

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Docket No. 42104

ENTERGY ARKANSAS, INC. AND ENTERGY SERVICES, INC.

v.

UNION PACIFIC RAILROAD COMPANY
AND

MISSOURI & NORTHERN ARKANSAS RAILROAD COMPANY, INC.

Finance Docket No. 32187

MISSOURI & NORTHERN ARKANSAS RAILROAD COMPANY, INC.

—LEASE, ACQUISITION AND OPERATION EXEMPTION—

MISSOURI PACIFIC RAILROAD COMPANY AND BURLINGTON NORTHERN
RAILROAD COMPANY



**REBUTTAL COMMENTS AND EVIDENCE OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION**

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**REBUTTAL COMMENTS OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION**

I. INTRODUCTION

Arkansas Electric Cooperative Corporation (AECC) 1/ hereby submits this rebuttal to evidence and arguments advanced by Union Pacific Railroad Company (UP) and Missouri and Northern Arkansas Railroad Company, Inc (MNA) (hereafter, “the railroads”) in their replies dated August 11, 2008.

The railroads argue that the Board neither can nor should grant relief for the injuries that the MNA interchange restrictions have caused to Entergy and AECC. On the contrary, the following evidence in this proceeding establishes that the Board can and should grant relief in this proceeding:

- Although shortline spin-offs typically involve lines with fairly low traffic volumes, where the success of the short line depends on developing local

traffic through “retail” service. in this case UP chose to spin off its high-volume ISES 2/ coal movement to MNA; this unusual characteristic requires special attention from the Board;

- The MNA interchange commitment institutionalizes a UP single-line route to ISES that is inefficient compared to other available routes, contrary to the public interest,
- Under the interchange commitment, MNA faces obstacles that restrict its ability and willingness to move coal to ISES from different sources or via different routes, even under circumstances in which UP prior to the creation of MNA would have been willing to do so;
- For ISES, the impacts of the losses of transportation options are significant, and were not approved in the creation of MNA;
- There is no legitimate way for UP and MNA to avoid accountability for the adverse impacts of their agreement on the basis of the “administrative finality” of the MNA spin-off or any other reasons, and,
- It would be feasible for the Board to provide relief that is consistent with the public interest as well as with the static and dynamic efficiency concepts espoused by UP

Each of these considerations is addressed below.

1/ AECC and its interests in this proceeding were described in Opening Comments Of Arkansas Electric Cooperative Corporation (July 11, 2008).

2/ The Independence Steam Electric Station at Newark, AR, which is principally owned by Entergy and AECC, and is operated by Entergy, is referred to as “ISES”.

If the Board declines to provide relief for ISES in this proceeding, the Board should make clear that such denial is without prejudice to Entergy's pursuit of other remedies for its injuries. AECC requested this in its opening comments, and the railroads have offered no reasons why the Board should not grant that request.

II. "A BRIDGE TOO FAR"

UP's Reply Evidence and Argument ("UP Reply") describes the evolution of the MNA spin-off and, in particular, how UP originally planned to retain trackage rights to provide its own service to ISES. However, before the transaction was consummated, UP determined it would likely achieve comparatively lower labor cost savings if it retained that service, and the structure of the transaction was modified so that MNA would serve the plant for a specified division.

With the ISES movement included, the MNA spin-off is very different from the typical shortline spin-off. As the Interstate Commerce Commission (ICC) observed in establishing the class exemption, this procedure could be used, for example, to facilitate the spin-off by a class I railroad of "marginally profitable lines" that might otherwise be abandoned. Class Exemption For The Acquisition And Operation Of Rail Lines Under 49 U.S.C. 10901, 1 I.C.C. 2d 810, 812 (1985). The ICC observed that "[t]ransfer of a line to a new carrier that can operate the line more economically or more effectively . . . serves shipper and community interests by continuing rail service, and allows the selling railroad to eliminate lines it cannot operate economically." Id. at 813. The ICC noted that " . . . shortlines are dependent on local traffic for their survival, and thus have a greater incentive than class I carriers to provide local shippers with service tailored to their needs." Id.

In such circumstances, little attention to competitive issues is normally required. As the ICC put it, “only the very rare case rises [sic] any competitive issues.” *Id.* at 817. When the alternative is a complete loss of service, preservation of service via a shortline spin-off generally does not create adverse consequences for shipper transportation options. “Proposals under this class exemption will generally maintain the *status quo* and will not change the competitive situation.” *Id.* However, the ICC assured that in “the few unique cases” where a spin-off created competitive harm, the “revocation procedure” would be “adequate and appropriate” *Id.*

However, when UP decided to include the movement of ISES coal traffic in the spin-off of its Carthage Subdivision to MNA, it created a situation unlike the ones the ICC had contemplated in Class Exemption For The Acquisition And Operation Of Rail Lines Under 49 U.S.C. 10901. There was no doubt about the economic viability of UP’s coal business to ISES, and there was no scenario under which UP ever considered abandoning this service. On the contrary, UP initially planned to provide direct service to ISES. UP’s last-minute decision to position MNA as the serving carrier for the plant was based on its wish to obtain greater labor savings, and not on any prospect that service to ISES would not otherwise be continued. Thus, UP took a calculated risk by putting a major coal customer in the hands of a shortline in exchange for an increment in the value of the transaction to UP.

From the point of view of the customer, however, this meant that the potential adverse effects of the spin-off were not mitigated by other considerations, such as the continuation of service that would otherwise have been terminated, so the usual

rationale for concluding that a shortline spin-off raises no competitive concerns was not present in this case

III. INEFFICIENCY OF UP SINGLE-LINE ROUTE

It is apparent from even a glance at a map (see, for example, Union Pacific's Counsel's Exhibits ("UP Exhibits"), Exhibit 3) that UP's single-line route from Kansas City to ISES through Oklahoma is significantly longer than the direct route conveyed to MNA by UP. As is shown in more detail in the accompanying Rebuttal Verified Statement of Michael A. Nelson (RVS Nelson, Part 3), the UP single-line route is approximately 167 miles longer than the MNA route. This high volume unit-train coal movement uses this circuitous route only because UP has used its market power over ISES to implement its long haul preference, at the expense of efficiency and the public interest (as well the interests of the customer).

UP claims that the MNA route is inferior to UP's circuitous single-line route because of grades, curvature, and rail wear issues VS Wilson at p 6. However, as Mr. Nelson shows, what is now the MNA line used to be part of the MP main line connecting the major rail hubs of Kansas City and Memphis, and neither grades nor curvature justify using the lengthy UP routing over the MNA route.

MNA does face operating problems in handling southbound heavy haul traffic from UP, because to handle such traffic MNA uses its trackage rights over the UP line between Kansas City and Pleasant Hill, MO, and this line has two major ascents, which are operationally difficult for heavy-haul movements. However, MNA could circumvent these troublesome grades if it interchanged with BNSF south of Kansas City, such as at Lamar, MO. See UP Exhibits, Exhibit 2 As Mr Nelson shows, a BNSF-

Lamar-MNA route to from the PRB to ISES would be shorter than the UP route, and would avoid the UP and MNA grade issues south of Kansas City. Similarly, a KCS interchange with MNA via Joplin, MO would produce an efficient path for moving coal from south-central origins to ISES while avoiding the UP and MNA grade issues.

Thus, by using its market power through the interchange commitment in the MNA lease, UP is able to impose its long-haul preference at the cost of substantial inefficiency. Unnecessary circuitry is particularly detrimental to a customer that supplies its own cars, as operators of coal-fired electric plants do, because the added mileage reduces the annual through-put of the car fleet, and increases wear and tear on the equipment.

IV. OBSTACLES CREATED BY THE INTERCHANGE COMMITMENT

The evidence demonstrates that the spin-off, particularly because of the interchange commitment, has undermined the ability of ISES to receive the benefits of transportation options UP would have provided absent the MNA transaction. These options pertain primarily to situations where UP is unable to provide service as planned.

On three different occasions during the past 15 years, coal delivery problems at ISES became so severe that they required the imposition of burn restrictions. AECC's opening comments showed that the terms of the MNA lease "prevented [MNA] from cooperating with [the other PRB carrier] BNSF to provide service to ISES, even though UP would likely have done so if it still operated the MNA line." Opening Comments of Arkansas Electric Cooperative Corporation ("AECC Op. Comm.") at 4. UP presents no evidence to refute this showing; it simply asserts that it is "bizarre, and

entirely inaccurate” and that AECC “never explains” it (UP Reply at 46 n. 30). But of course AECC did explain it. See AECC Op. Comm. at 4-5.

If UP had not divested MNA and found itself unable to deliver PRB coal to ISES, 3/ it would have been in UP’s self-interest to cooperate with BNSF on an interline routing between the PRB and ISES. Such cooperation would have made it possible for UP to achieve a substantial contribution from the movement, i.e., on the portion of the move from the interchange with BNSF to ISES. Without such cooperation, there would have been no movement (and hence no contribution to UP), and UP’s obligations to satisfy the demand for coal at ISES would have remained unfulfilled.

As Mr. Nelson shows in the accompanying verified statement, the provisions of the MNA lease operate to prevent such cooperation in moving coal to ISES during service disruptions on UP. RVS Nelson, Part 4. The rent penalties that the lease imposes on MNA if it interchanges significant traffic with carriers other than UP are so severe that they prevent MNA from doing so and would violate any concept of rate reasonableness.

The evidence shows that in response to these circumstances, {

}. Despite UP’s repeated inability to perform, not one ounce of PRB coal has been delivered to ISES via a BNSF-MNA route, and not one ounce of substitute coal has been delivered to ISES via any route that did not involve UP. Rather than take less than what the lease agreement provides, UP has chosen to let ISES go without.

3/ As was the case in the Midwest flooding of 1993 and the service “meltdown” following the UP/SP merger.

UP offers various rationales for claiming that, despite this outcome, the MNA lease did not affect routing options available to ISES. First it claims that “if the MN&A spin-off had not occurred, UP would not have been able to offer alternative routings” to deal with service problems, because “UP likely would have abandoned its Bergman-Guion line”. UP Reply at 46. This speculation not only conflicts with the analytical framework established by the Board for assessing interchange commitments, but also disregards the facts that (a) MNA has been able to preserve this segment in operation for over 15 years without any regular loaded coal movements; (b) UP has used the MNA route, including the Bergman-Guion segment, as an emergency back-up when needed due to conditions elsewhere on UP’s network (see RVS Nelson); and, (c) UP for the past 10 years has made regular use of the MNA route, including the Bergman-Guion segment, to return empty coal trains to Kansas City. UP offers no proof that it would have sought to abandon that line; no proof that the Board (or ICC) would have granted such an application, no proof that interested parties like Entergy/AECC would not have acquired the line in any abandonment proceeding, and no proof that it would not have been railbanked and by now restored to service. The Board should not buy into UP’s attempt to speculate its way out of its MNA problem.

Second, UP claims that, “. . . even after the spin-off, in the unlikely event that a BNSF/UP routing to Independence would ever make sense, there are many locations where BNSF could interchange with UP that would provide UP with an opportunity to obtain contribution for delivering coal to Independence ” UP Reply at 46. Yet UP presents no evidence whatsoever that it ever proposed to use such routings, even when it was way behind in its delivery performance using its single-line route. Notably, UP also

makes no claim that the efficiency of other BNSF-UP routes would be comparable to that of the MNA route. For example, a PRB-BNSF-KC-UP-ISES route would be approximately 1,400 miles, or about 150 miles longer than the BNSF-MNA route. For UP to avoid using the Bergman-Guion segment, all options for interchange with BNSF to serve ISES would pass through Diaz, AR, and the efficiency of the MNA route would be lost. If UP's argument illuminates anything, it is the way the interchange restriction in the MNA lease undermines use of the direct MNA route to ISES.

Third, UP asserts that "[i]f before the lease, UP could have been induced to cooperate with BNSF by handling traffic over the Carthage Subdivision in exchange for a share of the revenues, then after the lease, UP could be induced to cooperate with BNSF by allowing M&NA to handle traffic in exchange for a share of the revenues." UP Reply at 47. On its face, this statement makes no sense. MNA doesn't need UP's permission to "handle traffic" interchanged from BNSF. MNA has the right to do so, but if it does, it will have to pay a punitive rent to UP. As described above, that – and not lack of UP permission – is the primary obstacle that prevents ISES from receiving coal via MNA routings with carriers other than UP when UP is unable to provide service.

Perhaps what UP means, but can't quite bring itself to say, is that it might be willing to waive the punitive rent level in the MNA lease in return for UP being granted a share of the revenue. UP represents that it would be willing to do this where UP was unable to deliver PRB coal, so that Entergy could "source substitute coal using a non-UP connection with M&NA". UP Reply at 47. This proves the very points that AECC and Entergy are making about the rent provision of the MNA lease: (a) when UP is unable to provide service to ISES, the interchange restrictions in the MNA lease do

effectively prevent Entergy from using the services of railroads other than UP in order to receive adequate deliveries of coal; and, (b) despite 15 years of experience encompassing three periods of major rail service problems, UP has never implemented changes in the MNA transaction to enable MNA to replicate the alternate routings UP itself would have been willing to utilize absent the spin-off.

The railroads have been quite candid that the primary purpose of the interchange commitment was to ensure that MNA interchanged with UP. It should not come as a surprise that in achieving this objective, they have undermined and inhibited MNA interchange with other carriers, even when UP might have been willing to participate in such interchange absent the spin-off. At the very least, the Board should direct that the railroads remove rail transportation associated with coal movements to ISES from the MNA rent computation.

V. LOSSES OF TRANSPORTATION OPTIONS LACK BOARD AUTHORIZATION

BNSF serves all of the mines in the PRB that are served by UP and is therefore capable of providing a direct alternative to UP for any PRB coal origination. BNSF also serves mines in the PRB that UP does not, enabling it to supply PRB coal from alternative sources. KCS is able to originate coals that can be used as substitutes for PRB coal from points that UP does not serve. Even in the context of rail service for a plant served exclusively by a single rail carrier, Entergy/AFCC's experience at ISES shows how important it can be to ensure that such options are not undermined. See RVS Nelson.

ISES has been unable to receive the coal it purchased, or substitute PRB coal, or alternative coals, all because of the MNA interchange restriction. These impacts

were not contemplated or approved in the creation of MNA or in the proceeding that established the class exemption under which MNA was created. In light of the railroad industry's predictions that supply will be tighter in the future due to expected volume increases, it is essential that the Board give careful consideration to situations where, as here, interchange commitments introduce unanticipated constraints on transportation options.

VI RAILROADS SHOULD BE HELD ACCOUNTABLE

The railroads argue that the "administrative finality" of the MNA spin-off should prevent the Board from taking any corrective actions regarding the MNA interchange commitment. Yet the very case UP relies on (see UP Reply at 50-51), Class Exemption For The Acquisition And Operation Of Rail Lines Under 49 U.S.C. 10901, supra, recognized that the exemption procedure might occasionally allow an anticompetitive spin-off, and that "the revocation procedure" would be available to address such problems, 1 I.C.C. 2d at 817.

UP's argument comes down to an assertion that it is "too late" to fix the problem that the MNA interchange commitment has now been shown to cause. But under 49 USC 722(c), the Board's authority to reconsider past actions may be exercised "at any time". The fact is that passage of a significant amount of time may be required to identify problems that require remedial action by the Board. In this case, although the first symptom of a problem came the year after the transaction, as a result of the Midwest flooding of 1993, at that time the role of the MNA interchange commitment in preventing the adoption of responsive measures was unclear. Furthermore, it was not then foreseen that rail performance breakdowns would recur with increasing severity. Even after the

“meltdown” of 1997-98, the Board took the position that the problems were basically transitory. ^{4/} It was only after the most recent episode of 2005-06 that the real effect of the interchange commitment became apparent. If this proceeding had been initiated in 1994, or even in 1999, the railroads would undoubtedly have claimed that it was premature to conclude from “only” one or two service disruptions that there was something fundamentally wrong about the interchange commitment.

After whatever period of time is needed for an unanticipated and/or unintended problem to become evident, it would be contrary to the public interest and economic efficiency for the Board to refuse to take remedial action. When the ICC approved the MNA transaction (and the class exemption procedure upon which that approval was based), it did not contemplate the harm that the interchange commitment has caused for ISLS. In deciding to enter into this transaction, UP and MNA were prepared, almost up to the last minute, to leave ISLS out of the spin-off. When UP decided to save itself some extra labor expenses by including the ISLS coal movement in the spin-off, UP and MNA knew, or should have known, that if harm to shippers were actually produced, such harm would be inconsistent with the authority that was granted and subject to remedial regulatory action.

If the Board failed to remedy substantial harms to shipper transportation options that were never approved and never intended, it would promote inefficient and anticompetitive transactions in the future by leading railroads to believe that the Board will turn a blind eye to whatever “ill-gotten gains” the railroads may achieve. The Board

^{4/} Union Pacific RR – Control and Merger – Southern Pacific Rail Corp., 3 S.T.B. 987, 996 (1998), 1998 WL 887187 (S.T.B.), *4 (“There is every reason to believe that the service problems will prove to have been a transitional phenomenon.”)

should make it abundantly clear that unforeseen and unapproved harms from past decisions will be given close attention and mitigated where warranted. Such a practice is necessary to ensure consistency with the public interest, and even with the “dynamic efficiency” criteria espoused by UP, UP Reply, VS Rubinfeld at 6 et. seq..

UP also attempts to avoid accountability for its actions and to lead the Board into a “he-said/she-said” morass by creating an appearance that Entergy was somehow satisfied by UP’s actions during the multiple rail service crises that resulted in burn restrictions at ISES. UP Reply at 39-43. We understand that Entergy is addressing specific details of these claims in its rebuttal, and AECC defers to that discussion. UP’s smokescreen should not be allowed to conceal the fact that no PRB coal was ever delivered to ISES via a BNSF-MNA route, and no substitute coal was ever delivered to ISES via any route that did not involve UP, even in the face of repeated, severe UP service problems.

VII. PROVISION OF RELIEF

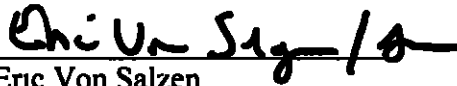
The evidence plainly shows that UP deliberately transferred the ability to serve ISES to MNA so UP could achieve labor cost savings. The evidence further shows that even when UP has been unable to perform its contractual obligations to transport coal from the PRB to ISES, the interchange commitment in the MNA lease has prevented MNA from working with any other railroad to move coal to ISES. And the evidence shows that UP has been unwilling to act voluntarily to eliminate that barrier to adequate service (notwithstanding UP’s claim that it would cooperate if only someone would come up with a plan that UP regarded as “feasible”).

Based on the foregoing, AECC requests that the Board grant the relief
sought by Entergy in this proceeding

Respectfully submitted,

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Dated. September 2, 2008

**REBUTTAL VERIFIED STATEMENT
OF
MICHAEL A. NELSON**

1. Qualifications

My name is Michael A. Nelson. I am an independent transportation systems analyst with 28 years of experience in railroad competition and coal transportation. My office is in Dalton, 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.

A considerable portion of my work has involved the study of issues related to the rail movement of utility steam coal from the Powder River Basin (PRB). In 1998, I provided testimony to this Board on behalf of the Mid-States Coalition for Progress regarding the proposal for a new rail line submitted by the Dakota, Minnesota & Eastern Railroad (DME) in Finance Docket No. 33407. Since that time, I have advised coal users individually and in groups on numerous matters related to PRB coal transportation, ranging from rate and productivity forecasts to fuel surcharges and other matters considered by the Board to development of technically and economically feasible options

for an ultra-efficient, "World Class" rail line in the corridor between the PRB and Kansas City.¹

A second major focus of my work has been analysis of the impacts of railroad transactions on rail competition and shipper transportation options. On behalf of The Denver and Rio Grande Western Railroad (DRGW), Rio Grande Industries (RGI) and the merged SP/DRGW system, I performed such analyses in many of the western merger proceedings of the 1980's and early 1990's, including SP/ATSF, UP/MKT, SP/DRGW, UP/CNW and RGI's acquisition of the former CP/Soo (now ICE) line between Kansas City and Chicago (ICC Finance Docket No. 31505). I subsequently advised CP regarding competitive issues associated with the Conrail breakup transaction (STB Finance Docket No. 33888), and provided analytical support for CP in its settlement with NS and CSX. I provided testimony regarding competitive issues on behalf of the Committee to Improve American Coal Transportation (a coal shipper group) in the proceeding that defined the Board's current merger rules, and on behalf of Arkansas Electric Cooperative Corporation (AECC) in DME's acquisition of IMRL/ICE and in CP's proposed acquisition of DME/ICE.

In the course of advising shippers, I have performed detailed analyses of coal transportation issues and options for over 30 major coal-fired electric generating stations, plus several additional sites that are candidates for construction of new coal-fired plants. Prominent among the existing facilities I have studied is the Independence Steam Electric Station (hereafter, "ISES") at Newark, AR, the primary focus of this proceeding. My past work related to this facility has provided extensive relevant background information

Portions of this work were presented in September 2006 at the conference and annual meeting of the National Coal Transportation Association.

regarding to the routes operated by Union Pacific Railroad (UP) and Missouri & Northern Arkansas Railroad (MNA), the interchange commitments embodied in MNA's lease from UP, and the rail service problems that the plant has experienced.

I have also consulted to a number of shippers, railroads (U.S., Canadian, and Mexican), and governmental bodies on various other railroad issues. Outside of my rail experience, I have analyzed the cost structure of the U.S. Postal Service in five 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 a 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 (Public Sector Management), with concentrations in economics, operations research, and transportation systems analysis. My curriculum vitae is attached as Exhibit A.

2. Subjects Covered in This Statement

I have been asked by AECC to analyze and comment on the efficiency of various rail routes for transporting coal from the PRB to ISES, and on the effects of the interchange commitments in the MNA lease on the feasibility of MNA cooperation with railroads other than UP to deliver coal to ISES (e.g., when service problems materially disrupt planned UP deliveries).

3. Efficiency Issues Associated with Routes to ISES

The MNA route from Kansas City to ISES is approximately 405 miles in length. In comparison, UP's single-line route for coal trains moving from Kansas City to ISES

via Wagoner, Oklahoma is approximately 572 miles, yielding a difference of approximately 167 miles

One would not normally expect that such a high-volume, heavy-haul move would use such a circuitous route, unless there were a compelling reason to tolerate the circuitry. UP reply witness Warren C. Wilson states that MNA's direct route is inferior to UP's circuitous single-line route because of issues associated with grades, curvature, and track wear on curved rail. VS Wilson at p. 6. However, this explanation must be considered carefully in light of the fact that UP originally used the MNA line to deliver not only coal to ISES, but also significant volumes of other traffic as well. Indeed, what is now the MNA line formed a portion of the MP main line connecting the major rail hubs of Kansas City and Memphis. Even after its spin-off to MNA, it was periodically used by UP as a detour for moves over other UP lines.

The biggest operating problems for MNA in handling southbound heavy-haul traffic occur on the UP line between Kansas City and Pleasant Hill, MO, over which MNA operates using trackage rights granted by UP.² This line contains 2 major ascents, at Independence, MO and Lee's Summit, MO, which are operationally difficult for heavy-haul movements.³ These ascents would require the use of extra locomotives on loaded coal trains moving south over MNA from UP via Kansas City. Even with extra locomotives, these trains would move slowly on the hills and could be susceptible to break-in-two's and other operating difficulties.

² A description of the operating difficulties on the northern portion of MNA is presented in EuDaly, K., "White River Blues", Railroads Illustrated (September 2007, Issue 340) at pages 24-33. This description can be corroborated by cross-reference to topographic maps and/or track charts.

³ A third, less difficult ascent occurs on the northernmost portion of MNA, in the vicinity of Ore, MO.

UP may well have viewed the incremental improvement provided by such factors as its acquisition of MKT's line south of Kansas City and/or changes in crew districts as tipping the balance in favor of the more circuitous route through Oklahoma. However, unlike UP, BNSF can circumvent the troublesome grades by interchanging with MNA at points south of Kansas City, including Lamar, MO. See UP Counsel's Exhibits (August 11, 2008), Exhibit 2. Indeed, the evidence shows that {

}.⁴

From Kansas City, a BNSF-Lamar-MNA route to ISES is approximately 420 miles, compared to approximately 572 miles via UP's single line route. Even allowing for UP's generally shorter route compared to BNSF for movements between the PRB and Kansas City, the BNSF-Lamar-MNA route to ISES is over 90 miles shorter than the UP single-line route while avoiding the UP and MNA grade issues south of Kansas City. Similarly, a KCS-MNA route via Joplin, MO produces an efficient path for moving coal from south-central origins to ISES while avoiding the UP and MNA grade issues. In short, any inefficiencies stemming from steep grades on the northern portion of MNA do not occur on routes involving interchange between MNA and carriers other than UP (including BNSF and KCS) at points south of Kansas City.

Although the portions of MNA that would be used to serve ISES from Lamar or Joplin certainly contain significant curves, it is doubtful that the presence of such curves alone would unduly hinder the viability of the MNA route. South of Cotter, AR, for

⁴ {

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example, the MNA line largely follows the path of the White River. In this area, loaded coal trains are able to descend the gentle downgrade along the river, mooting a portion of the impact that curvature might have on operations in other types of terrain. Furthermore, since the time UP began using the Oklahoma route, innovations in operations (like distributed power) and equipment (like self-steering trucks on locomotives) have substantially diminished the adverse operational and cost impacts associated with track curvature. Additional innovations (like electronically-controlled pneumatic [ECP] brakes) hold promise for further improvements.

While the impacts of curvature on this line are, at best, nebulous, the impacts of substantial circuitry are not. All else equal, additional miles translate to additional crew hours, locomotive hours and miles, fuel use, track maintenance needs, etc., producing unnecessary resource consumption and upward pressure on rail rates. Moreover, for shippers, excessive mileage reduces the effective throughput capability of a given fleet of private cars and increases their maintenance needs. Such unnecessary resource consumption is plainly inefficient and contrary to the public interest.

In light of the foregoing considerations, the Board can reasonably conclude that PRB moves received by MNA from BNSF via Lamar and other coals received from KCS via Joplin could move efficiently on the direct MNA route to ISES, and that UP's single-line route is comparatively inefficient. This is corroborated by the fact that the Board's URCS program, implemented in the manner demonstrated by the Board in STB Docket No. 42095 (KCPL/Montrose rate case) estimates the variable cost of the BNSF-MNA route to be approximately 11 percent lower than variable cost of the UP single-line route.

4. Obstacles Created by the MNA Interchange Commitment

During three different periods during the past 15 years, coal delivery problems at ISES became so severe that they required the imposition of burn restrictions. I have been advised by AECC, which holds a one-third interest in ISES, that the burn restrictions imposed as a result of the 2005-06 service failures resulted in increased costs of approximately { } to AECC members. The increased costs incurred by AECC members as a result of the 1997-98 service failures were also about { }.

The 1993-95 service failures also required the imposition of burn restrictions, but the costs incurred by AECC's members were much less severe

If UP had not divested MNA and found itself unable to deliver PRB coal to ISES,⁵ it would have been in UP's self-interest to cooperate with BNSF on an interline routing between the PRB and ISES. Such cooperation would have made it possible for UP to achieve a substantial contribution from the movement, i.e., on the portion of the move from the interchange with BNSF to ISES. Without such cooperation, there would have been no movement (and hence no contribution to UP), and UP's obligations to satisfy the demand for coal at ISES would have remained unfulfilled

Under the terms of the MNA lease and the interchange commitments in the lease, UP would theoretically be in a position to receive a substantial contribution if MNA were to cooperate with BNSF or other carriers to provide coal to ISES, at least to the extent that such cooperation triggers the interchange adjustments to the rental rate. However, there are several considerations that prevent this from happening. These include the magnitude of the rental rate, the "block effect" in the rental rate structure, and the "both

⁵ As was the case in the Midwest flooding of 1993 and the service "meltdown" following the UP/SP merger

ends” test that determines the ultimate rental block rate. Each of these is addressed below:

Rental rate – As described by UP (VS Wilson at 13), the rental rate was designed to approximate the gross revenue for UP associated with interline traffic handled by MNA with carriers other than UP. This produces significant upward pressure on the minimum rate that MNA could charge without losing money for such interline movements

This can be illustrated by the following example. Assume that MNA's total interchange volume is 52,500 carloads/year of coal for ISES and 39,500 carloads/year of other traffic, for a grand total of 92,000 carloads/year. Assume further that MNA elects to interchange 13,800 carloads/year (i.e., 15 percent of total interchange volume) with BNSF. All else equal, this would incur a rental payment in the {

.}

“Block effect” – Because the same rent penalty is incurred for any level of non-UP interchange within each given percentage range, the effect of the rent penalty may be more substantial than shown above if the non-UP percentage falls towards the lower end of the range. In the example presented above, for instance, if the BNSF interchange percentage were {

}.}

"Both ends" – {

,⁶

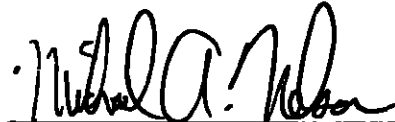
}

As a result of these considerations, the penalty rent terms prospectively add { } or more per ton (assuming 119 net tons per carload) to whatever rate BNSF and MNA would require to move the traffic. In other words, the interchange commitments could only be bypassed by paying rates that are astoundingly high, and which by inspection would violate any concept of rate reasonableness.

⁶ See UP Counsel's Exhibits (August 11, 2008)

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 verified statement.



Michael A. Nelson

Executed on August 30, 2008

Exhibit A

Curriculum Vitae – Michael A. Nelson

MICHAEL A. NELSON

131 North Street
Dalton, MA 01226

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 analysis,
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 Arkansas Electric Cooperative Corporation (AECC), Mr. Nelson submitted testimony to the Surface Transportation Board (STB) in Finance Docket No. 35081. This testimony addressed the effects of the proposed control by Canadian Pacific Railway (CP) of Dakota, Minnesota & Eastern Railroad (DME), with a particular focus on the planned DME construction project and other potential initiatives to create a new rail outlet for coal from the Powder River Basin (PRB).

On behalf of a group of landowners, Mr. Nelson developed information and provided oral testimony regarding DME's PRB

project in land condemnation proceedings initiated by DME in Wyoming.

Also on behalf of AECC, Mr. Nelson submitted testimony to the STB in Ex Parte No. 657 (Sub-No. 1) regarding specific proposals to improve the "stand alone" cost (SAC) methodology used to assess the reasonableness of contested rail rates.

Also for AECC, Mr. Nelson analyzed issues related to rail transportation service in the supply of coal to two potential sites for a new electric generation facility in Arkansas. This work included analysis of likely rate levels in light of movement- and site-specific competitive and operational considerations.

On behalf of a group of coal users, including Ameren, Dominion and AECC, Mr. Nelson submitted a verified statement to the STB in Finance Docket No. 34421. This testimony addressed technical, operational and public interest considerations associated with a proposal to permit the construction of a competing rail line within the unused portion of an existing rail carrier's right-of-way.

Mr. Nelson has developed information to assist coal users in responding to the coal supply problems created by the May 2005 derailments and subsequent rail throughput constraints on the PRB Joint Line. He has identified potential actions by coal users to improve PRB coal throughput, transportation issues for substitute coals and fuels, and steps to facilitate rail cooperation.

In response to a public request by the STB for suggested improvements in the SAC methodology, Mr. Nelson provided written and oral testimony in STB Ex Parte No. 657. This testimony identified potential methodological refinements in 10 specific areas, and was cited by Commissioner Mulvey for its high responsiveness to the Board's request.

Mr. Nelson is the founder of the Coalition to Foster Improved Rail Economy ("CoalFIRE"). This initiative is open on a subscription basis to current and prospective PRB coal users. It identifies and promotes awareness of specific potential group actions to improve the competitiveness of PRB rail transportation options within the current legal and regulatory framework. Over 20 specific potential group actions have been identified to date, including steps to

add/restore competitors, increase the effectiveness of existing competitors, increase customer leverage and develop external pressure for reasonable competitive conduct by the current PRB rail duopoly.

For a powerplant developer, Mr. Nelson analyzed issues related to rail transportation service in the supply of coal to two potential sites for a new generation facility in Oklahoma. This work included analysis of likely rate levels in light of movement- and site-specific competitive and operational considerations.

Mr. Nelson prepared a 10-year forecast of expected changes in rail productivity and competitive rail rate levels for the movement of coal from the PRB. This forecast has been provided on a subscription basis to interested parties, and is believed to be the only such forecast that is based on analysis of specific anticipated productivity enhancements (as opposed to extrapolation of past trends). Subscribers have used this information to analyze the merits of converting to PRB coal, to support contract negotiations and for other strategic and planning purposes.

For a powerplant developer, Mr. Nelson analyzed issues related to the anticipated reliance on competitive rail transportation service in the supply of coal to a planned new generation facility in Missouri. This work included analysis of likely rate levels in light of unique limitations faced by one of the competing rail lines.

On behalf of a group of over two dozen major electric utilities, Mr. Nelson provided strategic guidance and analytical support, and participated in negotiations with a Class I railroad regarding prospective multi-billion dollar investments by the utilities to improve their coal transportation options.

For a midwestern utility, Mr. Nelson assisted in the development of improved transportation options for a large coal-fired generating station. As part of this work, he reviewed an analysis performed by a major engineering contractor, and identified a series of cost-effective

options that had been overlooked. He then provided strategic guidance and analytical support in the development process.

For a mining company, Mr. Nelson analyzed the transportation options that would be available for a prospective new facility in western Colorado. This included detailed consideration of the "new facilities" condition imposed by the STB in its approval of the merger of the Union Pacific (UP) and Southern Pacific (SP) railroads.

For AECC, Mr. Nelson submitted statements to the STB in Finance Docket Nos. 34177 and 34178. These statements addressed the actual and potential competitive roles of I&M Rail Link (IMRL) in domestic coal transportation, and the prospective impacts associated with control of IMRL by the Dakota, Minnesota and Eastern Railroad (DME).

On behalf of the Town of Easton (MA), representing a coalition of towns, Mr. Nelson identified and corrected a series of substantial errors and inconsistencies in the Final Environmental Impact Report for the proposal by the Massachusetts Bay Transportation Authority (MBTA) to provide new commuter rail service to New Bedford and Fall River. This extended Mr. Nelson's previous analyses, which had identified and documented a series of significant errors in the development of the MBTA's conclusions regarding the alleged infeasibility of a key alternative route. Mr. Nelson also identified and made preliminary assessments of other alignment and operational possibilities that had been inappropriately omitted from consideration.

As a subcontractor to The Brattle Group, an economic consulting firm, Mr. Nelson provided guidance to the Mexican railroad TFM regarding the identification of different types of competitive and efficiency issues raised by the proposed merger of the other two principal Mexican railroads (Ferromex and Ferrosur). The merger was denied by both the national transportation and antitrust authorities.

For the Cowboy Railroad Development Company (CRDC), a group of major electric utilities, Mr. Nelson directed the identification and evaluation of alternative routes and strategies for creating a new railroad access across Nebraska to coal mines in the PRB.

As part of the work for CRDC, Mr. Nelson analyzed the degree to which the UP/SP merger foreclosed competitive routes that could be offered by a new PRB rail carrier. The results of this analysis were submitted to the STB in Finance Docket 32760 (Sub-No.21), which provided oversight of the UP/SP merger and its impacts.

For a major electric utility, Mr. Nelson performed a detailed analysis of rail transportation options for PRB coal movements to the Sunflower Electric generating station at Holcomb, KS. The results of this analysis were used by the utility in assessing the merits of investing in a planned expansion of that facility.

For an assortment of major electric utilities and power producers, Mr. Nelson has performed detailed analyses of rail transportation options, including build-outs, for a total of over 30 large coal-fired generating stations. The results of these analyses have served as the basis for management decisions that are projected to save many millions of dollars in fuel costs.

On behalf of AECC, Mr. Nelson submitted a statement to the STB in Finance Docket 32760 (Sub-No.21). This statement addressed competitive issues resulting from the UP/SP railroad merger, with a particular focus on the effect of trackage rights compensation levels.

On behalf of the Committee to Improve American Coal Transportation (IMPACT), Mr. Nelson submitted a statement to the STB in Ex Parte 582 (Sub-No. 1). This statement addressed a wide range of issues related to rail merger policy.

For a major Class 1 railroad, Mr. Nelson 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 DME to construct an extension of its line into the PRB. Mr. Nelson developed estimates of DME'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 UP and Burlington Northern Santa Fe (BNSF). Mr. Nelson's analysis was filed at the STB (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 UP/SP merger.

For 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 (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 Magazine Publishers of America (MPA) acting on behalf of a coalition of periodicals mailers, Mr. Nelson analyzed several issues related to the purchased transportation costs incurred by the Postal Service. This included identification of feasible cost reductions and efficiency improvements, as well as development of needed refinements in the methods used by the Postal Service to analyze transportation costs. The results of this analysis were presented to the Postal Rate Commission (PRC) in the R2000-1 omnibus rate case. A portion of the identified costing refinements has been adopted by the Postal Service.

Mr. Nelson identified and developed opportunities for a major publisher to create more efficient and desirable price/service options by avoiding selected costs in its mailings of periodicals. This work included consideration of transportation, delivery and unfunded retirement liability costs.

For Foster Associates (under contract to the Postal Service), Mr. Nelson 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 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 identified the cost basis for a number of potential new product offerings involving Express Mail and Priority Mail, and 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 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 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. 35081

- Verified Statement, 3-4-08
- Reply Verified Statement, 5-19-08

U.S. District Court - District of Wyoming, Civil No. 07 CV-142-D

- Oral Testimony, 3-19-08
- Oral Testimony, 5-29-08

Surface Transportation Board, Ex Parte No. 657 (Sub-No. 1)

- Written Testimony, 5-1-06
- Reply Testimony, 5-31-06

Surface Transportation Board, Finance Docket No. 34421

- Verified Statement, 9-29-05

Surface Transportation Board, Ex Parte No. 657

- Written Testimony, 4-20-05
- Oral Testimony, 4-26-05

Surface Transportation Board, Finance Docket No. 34178

- Verified Statement, 11-14-02

Surface Transportation Board, Finance Docket No. 34177

- Verified Statement, 7-18-02

Surface Transportation Board, Finance Docket No. 32760
(Sub-No. 21)

- Verified Statement, 8-17-01

- Verified Statement, 8-18-00

Postal Rate Commission, Docket No. R2000-1

- Direct Testimony, MPA-T-3, 5-22-00

Surface Transportation Board, Ex Parte No. 582 (Sub-No. 1)

- Statement, 5-16-00

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.

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CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing Rebuttal Comments And Evidence Of Arkansas Electric Cooperative Corporation to be served by first class mail, postage prepaid, on this 2d day of September 2008, on.

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