus, the Board would not have to speculate about what the downstream effects of the merger might be; it would actually be able to consider the downstream responsive merger proposals, as well as the initial merger proposal that triggered them, in the same proceeding.

Of course, there may be circumstances in which a pause between mergers is not necessary. Therefore, the new regulations should allow merger applicants to seek a waiver from the Board that would allow them to file their application within the 36-month period. However, unless the Board were convinced that a new merger could be effected without injury to the public, the pause would be required.

4. Encouraging Construction of New Rail Facilities.

As discussed throughout these Comments, as well as in the statements of Dr. Tye and Mr. Nelson, the Board's policies should encourage enhanced intramodal competition, not merely the preservation of the existing, inadequate level of competition. Often, the best way to enhance competition is through the

construction of a new rail line. A new line, whether a "build out" or "build in", may make it possible for a rail-dependent customer that is "captive" to one railroad to obtain service from a competing railroad. The Board has recently structured its merger conditions to treat potential build-in and build-out opportunities as "2-to-1" points. ^{6/}

IMPACT applauds the Board's actions, but we urge that the Board expand the build-in/build-out remedy to "3-to-2" situations as well.

Moreover, going beyond the question of merger conditions, we also urge the Board to grant a general class exemption for the construction of new rail lines to encourage this pro-competitive activity. Under existing law, there is no specific exemption applicable to a proposal to construct a new rail line, as there is, for example, for a proposed grant of trackage rights. A railroad, shipper, or other party that wants to construct a new rail line must either submit to the Board an application for approval, or must petition the Board to exempt the particular transaction from Board approval.

Although having to file a request for exemption does not impose an insuperable burden, the absence of a specific exemption for new line construction implies (rightly or wrongly) a negative attitude by the Board toward such

^{6/} For example, earlier this year, in Decision No. 88 in the UP/SP merger proceeding, the Board held that the "2-to-1" conditions imposed on that merger preserved Entergy's option to obtain competitive rail service by constructing a build-out at its White Bluff plant. Union Pacific Corp. - Control and Merger - Southern Pacific Rail Corp., STB Finance Docket No. 32760 ("UP/SP") (served Mar. 21, 2000).

construction. Moreover, the current procedures provide an opportunity for a railroad that opposes new competition to delay that competition and further entrench its dominance of the market. ^{7/} Because of the uncertainty as to how the Board would treat an exemption request, most major line construction proposals in the past have been submitted through a formal application.

To encourage the construction of new rail lines, which can improve service and enhance competition, the Board should amend its rules to exempt all new rail construction projects (opponents of an exempt line construction transaction would be permitted to file a petition to revoke, but the petition would not stay the effectiveness of the exemption). In addition, environmental review, which is typically required for major line construction proposals under current regulations, should be expedited.

5. 3 to 2 Issues.

In approving the UP/SP merger and the NS/CSX acquisition of Conrail, the Board embraced a view that the existence of two railroads in a market – or even in a large portion of the United States – was enough to provide adequate intramodal competition, so the reduction in the number of rail competitors in a market from 3 to 2 was no cause for concern and did not require a remedy through competition-restoring conditions. That view has led the rail industry to evolve into a duo of

^{7/} In the recent Entergy build-out case, Entergy filed a petition for exemption to build an 8.6 mile line on July 30, 1999. Opposition by the incumbent monopolist, UP, delayed the conditional grant of exemption until May 4, 2000. Entergy

duopolies, one in the east and another in the west, and it makes it virtually certain that the industry will move to a continental duopoly unless the Board changes its current merger policies.

It is not widely enough recognized that the Board's decisions in the UP/SP and Conrail mergers represented a break with past precedent on the 3-to-2 issue. Before UP/SP, the Board's predecessor followed a pragmatic, common-sense approach, in which it observed that there may be less to be concerned about when a merger caused a 3-to-2 reduction in intramodal competition than when the reduction was 2-to-1, but it did not regard a 2-to-1 situation as necessarily benign. In its decision on the SF/SP merger, the ICC said that "the mere reduction rather than elimination of competitors, e.g., from three to two, may create serious anticompetitive problems" SF/SP, 2 I.C.C.2d at 792. In Burlington Northern Inc. - Control and Merger - Santa Fe Pacific Corp., ICC Finance Docket No. 32549 (served Aug. 23, 1995), the ICC explained:

We examine several criteria in assessing whether markets served by the merging parties will suffer competitive harm. * * * Where most or all of the firms in the market have sufficient capacity to serve a significant amount of total market sales, and there is no significant disadvantage in obtaining these sales, the analysis considers the number of competitors rather than their market shares. *The determination of competitive harm is more evident where the possible routing options on a rail-bound*

Arkansas - Construction and Operation Exemption - White Bluff to Pine Bluff AR, STB Finance Docket No. 33782 (served May 4, 2000).

commodity drop from two originating or terminating railroads to one.

1995 WL 528184, *46 (emphasis added). Although competitive harm might not be as "evident" in a 3-to-2 market as in a 2-to-1 market, if harm were found to exist in a particular market, BN/SF held that this would be a proper subject for a remedy through imposition of appropriate conditions. Id. at *79. 8/

Even if, after the merger, two or more competitors continue to exist, the ICC felt that there might still be cause for concern about intramodal competition. See Union Pacific Corp. - Control - Chicago & North Western Transp. Co., ICC Finance Docket No. 32133 (served Mar. 7, 1995). In that case, prior to the control application, three railroads (BN, CNW, and the Soo Line Railroad ("Soo")) provided joint line service north of the Kansas City gateway and four railroads (UP, Santa Fe, SP and the Kansas City Southern Railway ("KCS")) provided joint line service south from Kansas City. The ICC imposed conditions in response to Soo's concern that, because of the terms of certain Soo/CNW joint facility agreements, UP would have the power to block any attempt by Soo to interchange with any of the railroads running south of Kansas City to provide "seamless" transportation service in competition with UP/CNW in the Upper Midwest-South Central corridor. 1995 WL 141757, *22. The conditions were imposed notwithstanding the fact that Soo

8/ In the UP/MKT case, the Board granted trackage rights over the merged systems' "North End" to prevent a 3-to-2 reduction in rail competition. Union Pacific Corp. - Control - Missouri-Kansas-Texas R.R., 4 I.C.C.2d 409, 452-53 (1988) ("UP/MKT"). Such rights had earlier been awarded to MKT for the same reason in the Union Pacific - Control - Missouri Pacific; Western Pacific, 366 I.C.C. 459, 567 (1982).

was not the only independent railroad operating at the north end of the corridor and that its Kansas City line was not the only independent line over which traffic in that corridor could be transported. Id. at *81.

In UP/SP, however, the Board moved from saying that competitive harm is "more evident" in 2-to-1 markets than in 3-to-2 markets, to suggesting that markets that include two railroads are competitive enough.

The Board rejected concerns that the merger of UP and SP, following the merger of BN and SF, "will create a rail transportation duopoly in the West, leading to tacit collusion and higher price * * * ." 1996 WL 467636, *91. The Board observed that "Experience with rail mergers since 1980 indicates that carriers have not colluded in two-railroad markets." Id. The Board devoted a detailed Appendix to refuting claims that the two railroads in the West following the UP/SP and BN/SF mergers would be likely to collude rather than compete. 9/

The Board should reconsider its willingness to tolerate "3 to 2" reductions in the number of rail carriers serving particular markets. Experience shows how the loss of a third carrier can significantly degrade a rail-dependent shipper's competitive position.

In their accompanying statements, Mr. Nelson and Dr. Tye explain why three competitors generally compete more vigorously than do two. Dr. Tye

9/ Appendix E: Duopoly Issues, 1996 WL 467636, *217-22.

cites several economic studies that show how important a third competitor is to ensuring the vigor of competition.

Experience in the western coal transportation market confirms these observations. Mr. Nelson shows that the reduction in the number of major western rail carriers from three to two as a result of the UP/SP merger eliminated the competition in the coal markets that SP provided before the merger. Before the merger, SP was vigorously promoting Colorado/Utah coal movements to eastern markets that also receive Powder River Basin coal originated by UP and BNSF. After the UP/SP merger, and contrary to the Board's stated expectations, growth in Colorado/Utah coal shipments stagnated and shipments to eastern markets declined. When the UP "meltdown" occurred, Colorado/Utah coal movements rather than Powder River Basin movements were deliberately sacrificed in management's resource deployment decisions.

IMPACT's members can attest to this loss of competition from their own experience. Before the UP/SP merger, Midwest Generation's predecessor, Commonwealth Edison, was able to obtain Utah/Nevada coal from SP, as an alternative to Powder River Basin coal originated by BNSF and UP; this limited to some degree the market power that UP and BNSF exercised over Commonwealth Edison. The UP/SP merger eliminated SP as a possible competitor of UP, and therefore enhanced the market power of both UP and BNSF.

The comparable experience of IMPACT member UtiliCorp United is discussed in Mr. Nelson's statement.

Expanding the duopoly, as the next round of mergers threatens, will make things worse. Dr. Tye points out that in the current railroad market structure, although two railroads dominate many markets, there are some markets where each railroad faces competition from a third railroad. This fact lessens the incentives for the duopolists to embrace a "live and let live" approach toward each other. If two railroads come to dominate a large region of the entire continent (as they are poised to do), there will be no meaningful third railroad competition anywhere.

Expanding the geographic reach of the duopoly will also eliminate the constraint of potential competition from a new entrant. Mr. Nelson points out that if the two western railroads that control Powder River Basin coal merged with eastern and/or Canadian carriers, the latter would no longer be "friendly connections" for a potential new entrant into the Powder River Basin market, and this would likely make such third-carrier entry impossible.

The prospect looms that in the very near future, shippers throughout the United States and Canada will face a rail network comprised of two huge transcontinental railroads, and in such a world shippers' competitive choices will be few indeed.

The Board should be reluctant to approve any merger that would reduce the number of independent rail competitors serving rail-dependent customers. At a minimum, Board merger policy should put the burden on the proponents of a merger to show specific reasons why a reduction of the number of

railroads in a particular market will not have anticompetitive effects; general references to intermodal, product, or geographic competition should not suffice. In addition, as discussed by Dr. Tye, the Board should assess proposed mergers in light of the merger guidelines developed by the Department of Justice and the Federal Trade Commission, appropriately modified to address any particular considerations that may apply to the rail industry. As Mr. Nelson points out, one of the shortcomings of the current rail merger analysis process has been the failure to account for losses of source competition and shipper leverage that have been caused by past mergers, and this must become an even more significant problem as rail industry concentration increases.

6. The "One Lump" Theory.

Receivers of rail shipments of coal have a particular interest in the abandonment of the Board's unquestioning reliance on the "one lump" theory. This theory holds that if one railroad has a monopoly over any portion of a route, it can extract its full "monopoly profit" for the entire movement, so the customer will be no worse off if a merger increases the railroad's monopoly to cover more or all of the route. The Board has frequently used this theory as a rationale for denying competitive relief to utilities in merger cases.

The accompanying statement of Dr. Tye shows that the "one lump" theory fails to take account of important competitive realities. IMPACT urges the Board to abandon its reliance on this theory as an irrefutable economic principle and consider, instead, the ways in which vertical integration may produce

competitive harm for shippers in the specific circumstances of each merger. Merger proponents who advocate the applicability of the "one lump" theory should be required to prove its relevance and application in fact.

7. Divestiture of Rail Lines as a Primary Remedy for Competitive Harm.

In its notice initiating the present rulemaking, the Board suggested a number of possible remedies for competitive problems created by major rail mergers, such as the creation of "shared assets areas", open gateways, terminal switching, and bottleneck relief. These mechanisms are all worthy of consideration as remedies for anticompetitive effects of particular rail mergers, but the Board has excluded from its list the one remedy that needs to be there: Divestiture.

In normal antitrust practice, outside the railroad industry, if a merger will cause an unacceptable reduction in competition in certain markets, it is common for the antitrust agencies to require that the merging companies divest some of their assets in order to preserve competition in those markets. Board and ICC practice, however, has not favored divestiture, but instead has relied on lesser remedies, especially granting a supposedly-independent railroad the right to move traffic over certain lines of the merged railroad (for example, through trackage rights or haulage rights) in order to restore lost competition.

Trackage or haulage rights, however, have many shortcomings, and may not effectively replace the competition that is lost as a result of the merger. As Mr. Nelson points out in his statement, trackage rights compensation is often set in a way that precludes replication of the competition that existed prior to the merger. Furthermore, such trackage rights are often limited in scope, for example as to

types of traffic that can be handled, or points that can be served. As a result, the grantee of the trackage rights is necessarily a less effective competitor than was the railroad that owned the line before it was merged with its competitor.

In imposing conditions on a merger of competitors, the Board's objective should be to replace all the competition that the merger takes away. If the lost competition was provided by a railroad that owned its own lines, then that competition can best be replaced by an independent railroad that owns those lines.

IMPACT therefore recommends that the Board make greater use of divestiture of rail lines to an independent railroad as a remedy for anticompetitive merger effects, with trackage or haulage rights over the rail lines granted to the merged carrier if appropriate.

Whenever trackage or haulage rights are granted in connection with a merger, whether to the merged carrier over lines divested to an independent railroad, or to an independent railroad over lines of the merged carrier, they should be structured to ensure that the recipient of the rights is able to compete effectively with the line owner. This means that full service rights are to be preferred to overhead or other limited rights, and compensation should be set at a level that will encourage effective competition.

8. Merger Conditions To Enhance Competition.

The practice of the Board and its predecessor has generally not been to disapprove a merger that it finds to be anticompetitive, but rather to approve it subject to "conditions" that are supposed to "cure" the competitive problems. This

approach has fostered the increasing concentration of ownership in the railroad industry.

Moreover, for several reasons, the conditions imposed by the Board and ICC have not redressed all the competitive injuries caused by rail mergers. The Board has insisted that conditions be imposed only to address specific, narrowly-defined competitive problem created by the proposed merger. The Board has also tended to scrutinize very strictly shippers' claims of competitive injury from proposed mergers, and to grant relief only when injury is most obvious; thus, more subtle competitive problems, and injuries to customers or industries that are not able to participate effectively in Board proceedings, tend to be overlooked.

In his attached statement, Mr. Nelson points out that, as the rail industry has become more concentrated, it has fallen more and more to rail customer groups to propose merger remedies, whereas a decade ago this role was played by other railroads. Such groups quite naturally focus on the interests of their own particular industry or membership. Small or unorganized customers or other interests may not have the resources or specialized knowledge needed to make or support a case before the Board in support of conditions.

Because the Board has tended to impose the most narrowly tailored merger conditions possible to remedy whatever competitive problems are found to exist, it is almost inevitable that more competition has been lost than has been restored through conditions.

IMPACT recommends that the Board reverse its presumptions with respect to conditions. If a proposed rail merger will materially increase concentration in a market (e.g., if it would reduce the number of competing railroads in a market), then the burden of proof should rest on the merger applicants to establish that all competitive harm from the merger can be eliminated through appropriate conditions. Where there is doubt about how extensive conditions need to be to remedy threatened competitive harm, the Board should err on the side of greater protection of competition, rather than less. This would include a Board decision to deny the merger application where competitive considerations so warrant.

Furthermore, the Board should abandon its practice of refusing to consider imposing reasonable conditions on a merger to improve competition. So long as the conditions are not so extensive or intrusive as to vitiate the benefits of the merger to the applicants, there is no reason why the Board should eschew conditions to improve competition.

The railroad industry is already too concentrated. If a merger would enhance the prospective profits of the merged carrier (if it was not expected to do so, it would not be proposed), there is no reason why a portion of that private benefit of the merger should not be converted into an additional public benefit by conditioning the merger in a way that will enhance rail competition.

In the past, the Board has declined to impose competition-enhancing conditions on the ground that to do so would impair the benefits that the merging

railroads would obtain from the merger. While the rail industry was financially weak, this made sense. But the industry is no longer weak. Although rail stock prices are depressed, because of the anticipation of reregulation, the specter of bankruptcy does not loom as it did in the 1970's.

Moreover, imposing conditions to enhance competition is not as radical a departure as the railroads would claim. Look, for example, at the recent Conrail acquisition. The Shared Assets Areas that were created in that case make it possible for two competing rail carriers to serve customers who previously faced a Conrail monopoly. Of course, this was not a merger condition imposed by the Board to enhance competition, but was developed by NS and CSX as a means to accomplish the difficult task of dividing up the Conrail system between them. Nevertheless, it shows that it is possible, in the context of a merger, to find ways to enhance competition. If the Board required that railroads seeking approval for a merger come up with ways of enhancing competition, is there any reason to think that they would show less creativity than NS and CSX did in finding a solution to the problem of divvying up Conrail?

In the same case the Board imposed a condition, at the request of New York State and New York City, that allowed an independent rail carrier to establish limited service east of the Hudson River, in competition with CSX. 10/ The rationale for this condition was that it replaced competition that had been lost in

10/ CSX Corp. - Control and Operating Leases/Agreements - Conrail, Inc.,
STB Finance Docket No. 33388, slip op. at 177 (served July 23, 1998).

the rail crisis that led to the creation of Conrail. The effect of the condition was to remedy a competitive problem that had been created in a previous transaction and to add intramodal competition to a market that had not enjoyed it for more than a quarter century.

The Board should not hesitate in the future to use its conditioning power judiciously to move the rail industry toward effective intramodal competition.

CONCLUSION

For the reasons set forth above and in the accompanying statements of Mr. Nelson and Dr. Tye, IMPACT urges the Board to adopt the measures (set forth in draft regulation form in Appendix B) it recommends to promote competition in the railroad industry.

Respectfully submitted,



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May 16, 2000

APPENDIX A -- MEMBERS OF IMPACT

APPENDIX A

Members of IMPACT

Arkansas Electric Cooperative Corporation

Arkansas Electric Cooperative Corporation, a generation and transmission cooperative with 1,916 megawatts of generation capacity, is the power supplier for 16 of Arkansas' electric cooperatives, which serve approximately 400,000 homes, farms, businesses, and industries located in each of the 75 counties in Arkansas. In partnership with investor-owned companies and municipal systems AECC has constructed three low-sulphur coal-fired generation plants, at White Bluff, Independence, and Flint Creek. AECC's share of these plants totals 1,408 megawatts.

AECC's ownership share of the three coal-fired plants uses about 5 million tons of Powder River Basin coal annually. This coal is transported to the plants by rail, a distance of up to 1,400 miles. AECC provides about 1,000 rotary dump cars for the movement of this coal.

Edison Mission Energy and Midwest Generation LLC

Edison Mission Energy is one of the largest and most successful global power producers, with projects in Australia, Indonesia, Italy, New Zealand, the Philippines, Spain, Thailand, Turkey, and the United Kingdom, as well as the United States.

Midwest Generation acquired the fossil-fuel-fired generating assets of Commonwealth Edison Company in 1999 and owns seven generating stations and four combustion turbine sites in northern Illinois. These facilities have a total generating capacity of 9,510 megawatts of electricity, and under a Power Purchase Agreement with Commonwealth Edison Company they serve approximately 3,500,000 customers. Midwest Generation also supplies electricity into the regional grid and thence into service areas as far away as the East Coast. Midwest Generation employs nearly 1,800 people in Illinois and Pennsylvania.

Midwest Generation burns coal in many of its generating stations and is heavily dependent on reliable rail transportation to move this coal from the point of production to the point of use. Six of its seven Illinois generating stations use coal that is delivered by rail 1,100 miles from the Wyoming Powder River Basin.

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(PRB). Midwest Generation receives some 15 million tons of PRB coal each year, most originated by Union Pacific and the remainder by Burlington Northern Santa Fe. To carry this coal, Midwest Generation leases an active fleet of 4,031 rail cars.

UtiliCorp United

Based in Kansas City, MO, UtiliCorp United is an international energy and services company with about 4 million customers. It operates in the United States, Canada, the United Kingdom, Spain, Germany, Norway, New Zealand, and Australia. At March 31, 2000, UtiliCorp had \$7.5 billion in assets and 12-month sales of \$19.6 billion.

UtiliCorp has a strong national presence as a provider of competitive and innovative energy solutions. For 1999, it was ranked the second-largest wholesale marketer of electricity in the U.S., and the third-largest marketer of natural gas. UtiliCorp serves electric and gas utility customers in Missouri, Kansas, Iowa, Nebraska, Colorado, Michigan, and Minnesota. It markets natural gas and electricity to industrial and wholesale customers in nearly all the contiguous 48 states.

APPENDIX B

PROPOSED NEW REGULATIONS ON MERGERS

§ 1150.36 Exempt construction of connecting track and other track. [Revised]

[Revise to include within the class exemption construction of a new rail line by a carrier or noncarrier, with provision that filing of a petition to revoke the exemption would not stay its effectiveness. If the new line would connect with or cross a rail line owned by another railroad and such railroad has not given permission for the connection or crossing, application for such connection or crossing would be made to the Board.]

* * *

§ 1180.1 General policy statement for merger or control of at least two Class I railroads.

* * *

(c) *Public Interest Considerations.* [No Change]

(1) *Potential Benefits.* [No Change]

(2) *Potential Harm.* [Revised] There are several potential results from consolidations which would ill serve the public; these include: reduction of competition, harm to essential services, disruption to railroad services provided by the consolidating carriers and/or other carriers, and elimination of rail capacity. In

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analyzing potential reduction of competition, we will be guided by the policies embodied in the antitrust laws and the merger guidelines developed by the Department of Justice and the Federal Trade Commission, which policies and guidelines, however, may have to be modified in the context of the railroad industry.

(i) *Reduction of competition.* [No change in the first two sentences. The balance of this subsection is revised.] In light of the substantial reduction that has already occurred in the number of Class I railroads, there is a substantial likelihood that the reduction in the number of competitors serving a market would be harmful to competition and contrary to the public interest. The Board's competitive analysis depends on the relevant market(s) and considers both intramodal competition (between railroads) and (in markets where it is relevant) intermodal competition (between railroads and motor and/or water carriers). The Board recognizes that motor and water transportation are not an effective substitute for rail transportation in many markets (including bulk commodities and long-haul movements), and in these markets the Board's focus will be on preserving effective intramodal competition. In other markets, where motor and/or water transportation plays a larger role, the Board recognizes that preservation of intramodal competition may be less essential; however, even in such markets, the differing service and cost characteristics of rail transportation compared to motor and water transportation may make the preservation of intramodal competition

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important. The Board recognizes that vigorous intramodal competition requires the presence of at least three independent Class I railroads in markets involving rail-dependent commodities. Therefore, the Board will presume that a proposed consolidation would cause harm to competition if it would reduce the number of independent Class I railroads in such a market to fewer than three, or if it would expand the size of a market in which there are fewer than three independent Class I railroads. Proponents of a proposed consolidation may rebut this presumption with substantial evidence. A reduction in intramodal competition will not be excused merely because one participant in the proposed consolidation already possesses a monopoly over a portion of a route.

(ii) *Harm to essential service.* [No Change.]

(iii) [New.] *Disruption of railroad services.* Experience shows that mergers of Class I railroads can result in severe service disruptions that cause substantial financial injury to rail customers and other railroads, as well as to the consolidated carrier itself. Even if such service disruptions are temporary, the resulting financial losses may, on a present value basis, significantly reduce or even eliminate the net public and private benefits of the consolidation. Class I railroads are large and complex enterprises, and even their own managements may not appreciate the challenges involved in combining the operations of two formerly independent carriers. Accordingly, in evaluating proposed consolidations of Class I

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railroads, the Board will consider the potential for service disruptions as a negative factor in its public interest calculus. Applicants shall provide detailed descriptions of enforceable assurances to existing customers that service will not be disrupted as a result of the consolidation. Applicants shall also provide specific contingency plans for providing service to customers in the event of service disruptions, such as agreements with other carriers to provide substitute service using (if necessary) facilities of the consolidated carrier.

(iv) [New.] *Elimination of rail capacity.* At one time, the railroad industry was plagued by excess capacity, and mergers could generate efficiencies and other public benefits by eliminating excess capacity. Today, however, the excess capacity problem has been largely eliminated, and in some places has been replaced by an inadequate capacity problem. Some of the service disruptions caused by mergers may have been due, in part, to reducing capacity in places where excess capacity did not exist. To some extent, duplicative facilities may be necessary to allow the railroad network to cope with unanticipated surges in traffic, reroutings caused by natural or manmade disruptions elsewhere, and other real world situations. Therefore, where the proponents of any proposed rail consolidation claim that it will increase efficiency by eliminating excess capacity, the Board will expect the proponents to demonstrate that the rail facilities can be eliminated without having a negative effect on service.

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(d) *Conditions*

(1) [No change to first sentence.] The proper purpose of such conditions is not to protect competitors, but to protect the public interest, in particular the public interest in vigorous intramodal competition. The Board will impose conditions on a consolidation to protect or enhance competition where the condition: (i) is shown to be related to the impact of the consolidation; (ii) is designed to enable shippers to receive adequate or competitive service; (iii) is not shown by the applicants to be likely to cause unreasonable operating problems for the consolidated carrier; and (iv) is not shown by the applicants to be likely to interfere with the public benefits of the consolidation. The Board may impose conditions on a consolidation even though their effect will be not only to restore competition to the pre-consolidation level, but also to enhance the pre-consolidation level of competition. Where the Board finds that a consolidation would reduce intramodal competition in a market, the preferred remedy is to require that one or more lines be divested to an independent rail carrier. If divestiture is not practical in a particular situation, the Board will consider lesser remedies, such as trackage rights, haulage rights, switching rights, open gateway requirements, or other means of providing intramodal competition. [No change in the last two sentences.]

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* * *

(g) *Cumulative impacts and crossover effects.* [Revised] The Board recognizes that a major transaction, if approved and implemented, may trigger yet another round of major transactions, as other railroads seek to position themselves and their customers to meet the competitive effects of the first transaction. Deferring consideration of cumulative impacts and crossover effects to the later proceedings may impede the Board's ability to assess fully the impacts of the first transaction and to structure effective remedies for competitive and other problems that may be identified. Therefore, in reviewing each major transaction the Board will consider cumulative impacts and crossover effects of any subsequent major transaction that are likely to be triggered by the pending transaction. Applicants and other interested persons may submit, and the Board will consider, evidence respecting the cumulative impacts and crossover effects that are likely to occur in the wake of a proposed transaction. Similarly, parties may address, and the Board will consider, the effect of the proposed transaction and any likely subsequent transactions, that would produce further significant consolidation in the industry, upon the statutory goals embodied in 49 U.S.C. 10101, with particular attention to those aimed at fostering sound and competitive economic conditions in the U.S. railroad industry.

APPENDIX B
PROPOSED NEW REGULATIONS ON MERGERS

* * *

(i) *Timing requirements for applications to approve major transactions.*

[New] It is significantly more difficult for the Board to assess the effect on the public interest of each proposed major transaction if two or more applications are filed in rapid succession. Therefore, on and after January 1, 2000, the Board will not accept for filing any application for approval of a major transaction (other than a responsive application) unless the prefiling notification was filed at least 36 months after the implementation of the most recent major transaction approved by the Board. The Board may waive this limitation if it finds that the earlier filing of a particular application would not materially interfere with the Board's ability to assess the effect of the transaction on the public interest.

* * *

§ 1180.7 Market analyses

Impact analyses (Exhibit 12). {No change}

(a) [Add at the end of existing text.] Applicants shall specifically identify all markets in which the transaction would reduce the number of Class I railroads to fewer than three, and all markets with three or fewer Class I railroads that the transaction would expand. If applicants contend that in such markets the transaction would not substantially reduce intramodal competition, or that conditions proposed by applicants would relieve such reduction, applicants shall

APPENDIX B
PROPOSED NEW REGULATIONS ON MERGERS

support such contentions with analyses and data in accordance with the requirements of this section.

* * *

§ 1180.8 Operational data

(a) [No change through subsection (5)]

(6) [New] *Service commitments.* For major transactions: A detailed description of the applicants' proposals to assure that service to each existing customer will not be significantly impaired or disrupted as a result of the implementation of the consolidation. Such proposals should include effective enforcement provisions, such as damage recovery and penalties for nonperformance, contract reopening, etc., and provisions for providing alternative service if the consolidated carrier is unable to do, such as authorization for other carriers to provide service using facilities of the consolidated carrier, etc. In lieu of the detailed description required by this subsection with respect to any customer, applicants may provide a statement signed by the customer stating that the customer has entered into a service assurance agreement with the applicant(s) and is satisfied with the protections afforded by the agreement.

STATEMENT OF MICHAEL A. NELSON

**STATEMENT
OF
MICHAEL A. NELSON**

1. Qualifications

My name is Michael A. Nelson. I am an independent transportation systems analyst with over 18 years experience advising clients on rail transportation issues. My office is in North Adams, Massachusetts. Prior to February 1984, I was a Senior Research Associate at Charles River Associates, an economic consulting firm in Boston, Massachusetts.

I have directed or participated in numerous consulting assignments and research projects in the general field of transportation. My work typically involves developing and applying methodologies based on operations research, microeconomics, statistics and/or econometrics to solve specialized analytical problems. For example:

- I recently performed a detailed analysis of rail transportation options for two major coal-fired generating stations on behalf of a major electric cooperative.
- I provided testimony before this Board regarding my analysis of the proposal of the Dakota, Minnesota & Eastern Railroad (DM&E) to construct a third rail access to the Powder River Basin (Finance Docket No. 33407).
- I also provided testimony before this Board regarding the appropriate definition of Amtrak's "express" service (Finance Docket No. 33469).
- I assisted Canadian Pacific in assessing the diversion impacts, competitive issues and potential remedial conditions associated with the proposed division of Conrail between NS and CSX (Finance Docket No. 33388).
- I advised the Moffat Tunnel Commission (Colorado) regarding factors affecting future rail use of that tunnel.

- I provided testimony regarding competitive and/or statistical issues in six railroad merger proceedings before the Interstate Commerce Commission, including control of C&NW by Union Pacific (Finance Docket No. 32133), the acquisition by Rio Grande Industries of portions of the CM&W and Soo Line railroads (Finance Docket Nos. 31522 and 31505, respectively), the consolidation of Southern Pacific with DRGW (Finance Docket No. 32000), the acquisition of MKT by Union Pacific (Finance Docket No. 30800), and extensive testimony regarding the anticompetitive effects of the proposed merger of Southern Pacific and Santa Fe (Finance Docket No. 30400).

I have also provided extensive testimony regarding methods for analyzing the cost structure of the U.S. Postal Service in four dockets before the Postal Rate Commission. In addition, I have assisted in the preparation of numerous other verified statements presented before various regulatory and legal bodies, and authored many technical reports and articles in transportation journals.

I received my bachelor's degree from the Massachusetts Institute of Technology in 1977. In 1978, I received two master's degrees from MIT, one in Civil Engineering (Transportation Systems) and one from the Alfred P. Sloan School of Management, with concentrations in economics, operations research, transportation systems analysis and public sector management. My curriculum vitae is attached as Exhibit A.

2. Subjects Covered in This Statement

I have been asked by the Committee to Improve American Coal Transportation (IMPACT) to analyze various issues related to competition in rail transportation of coal, with a particular focus on western coal. In this statement I specifically discuss the following:

- The national duopoly that already exists in the supply of western coal, and its consequences for utilities and power producers;
- Evidence that the creation of this duopoly has caused identifiable competitive harm in coal transportation markets;

- Changes in the market for coal transportation that would necessitate a review of competitive issues even if the Board had not convened this proceeding;
- Changes in the electricity generation market and their relationship to rail competition;
- The lack of support for the two-railroad "precedent", and the need for the Board to foster and support competition by 3 or more railroads wherever such competition is commercially viable;
- The weaknesses of the processes used to identify and the steps taken to remediate competitive problems in past mergers; and,
- Specific actions that should be taken by the Board in light of these considerations.

Each of these is discussed below.

3. **Utilities and power producers are already being forced to live with a national duopoly in the supply of western coal. This duopoly produces highly tangible problems for shippers in comparison with a more competitive environment.**

The experience of rail-dependent shippers is that aggressive competition between UP and BNSF occurs in only very limited circumstances. My studies and analyses of western coal transportation lead me to conclude that most plants do not have the benefit of direct, head-to-head rail competition.¹¹

As a result, intermodal (rail-barge, rail-vessel, rail-truck and other combinations) options would have to be developed for a plant served directly by one rail carrier to obtain competitive transportation service for western coal from another rail carrier. While such intermodal options may look good on a map, they generally entail significant transloading costs and a need for suitable transloading facilities. Barge options may encounter seasonal and draft limitations on navigable waterways, and the unit costs of truck options are generally very high. As a result,

¹¹ This is corroborated by such published data sources as Fieldston's Coal Transportation Manual.

the serving rail carrier is often able to command a cost-based rate premium over the next-best alternative available to the shipper.

In a duopoly, the shipper's situation at a given plant is made worse in two important ways. First, the economics of the "next-best alternative" become defined by the route structure of the non-serving duopolist. For example, to compete at a UP-served plant, BNSF first has to own, maintain and invest in a route structure that lets it come close to the plant, or divide the revenues from the move with a regional carrier with such a route structure. As a duopolist, BNSF's decisions in these areas are unlikely to be as aggressive as those that would result from the presence of 1 or more additional competitors.

Second, when the "next-best alternative" carrier in a duopoly has a cost disadvantage in comparison with the serving carrier, it has an incentive not to pursue the traffic. Under these circumstances, the second carrier has a low probability of securing the traffic on any type of long-term basis. If the second carrier pursues the traffic, all that is accomplished is to drive down the serving carrier's revenue at the given plant. In a duopoly, however, that serving carrier almost certainly has opportunities to reciprocate at plants served by the other carrier. Mutually aggressive behavior towards traffic at each others' exclusively served plants simply causes each party to lose revenue without realizing any gain in volume or share.

Duopolists therefore have a real economic incentive not to compete aggressively for traffic at most plants, and each duopolist tends to focus on the markets where it has an advantage. As a result, the western duopolists do not have a history of, for example, shorthauling the serving carrier by offering contracts for the competitive portion of bottleneck flows. Such duopolistic behavior often enables the western carriers to command rates containing a "duopoly premium" (i.e., in excess of those that would result from cost considerations).

Even in the atypical situation where an individual plant is served directly by two rail carriers, it is not assured of rate/service options that match those that could be obtained in a 3 (or more) carrier environment. In addition to the route structure issues discussed above, important limitations on 2-carrier competition were revealed in the UP service crisis. In that crisis, BNSF did not have the capability to replace UP on any more than a small fraction of the affected traffic. While extreme in its severity, this demonstrated how, in a duopoly, the misjudgments and misfortunes of a carrier tend to become the burden of its shippers instead of becoming a traffic gain for its competitors.

This is equally true of a duopoly's deliberate management decisions. Even at nonexclusive service locations, duopolistic carriers will provide rate/service offerings that are driven to a greater extent by their own conveniences, and to a lesser extent by market discipline, in comparison to a more competitive environment.

For these reasons, the Board should expect that 2-railroad competition will, in general, produce rate/service options for shippers that are inferior to those that would result from 3-railroad competition.

4. **Changes in western bituminous coal flows demonstrate some of the adverse effects of increased market power that has resulted from the creation of the western duopoly.**

Subsequent to the SP/DRGW merger in the late 1980's, SP aggressively marketed low-sulfur bituminous coal from former DRGW-served mines in Colorado and Utah. For the period from that merger to the UP/SP merger (1988-1996), the growth rate for Colorado and Utah coal production in the aggregate (5.4% annually) was only slightly lower than the explosive growth of Wyoming coal production during the same period (6.6%).

Even these production figures understate the significance of SP's initiatives. In particular, competition by SP fueled a major increase in the flow of Colorado and Utah coal to power plants spread over a large area east of Colorado, ranging from Wisconsin in the upper midwest to Texas in the south. As shown in Table 1, this volume had more than tripled in the 4-year period preceding the UP/SP merger, and far exceeded the corresponding growth rate for PRB coal.

Table 1 – Colorado/Utah Utility Steam Coal Movements to Plants East of Colorado

Origin	1992	1996	1998
Colorado	4039	9612	9508
Utah	339	3937	2941 ¹²
Total	4378	13549	12449

Source: FERC Form 423.

With the consummation of the UP/SP merger, the market influence provided by SP vanished. Colorado/Utah coal movements to the east were immediately deemphasized, and had declined by over 8% by 1998. Many plants that previously were substantial and growing users of Colorado/Utah coal have been converted in part or entirely to PRB coal. Aggregate Colorado/Utah coal production is now at approximately the level it was at in 1996, but is declining at an accelerating rate. In the meantime, Wyoming production has increased more than 20%.

Because of the duopoly's increased market power, Colorado/Utah coals are essentially being shut out of the expanding market for compliance coals, and eastern, midwestern and southern utilities are being denied competitive alternatives they previously had for satisfying their fuel requirements.

5. Inferior service provided on western bituminous coal flows further manifests the degradation of this market being imposed by the western duopoly.

During the UP service crisis, many power plants in the south-central region experienced severe operating disruptions as rail network congestion obliterated normal coal delivery schedules. However, away from the congested area, deliberate management decisions by the western duopolists demonstrate clearly the market power held by the duopolists over western bituminous coal flows. Basically, the duopolists directed service away from Central Corridor coal flows in order to preserve other flows on the uncongested portion of the rail network, particularly flows of PRB coal to uncongested points. As detailed in the filings before this Board made by WCTA in Ex Parte 573:

¹² Estimate. FERC Form 423 data for 1 plant available only for part of 1998 due to plant sale.

- coal unit trains originating in the PRB experienced an average increase in cycle time (compared to the 1996 pre-merger period) of almost 50% into the Texas-Arkansas area, but only a 0 to 10% increase into most other areas¹³;
- cycle times for coal originated in Colorado and Utah moving to the Midwest via the Central Corridor increased by up to 50% to 70%, resulting in curtailment of mine production and substitution of coal from eastern producers;
- even when service on the rest of UP's network had begun to improve, Central Corridor service levels were among the worst on the system, causing severe curtailment of production and shipments at about 40% of mine plan; and,
- export coal moving to Southern California experienced an increase in cycle time of up to 100%, curtailment of deliveries by 750,000 tons, an aggregate vessel demurrage bill to shippers of approximately \$2 million and wholesale cancellation of vessels, threatening the competitive status of U.S. coal mines shipping to the Pacific Rim.

In the Board's own words¹⁴ regarding the potential degradation of Central Corridor service, "...merger-related competitive harm results when the merging parties gain sufficient market power profitably to raise rates and/or reduce service." The duopolists willingly sacrificed service on Central Corridor bituminous coal flows, even though it meant the loss of some markets. This was a literal demonstration of the term "market power", and the way the duopolists are willing to use that power to support their primary coal interests, which are in the PRB.

¹³ An exception to this was Commonwealth Edison, predecessor of IMPACT member Edison Mission/Midwest Generation, which experienced a greater deterioration of service that necessitated an expensive increase in the size of its car fleet.

¹⁴ From the STB decision issued August 6, 1996 in Finance Docket 32760, at footnote 191 on page 154.

6. **Changes in the market for coal transportation would necessitate revisiting competitive issues and standards, even if the STB had not initiated this proceeding.**

As of 1998, Western coal overtook Appalachian/eastern coal as the primary source of energy for U.S. utilities and power producers. DOE (in its Annual Energy Outlook for 2000) projects continued growth in the use of coal to produce electricity, with essentially all of the volume growth occurring in western coal flows. Actual volumes are ultimately likely to depend upon such factors as the effects of the NOx and particulate emissions limits proposed by EPA, which could force the retirement of many older coal plants. In any case, eastern and midwestern coal volumes are projected to decline, as emissions requirements make these coals progressively less competitive. Eastern coal supply is also being threatened by recent rulings regarding valley fill restrictions.

When eastern and midwestern coals were dominant, utilities and power producers had the benefit of competition among 3 major Class 1 rail systems for coal originations (NS, CSX, CR), as well as several other local and regional railroads including Class 1's (CN/IC, CP, BLE, PAL, PS, BPRR, INRD, ISRR, OHCR, WLE, etc.). Major market areas, including the Ohio River and Great Lakes regions, had enhanced competitive options as a result of barge/vessel service. Geographically distributed mine-mouth plants and plants that could be served via short-haul trucking also have provided discipline in the pricing of rail transportation services.

In comparison to eastern and midwestern coals, western coal is almost entirely dependent upon long-haul rail transportation. As western coal assumes greater importance in the marketplace, the forces of competition that once existed for the transportation of eastern and midwestern coals are being replaced by the market power of the western origin duopoly. In the emerging environment, all transportation options for western coal originate with two railroads. There is no independent role for other Class 1's, regional railroads, barge/vessel service, etc.

7. The ongoing deregulation of electricity generation is changing fundamentals in the market for coal transportation services.

To an increasing extent, plants receiving coal by rail are no longer "price takers", which pass through fuel transportation costs to the largely inelastic demand of a captive group of customers. Their customers are no longer captive, and their ability to pass through high transportation rates is evaporating.

In this new competitive environment, plants that are unable to secure competitive transportation services become devalued, as generation share is captured by those whose costs are low. This may look like an increase in competitive pressure that will cure all ills for the power producers. The problem is that control over the entire supply of low-cost, environmentally-preferable western coal now resides in the hands of two railroads. Deregulation of generation simply expands the geographical scope of the markets from which the duopoly extracts its toll. The ostensibly competitive generation marketplace is ultimately subject to the interests of the rail duopolists.

8. Against this background, the Board must reject what has become the "conventional wisdom" that two railroads produce adequate competitive pressure.

9. There has never been any evidence to demonstrate that 2 railroads produce rate/service options for shippers that are advantageous in comparison with the rate/service options that result from competition among 3 (or more) railroads.

Readily available information and historical precedents indicate clearly the limitations of 2-carrier competition, and the types of benefits that can be achieved through competition among 3 or more carriers:

- a. The presence of a third carrier reduces or eliminates the likelihood that a serving carrier will attempt to charge rates beyond those justified by its actual cost advantages. Put another way, a third carrier with a competitive route structure removes the "duopoly premium", as described in Section 3 (above).

- b. If two origin railroads produced sufficient competitive pressure, there would not be significant demand for a third PRB access. The support for this concept expressed by rail customers in the DM&E construction case results from the fact that many utilities and power producers are being charged rates that would be lower in the presence of a third carrier. A viable third PRB access would therefore provide important competitive benefits for utilities and power producers.
- c. As discussed in Section 4 (above), SP (as a third carrier prior to the UP/SP merger) had been growing its Colorado/Utah coal business vigorously through expansion of its marketing to eastern points. This included volume movements to regions where UP and BNSF were aggressively marketing PRB coals.
- d. Perhaps an economy much smaller and less productive than our own must settle for a transcontinental rail duopoly. For over a century, Canada has obtained rail transportation services from such a system.¹⁵ However, it strains credibility to imagine that the U.S., with a GNP several times that of Canada in a comparable geographical area, cannot, and should not, support a rail system that offers greater competitive options to its shippers. Indeed, with transportation being the lifeline of commerce, it would appear to pose an unnecessary risk to the economy to permit competitive options to be reduced to the level that even the Canadian economy is able to support.

¹⁵ It should be noted that even in Canada, the duopoly is accompanied by reasonably broad competitive access requirements. Under "interswitching", a serving railroad has to provide neutral switching at a set fee for the other railroad within a specified radius of common points. With a major transcontinental merger proposed between U.S. and Canadian railroads, it is unclear why Canadian shippers should have access to interswitching while U.S. shippers do not.

10. **A national duopoly would suppress competitive benefits achieved in previous transactions, and materially hinder innovation in the future marketplace.**

In the past, voluntary settlements and STB/ICC actions have routinely reaffirmed the importance of having at least three Class I competitors in a market. For example:

- In the recent Conrail transaction, NS and CSX voluntarily negotiated access for CP at a number of locations;
- In the same transaction, the STB introduced CP to points already served by 2 railroads;
- In the BN/ATSF merger, a number of rights were conveyed to SP through voluntary settlement that had the effect of creating or preserving competition by 3 or more Class 1 railroads; and,
- In the UP/MKT merger, the ICC provided access to Omaha and Lincoln, NE for KCS.

A national duopoly would effectively fireclose most or all of the competitive contributions of the third carrier in these situations. If the Class I railroads are merged into a national duopoly, they will no longer provide an independent competitive influence. Isolated shortlines and regional railroads cannot be relied upon to make an equivalent competitive contribution, because they lack needed geographical reach and their physical plant frequently does not support direct competition with Class I's (e.g., due to lack of 286,000 lb. car capability). If the STB acquiesces in the creation of a national duopoly, there won't be any carriers left in the marketplace to grant conditions to if the future "oversight" process concludes that competition has been lost.

In the future, these same considerations would mean that under a national duopoly, innovations and responses to market changes would be stifled. Any time a regional railroad or shortline conceived a plan to invest and adapt itself to satisfy some need in the market -- as DM&E has attempted to do with its planned third access to the PRB -- it would have to do so in an environment that is essentially devoid of neutral connections. As a general matter, future innovation of this type would be precluded.

The competitive pressure that has driven technological innovations and rate reductions in coal transportation would also be reduced by a national duopoly. Innovations such as heavier-loading cars, use of distributed power to increase train lengths, and negotiated crew size and work rule changes have been driven by competitive pressures, not market power. Because of competition, cost reductions resulting from these innovations have been at least partially passed through to customers, resulting in lower rates. A national duopoly would decrease the pressure for railroads to invest in the research that supports innovation, to invest the capital needed to implement innovation, and to pass through portions of the cost reductions that result from innovation to customers.¹⁶

11. **If anything, the evidence suggests that the factual premise for the Board's treatment of 3-2 issues in the UP/SP merger case was erroneous, and certainly does not provide any basis for a national duopoly.**

In the UP/SP merger, the STB permitted a reduction from 3 to 2 carriers based primarily on its analysis of competitive issues affecting transcontinental flows of automotive and intermodal traffic. The basic rationale was that this traffic is truck-competitive, and not subject to competitive harm even if the number of serving rail carriers were reduced from 3 to 2.

When the ICC studied the same traffic in the context of the proposed merger of SP with Santa Fe approximately 11 years earlier, it concluded that intermodal competition would be so ineffective that it rejected the merger outright rather than attempt to fashion remedial conditions.

This conclusion is reaffirmed by shipper statements already submitted in Ex Parte 582, which describe the economic dislocation experienced by automotive and intermodal shippers when they were forced to rely on trucks for transcontinental movements during the UP service disruption.

¹⁶ It would be erroneous to conclude from the fact that rates have declined that the level of competition is somehow "adequate". The issue is not whether rates would have been maintained at an even higher level if there were no competition at all between carriers. Rail rate decreases have been driven by competition, and the issue is whether rates would lower than current levels if competition had not been eliminated.

Even if it were found to be the case that transcontinental flows of automotive and intermodal traffic were truck-competitive, there is no way to extrapolate such a finding to heavy-loading bulk commodities moving in trainload quantities over long distances. Most western coal movements involve unit trains of over 100 cars/train, with an average lading weight of over 100 tons/car. Most of these trains travel over 500 miles, and many travel over 1,000 miles. There is no scenario under which trucks could be considered a viable option for such movements, and there is no basis for believing that 2 rail carriers will be as competitive as 3 or more carriers would be for such traffic.

12. The anti-competitive effects of the 3-2 precedent are compounded by the methods used by the STB to address the "bottleneck" issue.

As a result of the so-called "one-lump" theory, the ICC/STB has generally declined to impose conditions to address losses of competitive routing alternatives for plants that are exclusively served at destination.¹⁷ In the same situation, as a result of the creation of duopoly through rail mergers, the STB's regulatory remedy has been rendered ineffective.

In the "bottleneck" case, the STB declined to compel rail carriers that enjoy an exclusive service position at destination to quote a separate rate for the noncompetitive portion of the move, which would be challengeable on rate reasonableness grounds, unless the shipper can obtain a contract with another railroad for the competitive portion of the route. However, in a duopoly, as described in Section 3 (above), the carriers have a direct economic incentive not to compete vigorously in this type of situation. Because of unconditioned mergers that have created the duopoly in the supply of western coal, numerous plants have lost the ability to compel the combination of a competitive rate to a common point with a challengeable rate for the noncompetitive portion of the movement. Mergers have thereby deprived shippers of the remedy offered by the STB's "bottleneck" case.

In short, the ICC/STB merger criteria have enabled destination carriers to elude rate reasonableness constraints, and add an amount even larger than the

¹⁷ The one-lump theory is not limited to exclusive service at the destination, but applies to any situation in which one railroad enjoys exclusive service over an essential portion of a route. My reference to exclusive service at the destination is intended as a shorthand reference to all such situations.

original "lump" to a competitive rate for the movement. Mergers should not permit competitive pressures to be reduced in this manner.

14. **The anti-competitive effects of the 3-2 "precedent" are also compounded by the methods used by the ICC and STB to address other competitive issues.**

As the rail industry has become more concentrated, the ICC/STB has not adapted its competitive analyses to give appropriate weight to types of competitive issues that have become more prominent. Such issues include losses of source competition and shipper leverage.

As industry concentration has increased, merging carriers have gained increasing shares of commodity flows in regional, national and even international markets. These increases in influence and control over markets have essentially been ignored by the ICC/STB. Indeed, the trend of ICC/STB competitive analyses appears to have been to narrow the geographical scope of interest, so that if a merger doesn't create a monopoly at individual points, it is presumed to be benign from a competitive perspective. Failure to realistically consider source competition impacts is compounded by the lax approach to increases in concentration.

Similarly, the ICC/STB has ignored the way mergers have reduced the ability of multi-plant shippers to shift output among plants as a method of promoting competitive transportation terms. This type of loss in competition, as well as losses in source competition, will become even more important in the context of transcontinental mergers.

15. **With the elimination of many railroads, the merger process now relies too heavily on shippers, rather than competing railroads, to preserve competition in the rail transportation marketplace.**

In merger cases before the STB/ICC, competitive remedies have generally been limited to situations where a party has entered the case and proven the existence of a problem. If shippers, competing railroads, or other advocates do not identify and prove the existence of a specific competitive issue, remedial conditions regarding that issue are not likely to be applied.

In the 1980's, the number of competing railroads was sufficiently large that one or more railroads would aggressively pursue competitive issues in a given

merger case, either to protect their ability to compete in existing markets, or to expand their influence to new markets. With an ever-smaller number of railroads, negotiated settlements among railroads on competitive issues in merger transactions have become increasingly amicable. This has placed a greater burden on shippers to ensure that meaningful competition is preserved in merger cases.

Shifting the burden to shippers in this way is potentially problematic for a number of reasons:

- a. With the elimination of rail competitors, shippers can at best fill only part of the role of a hungry competitive railroad in a merger case. The costs of participation in a merger are great, and it would be rare that any given shipper would account for more than a small proportion of the traffic at issue in a merger case.
- b. Even if it persuades the Board of the existence of a competitive problem, the shipper ultimately needs the support and participation of a competitive railroad to implement most remedial actions.
- c. Shippers are often pressured by railroads not to participate in regulatory proceedings at all, or to participate on terms that are consistent with the serving railroad's interests. Many shippers are reluctant to speak truthfully about competitive issues for fear of retribution from their serving railroad(s). The STB got a small glimpse of this issue in the Conrail case, when a group of North Atlantic ports was threatened with retribution by an eastern railroad traffic officer¹⁸. Such conduct illustrates the degree of market power that individual carriers hold as the industry becomes more concentrated. To the extent that such conduct dissuades some shippers from exercising their lawful rights at the STB or elsewhere the STB should not tolerate it.

¹⁸ As originally reported in the Journal of Commerce, July 9, 1997.

16. Experience indicates that protecting competition is more difficult than previously believed.

There has not been an effective process to identify and rectify discrepancies between the stated beliefs of the STB/ICC in approving a transaction, and the actual impacts that have resulted. The Board has certainly never stated an intention to eliminate competition so as to increase rail market power and rates. Rather the Board and ICC have consistently stated a belief that approved mergers, with conditions, would preserve or enhance competition.

Unfortunately, this has not always been the actual experience. The conditions imposed have often not had the desired results, and, in light of these experiences, there is doubt as to whether conditions other than divestiture can effectively solve problems of high concentrations in some markets.

- a. When it approved the Joint Line/Connector Line project establishing what was supposed to be CNW's access to the PRB, the ICC stated a belief that the project would place CNW "in a more equal position with financially stronger rail lines". Thirteen years later, while UP was riding the wave of a booming PRB coal business, CNW was being absorbed by UP virtually as a failing firm.
- b. In the UP/SP merger, the Board stated a belief that the newly-created Utah Railway-BNSF route would prevent competitive harm for western bituminous coal, and would enable Utah producers to "gain important new rail access to midwestern and eastern markets". Data presented in the merger oversight process indicate that this has not occurred. Indeed, there are essentially no coal movements that utilize the Utah-BNSF route. Eastern utilities and power producers have been unable to secure competitive transportation terms for movements from preferred sources served by Utah Railway, including the new Willow Creek mine. The ineffectiveness of the new route is accentuated by the fact that some of the plants that have recently been converted to PRB coal are BNSF-served plants that previously burned SP-originated coal. Such plants were large and growing customers in SP's eastward marketing efforts. However, with BNSF now "protecting" competition for bituminous coal flows, these plants have now been converted to BNSF-originated Montana PRB coal.
- c. Even if the Utah-BNSF route were able to move traffic, it likely would not replace the competitive influence of an independent SP. As shown previously

in Table 1, most of the aggressive SP marketing to eastern points involved coal from Colorado mines, which accounted for over 70 percent of the flow of Colorado/Utah coal to eastern points. Utah is geographically more remote from the east, and the data suggest that UP cooperated with Utah Railway on this traffic primarily after and as a response to SP's initiatives. BNSF's enthusiasm in marketing western bituminous coal is further tempered by the same factor as UP's - moving a ton of bituminous coal at a low margin replaces a high probability¹⁹ of moving (more than) a ton of PRB coal at a higher margin. In this context, relying on either UP or Utah-BNSF to replace SP's competitive influence appears to have been an unrealistic approach.

- d. The Board has repeatedly stated a belief that merger oversight will permit it to rectify competitive problems that arise after a merger decision. However, as shown in Sections 4 and 5 (above), it is possible under the oversight process for substantial competitive problems to go undetected and untreated. The fact that parties may not enter the oversight process, or may enter without evidence presented in a manner that the Board expects, cannot relieve the Board of its responsibility to protect the public interest. The Board should conclude that oversight, while better than no oversight, is a poor substitute for thorough analysis and meaningful conditions in the preservation of competition.
- e. Conditions short of full divestiture often have subtle and hidden limitations that, in practice, materially constrain their usefulness for shippers. For example, assume that in a merger case trackage rights are imposed to preserve future transportation options for plant sites in an area where the number of carriers is reduced from 2 to 1. A shipper wishing to exercise this condition faces the risk of legal expenses, time delays, and other uncertainties if the merged railroad takes exception to any aspect of the shipper's plans. The shipper may have to litigate the issue before the Board, as recently happened in the case of Entergy's proposed build-out from its White Bluff plant (Finance Docket No. 33782). Merely because a merger condition makes it possible for a shipper to seek competitive service after a merger does not preserve the economic value and ease of implementation of the competition that existed prior to the merger.

¹⁹ When volume commitments on coal transportation contracts combine movements from different regions, UP and BNSF each have a (much) higher than 50% chance of retaining the volume moving to a plant if the origin region changes to the PRB.

- f. When it has established trackage rights compensation terms, the Board has generally overlooked the fact that the traffic moving over such rights (which by definition is subject to competition) generally moves at rates that make a (much) lower contribution to overhead and profit than other traffic. In those circumstances, trackage rights compensation needs to replicate the costs considered by a carrier in making rates for competitive traffic, and not the entirety of traffic that may make use of a given line. Forcing an arbitrarily high contribution through trackage rights compensation nullifies the ability of the trackage rights to preserve preexisting competitive pressure.

17. **In some mergers, major, obvious issues have escaped discussion altogether.**

- a. In the Conrail break-up, no meaningful consideration was given to the 3-2 aspects of the transaction over much of the midwest.
- b. In the UP/CNW merger, no consideration was given to the fact that the merger would sacrifice a potentially viable alternative to create an independent third access to the PRB. CNW's first choice for creating the second PRB access was to rehabilitate its own "Cowboy Line" across northern Nebraska, which it still owned at the time of the UP/CNW merger. Barely 4 years after major portions of that line were abandoned by UP, the STB found that the expenditure of \$1.4 billion to create a third PRB access using the inferior DME line would be in the public interest.
- c. For procedural reasons, the record in the UP/CNW case did not include important evidence regarding analysis of certain anti-competitive impacts.
- d. In the UP/SP merger, considerable attention was focussed on the non-issue of whether the Moffat Tunnel route (the former DRGW main line west of Denver) would have sufficient capacity to handle the traffic flows resulting from the closure of the Tennessee Pass route. I characterize this as a non-issue, because UP's incentive, from the outset, has been to maximize the use of its Wyoming route – not the Moffat Tunnel route – for former SP Central Corridor traffic. This is illustrated by the fact that (high) UP quotes for movements to eastern plants from Utah Railway origins assume a Provo (westward) interchange over Soldier Summit, despite the fact that this route is circuitous (e.g., approximately 180 miles further to Kansas City) in

comparison with a Moffat Tunnel routing via Denver. East of Denver, UP's KP line project was undertaken largely to provide for westbound movement of empty PRB unit trains, not to provide an eastern outlet for western bituminous coal or former SP transcontinental traffic. UP has no use for 2 Central Corridor main lines, as shown by its submission of only a token offer for the Moffat Tunnel itself when that facility was offered for public sale soon after consummation of the merger. While it was reasonable to consider capacity issues related to the closure of the Tennessee Pass route, the real issue was, and is, whether the Moffat Tunnel route has a future.

Post-merger service disruptions have imposed major burdens on shippers that did not enter the Board's assessment of merger costs and benefits.

As industry concentration has increased, mergers have frequently been accompanied by significant disruptions of service for considerable periods of time. The regularity of these self-inflicted events suggests that the railroads and the Board may not be giving sufficient weight to the tremendous burdens that are placed on shippers when these events occur.

If a service disruption interferes sufficiently with the delivery of coal to a plant, that plant may no longer be dispatched normally. The reliability of the electrical system is reduced, requiring additional effort and expenditures to purchase power from other generators. If stockpiles become sufficiently depleted, high-cost, multi-modal transportation of coal from alternate sources may have to be performed on short notice to avoid the major costs to society and the economy associated with power failures and service interruptions. In the longer term, service disruptions create incentives for utilities and power producers to maintain stockpiles and/or car fleets of excessive size, all at substantial expense.

While the railroad, through its own actions, fails to perform on its obligations under coal supply contracts, the STB has taken a very passive position with respect to authorizing access for alternate carriers. For example, during the UP service crisis, UP train movements in Texas and Arkansas were largely paralyzed. To prevent a total shutdown, Entergy/AECC's White Bluff plant obtained emergency coal supplies via a long-distance, high-cost barge movement using the Arkansas River. Because the plant was not equipped to receive by barge, high-cost, makeshift unloading procedures using trucks and excavation equipment had to be utilized.

Rail shipments destined for this plant were diverted to Entergy/AECC's Independence plant, where intermodal operations are even more problematic.

In addressing this situation, Entergy/AECC was prevented from obtaining replacement service from BNSF over UP and former SP lines. It also was unable to make use of the fact that the Independence plant can be reached from Kansas City via the shortline MNA. This shortline, formerly part of MP, is burdened by paper barriers that materially hinder its ability to offer service via connections other than UP. The STB should consider whether remedies triggered by the failure to perform on contracts, such as the override of paper barriers and/or the offering of service by substitute carriers, would provide a more appropriate balance between the interests of shippers and carriers in these types of circumstances.

19. In none of these instances has the Board seen a problem in its "rear-view mirror", and in many of these cases it hasn't even looked.

The Board needs a proactive method of monitoring and probing actual merger impacts. It should take steps to ensure that it does not "leave the scene" when its decisions have failed to produce the intended results, or have produced unintended, anti-competitive results.

20. To rectify these problems, the Board should:

- a. Assess the criteria that should be used to identify and evaluate potential merger-related competitive issues. This would include, but not be limited to, the 3-2 issue and other material increases in concentration (other than 2-1 points), losses of source competition and shipper leverage, and the effects of prospective abandonments on the adequacy of capacity.
- b. Examine the possibility of shifting the burden of proof regarding competitive harm to merger applicants in situations where concentration in a flow would increase in a manner that triggers prespecified criteria that are much more rigorous than the current "2-1 point" standard. In addition, the Board should apply its expertise and familiarity with rail issues to identify obvious major areas of competitive concern to ensure that they are addressed on the record in future merger cases.
- c. Establish a process through which past merger decisions rendered using criteria less stringent than those found in (a) can be reviewed for the

existence of competitive problems and the appropriateness of the conditions imposed.

- d. Review the utilization of the various types of conditions that have been imposed in prior merger cases, including divestiture, trackage rights, haulage rights, etc. to identify limitations on the effectiveness of each. Ensure that trackage rights compensation terms enable the tenant railroad to replicate the low mark-ups over variable cost that are characteristic of the competitive traffic for which trackage rights are imposed.
- e. Acknowledge that the Central Corridor conditions imposed in the UP/SP merger may not have their anticipated degree of effectiveness in preserving competition for western bituminous coal, and initiate a suitable proceeding to develop proper remedial actions. This would include further examination of the effects of that merger on export coal traffic moving to the west coast.
- f. Reaffirm that the creation of a third PRB access would be in the national interest, and ensure that past or future rail mergers do not hinder the development of a viable route.
- g. Acknowledge that the "one lump" and bottleneck criteria have been contradictory. Require the offering of challengeable rates to gateways and commercially viable connections and potential connections lost as a result of past or future mergers.
- h. Assess the possible use of remedies triggered by the failure to perform on contracts, such as the override of paper barriers and/or the offering of service by substitute carriers, to provide relief in service disruptions.
- i. Establish a "spot check" system in which the Board on its own initiative monitors actual merger impacts for flows that are identified in future merger proceedings as being potentially susceptible to competitive harm, plus other flows of the Board's choosing. As part of this system, establish an expedited and confidential process for shippers to bring the Board's attention to flows that may be experiencing anti-competitive merger-related impacts.
- j. Require validation and testing of any voluntary agreement among competitors offered to address competitive issues in future mergers.

- k. Establish minimum standards for shortline connectivity and access, particularly in markets served by fewer than 3 Class I railroads.
- l. Establish a system of heavy fines for carriers that attempt to intimidate or interfere with a shipper's rights under STB procedures and national transportation policies. Use the revenues from those fines to defray shipper STB filing fees (e.g., for actions against the offending carrier). For repeated infractions, order divestiture or grant access to a substitute carrier.
- m. Ensure that future mergers do not detract from the ability of short-lines through neutral connections to serve markets using 286,000 lb. cars or other technological advancements.
- n. Evaluate the propriety of establishing Canadian-style interswitching to ensure U.S. shippers are not provided inferior access to competitive transportation options in comparison with their Canadian counterparts.

These are the types of measures that are needed to lift the fear of reregulation that has plagued the market capitalization of the entire rail industry.

The Board needs to abandon what may have once been a reasonable belief that the railroads needed latitude to extract rent in order to ensure their financial health. At this point, the industry needs a booster shot of the competition that shippers were supposed to be able to rely upon to discipline the market as regulatory restraints were lifted. The markets can be expected to react positively to a procompetitive position that obviates any need to consider reregulation.

The survival of the rail industry in its current form, and the future of competition in electricity generation, depend upon the Board taking decisive action.

VERIFICATION

I, MICHAEL A. NELSON, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Statement.

Executed on May 5, 2000.

A handwritten signature in cursive script, appearing to read "Michael A. Nelson", is written over a horizontal line.

Michael A. Nelson

Exhibit A

**CURRICULUM VITAE
OF
MICHAEL A. NELSON**

MICHAEL A. NELSON

130 Franklin Street
North Adams, MA 01247

EDUCATION

M.S. Civil Engineering, Massachusetts Institute of Technology

M.S. Management, Alfred P. Sloan School of Management,
Massachusetts Institute of Technology

B.S. Management, Massachusetts Institute of Technology

Concentrations in transportation systems, economics and operations research.

EXPERIENCE

Mr. Nelson is an independent transportation systems analyst. He provides management and economic consulting and litigation support. His work typically involves developing and applying methodologies based on operations research, microeconomics, statistics and/or econometrics to solve specialized analytical problems, as illustrated by the following examples of his experience:

Railroad

On behalf of a major electric cooperative, Mr. Nelson recently performed a detailed analysis of rail transportation options for two major coal-fired generating stations. The results of these analyses have served as the basis for management decisions that are projected to save millions of dollars in fuel costs.

For a major Class 1 railroad, Mr. Nelson recently assisted senior management staff in the design and evaluation of a potential construction project.

For the Mid-States Coalition for Progress (a group of landowners), Mr. Nelson analyzed the proposal by the Dakota, Minnesota and Eastern Railroad (DM&E) to

construct an extension of its line into the Powder River Basin coal fields of Wyoming. Mr. Nelson developed estimates of DM&E's volumes and unit revenue levels on the basis of a plant-by-plant analysis, taking into account likely future market conditions and the competitive capabilities of the Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) systems. Mr. Nelson's analysis was filed at the Surface Transportation Board (Finance Docket No. 33407).

For the National Railroad Passenger Corporation (AMTRAK), Mr. Nelson investigated issues related to the definition of "express" traffic that AMTRAK is permitted to carry (STB Finance Docket No. 33469). Mr. Nelson analyzed relevant data from the STB Rail Waybill Sample and the Census of Transportation, and investigated the factors affecting use of Amtrak by the U.S. Postal Service. The definition of "express" eventually adopted by the STB was consistent with Mr. Nelson's findings.

For the Moffat Tunnel Commission (Colorado), Mr. Nelson analyzed the factors affecting future railroad use of that tunnel, which traverses the Continental Divide and serves the principal Colorado coal fields on the UP line that formerly was the Denver and Rio Grande Western Railroad (DRGW) main line west of Denver. The tunnel had historically been owned by the Commission (and leased to the railroad), but under sunset legislation was being offered for public sale. Mr. Nelson's analysis included study of the utilization of Colorado/Utah vs. PRB coals in the context of the central corridor conditions imposed by the STB in the merger of UP with Southern Pacific (SP).

For Canadian Pacific Railway (CP), Mr. Nelson performed detailed studies of competitive and traffic issues associated with the acquisition and break-up of Conrail by Norfolk Southern and CSX (Finance Docket No. 33388). These studies included analyses of competitive issues in the area served by the former Delaware and Hudson (now a CP subsidiary) and in the midwest, competitive issues involving coal traffic throughout the Conrail service area, and traffic impacts associated with potential remedial conditions. CP relied upon the results of Mr. Nelson's studies in reaching its settlements with Applicants in that case.

For SP, Mr. Nelson provided expert testimony before the Interstate Commerce Commission (ICC) in Finance Docket No. 32133 (the proposed control of C&NW by UP). This testimony was based primarily on Mr. Nelson's analyses of data from the Rail Waybill Sample, which identified substantial numbers of specific flows for

which the proposed transaction created different types of potential competitive problems (including losses of point-to-point competition, source competition, competition in grain originations, and shipper leverage). In addition, Mr. Nelson's testimony utilized Rail Waybill Sample data to demonstrate the occurrence of merger-related foreclosure from previous UP acquisitions, and provided statistical support for SP's traffic study. Mr. Nelson also conducted a detailed investigation of the impact of the merger on source competition for western coal.

For Rio Grande Industries (RGI), Mr. Nelson provided expert testimony before the ICC in Finance Docket No.'s 31505 (the proposed acquisition by RGI of Soo's Kansas City - Chicago line) and 31522 (the proposed acquisition by RGI of the Chicago, Missouri and Western line between St. Louis and Chicago) based on his analysis of Rail Waybill Sample data. This testimony involved analysis of potential cumulative anti-competitive effects from the proposed transactions, development of time-series estimates of rail traffic volumes and carrier shares in different flows, and assessment of the statistical reliability of the portions of the testimony of other RGI witnesses that were based on Rail Waybill Sample data.

Also for RGI, Mr. Nelson provided expert testimony before the ICC in Finance Docket No. 32000, the consolidation of SP and DRGW. This testimony involved analysis of Rail Waybill Sample data to determine rail traffic volumes in different flows, the statistical reliability of studies conducted by other RGI witnesses, and potential competitive problem flows associated with a consolidation of SP and KCS.

For DRGW, Mr. Nelson provided expert testimony before the ICC in Finance Docket No. 30800 (the acquisition of MKT by UP) based on his analysis of Rail Waybill Sample data. This testimony involved examination of intramodal competition in the central corridor, development of traffic flow databases utilized by other witnesses, assessment of the statistical reliability of other witnesses' studies, and analysis of issues related to use of market share data from waybill samples to evaluate the competitive impact of the proposed merger.

Also for DRGW, Mr. Nelson provided extensive expert testimony before the ICC regarding a number of issues raised by the proposed merger of SP with ATSF (Finance Docket No. 30400):

* Mr. Nelson provided a detailed comparison of the economic and operating characteristics of the intercity trucking and railroad industries, with a particular focus on long-haul markets. Mr. Nelson's analysis of the trucking industry utilized the National Motor Transport Data Base (NMTDB). For this study, Mr. Nelson

developed and implemented analytical techniques that compensate for the non-random sampling procedures employed in the gathering of the NMTDB, making it possible to use this source to reliably conduct studies at the industry and corridor level. The Commission adopted the results of Mr. Nelson's study verbatim in its analysis of the anti-competitive consequences of the proposed merger.

* Using the NMTDB and the Rail Waybill Sample, Mr. Nelson analyzed the extent to which rail pricing and services on selected traffic are determined by competing intercity trucking alternatives available to shippers. This analysis was conducted at a highly detailed level, and included explicit accounting for the handling characteristics of each rail commodity and the operating economics of the corresponding truck equipment needed.

* Mr. Nelson analyzed the tests applied by various economists in the proceedings, including those of the U.S. Departments of Justice and Transportation, to identify rail traffic that would most likely be subject to anti-competitive effects in the wake of the proposed merger. Mr. Nelson identified circumstances under which these tests systematically yield invalid results, and provided guidelines for their proper application.

* Mr. Nelson identified improvements needed in the merger applicants' initial methodology for estimating the rail traffic diversions that likely would result from the proposed merger.

* In addition to this expert testimony, Mr. Nelson served as principal investigator for several studies underlying testimony offered by other witnesses, addressing issues related to intramodal (rail) competition, product and source competition, shipper benefits and leverage and trackage rights compensation. Mr. Nelson also conducted a number of special studies on request for other witnesses and counsel.

For a private client, Mr. Nelson participated in a study of the purchase and utilization of jumbo covered hopper cars by shippers and railroads. This study involved extensive analysis of the Rail Waybill Sample and other data sources, and included a detailed examination of historical car shortages in light of economic and traffic conditions, and other related factors. The results of Mr. Nelson's work were incorporated in testimony before the ICC.

As a subcontractor to consulting firms, Mr. Nelson has participated in a number of other rail-related studies. These include (1) analysis of Rail Waybill Sample data to

address issues stemming from traffic protective conditions at the Jacksonville (FL) gateway between FEC and CSX, and (2) analysis of CN's Port Huron-Sarnia tunnel project and the alternative of a tunnel at Detroit-Windsor.

Postal Service

For Foster Associates (under contract to the United States Postal Service), Mr. Nelson has worked in the following areas:

* **Delivery costing** - Mr. Nelson developed a series of refinements in delivery cost analysis procedures. These refinements included analysis of driving time on motorized letter routes, collection costing and extensive revision of costing for special purpose routes and special delivery messengers. In support of the new methodologies, Mr. Nelson developed data collection plans and assisted in the development of survey instruments and innovative procedures to gather new field data from carrier and messenger operations. He conducted extensive analysis of the new data, including development of data cleaning and weighting procedures, analysis program logic, and specifications for new econometric models. He also identified an overlap in costing systems that produced a "double-count" of delivery activity performed by personnel other than special delivery messengers but charged to LDC 24 (Cost Segment 9). He developed spreadsheet modifications needed to incorporate the costing refinements and new data, and eliminate the "double-count" problem. The results of Mr. Nelson's delivery costing work were presented before the Postal Rate Commission (PRC) in the R97-1 omnibus rate case. The PRC adopted 9 out of 10 of Mr. Nelson's recommended methodological changes, 2 with commendations.

* **New products** - Mr. Nelson has identified the cost basis for a number of potential new product offerings involving Express Mail and Priority Mail, and has developed the analytical framework and information needed to support their implementation. This included design and analysis of a new field study of relevant Express Mail piece characteristics, which was also presented by Mr. Nelson in the R97-1 rate case.

* **Litigation support** - In Docket No. R94-1, Mr. Nelson reviewed intervenor testimony regarding city delivery carrier and transportation issues, and developed discovery and cross-examination topics for Postal Service counsel.

* IOCS - Mr. Nelson developed refinements in IOCS data gathering procedures to improve the validity and precision of available information regarding Express Mail activities. Mr. Nelson then interpreted the initial results from the new data and provided suggestions for improvements in Express Mail costing procedures.

* Postal AMR - Mr. Nelson developed a plan for analyzing the street time costs associated with a proposal to have postal vehicles perform automated meter reading for utility companies.

* Eagle Network - Mr. Nelson developed a potential methodology for attributing the costs of dedicated air transportation services procured by the Postal Service.

For United Parcel Service (UPS), Mr. Nelson provided extensive expert testimony before the PRC in Docket No. R90-1. This testimony presented Mr. Nelson's studies of cost causality and/or elasticity within the city delivery carrier, special delivery messenger, vehicle service driver, purchased highway transportation and expedited air network operations of the U.S. Postal Service. These studies, which involved application of operations research techniques and development of econometric models and other statistical analyses based on postal data, were referenced and relied upon extensively by the PRC in its Opinion and Recommended Decision. To a considerable degree, these studies represented extensions and refinements of Mr. Nelson's previous studies, which were presented before the PRC in Mr. Nelson's testimony in Docket No. R87-1, and in Docket No. RM86-2B, a rulemaking proceeding established in part to explore issues raised in testimony before the PRC in Docket No. R84-1 for which Mr. Nelson served as principal investigator.

Other

Mr. Nelson participated in an airport master planning study for Sydney, Australia. For this study, he developed a comprehensive set of site selection criteria and evaluation measures.

Until February 1984, Mr. Nelson was a Senior Research Associate at Charles River Associates (CRA), an economic research and consulting firm, where his work experience included the following:

Freight Transportation

Mr. Nelson served as Manager of Consulting Services for the National Motor Transport Data Base (described above), which at the time was sponsored by CRA. In this position, he was responsible for handling client requests for information from the database, including problem definition, sampling issues, conduct of analyses and reporting of results. He conducted specific analyses for a number of public and private clients.

Mr. Nelson served as principal investigator for a study of motor carrier safety and traffic characteristics. This study involved extensive analysis of a number of databases, including the FHWA "Loadometer" Study, the 1977 Census of Transportation, the ICC "Empty/Loaded" Survey, and the NMTDB. The results of his work were incorporated in testimony before the U.S. District Court on behalf of a private client engaged in litigation with a state over the use of twin trailers.

Mr. Nelson participated in several other projects providing support for motor carriers involved in litigation cases. For these clients he performed detailed financial analyses of motor carrier operations and traffic in different settings, and assisted in the preparation of testimony and briefs. Mr. Nelson also served as an internal consultant on a number of CRA's other motor carrier, railroad, and freight transportation studies.

For the U.S. Department of Transportation (DOT), Mr. Nelson was principal investigator of a study to develop a conceptual framework and data collection strategy for analyzing the impacts of the motor carrier regulatory reforms implemented under the Motor Carrier Act of 1980. For this project, Mr. Nelson was responsible for identifying and selecting specific research issues, data requirements, data sources and analytical techniques.

In a study for the Office of the Secretary of Transportation, Mr. Nelson made extensive use of probabilistic modeling techniques to develop quantitative estimates of potential fuel conservation resulting from selected aspects of proposed motor carrier regulatory reforms.

For DOT, Mr. Nelson was principal investigator for a study of the merits of alternative approaches that could be utilized by the ICC to implement the inflation-based index for allowable rate adjustments by railroads mandated by the Staggers Rail Act of 1980. For this study he analyzed the ICC's proposed approach and developed specific conclusions and recommendation in a number of issue areas.

including selection of the basic index, productivity adjustments, treatment of profit and non-recurring expenses, frequency of index adjustment, rate averaging, regional differences, collective ratemaking and fuel surcharges. The results of this study were used by DOT in formulating its response to the ICC's proposed approach.

For a private client, Mr. Nelson analyzed the logistical considerations involved in siting a plant to process imported high-value mineral ores. This study, which was part of a larger study to assess the overall economic feasibility of plant construction and operation, involved comparisons of costs and other attributes of a variety of modes and modal combinations, including rail, inland waterway, motor carrier and TOFC.

In a study of urban freight consolidation alternatives conducted for the U.S. Department of Energy (DOE), Mr. Nelson utilized principles of network analysis, simulation and queuing theory to evaluate and critique the merits of previous studies, and recommend research approaches for analysis of route and terminal consolidation strategies.

Also for DOE, Mr. Nelson was a major contributor to a study of potential fuel-use changes that could occur in response to dramatic fuel price increases. Mr. Nelson's work focused on the freight and intercity passenger transportation sectors and included analyses of opportunities for improvements in fuel efficiency by each mode under different fuel price increase scenarios, as well as modal shifts and net traffic reductions caused by resulting cost (and rate) increases.

Passenger Transportation

Mr. Nelson served as principal investigator for a series of Service and Management Demonstration Evaluations conducted for DOT. For three parallel assessments of the feasibility of user-side subsidies, and one demonstration of taxicab regulatory reforms and paratransit service innovations, he developed instruments for and implemented several surveys, conducted data analysis and prepared Final Evaluation Reports. For an assessment of alternative transit transfer policies, he developed research issues and data requirements, selected and supervised interviews of over 40 transit properties, and wrote or was responsible for all major deliverables. He assisted DOT in the development of research issues to be addressed in demonstrations of innovative checkpoint paratransit services and in the review of a proposed paratransit policy.

Also for DOT, Mr. Nelson was principal investigator of a study of methods to improve transit productivity and cost-effectiveness. This study involved the identification and documentation of 146 distinct productivity-enhancement measures that have been implemented at U.S. transit properties, assessment of the transferability of each measure to different settings, and development of impact magnitude estimates. Prior to this project, Mr. Nelson developed over two dozen ideas for possible innovations to improve transit productivity and cost effectiveness.

Mr. Nelson participated in a financing study of the New York Metropolitan Transportation Authority's proposed multi-billion dollar capital improvement program. Mr. Nelson's responsibilities in this project involved econometric analysis of operating costs, with a particular emphasis on identifying the variability of different cost components with alternative future levels of rapid rail, bus, and commuter rail activity. The results of his work were incorporated in the MTA's Official Statement for the successful initial offering of \$250 million in transit revenue bonds.

For DOT, Mr. Nelson participated in a study to develop technical guidelines for use by local planners to satisfy alternatives analysis requirements. For this study he developed a matrix-based method for determining data requirements in different scenarios, and played a major role in the development of a method for generating locally responsive alternatives to high-capital transit investments using multicriteria decision techniques.

For the Massachusetts Port Authority, Mr. Nelson participated in a study to forecast future levels of passenger and air cargo activity at Logan International Airport. For this study, Mr. Nelson supervised data collection efforts, developed methods for synthesizing data from diverse sources (FAA, CAB, Port Authority records, etc.) to yield relevant market segment size estimates, and analyzed seasonality and short-term peaking phenomena.

Mr. Nelson also participated in a quantitative assessment of the market penetration potential and associated impacts of electric vehicles for the Electric Power Research Institute (EPRI).

Thesis

In his graduate thesis at M.I.T., which fulfilled the thesis requirements for two Master's degrees, Mr. Nelson developed a comprehensive review of the theoretical and practical shortcomings encountered in the use of linear programming in a real

time multiple vehicle routing and scheduling system (dial-a-ride). Based on network analysis techniques, he then developed a set of heuristic algorithms that avoided the shortcomings inherent in the linear programming (LP) approach. The performance of these algorithms was simulated by computer and found to meet or exceed the LP's performance in a variety of scenarios drawn from actual operating data.

TESTIMONY

Surface Transportation Board, Finance Docket No. 33407

- Verified Statement, 8-31-98
- Supplemental Verified Statement, 10-28-98

Surface Transportation Board, Finance Docket No. 33469

- Verified Statement, 11-10-97
- Reply Verified Statement, 11-25-97

Postal Rate Commission, Docket No. R97-1

- Direct Testimony, USPS-T-19, 7-10-97

Interstate Commerce Commission, Finance Docket No. 32133

- Verified Statement, SP-20 (Volume 2), 11-29-93
- Rebuttal Verified Statement, SP-41 (Volume 2), 7-28-94

Postal Rate Commission, Docket No. R90-1

- Direct Testimony, UPS-T-1, 7-16-90
- Rebuttal Testimony, UPS-RT-1, 10-1-90

Interstate Commerce Commission, Finance Docket No. 31505

- Verified Statement, RGI-14/SOO-14 (Volume 2), 9-15-89

- Rebuttal Verified Statement, RGI-55/SOO-55, 2-15-90

Interstate Commerce Commission, Finance Docket No. 31522

- Verified Statement, RGI-7/CMW-7 (Volume 2), 8-25-89

Interstate Commerce Commission, Finance Docket No. 32000

- Verified Statement, RGII-10, 2-22-88

- Verified Opposition and Rebuttal Statement, RGII-59, 6-1-88

Postal Rate Commission, Docket No. R87-1

- Direct Testimony Concerning Special Delivery Messenger and City Delivery Carrier Street Time Costs, UPS-T-1, 9-14-87

- Rebuttal Testimony, UPS-RT-5, 11-23-87

- Statement Regarding SDWAFS Analyses, 12-1-87

Interstate Commerce Commission, Finance Docket No. 30800

- Verified Statement, DRGW-13, 4-7-87

- Verified Statement, DRGW-24, 7-13-87

Postal Rate Commission, Docket No. RM86-2B

- Direct Testimony Concerning City Delivery Carrier Street Time Costs, UPS-T-1, 12-1-86

Interstate Commerce Commission, Finance Docket No. 30400

- Verified Opposition Statement, DRGW-20, 11-21-84

- Verified Opposition Statement, DRGW-23, 12-10-84 (with Paul H. Banner)

- Verified Rebuttal Statement, DRGW-33, 5-29-85

SELECTED PUBLICATIONS

Reports Prepared for Charles River Associates

User-Side Subsidy Demonstration Project: Lawrence, Massachusetts. Final Evaluation Report. Prepared for U.S. Department of Transportation. October, 1983.

Analysis of Labor Conditions and Union Status in the Intercity Trucking Industry. Final Report. Prepared for U.S. Department of Transportation. August, 1983.

Actions Being Taken by Transit Operators to Improve Performance. Final Report. Prepared for U.S. Department of Transportation. April, 1983.

User-Side Subsidy Demonstration Project: Montgomery, Alabama. Final Evaluation Report. Prepared for U.S. Department of Transportation. December, 1982.

Plan for Monitoring the Impacts of Regulatory Reforms Implemented Under the Motor Carrier Act of 1980. Final Report. Prepared for U.S. Department of Transportation. October, 1982.

New York City Transit Authority Revenue Feasibility Study: Economic Analyses and Projections. Final Report. Prepared for Metropolitan Transportation Authority, New York, NY. In part. October, 1982.

Taxi Regulatory Revisions in Dade County, Florida. Data Collection Plan. Prepared for U.S. Department of Transportation. April, 1981.

Analysis of Rail Cost-Plus Pricing Systems. Prepared for U.S. Department of Transportation. March, 1981.

Net Demand for Oil Imports: Preliminary Estimates of Short-Run Price Elasticities. Prepared for the U.S. Department of Energy. In part. December, 1980.

User-Side Subsidy Demonstration Project: Kinston, North Carolina. Final Evaluation Report. Prepared for U.S. Department of Transportation. October, 1980. Executive Summary reprinted in Taxicab Management November/December, 1981.

Potential Fuel Conservation from Regulatory Reform of the Trucking Industry. Prepared for Office of the Secretary of Transportation. July, 1980.

Operator Guidelines for Transfer Policy Design. Prepared for U.S. Department of Transportation. June, 1980.

State of the Art of Current Practices for Transit Transfers. Prepared for U.S. Department of Transportation. June, 1980.

"Generation of Transportation Alternatives." Technical Monograph prepared for U.S. Department of Transportation. January, 1979.

"Definition of Transportation Alternatives." Technical Monograph prepared for U.S. Department of Transportation. November, 1978.

Preliminary Analysis of Alternative Proposals to Encourage Efficient Service Concepts in Urban Freight Movement. Prepared for U.S. Department of Energy. In part. October, 1978.

Other Publications

Nelson, Michael and Daniel Brand. 1982. "Methods for Identifying Transportation Alternatives." Transportation Research Record 867.

Nelson, Michael, Daniel Brand and Michael Mandel. 1982. "State of the Art Current Bus Transfer Practices." Transportation Research Record 854.

Nelson, Michael and Jane Piro. March, 1982. "Implementation and Impacts of the Kinston, North Carolina User-Side Subsidy Demonstration Project." Specialized Transportation Planning and Practice.

Nelson, Michael and Paul H. Banner. 1981. "Analysis of Alternative Railroad Cost Recovery Procedures." Proceedings - Twenty-Second Annual Meeting of the Transportation Research Forum.

Nelson, Michael, Daniel Brand and Michael Mandel. 1981. "Use and Consequences of Timed Transfers on U.S. Transit Properties." Transportation Research Record 798.

Mellman, Robert, Michael Nelson and Jane Piro. 1980. "Forecasts of Passenger and Air Cargo Activity at Logan International Airport." Transportation Research Record 768.

Nelson, Michael. 1978. "Evaluation of Potential Replacements for Failing Conventional Transit Services." M.S. Thesis, Massachusetts Institute of Technology, Department of Civil Engineering and Alfred P. Sloan School of Management.

Before the
SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 582 (Sub-No. 1)

PUBLIC VIEWS ON MAJOR RAIL CONSOLIDATIONS

STATEMENT
OF
WILLIAM B. TYE

The Brattle Group
1133 Twentieth Street NW, Suite 800
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May 16, 2000

**STATEMENT OF
WILLIAM B. TYE**

BACKGROUND AND QUALIFICATIONS

I am a Principal at *The Brattle Group*, the successor firm to the merger of The Brattle Group, Inc. with Incentives Research, Inc. I received a BA in economics from Emory University and a Ph.D. in economics from Harvard University in 1969. After teaching economics for three years at the United States Air Force Academy, I joined Charles River Associates as an economic consultant. When I left Charles River Associates, I was a Vice President and Director of the firm. I joined Putnam, Hayes and Bartlett, Inc. as a Principal in 1980 and continued my consulting and research career there until August 1990, when six colleagues and I left to form The Brattle Group, Inc.

Much of my consulting career has involved regulated industries. I have testified before numerous regulatory agencies and courts involving issues of rates, economics, management, and competition. I have authored or co-authored over 100 papers and publications, including four books on regulated industries. Many of these, including *The Transition to Deregulation: Developing Economic Standards for Public Policies* (New York: Quorum Books, 1991), have addressed the issues of regulation and antitrust in regulated industries. I am also the author of *Regulatory Risk* (Boston: Kluwer Academic Publishers, 1993), with A. Lawrence Kolbe and Professor Stewart C. Myers of MIT. The papers have appeared in such publications as *The American Economic Review*, *The Yale Journal on Regulation*, *Energy Law Journal*, *The Rand Journal of Economics*, and *Public Utilities Fortnightly*. I have spoken frequently at seminars and meetings on regulatory issues sponsored by organizations such as the National Association of Regulatory Utility Commissioners, the Federal Energy Bar Association, the Antitrust Section of the American Bar Association, and the Association for Transportation Law, Logistics

and Policy. I am a past national President of the Transportation Research Forum and recently served as a co-editor of a 1999 volume published by the Brookings Institution, Essays in Transportation Economics and Policy. I have been involved in numerous merger proceedings in a variety of industries and have testified in numerous regulatory proceedings before this (and its predecessor) agency, including major rail merger proceedings.¹ My resume is attached as Appendix A to this statement.

SCOPE OF TESTIMONY AND SUMMARY OF CONCLUSIONS

I have been asked to comment on the appropriate issues that the Board should consider and the measures they should undertake in devising new merger guidelines. I have come to three general conclusions about this matter.

First, the circumstances facing the railroad industry and the Board as they approach the next phase of proposed rail mergers are different from those in previous mergers in the industry. Previous Board merger policies are no longer relevant for the current environment. The required changes involve both the formal merger guidelines and the Board's implementation of the Interstate Commerce Act (ICA).

¹ William B. Tye, Testimony before the Interstate Commerce Commission, *Seaboard Air Line Railroad Company—Merger—Atlantic Coast Line Railroad Company: Petition to Remove Traffic Conditions*, Finance Docket No. 21215 (Sub-No.5), 29 March 1993; William B. Tye, Testimony before the I.C.C., Finance Docket No. 32549, *Burlington Northern, Inc. and Burlington Northern Railroad Company—Control and Merger—Santa Fe Pacific Corporation and Atchison, Topeka and Santa Fe Railway Company*, May 10, 1995; William B. Tye, "Post Merger Character of Rivalry" in the Proposed 'SOP/UP' Railroad Merger," before the Texas Railroad Commission, February 5, 1996; William B. Tye, Testimony before the Surface Transportation Board, Docket No. 32760, *Union Pacific—Southern Pacific* merger proceeding, March 29, 1996.

Second, these changed circumstances cause the merger issues to be similar to those confronting other regulated industries undergoing a transition to deregulation and U.S. industry generally. Therefore, the Board can find many examples of workable, useful guidelines now employed in other agencies and departments of the government. In particular, the Department of Justice/Federal Trade Commission and the Federal Energy Regulatory Commission both have a set of guidelines that are very similar, and which provide a good template for the Board to use in devising its own policies. The Board could move towards employing these guidelines without giving up its unique role of employing industry expertise to implement the ICA, while implementing the special merger considerations applicable to the rail industry as found in the ICA.

Third, the recommended reconsideration of merger policy given changed circumstances has numerous key implications. Among them, the Board needs to (1) address "3-to-2" situations both locally (within a market) and nationally (across all North American markets); (2) address the empirical evidence on "one-lump" bottleneck markets by either placing the burden on applicants to demonstrate that the exceptions to the Chicago Theory do not apply, or alternatively granting shippers the right to a challengeable rate to the junction; (3) recognize that competition may be enhanced and efficiency is not necessarily lost if the Board intervenes in vertical foreclosure (i.e., route closure) situations; (4) ensure that the new merger guidelines, and each new merger, contain conditions that mitigate any reduction in competition and actually enhance competition; (5) require that merger applicants demonstrate that the proposed merger benefits are credible and cannot be achieved through other means, such as contracting; and (6) ensure that merger benefits are realizable by shippers.

The basic theme of these conclusions is that competition must be maintained and increased in the railroad industry. As long as the applicants can prove that their

combination will achieve credible efficiency gains and increase competition in the industry, then the Board's new guidelines should allow them to proceed. However, the guidelines must require credible evidence of the likely improvement in competition and efficiency. The economic performance of individual railroads and the industry as a whole depends on it.

INTRODUCTION

The proposed merger of Burlington Northern Santa Fe and Canadian National (BNSF/CN) has appropriately prompted the Surface Transportation Board (STB or Board) - the successor to the Interstate Commerce Commission (ICC) - to initiate a rule-making proceeding focused on reviewing the Board's merger policies and procedures. To provide a meaningful context for its undertaking, however, the Board must first take into account the major problems facing the rail industry today. Without the "vision thing," the Board will not be addressing the root causes of the crisis facing the industry today.

There appear to be three competing visions of what is wrong with the rail industry:

- Past mergers have permitted the remaining carriers to reduce competition, capacity, and service and have failed to achieve the promised efficiency gains. Indeed, the mergers have increasingly led to service "melt downs."
- The industry continues to suffer from "balkanization" and inability to coordinate joint-line and other services. Those advocating this view of the industry believe that more mergers are needed to increase length of haul, rationalize the network, and achieve efficiency gains.

- Enhancing competition would be counterproductive, because it would lead to lower prices and difficulty in making the investments needed for improved service.

These three visions are not necessarily mutually exclusive, especially in their implications for the future directions for the Board's merger policies. However, the first is generally espoused by those who are concerned about the consequences of past rail mergers and are against additional railroad mergers. The last two are views of those who believe that past mergers will eventually realize their promise and support continued rail mergers as the long-run answer to the industry's problems. In fact, these last two views are similar to those espoused about the state of the rail industry at the beginning of deregulation.² Before examining the implications these views have on revised merger policies, one must first look at the evidence on the state of the railroad industry today.

CURRENT STATE OF THE RAILROAD INDUSTRY

An assessment of the facts concerning the railroad industry today runs into the problem that most of the empirical evidence on the state of railroads relies on evidence generated prior to the present crisis arising from the recent consolidation

² Robert G. Harris and Theodore E. Keeler, "Determinants of Railroad Profitability: An Econometric Study," Kenneth D. Boyer and William G. Shepherd, eds., *Economic Regulation: Essays in Honor of James R. Nelson*, East Lansing, Michigan: Michigan State University, 1981, p. 49.

...the underlying cause of the industry's declining performance is the failure to attain the level of profit required to sustain economic viability and access to capital markets...Excess capacity, which prevents carriers from attaining economies of traffic density, and balkanization, which raises costs and lowers service quality by preventing carriers from exploiting economies of route integration, are important factors.

of railroads. Nevertheless, anecdotal evidence of recent industry developments and research in academic journals can help inform appropriate merger policy.

Effects of Mergers

The Board, in its decision regarding this proceeding,³ recognized the service problems accompanying recent mergers, the downward trend in railroad stock market equities, the lack of sufficient infrastructure (not excess capacity) that is plaguing the industry, and the Board's need to focus on and protect competition in the railroad industry. The recent proposed BNSF/CN transaction, in an atmosphere of widely recognized negative effects of recent mergers,⁴ prompted the Board to initiate these proceedings. The Board's initial decision comments often on the need to protect competition in the industry for the benefit of all, something that obviously could be threatened by a "business as usual" approach to future rail mergers.

The inability of the railroads to digest the last round of mergers is no secret. Initially, many concerns related to the UP/SP merger.⁵ More recently, Norfolk Southern temporarily cut service to some cities and delayed the implementation of

³ Surface Transportation Board Decision, STB Ex Parte No. 582, "Public Views on Major Rail Consolidations," served March 17, 2000, pp. 2-3,6.

⁴ It is worth noting that there has been skepticism about the positive benefits of mergers in the economy in general, not restricted to the rail industry. See Steven Rattner, "Mergers: Windfalls or Pitfalls?" *The Wall Street Journal*, October 11, 1999, p. A22, and Steven Lipin, "Merger Market Takes a New, Nasty Turn," *The Wall Street Journal*, May 2, 2000, p. C20.

⁵ See Daniel Machalaba & Anna Wilde Mathews, "Union Pacific Tie-Ups Reach Across Economy," *The Wall Street Journal*, October 8, 1997, pp. B1, B17; Daniel Machalaba, "Union Pacific Corp. Customers Criticize Move to Lift Measures to Improve Service," *The Wall Street Journal*, August 3, 1998, pp. A2, A6; Daniel Machalaba, "Union Pacific to Repurchase Track, Save Lines," *The Wall Street Journal*, August 25, 1998, p. A3; Daniel Machalaba, "A Big Railroad Merger Goes Terribly Awry In a Very Short Time," *The Wall Street Journal*, October 2, 1997, pp. A1, A13; and Barbara Whitaker, "Untangling Gridlock On the Union Pacific," *The New York Times*, March 7, 1999, p. 4.

the Conrail breakup in July 1998.⁶ As recently as April 25, 2000, CSX's chairman, John Snow, acknowledged that "our terminals are congested and clogged, and we aren't getting the cars out in a timely way." As the Board knows, it recently criticized CSX for not achieving a "sustainable level" of service improvement since the takeover of Conrail. Part of the problem was CSX cutting prices and attracting large increases in traffic.⁷ Presumably, the industry is learning a lesson here that it will return to below.

The evidence supports the notion that railroads have cut capacity on their lines, while at the same time increasing the flow of traffic over the remaining routes. "Major railroads have cut their workforces by about 60% and track networks by around 35% since 1980, while freight traffic has grown more than 45%."⁸ The General Accounting Office (GAO) found that from 1990 to 1997, Class I railroad mileage was reduced by about 15%, while employment fell approximately 18%.⁹

In 1999 the GAO released a study of rail rates and service performance during the 1990's. It found that about 60% of survey respondents felt that their service was worse in 1997 than it was in 1990.¹⁰ Many of these shippers believed that their service had deteriorated due to mergers in the rail industry.¹¹ According to the railroads, some of "the reasons cited for service problems were increased rail traffic and industry downsizing, which have created capacity constraints in the rail

⁶ Daniel Machalaba, "Norfolk Southern Plans to Cut Service, Delay for Months Breakup of Conrail," *The Wall Street Journal*, July 27, 1998, p. B7B.

⁷ Don Phillips, "CSX Criticism Gathers Steam," *The Washington Post*, April 25, 2000, p. E2.

⁸ Daniel Machalaba & Anna Wilde Mathews, "Shippers Demand More Railroad Competition," *The Wall Street Journal*, April 5, 1999, pp. A2, A6.

⁹ General Accounting Office, "Railroad Regulation: Changes in Railroad Rates and Service Quality Since 1990," GAO/RCED-99-93, April 1999, p. 32.

¹⁰ *Ibid.*, p. 6.

¹¹ *Ibid.*, pp. 70-71.

system."¹² The study also found that while rail rates have generally decreased since 1990, they are at the same levels or higher for some routes and commodities. Those route/commodity combinations that faced the least competition (either from other railroads or other methods of transportation) had the highest rates.¹³

Several studies have also tried to determine whether the efficiency gains in the post-Staggers era were due to deregulation or the mergers that occurred. In general, these researchers have found that most of the benefits that railroads have enjoyed in the past two decades are due to deregulation and competition, not the mergers that have characterized the industry since the passage of the Staggers Act.

Berndt, Friedlaender, Chiang and Velturo wrote two articles (one with Showalter) that analyzed the impact of mergers and deregulation on railroad costs. They found that costs decreased in the period after deregulation, but that the vast majority of the benefits were due to deregulation, not mergers among the carriers. In analyzing the cost benefits of 4 specific mergers in the late 70's/early 80's, the authors found that there were some cost savings. However, the savings were approximately the same as for the control group of railroads that did not merge, implying that the competitive environment due to deregulation was the cause of the cost improvements, not the mergers themselves.¹⁴

¹² *Ibid.*, p. 6.

¹³ *Ibid.*, p. 5-6.

¹⁴ Ernst R. Berndt, Ann F. Friedlaender, Judy Shaw-Er Wang Chiang & Christopher A. Velturo, "Cost Effects of Mergers and Deregulation in the U.S. Rail Industry," *The Journal of Productivity Analysis*, Vol. 4, No. 1/2, June 1993, p. 141. Christopher A. Velturo, Ernst R. Berndt, Ann F. Friedlaender, Judy Shaw-Er Wang Chiang & Mark H. Showalter, "Deregulation, Mergers, and Cost Savings in Class I U.S. Railroads, 1974-1986," *Journal of Economics & Management Strategy*, Vol. 1, No. 2, Summer 1992, pp. 367-8.

Chapin & Schmidt also found that efficiency has improved for U.S. Class I rail firms since deregulation, but that it has not been due to mergers in the industry. The merged firms are more efficient at track maintenance and repair, but no more efficient in their shipping operations than their non-merged counterparts. The results also indicate that nearly half of the merged firms in the rail industry are operating above their efficient size, implying that the firms should not merge further, less they experience continued decreasing returns to scale.¹⁵

Bereskin estimated cost function shifts for the railroad industry over the 1978-1993 time period. He found an average productivity growth of 2.11 percent, although most of the increase occurred in the 1981-1982 period, with productivity slowdowns after. This later period had most of the big consolidation mergers.¹⁶

Schmidt found that duopoly competition reduced the price/cost margin markups from the monopolistic levels, and that mergers between these duopoly competitors could have anticompetitive effects.¹⁷

Park et al., found that the UP/SP and BN/SF mergers reduced the price of shipping Kansas wheat to Houston. But in the cases examined, the merged parties still faced intramodal competition in the market after the merger, and the study concluded that "competitive rail prices will occur if shippers have access to at least two

¹⁵ Alison Chapin & Stephen Schmidt, "Do Mergers Improve Efficiency? Evidence from Deregulated Rail Freight," *Journal of Transport Economics and Policy*, Vol. 33, Part 2, May 1999, p. 158.

¹⁶ C. Gregory Bereskin, "Econometric Estimation of the Effects of Deregulation on Railway Productivity Growth," *Transportation Journal*, Vol. 35, No. 4, Summer 1996, pp. 40-41.

¹⁷ Stephen Schmidt, "Oligopoly Competition and Market Power in Rail Freight Markets," Department of Economics, Union College, August 1995, working paper in progress pp. 26-27.

railroads" (p. 289).¹⁸ Other researchers have also investigated the impact of deregulation on rail rates for specific commodities shipped from specific regions.¹⁹

Consequences of the Staggers Act

Numerous academic studies have attempted to determine the effects of the Staggers Act (and thus, deregulation) on economic efficiency, rates and service, and competition in the railroad industry.²⁰ Many of these have found relatively positive benefits of enhanced efficiency, although there is an increasing element of skepticism.²¹ Several of these studies have also investigated whether the benefits of post-Staggers improvements came from deregulation or mergers; these studies have already been discussed in the previous section.²² In addition, some studies have examined whether rates in the rail industry are impacted by the level of

¹⁸ Joon Je Park, Michael W. Babcock & Kenneth Lemke, "The Impact of Railroad Mergers on Grain Transportation Markets: a Kansas Case Study," *Transportation Research: Part E: Logistics and Transportation Review*, Vol. 35, No. 4, December 1999, pp. 269-290.

¹⁹ See James M. MacDonald, "Competition and Rail Rates for the Shipment of Corn, Soybeans, and Wheat," *Rand Journal of Economics*, Vol. 18, No. 1, Spring 1987, pp. 151-163; and James M. MacDonald, "Railroad Deregulation, Innovation, and Competition: Effects of the Staggers Act on Grain Transportation," *Journal of Law & Economics*, Vol. 32, No. 1, April 1989, pp. 63-95.

²⁰ For a summary of the beneficial effects of deregulation on the transportation industries in general, and railroads in particular, see Steven A. Morrison & Clifford Winston, "Regulatory Reform of U.S. Intercity Transportation," *Essays in Transportation Economics and Policy*, ed. Jose Gomez-Ibanez, William B. Tye & Clifford Winston, Washington, D.C.: Brookings, 1999, pp. 469-492.

²¹ Part of the skepticism lies in the fact that most of the excess capacity in the rail industry has been removed. The lack of sufficient capacity is more of a problem in the industry, so efficiencies from elimination of excess track capacity will not be available in the future. This does not imply that there are no efficiencies left to achieve, merely that they will require more effort and innovation on the part of railroads.

²² In particular, note the Berndt, Friedlaender, Chiang & Velluro; Velluro, Berndt, Friedlaender, Chiang & Showalter; Bereskin and Chapin & Schmidt articles cited above.

competition in general, without specific reference to the Staggers Act. Winston, et. al., found that adding one competitor to a shipper's route decreased the rates that the shipper paid.²³ The GAO report also noted that shippers that had competitive alternatives paid lower rates.²⁴

Fitzsimmons & Knudsen found that railroad competition did increase initially after the passage of the Staggers Act in 1980. However, over time, railroads learned to avoid competition with each other.²⁵ Bitzan found that rail rates had increased after deregulation, as well as railroad profits.²⁶ Wilson found that productivity was higher immediately after deregulation, but had returned to "pre-Staggers levels" by 1989. He also found that costs for railroads were 40% lower in 1989 under deregulation than if the railroads had remained regulated.²⁷ The author's results seem to indicate that there was a large reaction to the new deregulated environment, but once that was achieved, the productivity and cost improvements slowed down considerably.

These studies of the effects of Staggers on competition and rates in the rail industry reveal three cautionary warnings about the impact of deregulation on rates. First, the more recent evidence reveals a threat to the benefits of deregulation, as firms have consolidated their market power and experienced service problems. Second,

²³ Clifford Winston, Thomas M. Corsi, Curtis M. Grimm & Carol A. Evans, *The Economic Effects of Surface Freight Deregulation*, Washington, D.C.:Brookings, 1990, p. 47.

²⁴ GAO, p. 51.

²⁵ Edward Fitzsimmons & James Knudsen, "Market Share Instability among Class I Railroads and the Impact of Deregulation," *The Quarterly Review of Economics and Business*, Vol. 31, No. 2, Summer 1991, p. 75.

²⁶ John Bitzan, "Railroad Deregulation: Impacts on Rates and Profitability" Upper Great Plains Transportation Institute Staff Paper No. 122, July 1994, p. 15.

²⁷ Wesley W. Wilson, "Cost Savings and Productivity in the Railroad Industry," *Journal of Regulatory Economics*, Vol. 11, No. 1, January 1997, p. 23.

the benefits of deregulation have not been equally shared among shippers. Those beholden to one railroad have typically experienced higher rates than shippers with many competitive choices. This has important implications for future merger policy: if competition decreases with new mergers, then rates can be expected to increase. Finally, if these, and other rate studies, rely on revenue per ton-mile without controlling for the characteristics of the shipments, then the resulting conclusions on price will be influenced by these other factors. In general, the studies cited here do control for the other factors, but as R.L. Banks & Associates demonstrated, any results that do not explicitly control for these factors should be viewed with a critical eye towards exactly what they are measuring.²⁸

"3-to-2" Issues

It is a generally accepted principle of economic theory that the more competitors there are in an industry, the closer the price will approach the competitive level. If there is only one (unregulated) firm, the monopolistic price will prevail in the industry. If there are hundreds of competitors, then the price will be at the competitive level. As the industry moves from one to many firms, the price continues to decrease in most of the commonly applied models of oligopoly that assume firms are pricing in excess of marginal costs.²⁹

²⁸ See R.L. Banks & Associates, Inc and Fieldston Company, Inc., "Rail Freight Rates in the Post-Staggers Era," April 1998.

²⁹ See F.M. Scherer & David Ross, *Industrial Market Structure and Economic Performance*, Third Edition, Boston: Houghton Mifflin Company, 1990, p. 226:

Any realistic theory of oligopoly must take as a point of departure the fact that when market concentration is high, the pricing decisions of sellers are interdependent and the firms involved can scarcely avoid recognizing their mutual interdependence. Perceptive managers will recognize that their profits will be higher when cooperative policies are pursued than when each firm looks only after its own narrow self-interest. As a consequence, even in the absence of any

What is true throughout the spectrum is also true as one moves from three to two competitors. As Carlton and Perloff demonstrate in their *Industrial Organization* textbook, adding a third competitor to the Cournot model of duopoly results in lower prices and greater output.³⁰ The Cournot model of oligopolistic competition is one of the standard models of economics that deals with competition in concentrated markets.

The DOJ/FTC merger guidelines virtually guarantee that a "3-to-2" situation will result in a review of the merger. The most equal distribution of three competitors (and hence lowest Herfindahl-Hirschman Index, or HHI) results in an HHI of 3333. The most equal distribution of two competitors results in an HHI of 5000. The merger guidelines state that, "mergers producing an increase in the HHI of more than 50 points in highly concentrated markets post-merger potentially raise significant competitive concerns. . . Where the post-merger HHI exceeds 1800, it will be presumed that mergers producing an increase in the HHI of more than 100 points are likely to create or enhance market power or facilitate its exercise."³¹ Since the post-merger HHI of a "3-to-2 situation" is greater than 1800, the DOJ/FTC would very likely review the merger and require that the reduced competition be mitigated. Of course, it is possible that the increase in the HHI

formal collusion among firms, we should expect tightly oligopolistic industries to exhibit a tendency toward the maximization of collective profits, perhaps even approaching the pricing outcome associated with pure monopoly.

See Leonard W. Weiss, editor, *Concentration and Price*, Cambridge, MA: MIT Press, 1989, pp. 266-284, for a summary of studies of the price-concentration relationship in various industries. Weiss comments that the studies find, in general, that as concentration increases, prices do, too. (pp. 268-269)

³⁰ Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization*, Second Edition, New York: Harper Collins College Publishers, 1994, pp. 242-244.

³¹ DOJ/FTC 1992 Horizontal Merger Guidelines, Section 1.51, April 1992.

would be less than 50 points (if two competitors already controlled the vast majority of the market), in which case the DOJ/FTC would be less concerned about negative competitive consequences.³² But any merger that increased the HHI by more than 50 points would initiate DOJ/FTC review of the proposed merger and likely action to prevent the reduction of competition.

One of the few empirical studies to examine the impact of a third competitor on competition in U.S. industry generally found that a stronger second competitor in a market increased industry margins, while an increase in the size of a third competitor reduced industry margins.³³ This implies that a third competitor is more of a rival than the second competitor, and generates more competition than an industry with two dominant players.³⁴

Turning to the rail industry specifically, Grimm also found that "transformations of markets with three firms, not equally sized, to two firms appear to produce the greatest harm to competition. For increases in concentration above this range (4500 - 6500 HHI), effects on prices are much smaller, suggesting that, once a certain concentration is achieved, further reduction from two firms to one (or further

³² This does not imply that any merger with an increase in the HHI of less than 50 points should not be reviewed. If one carrier already had 100% of the market for a certain route due to existing contracts, then acquiring a rival that has the potential to serve that route would likely decrease competition. The existence of the other rival decreases the ability of the firm with the contracts to raise prices, since the shippers can switch to the rival. Therefore, HHI considerations should not be "black and white."

³³ John E. Kwoka, Jr., "The Effect of Market Share Distribution on Industry Performance," *The Review of Economics and Statistics*, Vol. 61, No. 1, February 1979, p. 104.

³⁴ The results also imply that two competitors are more likely to be able to (tacitly or explicitly) collude to raise prices than three competitors. The third competitor breaks the ability to collude on prices.

differences in relative sizes of the two existing firms) is less significant."³⁵ Grimm goes on to state: "The results show that the reduction of direct competition in relevant markets will, in general, have a moderate effect on prices. However, the magnitude of the effect depends crucially on the market environment, in particular: existing levels of concentration, degree of intermodal competition, and concentration in vertically linked markets."³⁶ Grimm & Plaistow found that the Union Pacific/Southern Pacific merger, which had substantial parallel components, had large competitive harms.³⁷

Several researchers have also found that increases in rail competition lead to lower rail rates. These include the studies by Levin and MacDonald.³⁸ MacDonald found that "competition among railroads has a statistically significant, fairly strong effect on rates. More competitors, as measured [in the statistical analysis] are associated with lower rates."³⁹ He also noted that "railroad mergers that increase concentration will lead to rate increases. . . The analysis shows an important, statistically significant effect of concentration on prices in an industry with high barriers to entry and large capital commitments."⁴⁰ Levin found that as the degree of competition increased after deregulation, the rates that the railroads could

³⁵ Curtis M. Grimm, "Horizontal Competitive Effects in Railroad Mergers," *Research in Transportation Economics*, Vol. 2, 1985, p. 41.

³⁶ *Ibid.*, p. 47.

³⁷ Curtis M. Grimm & Joseph J. Plaistow, "Competitive Effects of Railroad Mergers," *Journal of the Transportation Research Forum*, Vol. 38, No. 1, 1999, pp. 69, 74.

³⁸ Richard C. Levin, "Railroad Rates, Profitability, and Welfare Under Deregulation," *The Bell Journal of Economics*, Vol. 12, No. 1, Spring 1981, pp. 1-26. The MacDonald articles are cited above.

³⁹ MacDonald, 1989, p. 87.

⁴⁰ MacDonald, 1987, pp. 160, 162.

charge would decrease.⁴¹ The converse of this is that reducing the level of competition in the railroad industry leads to higher rates.

The recent history of regulatory policy towards competition and mergers in the rail industry has been based on two related assumptions:

1. The rail industry is plagued with excess capacity and must price well in excess of marginal (i.e., variable or traffic-sensitive) costs to be revenue adequate; and
2. Excessive competition motivated by excess capacity would ruinously drive prices to marginal cost and prevent revenue adequacy.

However, all the evidence today supports the exact opposite conclusion: as explained above, the rail industry suffers from excess traffic relative to capacity; past concerns over excessive competition are therefore no longer compelling. In any event, a vast number of former carriers in the industry have already been eliminated through merger. Concerns that railroads would engage in ruinous price wars under competition are not based on the reality of the industry today.

The "3-to-2" issues are extremely critical for the Board to evaluate at this time, since the trend in railroad mergers appears to be leading to the inevitable creation of two transnational railroads in North America - if not checked by the Board - or at least in the United States. The empirical evidence demonstrates that removal of the crucial third competitor would have far-reaching consequences for the competitiveness of the railroad industry. The pricing and service problems

⁴¹ Levin, 1981, p. 16.

characterizing the current state of the railroad industry, with fewer, larger competitors, will only be exacerbated by the elimination of another competitor.

Before the UP/SP merger and the Conrail breakup, the elimination of one competitor still meant that other segments of the rail network in the U.S. would face competition from more than one other railroad. However, if the industry consolidates into two transcontinental firms, there will no longer be any routes where the railroads face more than one competitor, and this lack of upstream or downstream competition can be expected to lead to higher rates and greater exercise of monopoly/duopoly power throughout the system. Two railroads in a market is problematic enough. Two railroads throughout the entire network is even worse, since competition by more than two carriers will not be present in any market in the country.

"One-Lump" Theory

The "Chicago School" of vertical merger analysis criticized the idea that a monopoly over a bottleneck portion of a network could create more monopoly power by vertically integrating and foreclosing a competitor in an upstream or downstream market ("vertical foreclosure").⁴² The idea was that any monopoly profits that could have been extracted in the upstream market (the "One-Lump") would have been appropriated before the merger by the bottleneck firm. Merger policy at the ICC/STB has espoused this view of vertical foreclosure. The theory asserts that

⁴² Refer to Figure 1 in Appendix B for a representation of the theory as applied to the bottleneck portion of a rail route. In the diagram, the segment XY is a bottleneck, since only one carrier has tracks that lead between those two points. The portion of the route YZ is potentially competitive because two railroads have tracks that lead between these two points. Vertical foreclosure after a merger means that the bottleneck carrier either simply refuses to deal or prices the access to its segment along XY so high that the other carrier on the YZ segment cannot compete.

there could be no negative effects of mergers with an upstream supplier, since there were no additional monopolistic rents to be earned (sometimes also referred to as the "neutrality" theory).

However, more recent analysis of the potential for monopolistic behavior after a vertical or end-to-end merger has shown that this simple view of post-merger competition is not necessarily true. An emerging literature has shown that this "One-Lump" theory is only a special case that requires a number of specific assumptions to be satisfied. This more recent analysis has focused on oligopolistic models of industrial organization to show that vertical mergers may, in certain circumstances, lead to increased monopoly power after the acquisition.

Scherer & Ross show that the necessary conditions are quite complex. Vertical integration by a bottleneck monopolist will result in an increase in monopoly power depending on at least four factors: "the elasticity of substitution between [the] monopolized input . . . and other inputs" (the bottleneck portion and the other routes), "the extent to which [the bottleneck route] is important as an input into the downstream production process" (the importance of the route), "the elasticity of demand for the downstream product" and "the structure of the downstream market before integration" (number of competitors, type of competition, etc.). While not denying the possibility of the Chicago hypothesis, Scherer and Ross show that it is an empirical matter whether the necessary conditions will exist in the marketplace such that extension of monopoly power will not result from vertical integration.⁴³

Riordan & Salop also discuss the different conditions that must exist in the industry for vertical integration not to lead to decreases in competition after the vertical

⁴³ F.M. Scherer & David Ross, *Industrial Market Structure and Economic Performance*, Third Edition, Boston: Houghton Mifflin Company, 1990, p. 524.

integration.⁴⁴ Some of the conditions that have to be examined include the availability of substitutes in both the input and output markets, competition in the upstream and downstream markets, elasticity of input demand, the possibility of price discrimination when selling the input, whether the acquired firm is a maverick or not, output market product differentiation and whether the input costs are predominantly fixed or variable. While each industry has differing degrees of these various factors, the impact of a vertical acquisition needs to be determined empirically on a case-by-case basis.

Riordan shows that "backward vertical integration by a dominant firm into an upstream competitive industry causes both input and output prices to rise." Whether the cost advantage offsets "the negative effect of higher prices on social welfare" depends on the relative "input and output market shares" and "the degree of prior vertical integration."⁴⁵

The necessary conditions needed to validate the "One-Lump" result can be rather restrictive. First of all, the theory is a static model of the industry, and does not allow for dynamic interactions between the firms. This is generally unrealistic in the context of the real economy. These dynamic considerations include investment decisions (whether the decision to incur fixed costs that the potentially-foreclosed firm needs to make will be taken advantage of by the monopolist after they have been sunk), entry and exit of other competitors, and changing of rates following the introduction of competition, to name a few. Second, the theory assumes that there is perfect information about each firm's costs before the merger. Third, the theory assumes that there are no transaction costs involved in contracting for the traffic

⁴⁴ Michael H. Riordan & Steven C. Salop, "Evaluating Vertical Mergers: A Post-Chicago Approach," *Antitrust Law Journal*, Vol. 63, 1995, pp. 513-568.

⁴⁵ Michael H. Riordan, "Anticompetitive Vertical Integration by a Dominant Firm," *The American Economic Review*, Vol. 88, No. 5, December 1998, p. 1232.

interchange. These transaction costs are partly included in the perfect information requirement, but also include the cost of contracting for all possible contingencies. These are also unrealistic characterizations of railroad firms in the economy. Indeed, many of the necessary conditions to validate the "One-Lump" theory are denied by the applicants when making their claims of market imperfections (and thus efficiency gains) that can only be cured by the proposed merger.⁴⁶

The key to these various studies is that one cannot say *a priori* that vertical integration definitely will or will not lead to increased monopoly power. These studies demonstrate that the particulars of each individual case need to be examined to determine how the specific industry structure and the status of the individual firms within that industry will be impacted by the vertical integration. In some cases it will result in no increase in market power, but in others it may. Empirical investigation is the only way to determine which outcome will result.

Turning from the economic theory to empirical evidence, two key studies of the effects of vertical integration in the railroad industry have found that the "One-Lump" was not applicable. Grimm, et al., found that interline competitors did have a positive effect on competition in the rail markets served by a carrier with a

⁴⁶ See William B. Tye, "Market Imperfections, Equity, and Efficiency in Antitrust," *The Antitrust Bulletin*, Vol. 37, No. 1, Spring 1992, pp. 1-34. In general, merger benefits result from the elimination of an existing market imperfection, which may be in conflict with the arguments by applicants that the market is highly competitive before the merger. For example, merger applicants have previously argued that one of the benefits of a proposed merger is to get rid of market imperfections arising from barriers to efficient contracting caused by "gaming" behavior of railroads not under common ownership. These same applicants then deny that they would have any incentive to act similarly towards the other non-merging carriers opposing the transaction.

bottleneck portion of the route.⁴⁷ Grimm & Plaistow found that the "primarily end-to-end BN/SF consolidation" had negative competitive harms of approximately \$250 million.⁴⁸

While it is by no means a necessity that vertical integration will increase monopoly power, the empirical question of where and when this applies to the railroad industry needs to be answered. Uncritically accepting "One-Lump" theories without examining evidence to determine whether the necessary conditions are satisfied forecloses the evidence that could show that monopoly power might increase through a vertical merger. The Board should require applicants to offer demonstrable evidence of the competitive effects of vertical mergers on the remaining competitors and rail shippers where a bottleneck segment of a route exists.

Competitive Access/Efficiency Theories

The arguments in support of the "One-Lump" theory are very closely connected to those advanced in support of the efficient component-pricing rule (ECPR) and the theory that "voluntary negotiations" should govern traffic interchange among carriers. These theories state that the ECPR produces the only efficient price of access to a bottleneck facility (an example of what is called a "division" in the railroad industry) and this price will be adopted via "voluntary negotiations" among the carriers. The corollary is that granting access rights to other competitors over a

⁴⁷ Curtis M. Grimm, Clifford Winston & Carol A. Evans, "Foreclosure of Railroad Markets: A Test of Chicago Leverage Theory," *The Journal of Law & Economics*, Vol. 35, No. 2, October 1992, p. 303.

⁴⁸ Curtis M. Grimm & Joseph J. Plaistow, "Competitive Effects of Railroad Mergers," *Journal of the Transportation Research Forum*, Vol. 38, No. 1, 1999, pp. 69, 72.

bottleneck portion of a route or in any way interfering with the price of access set by the bottleneck carrier would lead to inefficient producers supplying the market.

It is simply not true that voluntary negotiations leading to ECPR pricing are a necessary condition for economically efficient competitive access pricing.⁴⁹ Despite efforts of the proponents of ECPR and "voluntary negotiations" to the contrary, this skeptical view is becoming more widely accepted in an emerging body of economic literature.⁵⁰ Indeed, I have demonstrated elsewhere that the alleged uniqueness of ECPR as an efficient price is dependant on a hidden assumption in the "proof."⁵¹ I

⁴⁹ William B. Tye, "Achieving Competitive Neutrality in Rail Competitive Access Disputes," *Journal of Transportation Law, Logistics and Policy*, Vol. 65, No. 4, Summer 1998, pp. 343-358. Appendix B to this report has a more complete discussion and an example, which comes from this paper.

⁵⁰ The response to the emergence of this problem has been an emerging literature on the economics of network access pricing. See M. Armstrong, C. Doyle, and J. Vickers, "The Access Pricing Problem: A Synthesis," *Journal of Industrial Economics*, Vol. 44 (1996): 131-150; Jean-Jacques Laffont and Jean Tirole, "Creating Competition Through Interconnection: Theory and Practice," *Journal of Regulatory Economics*, Vol. 10, No. 3 (November 1996): 227-256; Jean-Jacques Laffont, Patrick Rey, and Jean Tirole, "Network Competition: I. Overview and Nondiscriminatory Pricing," and "II. Price Discrimination," *The RAND Journal of Economics*, Vol. 29, No. 1 (Spring 1998): 1-56; David Gabel and David F. Weiman, *Opening Networks to Competition: The Regulation and Pricing of Access* (Boston: Kluwer Academic Publishers, 1998); and Alexander C. Larson and Dale E. Lehman, "Essentiality, Efficiency, and the Efficient Component Pricing Rule," *Journal of Regulatory Economics*, Vol. 12 (1997): 71-80. For an example where the efficient component pricing rule might lead to the exclusion of efficient suppliers, see Paolo Buccirossi, "Access to an Essential Facility: Efficient Component Pricing Rule or Unrestricted Private Property Rights?" *Journal of Regulatory Economics*, Vol. 16, No. 3, November 1999, pp. 287-296.

⁵¹ See, for example, Carlos Lapuerta & William B. Tye, "Promoting Effective Competition Through Interconnection Policy," *Telecommunications Policy*, Vol. 23, 1999, pp. 129-145; William B. Tye & Carlos Lapuerta, "The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand," *Yale Journal on Regulation*, Vol. 13, No. 2, Summer 1996, pp. 419-500; William B. Tye, "The

show that, as long as price competition prevails, almost any method of pricing access leads to the most efficient firm providing the service over the competitive segment of a route containing a bottleneck.

Indeed, most other regulated industries undergoing a successful transition to deregulation have successfully implemented pro-competitive access regimes and many regulatory agencies have dealt rather harshly with ECPR.⁵² One of the reasons is that under ECPR, the monopolist controlling the bottleneck can have incentives to prevent other efficient competitors from supplying the market. In these cases, voluntary negotiations and the ECPR will not result in the most efficient outcome. Competitive access does not need to be determined by the ECPR; regulatory regimes designed to promote competitive access can be an efficient outcome.

In short, voluntary negotiations are not necessary for efficient outcomes in the situation of a bottleneck carrier connecting with one or more origin carriers. Enhancing access to competitors in bottleneck situations does not necessarily lead to inefficient outcomes. The proponents of the voluntary negotiations theory base their 'proof' on a hidden assumption. It is imperative that the Board recognize that

Pricing of Inputs Sold to Competitors: A Response," *Yale Journal on Regulation*, Vol. 11, No. 1, Winter 1994, pp. 203-224.

⁵² Ministry of Commerce and Treasury of New Zealand, "Regulation of Access to Vertically-Integrated Natural Monopolies," August 1995, p. 33:

To summarize, the [ECPR] rule was solely designed to achieve the goal of productive efficiency. In the simplest, static and no-uncertainty contexts the rule achieves this goal. However, if other factors are introduced, such as uncertainty and sunk costs, or if the dynamic benefits of competition are considered, the [ECPR] rule may, in fact, deter efficient entry. Together [this and other] considerations raise concerns about the appropriateness of the [ECPR] rule for pricing interconnection in the New Zealand regulatory environment.

vertical mergers can be anticompetitive and that pro-competitive conditions to mitigate these harms will not necessarily lead to inefficient routings and indeed may be necessary to promote competition. The Board should require applicants to prove that vertical mergers would not result in these anticompetitive outcomes and that these harms should not be mitigated.

MERGER STANDARDS FOR RAILROADS VERSUS OTHER INDUSTRIES

Firms in the US that want to merge face one of three different regimes in their attempt to get government approval. The majority of industries in the country fall under the jurisdiction of the DOJ and FTC, which can challenge mergers in the Courts. For some industries undergoing a transition to deregulation and greater competition, the DOJ/FTC still have the ability to challenge proposed mergers, but the respective commissions also have the authority to regulate and condition the mergers.⁵³ As a general rule, these other agencies have combined their industry expertise with the guidelines developed by the DOJ/FTC. This two-pronged approach provides uniform standards while addressing special individual industry concerns. Finally, for airlines and railroads, regulatory oversight agencies/departments maintain exclusive authority to approve mergers.

Because the agencies in the third regime usually grant antitrust immunity to the mergers they approve, these transactions are beyond the jurisdiction of the usual DOJ/FTC merger review process. These mergers are also governed by legislation other than the Clayton Act.

⁵³ Examples are the telecommunications, banking and electric power industries. However, for firms in these industries, approval by the regulatory agency/commission does not prevent the DOJ/FTC from also challenging the merger. See International Competition Policy Advisory Committee to the DOJ, *Final Report*, February 2000, Annex 3-B.

The new circumstances of the railroad industry justify modifying the third approach to adopt many of the substantive features of the second approach while preserving the administrative features unique to the current system. In other words, railroad transactions should be tested against substantive merger standards similar to those imposed by the DOJ/FTC, while at the same time making effective use of the Board's expertise in the railroad industry. This can be accomplished simply by having the STB adopt merger guidelines similar to those adopted by the DOJ/FTC and other agencies like the FERC.

The Board, as stated above, has recognized the service problems accompanying recent mergers, the downward trend in railroad stock market equities, the lack of sufficient infrastructure - not excess capacity - that is plaguing the industry, and the need to focus on, and protect, the competitive state of the railroad industry. The negative effects of the recent mergers have prompted the Board to initiate these proceedings, and in particular led the Board to note the lack of benefits that have derived from the mergers and the concerns of shippers over the poor service they are receiving. The recognition by the Board of the changed circumstances in the railroad industry leads the way to a new set of standards for judging future rail mergers. The FERC employed a similar logic (to different facts, of course) when it decided to change its merger guidelines:

"This Policy Statement updates and clarifies the Federal Energy Regulatory Commission's (Commission) procedures, criteria and policies concerning public utility mergers in light of dramatic and continuing changes in the electric power industry and corresponding changes in the regulation of that industry. The Commission believes it is particularly important to refine and modify its merger policy at this critical juncture for the electric industry. The Commission recognizes that the electric industry is now in the midst of enormous

technological, regulatory and economic changes. . . Mergers and consolidations are among the strategic options available for companies seeking to reposition themselves in response to the emerging competitive business landscape."⁵⁴

The "critical juncture in the electric industry" prompted the FERC to change its merger guidelines in 1996, and it basically adopted the DOJ/FTC standards. While there are some energy-specific methods for calculating the market power of a merged firm, the DOJ/FTC and FERC look at the same five-step procedure to analyze a merger:

1. Assess "whether the merger would significantly increase concentration and result in a concentrated market" (based on an HHI),⁵⁵
2. Assess "whether the merger . . . raises concerns about potential adverse competitive effects," based on market characteristics,
3. Assess "whether entry would be timely, likely and sufficient either to deter or to counteract the competitive effects of concern,"
4. Assess "any efficiency gains that reasonably cannot be achieved by the parties through other means."⁵⁶ and

⁵⁴ FERC "Policy Statement Establishing Factors the Commission Will Consider in Evaluating Whether a Proposed Merger Is Consistent with the Public Interest," Order No. 592, December 18, 1996, p. 1.

⁵⁵ FERC follows the HHI guidelines that the DOJ/FTC set out in the Horizontal Merger Guidelines, as described in the section "3-to-2" Issues.

⁵⁶ The DOJ/FTC revised the efficiency section (Section 4) of the Horizontal Merger Guidelines in April 1997. The Agency noted that:

5. Assess "whether, but for the merger, either party to the transaction would be likely to fail, causing its assets to exit the market."⁵⁷

There is no reason why the Board cannot adopt similar guidelines to the DOJ/FTC/FERC, modified as needed to the specifics of the railroad industry. One potential modification would be a focus on third carrier issues to ensure that the number of competitors in each market is preserved before approving a merger. This could involve DT&I-like conditions, trackage rights, asset sales, or other

the merging firms must substantiate efficiency claims so that the Agency can verify by reasonable means the likelihood and magnitude of each asserted efficiency, how and when each would be achieved (and any costs of doing so), how each would enhance the merged firm's ability and incentive to compete, and why each would be merger-specific. Efficiency claims will not be considered if they are vague or speculative or otherwise cannot be verified by reasonable means.

The Guidelines go on to say:

the Agency will not simply compare the magnitude of the cognizable efficiencies [merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or service . . . assessed net of costs produced by the merger or incurred in achieving those efficiencies] with the magnitude of the likely harm to competition absent the efficiencies. . . In the Agency's experience efficiencies are most likely to make a difference in merger analysis when the likely adverse competitive effects, absent the efficiencies, are not great. Efficiencies almost never justify a merger to monopoly or near-monopoly.

Likewise, I am not endorsing the Williamsonian tradeoff theory (i.e., comparing the costs of adverse consequences from reduced competition with alleged efficiency gains). The answer is to achieve a "win-win" by requiring conditions on the merger to mitigate the anticompetitive consequences.

⁵⁷ All quotes from the FERC "Policy Statement Establishing Factors the Commission Will Consider in Evaluating Whether a Proposed Merger Is Consistent with the Public Interest," Order No. 592, December 18, 1996, p. 3-4, which quotes the DOJ/FTC 1992 Horizontal Merger Guidelines.

competitive access rights. Regardless of the type of conditions implemented, the Board should strive to maintain and enhance competition with conditions specifically designed to do so.

However, it is important to note that the FERC modified the calculation of the HHI (the first step in the 5-step merger guidelines). The Board should not necessarily adopt the exact modifications that FERC adopted. Necessary modifications to the existing DOJ/FTC guidelines should be industry specific. Although the Board's standards could be very similar to those of the DOJ/FTC, the Board would still maintain ultimate authority to grant or deny mergers in the railroad industry consistent with the ICA, thereby ensuring that the railroad-specific concerns were given full weight in the proceedings.

RECOMMENDATIONS

The three visions of the rail industry today that were listed above in the Introduction do not imply that the Board has to choose among three separate potential merger policies based on its current assessment of the industry. In fact, two of the three visions lead to the same policy recommendations, while the third already has lost significant credibility as a result of recent industry developments.

The first vision implies that the Board's revised merger guidelines should be pro-competitive. They should ensure that if a merger is to be approved, there must be assurances that competition in the affected markets will not decrease, and will likely increase. If the merger applicants can credibly demonstrate that they will improve service and efficiency, ensure that these benefits will in part be flowed through to shippers, and, at a minimum, preserve the current level of competition, only then should the merger be approved. In this regard, however, applicants

should also be required to demonstrate that the merger benefits are not realizable by coordination short of merger.

The second vision can also be consistent with revised pro-competitive merger guidelines. If the applicants can prove that they will increase efficiency through route restructuring and other means, while at the same not reducing competition, then the merger might justify approval. If the efficiency gains come at the expense of competition, however, then the merger should be conditioned (whether by negotiated agreements, asset transfers, or otherwise) sufficient to mitigate the anticompetitive consequences. Moreover, merger applicants should be required to demonstrate that other means of realizing the projected merger efficiencies are infeasible. Where the "balkanization" view of the industry could be solved by means other than merger, the merger should not be allowed, and in no event should mergers be permitted when competition is harmed.

The third vision of the industry essentially endorses the status quo. However, to ensure the continued success of deregulation and preservation of the existing level of competition in the railroad industry, any merger policy that moves the industry away from competition would be counterproductive. Given the Board's skepticism over whether future efficiency gains from mergers are likely, applicants should face a heavy burden of overcoming this skepticism. In fact, since the Board has initiated these proceedings based on the belief that the current merger policies will not adequately protect both the industry and competition in the future, the Board has signaled its concerns with the option of maintaining the status quo.

Thus, preservation of the status quo is not a realistic option. Revised Board merger policies should fundamentally enhance competition. Regardless of which view the Board takes of the current state of the rail industry, the following specific recommendations would apply, even though they are not mutually exclusive to a

particular view of the rail industry's current state. Starting with a fresh vision of the industry, the need for a new approach to regulatory policies for rail mergers becomes apparent. The Board's policies should focus on the following principles:

- Enhancement of competition as the basic answer to solving the industry's problems. Passive reliance on mergers as a problem-solving mechanism should be abandoned.
- Abandonment of the "3-to-2" and "One-Lump" theories. The Board should seriously address potentially reduced competition in both parallel and end-to-end mergers, and should adopt policies to assure mitigation of anticompetitive consequences of mergers.
- Setting aside strict adherence to the efficiency rationale for avoiding any regulatory intervention into access disputes. Voluntary negotiations are not essential for efficient outcomes in all circumstances. Specifically, the ECPR is not necessary for economic efficiency in the situation of pricing the bottleneck segment of a route by a monopolist, and appropriate regulatory intervention will not lead to economic inefficiency.

These basic principles lead to the specific proposed actions that the Board should undertake:

- Use the moratorium to review past mergers to identify and consider correction of some of the anticompetitive outcomes that have resulted. This will serve not only to address past competitive harms, but also to inform the Board in future merger proceedings regarding the

probability of realizing the efficiency gains the applicants predict. This could include review of:

- The decision revoking DT&I type conditions without replacing them with other pro-competitive conditions, or the failure to impose pro-competitive conditions in the first instance.
- The failure to consider loss of regional rail competition in general, and, more specifically, competition in 3-to-2 markets. Competition throughout the entire network is not the same as competition in a more narrowly-defined market.
- Choice of a narrow definition of relevant markets to define the competition (and therefore a narrow definition of the potential harm to competition) that is eligible for consideration in past-merger proceedings and reliance upon narrow definitions of the markets subject to trackage right (or other) conditions. Historically, railroads have defined the market as narrowly as possible to minimize the perceived reduction in competition between the merger applicants (i.e., show that the firms proposing to merge do not compete), while subsequently defining the market as broadly as possible to show that the applicants have many potential competitors.
- All of the ICC/STB's policies regarding both mergers and intramodal competition.
- The actual evidence on the effects of recent mergers on competition, rates and service.

- Be vigilant about ensuring that competition is not decreased by any future mergers. This would require merger applicants to be very specific about the competitive consequences of a proposed merger, including impacts on third carriers, HHI changes, trackage rights, competitive access concerns, and the like.
- Expand the very narrow concept of competitive harm potentially arising from mergers to include "3-to-2" problems in horizontal mergers and vertical foreclosures in end-to-end mergers. This includes requiring more empirical evidence from merger applicants proving that shippers will not be competitively harmed by the merger.
- Require verifiable merger benefits and procedures to indemnify shippers from adverse consequences of mergers.
- Adopt standards more consistent with the DOJ/FTC standards applied to the rest of American industry. Of course, new standards should be implemented as necessitated by the particulars of the railroad industry.⁵⁸ As stated previously, the FERC has modified some of its guidelines to reflect differences in the energy utility industry. Other regulatory agencies also conduct merger analyses in tandem with the DOJ/FTC procedures, which ensures that the industry-specific issues are addressed. The Board should, too.

⁵⁸ It is important to note that these modifications to the basic DOJ/FTC guidelines should not have the effect of eliminating the power of these rules. Rather, they should ensure that railroads will be able to survive *and* preserve competition in the 21st Century and beyond.

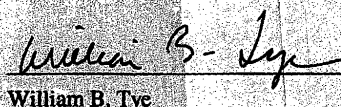
CONCLUSION

While the Board has taken this opportunity to reconsider its merger guidelines, it should reevaluate the changed circumstances of railroads in the United States today. The new evidence today, as well as the past twenty year's experience with the deregulation of the industry, require a reconsideration of mergers and their effect. These changed circumstances support a new set of merger guidelines for the railroad industry, ones similar to those of the DOJ/FTC. Other industries undergoing a transition to deregulation have moved to this model, and so should railroads.

In particular circumstances, mergers can be useful, efficient, and beneficial to both shippers and railroads in the long run. However, the Board should strive to ensure, through the new guidelines, that competition is preserved (and enhanced), and that the applicants in any new merger proposal prove that they, and the economy as a whole, will actually realize the benefits that they project will be achieved.

VERIFICATION

I, WILLIAM B. TYE, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Statement. Executed on May 15, 2000.



William B. Tye

Appendix A

RESUME OF WILLIAM B. TYE

WILLIAM B. TYE, Principal

Dr. William B. Tye received his B.A. in economics from Emory University and his Ph.D. in economics from Harvard University. Upon leaving Harvard, he became assistant professor of economics and management at the U.S. Air Force Academy, holding the rank of Captain. There he taught quantitative economic theory, econometrics, policy issues in contemporary economics and quantitative decision methods. After leaving the service in 1972, he joined Charles River Associates, a Boston research and consulting firm, as a senior research associate and was promoted to program manager for transportation, and later to vice president and a director of the company. He joined Putnam, Hayes & Bartlett, Inc. in 1980 as a Principal. In August 1990 Dr. Tye and six colleagues founded *The Brattle Group*. *The Brattle Group* is the successor firm resulting from the merger of The Brattle Group, Inc. and Incentives Research, Inc., and was known for a year as Brattle/IRI.

RECENT ASSIGNMENTS

Dr. Tye, an expert in economic analysis and public policy, has been an economic consultant for over twenty years. He specializes in regulatory and antitrust issues. His clients have included regulatory bodies, firms in regulated industries and law firms. He has authored or co-authored over one hundred papers and publications, including four books. Some recent consulting assignments include:

- **Antitrust Analysis:** performed studies of competition in silicon, railroading, international telecommunications, petroleum, electric utilities, and natural gas pipelines.
- **Estimating Damages:** provided economic analysis of damages in a case involving claims of alleged fraud in franchising and damage claims from alleged overcharges in the retailing of gasoline.
- **Settlement Values and Strategies:** used business decision and planning tools successfully in consultation with attorneys to develop optimal litigation/settlement strategies in several recent cases.
- **Regulatory Economics:** testified on mergers between regulated firms, on the economic aspects of automobile franchise regulation in a case between a dealer and an automobile manufacturer, on cost allocation issues involving different petroleum streams on the Trans Alaska Pipeline (TAPS), and on the cost of capital and proper calculation of avoided costs in the electric utility industry.
- **Management:** provided assistance to senior management of a large utility seeking a successful transition to a more competitive business environment.

PAPERS AND PUBLICATIONS

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TESTIMONY

Assisted in preparation of expert testimony before the Postal Rate Commission in 1974 and 1976.

Assisted Professor Franklin Fisher in preparation of expert testimony in antitrust litigation (CBS v. ASCAP).

Testimony before the Postal Rate Commission on behalf of United Parcel Service, Docket No. R77-1, filed 14 October 1977.

Direct testimony before the Postal Rate Commission on behalf of United Parcel Service, Docket No. MC78-1, filed 4 April 1979, and supplemental testimony, filed 15 June 1979.

Assisted Professor Stewart C. Myers in the preparation of expert testimony on rate base methodology and rate of return in the oil pipeline industry before the Federal Energy Regulatory Commission, Docket No. OR79-1.

Assisted in the preparation of expert testimony on the subject of profit renegotiation for a government contractor performing trucking services, 1979.
Testimony before the Civil Aeronautics Board on behalf of Eastern Airlines, Miami-London Route Case, Docket No. 36764, 13 December 1979.

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Testimony before the Postal Rate Commission on behalf of United Parcel Service, Docket No. R80-1, filed 13 August 1980.

Testimony before the Motor Carrier Ratemaking Study Commission on behalf of Motor Common Carrier Associations, 19 March 1982.

Testimony before the ICC on behalf of the National Coal Association, *Coal Rate Guidelines—Nationwide, Ex Parte* No. 347 (Sub-No. 1), 13 April 1982.

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Testimony before the ICC on behalf of Commonwealth Edison *et al.* (v. Aberdeen and Rockfish Railroad Company *et al.*), Docket No. 37891 *et al.*, 9 August 1982, 25 October 1982, and 14 February 1983.

Testimony before the ICC on behalf of Consumers Power Company, Docket No. 37854S *et al.*, 6 October 1982, 28 December 1982, and 1 August 1983; in Docket No. 38181S, 15 October 1982, 31 December 1982, and 2 August 1983; in Docket No. 37853S *et al.*, on 12 November 1982, 13 January 1983, and 29 August 1983; and

in Docket No. 37857S *et al.*, on 24 January 1983, 25 March 1983, and 10 January 1985.

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Testimony before the ICC on behalf of Delmarva Power and Light Company, Docket Nos. 38329 and 38330, 31 January 1983.

Testimony before the ICC on behalf of Mobil Chemical Company, Docket No. 37850S, 30 March 1983, and 31 May 1983.

Testimony on behalf of Kansas Gas and Electric Company in Civil Action No. 83-1104, United States District Court for the District of Kansas, 19 April 1983.

Testimony before the ICC on behalf of Consumers Power Company, *Ex Parte* No. 347 (Sub-No. -), "Coal Rate Guidelines—Nationwide," 28 July 1983.

Testimony before the ICC on behalf of Detroit Edison Company, Docket Nos. 38279S *et al.*, 22 December 1983, 13 February 1984, 14 March 1984, and 5 April 1984.

Testimony before the ICC on behalf of National Coal Association, 14 February 1984, in Finance Docket No. 30300, CSX Corporation—Control—American Commercial Lines, Inc.

Testimony on behalf of MKT Railroad before the ICC, 10 September 1984, 21 November 1984, and 29 May 1985, in Finance Docket No. 30,400 *et al.*, SFSP Merger Proceedings.

Testimony before the ICC, 31 May 1985 and 8 July 1985, *Ex Parte* No. 445 (Sub-No. 1), *Intramodal Rail Competition*.

Testimony on behalf of Presidential Airlines in Docket No. 43825, *Texas Air—Eastern Acquisition Case*, before the Department of Transportation, 13 May 1986.

Panelist in a two-day colloquium on rail costing issues, 18-19 June 1986, before the Railroad Accounting Principles Board.

Deposition in *Farmers Electric Cooperative vs. Arkansas Power and Light Company*, U.S. District Court for the Eastern District of Arkansas, 27 June 1986.

Affidavit before an arbitration panel in the matter of Marilyn Benjamin, Administrator and Traffic Executive Association, Eastern Railroads, 29 May 1986.

Testimony on behalf of Presidential Airlines in Docket No. 44365, *Joint Application of Texas Air Corporation and People Express, Inc.*, merger proceeding before the Department of Transportation, 21 October 1986.

Deposition in *City of Austin et al. v. Decker Coal Company et al.*, No. A-85-CA-104, U.S. District Court, Western District of Texas, 2 April 1987.

Testimony before the ICC on behalf of the Commonwealth of Massachusetts in Docket Nos. 31250 and 31259, *Conveyance of B&M Corporation Interests in Conn River Line*, 13 June 1988 and Reply Testimony on 13 July 1988.

Testimony before the Illinois Commerce Commission on behalf of Mississippi River Transmission in *Application of Illini Carrier*, 13 May 1988.

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Testimony before the ICC on behalf of Rio Grande Industries, Inc., *Finance Docket No. 31505, Rio Grande Industries, Inc. et al.—Purchase and Related Trackage Rights—Soo Line Railroad Company Line Between Kansas City, MO and Chicago, IL*, 15 February 1990.

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Expert's Report and Deposition, NCEMC v. Carolina Power and Light Company, 11 March 1992.

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Testimony before the Commonwealth of Massachusetts Department of Public Utilities, DPU 93-167, For the Purpose of Establishing Guidelines and Standards for Acquisitions and Mergers Of Utilities, 16 February 1994.

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"Competition in the Market for Trans-Oceanic Facilities-Based Telecommunications Services," with Hendrik S. Houthakker and Johannes P. Pfeifenberger, before the Federal Communications Commission, June 24, 1994 (also related studies filed October 25, 1996; April 23, 1997 and July 7, 1997).

Prepared Testimony before the Public Utilities Commission of the State of Hawaii, on behalf of Citizens Utilities Company, Kauai Electric Division, 21 July 1994, and oral testimony, 1 May 1995.

Prepared Rebuttal Testimony on behalf of Hawaiian Electric Light Company (Subject: Risks of Purchased Power Contracts), before the Public Utilities Commission of the State of Hawaii, December 1994.

Reply Testimony (with A. Lawrence Kolbe) on Behalf of Edison Electric Institute, Docket No. RM94-7-000, before the Federal Energy Regulatory Commission, 23 January 1995.

"The Economics of Pricing Network Access in the Market for Telecommunications in New Zealand" (with Carlos Lapuerta), prepared for the Minister of Commerce and the Minister of Communications on behalf of Clear Communications, Ltd, 17 February 1995.

Prepared Direct Testimony on behalf of the Designated TAPS Carriers, before the Federal Energy Regulatory Commission and Alaska Public Utilities Commission, Docket Nos. IS94-10-002, *et al.* (Phase II), 14 March 1995.

"Damages from Delay of Essex Government Contract," Expert's Report in *Essex Corp. v. Wackenhut Services, Inc.*, in the United States District Court for the District of New Mexico, March 23, 1995, Deposition, April 25, 1995, and Supplemental Report, January 11, 1996.

Testimony before the I.C.C., Finance Docket No. 32549, *Burlington Northern, Inc. and Burlington Northern Railroad Company—Control and Merger—Santa Fe Pacific Corporation and Atchison, Topeka and Santa Fe Railway Company*, May 10, 1995.

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"Post Merger 'Character of Rivalry' in the Proposed 'SOP/UP' Railroad Merger," before the Texas Railroad Commission, February 5, 1996.

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Rebuttal Testimony before the Rhode Island Public Utility Commission, "Stranded Cost Recovery," Docket No. 2320, *Electric Utility Restructuring*, July 23, 1996.

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Testimony before the Massachusetts Department of Public Utilities, AT&T/NYNEX Arbitration, Docket No. DPU 96-80181, October 22, 1996.

Testimony before the Federal Communications Commissions, "Economic Implications of the Proposed Hughes - PanAmSat Transactions" (with Johannes P. Pfeifenberger), December 2, 1996.

"Analysis of Cure Costs for Contract Breach Damages Suffered by Homell Brewing Company, Inc. from Beverage Enterprises" (with M. Alexis Maniatis), September 1997.

Expert Report, January 9, 1998, In Re Industrial Silicon Antitrust Litigation, U.S. District Court for the Western District of Pennsylvania. Deposition, February 12-13, 1998; affidavits, April 13, 1998 and July 28, 1998; and testimony, September 8, 1998, and November 4, 1998.

Expert Report of William B. Tye, February 17, 1998, *PTP Industries, Inc. v. America Online, Inc.*, U.S. District Court for the District of Maryland and deposition, April 1, 1998.

Expert Report (with Johannes P. Pfeifenberger), *COMSAT Corporation v. The News Corporation, et al.*, United States District Court, Central District of California, July 1, 1998.

Expert Report, *U.S. Airways v. British Airways*, United States District Court, Southern District of New York, November 6, 1998, and deposition, December 14, 1998.

Prepared Direct Testimony, Before The Alaska Public Utilities Commission, October 8, 1998.

SPECIAL CONSULTING ASSIGNMENTS

The Joint Economic Committee, U.S. Congress, working on a project entitled "The Capital Grant as a Subsidy Device: The Case of Urban Mass Transportation." The report on this study was published in 1973.

The Office of the Assistant Secretary for Policy and International Affairs, U.S. Department of Transportation, on the subject of subsidy mechanisms for urban mass transportation. He participated in the drafting of a report to the Congress on the subject.

The Assistant Secretary for Metropolitan Development, U.S. Department of Housing and Urban Development. The work involved experimental design for urban mass transportation demonstrations and an evaluation of the impact of the urban mass transportation capital grant program in nine U.S. cities.

The U.S. Department of Transportation study entitled "Transportation Needs of the Handicapped."

PROFESSIONAL ACTIVITIES

Chairman of a Conference on the Economic Regulation of Urban Transportation in September 1976, sponsored by the Transportation Research Board.

Workshop chairman on market segmentation at the Third International Conference on Behavioral Travel Modelling 1977 in Australia.

Discussion leader at a conference of 150 practitioners of transportation demand analysis sponsored by the U.S. Department of Transportation (Seminar on Emerging Transportation Planning Methods, Daytona Beach, Florida, December 1976). The subject of this session was "Manual Forecasting and Sketch Planning Methods."

Chairman of the workshop on "The Application of Behavioral Travel Demand Models," Second International Conference on Behavioral Travel Demand.

Former Member, Committee on Taxation, Finance and Pricing of the Transportation Research Board.

Attendant at the Fourth International Conference on Behavioral Travel Modelling held in Eibsee, Germany, July 1979.

Former Member, Committee on Pipeline Transportation, of the National Research Council (National Academy of Sciences), Transportation Research Board.

Member, American Economics Association, Econometric Society, Transportation Research Forum, American Bar Association (Associate).

Referee for the *Quarterly Journal of Economics*, the *Journal of Regional Science*, *Transportation Research*, *Transportation*, the *Journal of Industrial Economics*, the *Journal of Policy Analysis & Management*, the *Rand Journal of Economics*, and the *Journal of Law and Economics*.

National President, 1983; Executive Vice President, 1982; and Programs Vice President, 1981; Transportation Research Forum.

Former Member, Editorial Board, *Transportation Antitrust Report*.

Former Member, Editorial Review Board, *Logistics and Transportation Review*.

Former Council Member, Harvard Graduate Society for Study and Research (Harvard Graduate School of Arts and Sciences).

Former Member, Committee on Surface Freight Transportation Regulation, Transportation Research Board, National Research Council.

Workshop Chair, "Understanding Competition and Antitrust Behavior," The Second International Conference on Privatization and Deregulation in Passenger Demand, Tampere, Finland, June 1991.

Advisory Committee, *Yale Journal on Regulation*.

Faculty Member, Advanced Regulatory Studies Program, National Association of Regulatory Utility Commissioners, February 16-21, 1992.

Former Member, Dean's Council, Emory College.

PUBLIC SPEAKING

"Problems Confronting Regulated Industries in a Period of Runaway Inflation," presented to Delta Nu Alpha, transportation fraternity in Boston, Massachusetts, 1975.

"Urban Transportation: Alternatives for Public Policy," presented to Traffic Clubs International in Denver, Colorado, 1971.

"Current Financial Issues in Regulation of Freight Transportation," presented at the Seminar on Freight Policy Analysis at the U.S. Department of Transportation, Transportation Systems Center, 3 April 1980.

"Transportation and Related Industries in the U.S. Economy" (with John R. Meyer), presented at the Transportation Economic Seminar to the senior staff of the U.S. Department of Transportation, Transportation Systems Center, 7 March 1980.

"Competition Between Public and Private Enterprise," presented to Western Carolina University, 15 January 1981.

"Railroad Ratemaking as Influenced by Market Dominance and Antitrust," presented at the Transportation Seminar Series, Princeton University, 14 April 1982.

"Collective Ratemaking and Antitrust in the Motor Carrier Industry," presented to the Wharton Transportation Club, 15 April 1982.

"Market Dominance, Rate Reasonableness, and the Staggers Act," presented at the Center for Transportation Studies, Massachusetts Institute of Technology, 8 October 1982.

"Common Control of Rail and Water Carriers," before the Seminar on Transportation Policies and Demand for Coal, Iron, and Steel, National Coal Association and American Iron and Steel Institute, Louisville, KY, 27 February 1984.

"Obstacles to the Transition to Deregulation in the Rail Industry: Rail Merger Policy," 39th Annual Transportation and Logistics Forum and Exposition, National Transportation Defense Association, 23-26 September 1984, San Francisco.

"Competitive Access: A Comparative Industry Approach to Vertical Foreclosure," Seventh Annual Appalachian Natural Gas Conference, Pittsburgh, PA, 7-8 May 1987.

"Competitive Access," Gas Antitrust #88, sponsored by *Gas Daily*, Houston, TX, 17-18 September 1988.

"Integrating Coal Transportation and Coal Supply Procurement," *Electric Power Research Institute: 1987 Fuel Supply Seminar*, Baltimore, Maryland, 6-8 October 1987.

"Transportation Law Concepts of Interest to Energy Lawyers," Fuel and Energy Industry Subcommittee, American Bar Association, Washington, DC, 26 April 1988.

"Competition and Regulation—Compatible Bedfellows? The Challenge of Regulating a Competitive Energy Industry," American Bar Association, Washington, DC, 18 January 1989.

"The *Duquesne* Decision: There's Less *Hope* for Investors than We Thought," PHB Utility Discussion Series Dinner, Washington, DC, 12 July 1989 (with A. Lawrence Kolbe).

"Regulatory Risk in a Competitive Environment," *Utilities in the '90s: Strategic Issues*, sponsored by Reid and Priest, November 8, 1989, Washington, D.C.

"Equity and Efficiency Criteria in Litigation," PHB Electric and Gas Utility Discussion Series, Washington, DC, 3 April 1990.

"Regulatory Treatment of Environmental Cleanup Liabilities: Issues and Implications," Edison Electric Institute Economics Committee Meeting, Denver, Colorado, September 20, 1990.

"Risk of the Natural Gas Pipeline Industry," Interstate Natural Gas Association of America, Rate Committee Meeting, Montebello, Quebec, September 10, 1990.

"Defining, Proving, and Measuring Antitrust Damages," American Bar Association, Section of Antitrust Law, 1991 Annual Meeting, Atlanta, Georgia, August 13, 1991.

"Pricing Market Access for Regulated Firms," Royal Commission on National Passenger Transportation, Ottawa, Canada, November 13, 1991.

"Regulatory Risk and *Duquesne*," *NARUC Advanced Regulatory Studies Program*, Williamsburg, Virginia, February 21, 1992.

"Regulatory Risk in the Ratesetting Process," teleconference sponsored by the Electric Power Committee, the ABA Section of Natural Resources, Energy, and Environmental Law, May 28, 1992.

"Environmental Economics: Who Pays for Clean Energy," Federal Energy Bar Association, Annual Meeting, Washington, DC, May 21, 1992.

"Regulatory Risk and *Duquesne*," *Advanced Workshop in Regulation and Public Utility Economics. Eleventh Annual Conference*, sponsored by Graduate School of Management, Center for Research in Regulated Industries, the State University of New Jersey (Rutgers), Mohonk Mountain House, New Paltz, New York, May 27-29, 1992.

"Rate of Return for the 1990s: Does It Account for Environmental Cleanup Liabilities, Technological Advances, and Incentives?," American Bar Association, Section of Public Utility, Communications and Transportation Law, 1992 Annual Meeting, San Francisco, California, August 10, 1992.

"Incentive Regulation: DOs and DON'Ts," Third Annual Strategic Utility Planning Conference, Denver, Colorado, June 22-23, 1993.

"Proof of Damages," Off-the-Record Club, Boston Bar Association, March 18, 1994.

"Impact Upon LDC's Rate of Return Arising From Newly Imposed Business and Regulatory Risks," *The Changing Environment for the Natural Gas Industry in New England*, sponsored by the New England Gas Association and Federal Energy Bar Association, Boston, Massachusetts, April 6, 1994.

"Economic Issues Relating to Access to Joint Ventures," American Bar Association, Section of Antitrust Law, Washington, D.C., April 8, 1994.

"Strategic Analysis of Litigation: Structuring Your Analysis to Improve Decisions in Complex Litigation" (with Carlos Lapuerta), American Bar Association, Section of Business Law, Annual Meeting, New Orleans, August 9, 1994.

"A Rehabilitation of Fully Allocated Cost: Capacity Utilization, Pumpability, and Rate Design on the Trans Alaska Pipeline System," World Conference on Transport Research, Sidney, Australia, 1995.

"Managing and Valuing the Big Case," sponsored by the Committee on Civil Practice and Procedure, Section of Antitrust Law, Washington, DC, April 7, 1995.

"The Economics of Pricing Network Interconnection in the Market for Telecommunications in New Zealand" (with Carlos Lapuerta), International Telecommunications Society, *Interconnection: The Key to the Network of Networks*, Wellington, New Zealand, April 10-12, 1995.

"The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand," the 16th Bonbright Center Conference, *Competition in the Local/IntraLATA Markets*, Atlanta, GA, March 25-26, 1996.

"What is it Worth? Valuing a Large Antitrust Case," Civil Practice and Procedure Committee, American Bar Association, Section of Antitrust Law, Annual Spring Meeting, March 28, 1996.

"How to Recover Stranded Costs and Achieve Competition on Equal Terms in the Electric Utility Industry," Massachusetts Continuing Legal Education, Inc., Seminar on Public Utilities Deregulation, Boston, Massachusetts, June 17, 1996.

"Utilities Stranded Costs—Ramifications of Recovery," The University of New Mexico School of Law *Symposium on Electric Utility Bypass Policy*, Albuquerque, New Mexico, August 1-2, 1996.

"Power Struggle: Antitrust and the Changing Rules of Electric Utility Competition," American Bar Association, Section of Antitrust Law, Chicago, Illinois, September 19-20, 1996.

"Compensation for the Risk of Stranded Costs," 16th Annual Electric and Natural Gas Conference, James C. Bonbright Utilities Center, Atlanta, Georgia, September 16-17, 1996.

"Antitrust Damages," Chicago Bar Association, January 15, 1997.

"Market Power Issues Raised by Electric Power Restructuring and Rate Regulation," American Bar Association, Section of Antitrust Law, April 9, 1997.

"Mergers, Acquisitions, and Strategic Alliances," New Jersey Association of Energy Engineers, 1997 Energy Futures Forum, Woodbridge, New Jersey, April 17, 1997.

"Measuring Market Power in Today's Bulk Power Markets," Bulk Power Markets Conference, Vail, Colorado, June 3-4, 1997.

"Competition and Consolidation Issues," 68th Annual Meeting, Association for Transportation Law, Logistics and Policy, Santa Fe, New Mexico, June 21-25, 1997.

"Economics as Junk Science," American Bar Association, Section of Antitrust Law, Annual Meeting, San Francisco, California, August 4, 1997.

"Case Studies of Issues Arising from Damages from a Foreclosed Business Opportunity," Litigation Section, American Bar Association Annual Meeting, San Francisco, CA, August 6, 1997.

"Long-Term Contracts and Regulatory Transitions," Transportation Economics, Policy, and Management: A Conference in Honor of John R. Meyer, Harvard University, September 5-6, 1997.

"Competitive Neutrality in Access Disputes," *The Telecommunications Industry: Effects of the 1996 Act*, The Carlton Hotel, Washington, DC, September 18-19, 1997.

"Damages, Antitrust Litigation: Strategies for Success," Practicing Law Institute, November 16-17, 1998.

HONORS

Phi Beta Kappa, Emory University, 1965.

Ford Career Scholar, Emory University, 1964-1965.
Bachelor's degree awarded summa cum laude, 1965.

Woodrow Wilson Fellow, Harvard University, 1965-66.

Office of Metropolitan Development Recognition Award for Meritorious Contributions to Community Development from the U.S. Department of Housing and Urban Development, 1968.

Samuel Andrew Stouffer Fellow at the Joint Center for Urban Studies of the Massachusetts Institute of Technology and Harvard University, 1968-1969.

Air Force Commendation Medal for Meritorious Service, July 1972.

CHARLES RIVER ASSOCIATES REPORTS (WITH OTHERS)

"Forecasting Ocean Freight Shipping Rates," 1974.

"Public Costs of the Goods Movement System: Manhattan Garment Center Urban Goods Movement Study," 1975.

"Forecast of the 1975 Dry Cargo Shipping Market," 1975.

"Disaggregate Travel Demand Models," NCHRP Project 8-13: Phase I Report, 2 Vols., 1976.

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"Transportation," in *Regulation and Energy Consumption*, prepared for the Committee on Measurement of Energy Consumption, National Academy of Sciences, August 1977.

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Appendix B

A Hypothetical Illustrative Example of the Parity Principle/ECPR¹

Figure 1 illustrates the theory of the parity principle.² As do the proponents of the parity principle, we look initially only at the effects of the access policy on routing choices, i.e., static economic efficiency.³ The example is drawn from Baumol & Sidak in their *Yale Journal On Regulation* article (this example closely resembles the ones presented in numerous written testimony before this commission). The example involves a railroad that owns the bottleneck portion of a route and that also participates in the competitive portion of a connecting route. This controlling railroad determines the bottleneck price by taking the full price over the entire route and subtracting its incremental costs over the competitive portion. Specifically, the carrier owning the bottleneck can receive a price of \$10 over the

¹ This appendix comes from my article "Achieving Competitive Neutrality in Rail Competitive Access Disputes," *Journal of Transportation Law, Logistics and Policy*, Vol. 65, No. 4, Summer 1998, pp. 348-355. In this appendix, I refer to the ECPR as the parity principle. They are not different ideas, but different names for the same theory. I will use "parity principle" in this appendix to keep it consistent with the article from which it is drawn.

² Note that Figure 1 assumes away all the other problems in implementing the parity principle by simply taking the assumptions in the hypothetical as true. William B. Tye and Carlos Lapuerta, "The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand," *The Yale Journal on Regulation*, Vol. 13, No. 2, Summer 1996, pp. 419-500, explain that the hypothetical ignores many real-world facts, such as the fact that both carriers have sunk costs.

³ "Static" efficiency generally only looks at forward looking incremental costs and ignores sunk costs and the "dynamic" efficiency considerations arising from innovation entry, etc. I expand the analysis to consider these other dimensions of economic efficiency in the article cited in footnote 2 above.

entire route and faces "direct" incremental costs of \$3 over the competitive portion.⁴ Under the parity principle, these assumptions yield a price of $(\$10 - \$3 =) \$7$ for the bottleneck service. If a new entrant can pay \$7 for access to the bottleneck portion and charge *less* than \$10 for the entire route, it is only because the new entrant has incremental costs *less* than \$3 over the competitive portion and is therefore more efficient. *Ergo*, it is argued that the parity principle is a necessary condition for economic efficiency.

If the price for the bottleneck portion were set below the parity principle price, at say \$5.50, Baumol and Sidak claim a new entrant might be able to turn a profit even if this entrant's incremental costs are higher than those of the bottleneck carrier.⁵ From this, it is argued that prices lower than the parity principle produce inefficiency.

The parity principle price requires that the bottleneck carrier be *indifferent* as between handling all the business itself and cooperating with the connecting carrier at the \$10 final price to the customer. It is in this sense that the bottleneck carrier is indemnified financially from the financial consequences of opening up access. Handling the business itself, the bottleneck carrier receives \$10 over the entire route and incurs \$3 in "direct" incremental costs over the competitive portion, leaving a total of \$7 remaining to cover the costs of the bottleneck. Put differently, the monopolist earns a "contribution" of $(\$10 - 3 - 3 =) \4 when it provides the service itself if its "direct" incremental costs on both route segments are \$3. This contribution is labeled the "opportunity cost" of providing access. The \$7 price of

⁴ William J. Baumol & J. Gregory Sidak, "Pricing of Inputs Sold to Competitors," *Yale Journal on Regulation*, Vol. 11, No. 1, Winter 1994, pp. 185-6.

⁵ *Ibid.*

access may be thought of as the sum of the "opportunity cost" (\$4) and the "direct" incremental cost (\$3).

By cooperating with the connecting carrier at the parity principle price, the bottleneck carrier receives the same \$7 to cover the costs of the bottleneck — its "direct" incremental costs over the competitive portion are avoided altogether. The bottleneck owner is therefore no worse off by using the services of the connecting carrier. The appeal of the parity principle stems largely from the indifference of the bottleneck carrier over routing decisions at this "efficient" price. Proponents of the parity principle often conclude from similar illustrations that no regulatory intervention is necessary to set the terms of access. More recently, Baumol, Ordover, and Willig⁶ purport to show that the parity principle is both a necessary and sufficient condition for a "level playing field" for the incumbent and entrant with a formal mathematical proof.

More generally, the bottleneck carrier is supposed to determine the business it might lose as a result of interconnection and charge the connecting carrier for the consequent loss of net revenues, defined as the bottleneck carrier's "... incremental revenue minus the incremental costs that this foregone sale would otherwise have brought to [the bottleneck carrier] [footnote omitted]."⁷ The rule has been characterized as a cost rule by labeling the bottleneck carrier's foregone net

⁶ William J. Baumol, Janusz A. Ordover & Robert D. Willig, "Parity Pricing and Its Critics: A Necessary Condition for Efficiency in the Provision of Bottleneck Services to Competitors," *Yale Journal on Regulation*, Vol. 14, No. 1, Winter 1997, pp. 145-163.

⁷ William J. Baumol and Robert D. Willig, *Brief of Evidence: Economic Principles for Evaluation of the Issues Raised by Clear Communications Ltd. On Interconnection with Telecom Corporation of New Zealand Ltd.*, 1992, p. 23.

revenues in the calculation as "opportunity costs."⁸ The rule is explicitly designed to leave the bottleneck carrier financially indifferent to the prospect of losing business to the connecting carrier.⁹

Hypothetical examples such as Figure 1 fail to prove the claimed unique efficiency properties of the parity principle even for the unrealistic examples for which it is applied. They hypothesize the survival of an inefficient entrant when the bottleneck price is set below that dictated by the parity principle. Recall that Figure 1 assumes the inefficient entrant has incremental costs of \$4, in excess of the efficient level. According to the hypothetical, the inefficient connecting carrier could still make a profit of \$ 0.50 when the access price is set equal to the \$5.50 level.

This attempted illustration of uneconomic routing ignores the prospect of price competition by the incumbent, which the \$5.50 access price was designed to foster. An inefficient competitor cannot survive if the incumbent simply charges the competitive final price of the through service of \$8.50. Paying \$5.50 for the bottleneck portion and incurring \$3 in costs on the competitive portion, any efficient

⁸ Baumol and Sidak, p. 178:

Opportunity cost refers to all potential earnings that the supplying firm forgoes, either by providing inputs of its own rather than purchasing them, or by offering services to competitors that force it to relinquish business to those rivals, and thus to forgo the profits on that lost business. . . . The efficient component-pricing rule states simply that the price of an input should equal its average-incremental cost, including all pertinent incremental opportunity costs.

⁹ See Baumol and Sidak, p. 186:

. . . the landlord is said to have chosen to "buy" rather than "make" the B- to-C transportation component of the final product. . . . [T]he efficient component-pricing rule achieves the principle of *indifference*. . . . [T]he landlord is indifferent as to whether that particular transportation service is provided by itself or a rival. . . . [emphasis added].

firm will need only \$8.50 in retail revenues to cover costs. Competition from opening up access at the efficient price will therefore drive down the price for the entire route to \$8.50 (see Figure 1). At \$8.50 for the final price and \$5.50 for the price of access, any firm that is inefficient (including the incumbent) over the competitive portion will be driven from the market.

Static economic efficiency and even pricing according to opportunity costs are fully consistent with pricing access at competitive levels, even in these unrealistic hypotheticals. At a final price to customers of \$8.50, the "opportunity cost" of access will be $(\$8.50 - 3 - 3 =) \2.50 . At this opportunity cost, the price of access called for by the parity principle is $(\$3 + 2.50 =) \5.50 , the competitive price of access. An \$8.50 price of the final product is exactly called for by the "imputation rules" cited by Baumol and Sidak $(\$5.50 + 3 = \$8.50)$.

The problem with Figure 1 as an alleged example of inefficient competition lies in a hidden assumption that is inconsistent with competitive markets. Baumol and Sidak prove the efficiency of the parity principle only under the assumption that we arbitrarily prevent the incumbent and other possible competitors from charging less than the \$10 final price in the example. In fact, there is little power to discriminate among alternative access pricing schemes on the basis of static efficiency. Even arbitrary prices of access can be justified as necessary and sufficient for a "level playing field" and static economic efficiency (*i.e.*, efficient routing of traffic).

To illustrate, suppose we arbitrarily assume the price of access in Figure 1 to be zero. If efficient connecting carriers can serve at an incremental cost of \$3, the incumbent will compute an opportunity cost of zero for access and impute an incremental cost (direct incremental cost plus opportunity cost) of \$3 for its own service. The retail price will fall to \$3, but static efficiency nevertheless will hold.

Any inefficient carrier with \$4 of incremental costs over the competitive portion of the route cannot compete at a final price of \$3 despite the zero price of access.

Proponents of the parity principle will surely at this point object that the bottleneck monopolist cannot recover its total cost (\$8.50) when the access price is set at zero. But a requirement that the monopolist recover total cost, not the principle of economic efficiency in routing choices, is what distinguishes the access price of \$5.50. Static economic efficiency plays no part in discriminating between the zero access price and the \$5.50 price.

The concept that access charges become imputed costs to the bottleneck carrier is critical to the entire discussion over efficient routing choices. Once this fundamental point is understood, the conclusion is inevitable: Static economic efficiency (undisturbed competitive advantages going forward for competition over the competitive portion of the route) will be achieved by virtually any access mechanism because the incumbent will impute to its full incremental cost of service an equivalent access charge. Any pre-existing competitive advantages or disadvantages due to true efficiency differences will therefore remain undisturbed by the access charge.

The exposition of the parity principle by its proponents can easily confuse someone untrained as an economist. This confusion has unfortunately not been corrected by Baumol, Ordover, and Willig, *op. cit.*, who (1) protest that they have been misinterpreted because they claimed only that parity is a necessary and not a sufficient condition for efficiency, (2) claimed once again that parity and a "level playing field" are necessary to achieve economic efficiency, and (3) claim that the parity principle is *necessary and sufficient* for a "level playing field" (their variant of static economic efficiency).

We can resolve the paradox by seeing how restrictive their proof of static efficiency for the parity principle really is. We simply retrace the "proof" of the necessary and sufficient conditions for the parity principle, replacing the parity price with an arbitrary price and removing the artificial handicap that the monopolist is unable to respond to competition with price changes after access is opened at the given price of access.¹⁰ For the purpose of argument, we assume the following test for competitive neutrality—(1) whether a monopolist always has a profit incentive to beat a less efficient entrant's profitable price (given the price of access offered to a less efficient competitor) and (2) allow entry of more efficient competitors in a "winner-take-all" competition. We also assume that the monopolist is required to offer access to any competitor at any price that meets this test of competitive neutrality, and that the connecting carrier and incumbent always choose prices to maximize profits.

Given any proposed price of access, the only choice open to the monopolist in a "winner-take-all" competition is to beat a connecting carrier's least profitable price. The test of competitive neutrality is met as long as the monopolist finds it profitable to out-compete the connecting carrier if, and only if, the monopolist is more efficient.

In the general case of Figure 1, any arbitrary price of access will achieve static economic efficiency in the world where there is no demand elasticity.¹¹ This is also the case where there is demand elasticity, but the monopolist is the more efficient, or equally efficient, in terms of incremental cost. To account for the case where

¹⁰ See Tye and Lapuerta for a formal proof.

¹¹ Demand elasticity describes the situation where the quantity of a good or service demanded by consumers will vary depending on the price.

there is demand elasticity and the monopolist is less efficient, we have to limit our arbitrary price to one lower than the monopoly retail price minus the incremental costs of the more efficient connecting carrier on the competitive route. Otherwise, the monopolist will have an incentive to out-compete the entrant, even though the monopolist is less efficient. Tye and Lapuerta, pp. 435-450, prove these results by proceeding with the same three cases used in the proof of the efficiency of the parity principle.¹²

If it were not for the fact that such sophistry produced a dubious result, our theorem that arbitrary pricing of access was a necessary and sufficient condition for static economic efficiency in the supply of service (*i.e.*, efficient route choice in our hypothetical) would be capable of inflicting great harm. After all, the proof merely shows that the incumbent and entrant should pay the same price, that the price should not force a more efficient entrant to charge higher than monopoly prices, and says nothing about what that same price of access should be. In the wrong hands, practitioners of the arbitrary pricing theory would claim that their theory was the sole defender of efficiency goals, that any opposing theory could only be interpreted as espousing non-efficiency goals into the process, and that any opposing theory called for requiring the monopolist to supply access for a different price from the price it supplied access to itself, *etc.* (all the arguments offered in support of voluntary negotiations and the parity principle).

Obviously, the goal here is not to espouse arbitrary pricing of access. The point is that seemingly innocuous changes in the assumptions in these claims for unique static efficiency results can turn claimed "unambiguous" results into highly peculiar or even arbitrary results.

¹² Baumol and Sidak, pp. 185-186.

The assumption that a given price for the through service must be sustained by the monopolist is critical to the unique static efficiency claims for the parity principle in the hypothetical. Baumol, Ordover, and Willig justify the assumption of a given price on the grounds that the monopolist "cannot afford to charge a price as low as that of a rival" unless it charges for access to rivals what it is already implicitly charging to its own customers. And what is the test of what the monopolist can "afford"? The answer automatically built into the parity principle was that it could "afford" no price that produces less profit than the monopolist would make in the absence of competition. The real argument for the parity principle, then, is that there should be no price competition or threat to the monopolist's profitability.

Demonstrations that the parity principle is a *necessary and sufficient* condition for economic efficiency make implicit assumptions that may be hidden to all but the most keen observers. One assumption is that the only efficiency that counts is static economic efficiency—which carrier has the lowest incremental cost. Another implicit assumption is that the test for competitive neutrality must be a "winner-take-all" competitive regime—a less efficient firm as measured in terms of incremental costs must be foreclosed from the market entirely.

Indeed, an equally efficient entrant cannot recover sunk costs¹³ under the parity principle, but would be foreclosed from the market.¹⁴ We can see this by returning to Figure 1 and assuming that both carriers incur incremental costs of \$3 over the competitive portion of the route and \$2 in sunk costs. Under the \$7 price of access

¹³ Sunk costs are defined as costs previously incurred to provide the service in question but have no salvage value upon exit from the market.

called for by the parity principle, an equally efficient competitor seeking access cannot recover total costs. No equally efficient entrant would ever voluntarily sink costs under such a regime. These considerations suggest that the policy regarding competitive access must turn on a richer set of considerations than mere static economic efficiency and that the lessons from uncovering the hidden assumptions in examples such as Figure 1 are much broader.¹⁴

¹⁴ Note that the hypothetical either assumes that there are no sunk costs or ignores entirely the problem of their recovery.

¹⁵ See Tye and Lapuerta, *op cit.*, and Carlos Lapuerta & William B. Tye, "Promoting Effective Competition Through Interconnection Policy," *Telecommunications Policy*, Vol. 23, 1999, pp. 129-145, for a further discussion of the dynamic aspects, sunk costs and effects of imperfect information on the parity pricing result.

CERTIFICATE OF SERVICE

I hereby certify that on May 16, 2000 I caused to be served, by first-class mail prepaid, a true and correct copy of the foregoing Comments of the Committee To Improve American Coal Transportation on all Parties of Record in STB Ex Parte No. 582 (Sub-No. 1).


Marta I. Tanenhaus

Dated: May 16, 2000