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BEFORE THE SURFACE TRANSPORTATION BOARD

ENTERGY ARKANSAS, INC. and
ENTERGY SERVICES, INC., Complainants,

v.

UNION PACIFIC RAILROAD COMPANY and
MISSOURI & NORTHERN ARKANSAS
RAILROAD COMPANY, INC. and BNSF
RAILWAY COMPANY, Defendants.

MISSOURI & NORTHERN ARKANSAS R.R. –
LEASE, ACQUISITION AND OPERATION
EXEMPTION – MISSOURI PACIFIC R.R.
and BURLINGTON NORTHERN R.R.

227244

ENTERED
Office of Proceedings

JUN 7 - 2010

Part of
Public Record

Docket No. 42104

227245

Finance Docket No. 32187

UNION PACIFIC'S REPLY EVIDENCE AND ARGUMENT

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June 4, 2010

Contains Color Images

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TABLE OF ABBREVIATIONS

AECC	Arkansas Electric Cooperative Corporation
BN	Burlington Northern Railroad Company
BNSF	BNSF Railway Company, or its predecessor, Burlington Northern & Santa Fe Railway Company
Board	Surface Transportation Board
CN	Canadian National Railway Company
Entergy	Entergy Arkansas, Inc., and Entergy Services, Inc.
ICC	Interstate Commerce Commission
ICCTA	Interstate Commerce Commission Termination Act
Independence plant	Entergy's Independence Steam Electric Station
KCS	Kansas City Southern Railway Company
M&NA	Missouri & Northern Arkansas Railroad Company
Missouri Pacific	Missouri Pacific Railroad Company
MRL	Montana Rail Link, Inc.
NCTA	National Coal Transportation Association
PRB	Powder River Basin
UP	Union Pacific Railroad Company and its predecessors
UP/M&NA Lease	Lease Agreement by and between Missouri Pacific Railroad Company and M&NA, dated December 11, 1992, as amended
UP/SP merger	Transaction approved in 1 S.T.B. 233 (1996)
URCS	Uniform Rail Costing System
White Bluff plant	Entergy's White Bluff Generating Station
WRPI	Western Railroad Properties, Inc.

M&NA route for PRB coal moving to the Independence plant. In fact, the evidence shows that BNSF-M&NA through routes would be less efficient and less cost-effective than the current UP-M&NA route, and that Entergy would pay more to ship coal using the proposed BNSF-M&NA through routes than it is paying UP.

UP's reply also shows that Entergy seeks a remedy beyond the relief that is available under section 10705. Entergy asks for more than a BNSF-M&NA through route prescription. Entergy also wants the Board to preclude UP from enforcing the interchange and contingent rent provisions of the UP/M&NA Lease. That would allow M&NA free use of UP's lines to expand Entergy's options for transporting coal to the Independence plant. In short, Entergy is asking the Board to take UP's property for its own benefit, without providing compensation to UP. That outcome would be inappropriate in any circumstances, and it is plainly not the type of relief available under section 10705.

UP's reply argument proceeds in five stages.

First, UP provides background information regarding the UP/M&NA Lease and the routes that have been used to transport PRB coal to the Independence plant.

Second, UP discusses the legal standards that apply in this proceedings, as well as the limits on the relief available under section 10705. UP explains that Entergy's request that the Board preclude UP from enforcing the UP/M&NA Lease's interchange and contingent rent provisions is inconsistent with the Board's statement that any relief Entergy could obtain under section 10705 "would be narrowly tailored; it would simply require MNA to interchange with a party other than UP." June 2009 Decision at 13. UP also shows that the Board's understanding of the limits on the available relief is consistent with the language and history of section 10705 and the competitive access rules.

Third, UP shows that Entergy has not met the threshold requirement for obtaining relief under section 10705 because Entergy has not demonstrated any anticompetitive act by UP. UP shows that neither its entry into the UP/M&NA Lease nor its enforcement of the interchange and contingent rent provisions constitutes an anticompetitive act. UP explains that the lease does not foreclose any competitive rate or routing options that were available to shippers before UP leased its lines to M&NA, and that the lease actually increased the competitive options available to Entergy and other shippers on the affected lines. UP further explains that the lease does not increase UP's market power or give it more control over shippers' rates or routes than if it had never entered into the lease, and that the lease's interchange and contingent rent provisions protect UP from uncompensated use of its lines by M&NA.

UP also shows that it has not engaged in anticompetitive acts or abused its market power by providing inadequate service to the Independence plant. UP explains that Entergy's service complaints do not suggest that UP has disregarded Entergy's needs because of the competitive conditions at the Independence plant; instead, they involve three episodes that had widespread effects across UP's network and that had nothing to do with the UP/M&NA Lease or competitive conditions at the Independence plant. UP also explains that Entergy's own evidence shows that neither the lease nor competitive conditions at the plant had any correlation to UP's performance: according to Entergy, UP provided better service to the Independence plant than to Entergy's White Bluff plant, which is already served by both UP and BNSF.²

² In addition, Entergy has not met the threshold requirement for obtaining a prescription directed at BNSF and M&NA because it has not alleged that either railroad engaged in anticompetitive acts. This is a critical issue in light of the relief sought by Entergy and the costs that such relief would impose on BNSF and M&NA, but it is a straightforward point, and we expect that BNSF and M&NA will address it in their filings, so we do not address it further.

Fourth, UP explains that Entergy's proposed BNSF-M&NA through routes are not feasible and would not be more efficient or more cost-effective than the current UP-M&NA route. UP shows that a Board order prescribing a BNSF-M&NA through route would impose substantial costs on M&NA and BNSF. As UP explains, Entergy's own witnesses acknowledge that M&NA and/or BNSF would have to spend millions of dollars to construct new interchange facilities at Lamar or Aurora, Missouri, and M&NA would have to spend millions of dollars more on other portions of its lines to accommodate loaded unit trains of coal moving from the PRB to the Independence plant. UP shows that Entergy's witnesses actually underestimate the amount of new construction and spending that would be required for BNSF and M&NA to transport the volume of coal that Entergy claims it might ship using a BNSF-M&NA route.

UP also shows that Entergy's evidence regarding the relative efficiency of the current UP-M&NA route and the proposed BNSF-M&NA routes ignores the actual UP-M&NA routing for trains moving between the PRB and the Independence plant and contains other flaws that affect Entergy's cost calculations. UP demonstrates that, when those flaws are corrected, the UP-M&NA route proves to be a lower-cost route to operate than the proposed BNSF-M&NA routes. UP also demonstrates that the UP-M&NA route is superior in terms of other efficiency measures that Entergy did not consider: for example, it produces faster cycle times and lower fuel consumption than the routes proposed by Entergy.

Finally, UP shows that Entergy's claim that BNSF-M&NA rates would be lower than UP's current rate ignores the best evidence of likely BNSF-M&NA rates – BNSF's recent offer to transport PRB coal to Entergy's White Bluff plant, which is already served by both BNSF and UP. The rate at which BNSF offered to transport coal to White Bluff, which BNSF says is lower than the rate it would charge for transportation via a joint route to the Independence plant, would

II. BACKGROUND OF THE UP/M&NA LEASE AND UP SERVICE TO ENTERGY'S INDEPENDENCE PLANT

UP provided extensive evidence regarding the background and pro-competitive effects of the UP/M&NA Lease in its Initial Reply, filed in this case on August 11, 2008.³ In this part, UP discusses information about the lease and its effect on service to Entergy's Independence plant that is particularly pertinent to this proceeding.

A. The UP/M&NA Lease

The UP/M&NA Lease was part of a larger transaction in which UP leased or sold three portions of its Carthage Subdivision to M&NA in December 1992. Specifically, UP leased M&NA its lines and connecting branches on the western end between Pleasant Hill, Missouri, and Bergman, Arkansas; sold its line in the middle between Bergman and Guion, Arkansas; and leased its line on the eastern end between Guion and Diaz Junction, Arkansas. UP also granted M&NA trackage rights from Pleasant Hill to Kansas City, Missouri, and from Diaz Junction to Newport, Arkansas, to interchange traffic with UP. Entergy's Independence plant is located on the leased portion of line between Guion and Diaz Junction, approximately nine miles west of Diaz Junction. (Wilson Initial Reply VS at 5-9; *see also* UP Counsel's Exhibit Nos. 1 & 2.)⁴ Had UP not leased and sold these lines to M&NA, it likely would have continued to operate the segments on the eastern and western ends, and abandoned the middle segment, thus severing the Carthage Subdivision as a through route. (Wilson Initial Reply VS at 6-7.)

³ UP incorporates by reference its prior reply evidence, including the verified statements of its witnesses. UP refers to its prior reply evidence as UP's "Initial Reply." Citations to verified statements in the Initial Reply identify the witness's name, followed by "Initial Reply VS."

⁴ UP Counsel's Exhibit No. 1 is a copy of the lease. UP Counsel's Exhibit No. 2 is a map depicting the lines affected by the transaction.

The UP/M&NA Lease did not reduce the competitive options for transporting coal to the Independence plant. Entergy argues that UP is using the lease to foreclose competitive options to UP service to the Independence plant. However, prior to UP's transaction with M&NA, the Independence plant was served exclusively by UP. (*Id.* at 5-9.)⁵ Thus, the lease did not alter the competitive *status quo*: if UP had never leased its lines to M&NA, the Independence plant would still be served exclusively by UP. (*Id.* at 9-10.)

The lease also did not change UP's route for transporting coal to the Independence plant. When UP entered into the lease, it had not been routing coal trains to the Independence plant over the leased lines for several years. In 1989, UP shifted much of its Carthage Subdivision traffic to alternate routes, including coal traffic to the Independence plant. (*Id.* at 6.) UP's newer route was slightly longer than the older route, but it was more efficient. (*Id.*) Entergy consented to the routing change, and UP reduced Entergy's rate to offset Entergy's slightly increased car-ownership costs associated with the longer route. (Gough VS at 6.)

Under the lease, M&NA pays no rent for using more than 400 miles of UP's rail lines as long as it interchanges 95% or more of the traffic originating or terminating on the leased lines with UP. (Lease § 4.01.) That figure excludes local traffic and traffic from industries that were open to reciprocal switching before the transaction. (*Id.* § 4.02) UP also agreed to consider additional exceptions on a case-by-case basis. (*Id.*) If M&NA interchanges more than 5% of the traffic originating or terminating on the line with other carriers, UP is entitled to rent payments that increase in graduated increments, from \$10 million if M&NA interchanges 6% to 15% of its

⁵ Technically, the Carthage Subdivision was owned by Missouri Pacific. UP acquired control of Missouri Pacific in 1982 – ten years prior to UP's transaction with M&NA – and operated Missouri Pacific as an integral part of the UP system. (*Id.* at 10 n. 5.)

through traffic with other carriers, to \$90 million if M&NA interchanges 96% or more of its through traffic with carriers other than UP. (*Id.* § 4.03.)⁶

M&NA has used UP's lines rent-free for the past seventeen years. In fact, UP never expected to collect rent from M&NA. UP entered into the lease expecting M&NA to interchange most through traffic with UP, and UP expected to obtain its compensation for the lease from cost savings associated with M&NA's handling the traffic on the leased lines rather than UP. (Wilson Initial Reply VS at 1-2.) However, the interchange and contingent rent provisions are necessary to the transaction. If they were not included in the lease, M&NA could use UP's lines for free while diverting traffic to UP's competitors in excess of the 5% allowed under the lease, which plainly would have been unfair to UP. UP never would have agreed to such an arrangement. (*Id.* at 2-3.) Indeed, UP specifically reserved the right to terminate the lease "in the event a court or other body determines that all or any of the provisions of Section IV [the interchange and contingent rent provisions] are unlawful or otherwise unenforceable." (Lease § 15.01(f).)⁷

B. UP Service To The Independence Plant

UP and M&NA currently deliver loaded unit trains of coal to the Independence plant using UP's lines from the PRB through Kansas City, Missouri, south to Parsons, Kansas, and

⁶ The rental amount is adjusted each year to reflect changes in the Producer Price Index. (Lease § 4.04.)

⁷ M&NA will never acquire ownership of the leased lines because it will never pay UP the lines' going concern value, no matter how long the lease lasts. Under the lease, UP either retains the traffic it would have handled if it had never leased its lines, plus a share of any costs savings from M&NA's performing service on the leased lines rather than UP, or UP receives rent. The interchange and contingent rent provisions are thus necessary to the transaction and must remain in place for the life of the lease. Otherwise, M&NA could use the lines to divert more than the bargained-for 5% of traffic to UP's competitors without compensating UP. (Wilson Initial Reply VS at 21-22; Baranowski Initial Reply VS at 5-6; Rubenfeld Initial Reply VS at 16-17.)

Wagoner, Oklahoma, east to Little Rock, Arkansas, and north to Diaz Junction, then via M&NA from Diaz Junction to the plant. M&NA then moves the empty trains from the plant to Kansas City, where they are interchanged with UP and routed back to the PRB. (UP Counsel's Exhibit No. 3.)⁸ As discussed in Section IV.D, the current UP-M&NA route is more efficient and more cost-effective as measured by variable costs, cycle times, and fuel consumption than the BNSF-M&NA through routes proposed by Entergy.

Entergy is asking the Board to prescribe a BNSF-M&NA through route or through routes from the PRB to the Independence plant with an interchange at Lamar, Missouri, and/or Aurora, Missouri. However, Entergy has never received coal via either interchange point, and neither location has the facilities required to interchange loaded and empty unit trains at the volume levels contemplated by Entergy. As discussed in Section IV.C, the cost to construct the facilities necessary for BNSF and M&NA to interchange the smallest volumes contemplated by Entergy would run into the millions of dollars – approximately \$8.6 million at Lamar and \$6.1 million at Aurora. Entergy's proposal would also require M&NA to spend millions of dollars more to construct additional line capacity and staging capacity between the interchange points and the Independence plant.

In fact, loaded coal trains have not moved to the Independence plant over M&NA's lines east of Lamar or Aurora since 1989. Even then, Entergy's coal moved in shorter trains (115 cars compared with the current 135 cars) with lighter lading weights for each car (263,000 pounds compared with the current 286,000 pounds) than today's unit trains to the Independence plant. (Gough VS at 7.) When Entergy began shipping PRB coal to the Independence plant in 1982, it

⁸ UP Counsel's Exhibit No. 3 is a map depicting the UP-M&NA route for PRB traffic moving to the Independence plant.

received the coal pursuant to a joint rate tariff that involved BN transporting coal from the PRB to an interchange with UP in Kansas City, with UP then moving the traffic over the Carthage Subdivision to the Independence plant. (Entergy Argument at 9 n.9; *see also Ark. Power & Light Co. v. Burlington N.R.R.*, 3 I.C.C.2d 757, 758 (1987).)⁹ Shortly thereafter, Entergy entered into a contract under which its coal was originated by WRPI, a UP predecessor, interchanged with UP at South Morrill, Nebraska, and then routed via Kansas City and the Carthage Subdivision to the Independence plant. *See Ark. Power & Light*, 3 I.C.C.2d at 758-59.

In 1989, UP proposed to reroute coal trains to the Independence plant using the current route for loaded trains – that is, from Kansas City to Parsons, Pryor, Little Rock, and then Diaz Junction. The proposed route was longer in terms of mileage than UP’s route via the Carthage Subdivision, but UP concluded that it would be a more efficient route for handling loaded unit trains of coal. UP also recognized that, despite the overall efficiency gains, Entergy might incur slightly higher ownership costs for the railcars it supplied because of the increase in mileage, so UP shared some of the efficiency gains with Entergy: UP agreed to reduced Entergy’s rate to offset the increase in mileage, and Entergy agreed to the rerouting. (Gough VS at 6.)

As discussed above, the 1992 UP/M&NA Lease had no effect on the routing of coal traffic to the Independence plant. UP continued to route the loaded and empty trains through Parsons, Pryor, Little Rock, and Diaz Junction. The only difference was that M&NA began handling the trains between Diaz Junction and the Independence plant, although {

⁹ Technically, Missouri Pacific moved the trains from Kansas City to the Independence plant, but as noted above, UP had acquired control of Missouri Pacific in 1982. *See note 5, supra.*

}

(Wilson Initial Reply VS at 9; *see also* UP Counsel's Exhibit No. 4.)¹⁰

The last change in the routing of Entergy's traffic occurred more than a decade ago. In 1997, when UP was in the midst of the service crisis following the UP/SP merger, UP and M&NA developed and implemented a plan to route Entergy's empty cars from the Independence plant over the Carthage Subdivision to interchange with UP at Kansas City. The new routing proved beneficial, and it remains in place today. (Gough Initial Reply VS at 5.) UP could not have provided this routing to Entergy had it abandoned the middle portion of the Carthage Subdivision rather than selling it to M&NA as part of the transaction that included the UP/M&NA Lease.

III. LEGAL STANDARDS

Entergy's objective in this proceeding is not only to obtain a prescribed BNSF-M&NA through route under 49 U.S.C. § 10705, but also to preclude UP from enforcing the interchange and contingent rent provisions of the UP/M&NA Lease – the lease terms that ensure UP is compensated for leasing its lines to M&NA. However, Entergy cannot preclude UP from enforcing the lease's interchange and contingent rent provisions through a proceeding under section 10705. As the Board explained in its June 2009 Decision, any relief Entergy could obtain under section 10705 “would be narrowly tailored; it would simply require MNA to interchange with a party other than UP.” June 2009 Decision at 13. We discuss the relief available under section 10705 in Section III.A.

¹⁰ UP Counsel's Exhibit No. 4 is a copy of a letter agreement between UP and Entergy relating to the UP/M&NA Lease.

In this case, the type of relief available is ultimately irrelevant because Entergy cannot show that prescription of a BNSF-M&NA through route would be in the public interest under the standards established by Congress in section 10705 and by the Board's competitive access rules, 49 C.F.R. § 1144.2. Entergy cannot make the threshold showing that a prescription is necessary to remedy or prevent anticompetitive acts, and it cannot show that the proposed through routes are feasible and would be more efficient and more cost-effective than the current route. The requirements for making the showing necessary to obtain a through route prescription are discussed in detail in Section III.B.

A. Entergy Seeks Relief That Is Not Available Under Section 10705.

Entergy is seeking not only a prescribed BNSF-M&NA through route, but also an order precluding UP from enforcing the interchange and contingent rent provisions of the UP/M&NA Lease. Entergy states that “the real difficulty associated with this matter” is UP’s enforcement of the interchange and contingent rent provisions and that “the mere prescription of a through route will not provide a complete resolution of that problem.” (Entergy Argument at 4-5.) Entergy thus asks “that the Board find that UP should be precluded from including tons moving under the prescribed route in its calculation of annual tons diverted under [the interchange and contingent rent provisions] of the UP/M&NA lease.” (*Id.* at 27.)¹¹ In other words, Entergy seeks a Board

¹¹ AECC similarly asks the Board to “expressly provide that the penalty rent provision is inapplicable and unenforceable with respect to movements under the prescribed through route.” (AECC Argument at 9.)

AECC also suggests that such provision is required “to further the purposes of Section 10701.” (*Id.* at 9 n.4.) However, AECC cites no authority for the proposition that UP’s collection of rent that M&NA would owe under the lease would constitute “unreasonable discrimination” by UP “against a participating carrier” in a through route. 49 U.S.C. § 10701.

The anti-discrimination provisions in section 10701 are not intended to prevent a carrier from favoring its own long-haul; they are designed to prevent a carrier from favoring one of several potential connecting carriers as part of a through route. *See W. Pac. R.R. v. United States*, 382 (continued...)

order requiring UP to give M&NA rent-free use of the leased lines when M&NA moves coal using a BNSF-M&NA through route to the Independence plant. However, Entergy cannot obtain such relief under section 10705.

1. The Board Clearly Specified The Relief That Would Be Available If Entergy Opted To Proceed Under Section 10705.

As the Board explained in its June 2009 Decision, Entergy cannot obtain a remedy that would preclude UP from enforcing the lease's interchange and contingent rent provisions while requiring UP to continue leasing its lines to M&NA. The Board could revoke the exemption under which the ICC authorized the lease, but then it would have to "undo [the] transaction . . . and order divestiture." June 2009 Decision at 12.¹² Even if the Board could order a "partial" revocation that did not require divestiture, it still could not simply excise the interchange and contingent rent provisions from the lease because "UP expressly reserved the right to terminate the lease 'in the event a court or other body determines that all or any of the provisions of the [rent/interchange commitment] are unlawful or otherwise unenforceable.'" June 2009 Decision at 13 n.3 (quoting Lease § 15.01).¹³ Thus, even if Entergy convinced the Board that UP should

U.S. 237, 245 (1965); *Bangor & Aroostook R.R. v. ICC*, 574 F.2d 1096, 1103-04 (1st Cir. 1978). Complaints that a carrier is unreasonably favoring its own long-haul route must be addressed through section 10705.

¹² As the Board observed, "the ability to revisit consummated transactions is a powerful tool," and "it is one that the Board must wield wisely and with great care." *Id.* UP's Initial Reply discussed why the Board should not revoke the exemption authorizing the lease. (UP Initial Reply at 49-52.)

¹³ UP's Initial Reply discussed the precedent confirming that the Board cannot rewrite the terms of the lease and impose the new terms on UP and M&NA, including precedent confirming a carrier's "right to walk away" from a transaction if it concludes that the conditions the Board imposes upon granting authority for the transaction would be too burdensome. (UP Initial Reply at 54-57.) UP's Initial Reply also showed that, even if the Board had authority to rewrite the lease, doing so would be both contrary to principles of administrative finality and commercial certainty and patently unfair, especially in the circumstances of this case, where UP/M&NA transaction was clearly authorized under agency precedent. (*Id.* at 57-59.)

be precluded from enforcing the interchange and contingent rent provisions, “[i]t might well result in the immediate termination of the lease, which could harm MNA, its employees, and other shippers located on the line.” June 2009 Decision at 13 (footnotes omitted). Moreover, Entergy would be left in the same competitive position that existed before the lease: UP would be the only rail carrier serving the Independence plant.

Rather than move forward with a proceeding that could not produce more than a Pyrrhic victory for Entergy, the Board offered Entergy the opportunity to reframe its case and seek a narrower form of relief under section 10705. However, the Board made clear that Entergy could not use section 10705 to excise the interchange and contingent rent provisions from the lease: any relief that might be available under section 10705 “would be narrowly tailored; it would simply require MNA to interchange with a party other than UP.” *Id.*

Entergy protests that a through route prescription would not resolve its complaints, but then it should not have elected to proceed under section 10705. Entergy says that it “did not, and does not, principally complain regarding M&NA’s refusal to interchange traffic” and that “the core of [its] challenge is the argument that it is unreasonable for UP to continue to enforce its paper barrier restriction.” (Entergy Argument at 4 n.4.) However, the Board has already rejected Entergy’s unreasonable practice challenge. *See* June 2009 Decision at 11 (“[W]e conclude that the conduct here is not appropriately challenged under section 10702 . . .”). And, the Board did not require Entergy to pursue a through route prescription. The Board stated that “[i]f Entergy is unable to secure adequate relief under section 10705, or chooses to forego that option, we will address its revocation request in a separate decision.” *Id.* at 13.

2. The Board Correctly Specified The Relief Available Under Section 10705.

Moreover, the Board was entirely correct to state that any relief under section 10705 would be “narrowly tailored” and could only “require MNA to interchange with a party other than UP.” June 2009 Decision at 13. The relief Entergy seeks – M&NA’s rent-free use of UP’s lines – is plainly not available under section 10705. Indeed, free access to another carrier’s lines is not an available remedy under any provision of the ICCTA.

Section 10705 does not authorize the Board to require one railroad to provide free access to its lines for the benefit of another railroad or shipper. Section 10705(a)(1) allows the Board to order one carrier to interchange traffic with a different carrier or at a different location than the first carrier selected to establish a through route, as long as the alternate interchange would not reduce the first carrier’s long-haul. Section 10705(a)(2) authorizes the Board to require the first carrier to accept a shorter haul to an alternate interchange, but only in special circumstances. In both types of situations, however, the first carrier continues to participate in the through route, and it continues to be compensated for the use of its lines – there is no free use of the first carrier’s lines.

Far from authorizing free use of a railroad’s lines, section 10705 is highly protective of the right of carriers to establish preferred routes and maximize revenues. *See Cent. Power & Light Co. v. S. Pac. Transp. Co.*, 1 S.T.B. 1059, 1067 (1996) (“*CP&L I*”) (“Congress retained and strengthened the specific statutory provisions allowing carriers to select their routes and to protect their long-hauls.”); *see also Baltimore Gas & Elec. Co. v. United States*, 817 F.2d 108, 115 (D.C. Cir. 1987) (explaining that the competitive access rules implement Congress’ intent to assist “railroads’ efforts to earn adequate revenues”). Section 10705 imposes especially strict standards before a carrier can be required to accept a shorter haul, and thus reduced revenues,

under a through route prescription. Under section 10705(a)(2), the Board may not reduce a carrier's haul when an alternate route would be just moderately more efficient: it may order a carrier to accept a shorter haul only when the carrier has established a through route that would be "unreasonably long when compared with a practicable alternative through route that could be established." 49 U.S.C. § 10705(a)(2)(B). The Board's competitive access rules then reinforce section 10705's revenue-protective nature not only by establishing high standards before through routes can be prescribed, but also by expressly providing that evidence that a carrier would lose revenue under an alternate through route is not evidence the original route was anti-competitive. *See* 49 C.F.R. § 1144.2(a)(1)(iv) (providing that "the mere loss of revenue to an affected carrier shall not be a basis for finding that a prescription or establishment is necessary to remedy or prevent an act contrary to the competition standards of this section").

Entergy observes that the Board contemplated the potential use of section 10705 to obtain competitive access relief in *CP&L I*, but Entergy's proposed relief in this case is very different from the relief the Board was describing in *CP&L I*. (Entergy Argument at 15-16.) In *CP&L I*, the Board explained that a shipper might be able to use section 10705 to require a railroad that could transport the shipper's traffic from origin to destination to establish an interchange with a carrier that had established a contract rate to the proposed interchange point. *See CP&L I*, 1 S.T.B. at 1068-71. However, in such circumstances, the first railroad would continue to handle the traffic to/from the interchange over some portion of its lines, and it would continue to be compensated for transporting the traffic over its lines – just as in any case under section 10705. The relief Entergy seeks here – M&NA's rent-free use of UP's lines as part of a BNSF-M&NA

through route to the Independence plant – is not what the Board contemplated in *CP&L I*, and it is not otherwise permitted under section 10705.¹⁴

In fact, section 10705 does not authorize the Board to require a railroad to provide access to its lines *at any price*. Section 10705 contemplates that the carrier subject to the through route prescription will continue providing service over its own lines. Congress has expressly defined the few circumstances in which the Board is authorized to require one carrier to open its property to others, and a through route prescription under section 10705 is not one of those circumstances. *See, e.g.*, 49 U.S.C. §§ 10901(d); 10907(b), 11102(a), & 11123(a).¹⁵ Moreover, in those few

¹⁴ In its Second Amended Complaint, Entergy also asked the Board to phrase any through route prescription “in a sufficiently broad manner” that it would apply if UP terminates the lease to provide single-line service so that an alternate through route “would involve interchanges from BNSF to UP (at its interchange points in Aurora or Lamar, Missouri), from UP to M&NA at Bergman, Arkansas, and from M&NA to UP at Guion, Arkansas.” (Second Am. Complaint ¶ 41.)

Entergy apparently is no longer pursuing such relief. Entergy does not address that alternate through route in its opening evidence. Such a route would plainly implicate section 10705(a)(2), because UP would be forced to accept a short haul, but Entergy offers no evidence that relief could be justified under the standards of section 10705(a)(2). In fact, Entergy disclaims any need to meet those standards in this case. (Entergy Argument at 13.) Moreover, Entergy offers no evidence that the Board could use to conclude that such a route, which would involve three interchanges between three separate railroads, would be in the public interest. As shown in Section IV.D.1, such a route would have substantially higher costs than the current route.

¹⁵ AECC argues that the Board should grant BNSF terminal trackage rights between Hoxie, Arkansas, and Diaz Junction, Arkansas, and between Diaz Junction and the Independence plant, if UP terminates the UP/M&NA Lease or otherwise seeks to preclude M&NA from participating in a through route with BNSF. (AECC Argument at 11-13.) AECC states that such a grant of terminal trackage rights “would go substantially beyond the usual scope of terminal trackage rights.” (*Id.* at 11.) In fact, such a grant of terminal trackage rights simply would not be permitted under 49 U.S.C. § 11102. AECC does not even try to explain how those UP lines would qualify as “terminal facilities,” or even “main-line tracks for a reasonable distance outside of a terminal,” under section 11102. Nor does AECC try to meet its burden of proving that the movement of loaded coal trains southbound over UP’s northbound directional line between Hoxie and Diaz Junction could be accomplished “without substantially impairing the ability of [UP] to handle its own business,” as is required to obtain relief under section 11102.

UP does not elaborate on these points in this reply because AECC has not presented anything approaching a *prima facie* case for terminal trackage rights.

circumstances in which the Board can require a carrier to open its property to others, Congress has expressly provided that the property owner must be compensated for the use of its property. The Board has correctly declined to find authority to take railroad property absent an express delegation from Congress. *See Rail Abandonments – Use of Rights-of-Way as Trails (49 CFR Parts 1105 & 1152)*, 2 I.C.C.2d 591, 596-98 (1986), *aff'd sub nom. Nat'l Wildlife Fed'n v. ICC*, 850 F.2d 694 (D.C. Cir. 1988); *Chicago & N.W. Transp. Co. – Abandonment – Between Clintonville & Eland, WI*, 363 I.C.C. 975, 997 (1981).¹⁶

B. Section 10705 And The Board's Competitive Access Rules Permit Through Route Prescriptions Only In Limited Circumstances.

Section 10705 provides that the Board may prescribe a through route “when it considers it desirable in the public interest.” 49 U.S.C. § 10705(a)(1). However, the Board is not writing on a blank slate when it is asked to determine whether a through route prescription would be in the public interest. Section 10705 and the Board's competitive access rules embody a carefully considered view of what constitutes the public interest – a view that takes into account the welfare of railroads and their customers as a whole, not just the wants of individual shippers.

Congress enacted section 10705 as “an integral part of [its] goal of revitalizing the rail industry.” *CP&L I*, 1 S.T.B. at 1065. Section 10705 “largely freed carriers to ‘rationalize their route structures making maximum use of efficient routings and eliminating others.’” *Id.* (quoting

¹⁶ Entergy also asks the Board to “confirm” that BNSF and M&NA would be obligated to participate in a through route to permit movement of coal to the Independence plant from PRB mines that cannot be served by UP. (Entergy Argument at 5.) However, the Board should take care in offering any views on such a hypothetical situation. There are several reasons why Entergy might not be entitled to a BNSF-M&NA route. For example, BNSF or M&NA may determine that a request for a two-carrier route is not a reasonable request for service under 49 U.S.C. § 11101(a) because there is no feasible interchange point, as we discuss in Section IV.C, or M&NA might suggest that BNSF quote a route involving an interchange with UP to avoid triggering the contingent rent provision of the UP/M&NA Lease.

Interchange Provisions at Jacksonville, FL, SCL and SRS, 365 I.C.C. 905, 916 (1982)).¹⁷ It “ended the ‘open-routing’ system that effectively had required rail carriers to establish and maintain interchanges and through routes ‘on practically all combinations of railroad tracks between two points.’” *Id.* (quoting *Baltimore Gas*, 817 F.2d at 110).

The Board’s competitive access rules implement Congress’s intent, as expressed in section 10705, to “protect[] each railroad’s right to determine, at the outset, which reasonable through routes it will use to respond to requests for service.” *Id.* The competitive access rules “make it easier for railroads to avoid participation in unremunerative and inefficient through routes, thereby assisting railroads’ efforts to earn adequate revenues.” *Baltimore Gas*, 817 F.2d at 115; *see also CP&L I*, 1 S.T.B. at 1071 (“The competitive access rules were designed to protect the railroads’ freedom to rationalize their systems and maximize service over their most efficient routes, legitimate goals that both Congress and this Board clearly endorse.”).

The competitive access rules provide that, when a carrier has established an interchange through which service will be provided, the Board may prescribe additional through routes only if it “is necessary to remedy or prevent an act that is contrary to the competition policies of 49 U.S.C. 10101 or is otherwise anticompetitive, and otherwise satisfies the criteria of 49 U.S.C. 10705.” 49 C.F.R. 1144.2(a)(1). In other words, the Board may prescribe through routes “only to remedy or prevent ‘anticompetitive’ acts.” *Baltimore Gas*, 817 F.2d at 114. Thus, a shipper seeking a through route prescription must demonstrate, as “a threshold requirement,” that the railroad engaged in anticompetitive conduct. *Midtec Paper Corp. v. United States*, 857 F.2d

¹⁷ As the Board explained in *CP&L I*, Congress dramatically reformed the rules regarding through route prescriptions in the Railroad Revitalization and Regulatory Reform Act of 1976 (the “4-R Act”) and the Staggers Act of 1980 (the “Staggers Act”). *See CP&L I*, 1 S.T.B. at 1065. Thus, Entergy’s and AECC’s reliance on cases pre-dating those reform efforts to interpret the current section 10705’s “public interest” standard is misplaced.

1487, 1499 (D.C. Cir. 1988). If a shipper proves that the railroad engaged in anticompetitive conduct, the analysis then turns to “the operational and service criteria of section 10705, including the comparative efficiency of routings.” *CP&L I*, 1 S.T.B. at 1068.

1. Section 10705 And The Competitive Access Rules Permit Through Route Prescriptions Only When A Railroad Has Committed Anticompetitive Acts.

In summarizing the competitive access rules’ threshold requirement, the Board has explained that, to obtain relief, “shippers must show that a carrier ‘has used its market power to extract unreasonable terms on through movements, or, [] because of its monopoly position, has shown a disregard for the shipper’s needs by rendering inadequate service.’” *Id.* at 1066 (quoting *Midtec Paper Corp. v. Chicago & N.W. Transp. Co.*, 3 I.C.C.2d 171, 181 (1986)). The Board has also suggested that a shipper could make the required showing of anticompetitive conduct by proving that a railroad is “foreclosing more efficient service over another carrier’s lines.” *Id.* at 1068.

Significantly, Board and court precedent make clear that a railroad’s refusal to establish an additional through route that would create competition to an exclusively served facility is not “anticompetitive.”¹⁸ “Simply establishing that a carrier refused to open an additional through route at the shipper’s desired interchange point is not, by itself, evidence of anticompetitive conduct sufficient under [the competitive access] rules to warrant the prescription of that route.” *CP&L I*, 1 S.T.B. at 1066-67. As the U.S. Court of Appeals for the D.C. Circuit has explained:

¹⁸ As discussed in Section II.A, UP has not, in fact, prevented M&NA from establishing a through route with BNSF to serve the Independence plant. The UP/M&NA Lease allows M&NA to establish through routes with other carriers, and it even allows M&NA to use the leased lines rent-free to interchange a significant amount of traffic with carriers other than UP, though it does place limits on M&NA’s rent-free use of UP’s lines to interchange traffic with other carriers, consistent with the bargain the parties made when they entered into the lease.

“If the [Board] were authorized . . . to prescribe [competitive access] whenever such an order could enhance competition between rail carriers, it could radically restructure the railroad industry,” and there is not “even the slightest indication that Congress intended the [Board] in this way to conform the industry more closely to a model of perfect competition.” *Midtec*, 857 F.2d at 1507; *see also Baltimore Gas*, 817 F.2d at 115 (“We see not the slightest indication that Congress intended to mandate a radical restructuring of the railroad regulatory scheme . . .”).

The Board and the courts have also made clear that a railroad’s ability to charge a shipper higher rates than it could charge if the shipper had access to an alternate through route is not “anticompetitive.”¹⁹ A railroad is entitled to the benefits “that its position attained from having constructed the only rail facilities to serve the shipper’s plant directly may provide.” *Vista Chem. Co. v. Atchison, Topeka & Santa Fe Ry.*, 5 I.C.C.2d 331, 340 (1989). Thus, it is “well-settled” that “an incumbent railroad’s ability to price its services above a level that might prevail if competitive service were available (including pricing up to a maximum reasonable level)” is not “conduct that, standing alone, warrants a competitive access remedy.” *W. Fuels Serv. Corp. v. Burlington N. & Santa Fe Ry.*, STB Docket No. 41987 (Decision served July 28, 1997) at 7. Congress did not contemplate “that a carrier whose rates do not bespeak market dominance is nonetheless subject to access regulation merely because those same rates are supra-competitive,” and thus a railroad “may enjoy some degree of ‘market power,’ enabling the railroad to price its services above marginal costs, without liability to compelled competitive access.” *Midtec*, 857 F.2d at 1506, 1507. Even the fact that a carrier’s rates exceed stand-alone costs “does not

¹⁹ As discussed below in Section IV.E, UP’s rates for transporting PRB coal to the Independence plant are, in fact, lower than the rates Entergy would likely pay for PRB coal transported using a BNSF-M&NA through route. They are also at a level where UP would be conclusively presumed to lack market dominance. (*Plum & Newland VS* at 11.)

necessarily mean that it has behaved anticompetitively.” *Shenango Inc. v. Pittsburgh, Chartiers & Youghiogheny Ry.*, 5 I.C.C.2d 995, 1001 n.7 (1989).

Finally, Board precedent makes clear that whatever might constitute an “anticompetitive” foreclosure of “more efficient service over another carrier’s lines,” such conduct must be more than a railroad’s mere refusal to establish an alternate through route that might be modestly more efficient for one particular shipper than the route the railroad is providing.²⁰ As discussed above, Congress’s objective in enacting section 10705 was to “free[] carriers to ‘rationalize their route structures making maximum use of efficient routings.’” *CP&L I*, 1 S.T.B. at 1065 (quoting *Interchange Provisions at Jacksonville, FL*, 365 I.C.C. at 916)). Section 10705 thus provides railroads substantial freedom to route their traffic with a view towards maximizing their overall efficiency, rather than ensuring that each shipper has access to the most efficient route from its individual perspective.²¹ The ICC made this point explicitly in *Vista Chemical*, when it rejected a shipper’s argument that the carrier had acted anticompetitively by foreclosing the use of shorter routes, explaining: “a carrier must strive for efficient overall train operations for all the shippers it serves, not just those that are most direct for one particular shipper.” *Vista Chem.*, 5 I.C.C.2d at 341.

A proper regard for efficiency is particularly important in this case. The Board suggested in its June 26 Decision that a through route prescription would not be an intrusive remedy if it “merely entails the activation of interchange relationships that, while perhaps dormant, already

²⁰ As discussed below in Section IV.D, the UP-M&NA route to the Independence plant is, in fact, more efficient than the BNSF-M&NA routes proposed by Entergy.

²¹ Section 10705(a)(2) reinforces this routing freedom by providing that the Board may not deprive a carrier of its long-haul unless its route would be “*unreasonably long* when compared with a practicable alternative through route that could be established.” (Emphasis added.)

physically exist.” June 26 Decision at 8. However, as Entergy acknowledges, M&NA would have to spend millions of dollars to construct new BNSF-M&NA interchange facilities at Lamar or Aurora, and millions more on other M&NA facilities, to accommodate loaded unit trains of coal moving from the PRB to the Independence plant. *See* Section IV.C. Thus, a through route prescription would be an especially intrusive remedy under the facts in this case, and requiring M&NA to expend funds to establish and maintain an alternate through route for Entergy’s coal would run contrary to the interests in promoting railroad efficiency and cost-savings that led Congress to enact the current version of section 10705.²²

2. Section 10705 And The Competitive Access Rules Permit Through Route Prescriptions Only When The Alternate Route Would Satisfy The Operational And Service Criteria Of Section 10705.

A shipper that establishes that a railroad has engaged in an anticompetitive act still is not entitled to a through route prescription unless it can demonstrate that a prescription would satisfy the “operational and service criteria of section 10705, including the comparative efficiency of routings.” *CP&L I*, 1 S.T.B. at 1068.

At a bare minimum, the shipper must demonstrate that the alternate route is “feasible.” June 26 Decision at 7. In its June 26 Decision, the Board suggested that a M&NA-BNSF route might be “feasible” because “before it entered into a contract with UP in 1983, Entergy received its coal via a joint movement of Missouri Pacific (over the lines now leased to MNA) and BNSF.” *Id.* The Board’s June 26 Decision thus indicates that a “feasible” route is one where

²² This is another example of how Entergy’s reliance on case law pre-dating the 4-R Act and the Staggers Act is misplaced. Entergy cites cases from 1952 and before for the proposition that the Board can ignore the costs needed to upgrade the interchange facilities at Lamar and Aurora. (Entergy Argument at 26 n.15.) However, as the Board recognized in *CP&L I*, Congress’s reforms in the 4-R Act and the Staggers Act demonstrated that Congress expected the Board to pay close attention to the costs of imposing interchange requirements on railroads. *See CP&L I*, 1 S.T.B. at 1065.

“through route prescription merely entails the activation of interchange relationships that, while perhaps dormant, already physically exist.” *Id.* at 8. As discussed below in Section IV.C, Entergy’s proposed routes fail this test. BNSF and Missouri Pacific interchanged Entergy’s traffic in Kansas City, and Entergy acknowledges that M&NA would have to spend millions of dollars on new facilities to interchange unit trains of coal at either Lamar or Aurora. Entergy’s proposal requires construction of interchange facilities that do not “already physically exist.” June 26 Decision at 8.

If a shipper can prove that the alternate route is feasible, it then must demonstrate that the alternate route would be “more efficient.” *Id.* The Board has noted that the “question of how to establish that a foreclosed route is ‘more efficient’ under 10705 is a matter of first impression,” but that the relevant factors should include those listed in the competitive access rules, “such as the revenues associated with the traffic, the relative costs of moving the traffic on the alternative routes, and the volume of traffic that could be expected to move over the alternative routes.” *Id.* Entergy’s and AECC’s efforts to address these factors are superficial and replete with errors. As discussed below in Sections IV.D and IV.E, UP’s evidence shows that the current route is more efficient than the proposed alternate routes under every measure, and that Entergy’s rates under the proposed alternate routes would be higher than the rate Entergy is paying UP.

The competitive access rules also require the Board to take into account the effect of a prescription on the revenues of the involved railroads. 49 C.F.R. § 1144.2(a)(1)(iv). As discussed below in Section IV.F, Entergy and AECC fail to address this factor.

Finally, the Board may not prescribe a through route unless it can determine that Entergy “would use the through route . . . to meet a significant portion of its current or future railroad transportation needs between the origin and the destination.” 49 C.F.R. § 1144.2(a)(2)(i). As

discussed below in Section IV.G, Entergy and AECC fail to present evidence that would allow the Board to make this determination.

As will become clear in the next Part, Entergy's unwillingness to commit to using a BNSF-M&NA through route for a significant portion of its future transportation needs is not surprising. As Entergy knows, UP has not shown disregard for Entergy's service needs, and a BNSF-M&NA through route would result in less efficient service and higher rates for Entergy.

IV. A THROUGH ROUTE PRESCRIPTION IS NOT IN THE PUBLIC INTEREST.

Entergy claims that a through route prescription is in the public interest because UP has provided inadequate service to the Independence plant and a BNSF-M&NA through route would be more efficient than the current UP-M&NA route. However, Entergy first focuses its rhetoric on the claim that the UP/M&NA Lease is anticompetitive because it deprives Entergy of "the benefits of competition (both in terms of rate levels and overall customer service)." (Entergy Argument at 18.)

As discussed below in Section IV.A, Entergy is wrong to claim that the UP/M&NA Lease deprives Entergy of the benefits of competition. The lease did not reduce Entergy's competitive options; instead, it preserved, and even slightly improved, the competitive *status quo*. Moreover, Board precedent makes clear that the prospect of creating additional competition is not a permissible justification for granting relief under section 10705.

However, Entergy does not rest its case on claims about the anticompetitive nature of the lease. Instead, Entergy argues that UP abused its market power by providing inadequate service to the Independence plant. Thus, Sections IV.B through IV.G focus on Entergy's service claims and Entergy's attempt to show that a BNSF-M&NA through route prescription would be otherwise permissible under section 10705 and the competitive access rules:

Section IV.B shows that Entergy is wrong to claim that UP has abused its market power by providing inadequate service to Entergy. UP shows that Entergy's service-related allegations do not demonstrate that UP has disregarded Entergy's service needs because of the competitive situation at the Independence plant. Entergy's service-related complaints involve three disparate episodes that had widespread effects across UP's network, and Entergy's own evidence shows that UP provided better service to the Independence plant than to Entergy's White Bluff plant, which is already served by both UP and BNSF. Entergy also fails to show that it was harmed during any of the three episodes by UP's enforcement of the UP/M&NA Lease.

Section IV.C shows that a BNSF-M&NA through route is not a feasible alternative to the current UP-M&NA route. As UP shows, Entergy's own expert acknowledges that M&NA and BNSF would have to spend millions of dollars to construct new interchange facilities at Aurora or Lamar and upgrade other M&NA facilities if the Board were to prescribe a BNSF-M&NA through route. UP also shows that Entergy underestimates the amount of construction and spending that would be required for BNSF and M&NA to transport the volume of coal that Entergy claims it might ship using a BNSF-M&NA through route.

Section IV.D shows that Entergy's proposed BNSF-M&NA through routes would be less efficient and less cost-effective than the current UP-M&NA route. UP shows that Entergy's cost evidence is flawed and that the UP-M&NA route has lower costs, and would produce faster cycle times and lower fuel consumption, than either of the BNSF-M&NA routes proposed by Entergy.

Section IV.E shows that Entergy would pay more to ship coal using a BNSF-M&NA through route than it is paying UP. UP shows that Entergy ignores the best evidence of likely BNSF-M&NA rates – a recent rate quote from BNSF – and that Entergy erred with respect to the

information it did use to estimate future rates by comparing UP and BNSF rate data from different time periods without acknowledging or correcting for that difference.

Finally, Sections IV.F and IV.G show that Entergy failed to meet its burden under the Board's competitive access rules by failing to address the impact of a through route prescription on the revenues of UP and M&NA and by failing to establish that it would use the prescribed through routes it is seeking to meet a significant portion of its transportation needs.

A. The UP/M&NA Lease Is Not Anticompetitive.

Entergy claims the UP/M&NA Lease is anticompetitive because, absent the interchange and contingent rent provisions in the lease, "M&NA would be free to participate with BNSF in the movement of coal to [the Independence plant]." (Entergy Argument at 18.) Entergy further claims that a through route prescription would be in the public interest because it "would allow Entergy to obtain the benefits of competition (both in terms of rate levels and overall customer service)." (*Id.*) Entergy is wrong to say that the lease reduced competition to the Independence plant, and it is also wrong to say that the potential creation of benefits to Entergy means that a through route prescription would be in the public interest under section 10705.

1. The UP/M&NA Lease Did Not Reduce Competition To The Independence Plant.

The UP/M&NA Lease, including the interchange and contingent rent provisions, did not reduce Entergy's competitive options for transporting coal to the Independence plant; instead, it maintained and even improved the *status quo*. Entergy never had the option to use a BNSF-M&NA route before UP leased its lines to M&NA. M&NA did not exist as a rail carrier before it leased the lines in question from UP. Before the lease, Entergy's Independence plant was served exclusively by UP. As a practical matter, Entergy is in the same position today – the lease's interchange and contingent rent provisions preserved the competitive *status quo*. In

short, Entergy's complaint about the lack of intramodal competition at the Independence plant has nothing to do with the lease; Entergy does not have significant intramodal competition at the Independence plant because it built the plant at a location served by only one railroad.²³

In fact, the UP/M&NA Lease actually created new routing options for Entergy and other shippers on the leased lines. Because M&NA has no obligation to pay rent unless it interchanges less than 95% of its through traffic with UP, M&NA can interchange up to 5% of its through traffic with UP's competitors and still pay no rent. The lease thus created new competition for the 5% of the traffic that UP would have served exclusively if it had not leased its lines to M&NA. That 5% figure represents a substantial amount of traffic – approximately {
} (UP Initial Reply at 15; Wilson Initial Reply VS at 11.)

The Board and the ICC have recognized and emphasized the critical distinction between agreements that foreclose competition and those that maintain the competitive *status quo*. In *Montana Rail Link, Inc. – Exemption Acquisition and Operation – Certain Lines of Burlington Northern Railroad*, ICC Finance Docket No. 31089 (Decision served May 26, 1988), the ICC specifically addressed the claim that BN's spin-off of certain lines to MRL was anticompetitive because MRL had agreed to pay BN such a high fee for interchanging traffic with other carriers that it effectively prevented MRL from offering competing through routes. The ICC explained that BN's retention of rate and routing control over traffic on the affected lines could not be

²³ See *Coal, Wyoming to Redfield, Arkansas*. 364 I.C.C. 988, 989 (1981).

Neither Entergy nor AECC disputes the evidence that UP never would have leased its lines to M&NA if there was a chance the lease would allow a competitor to gain rent-free access to the Independence plant. UP's analysis of the transaction shows that the lease made financial sense only if UP could maintain its revenue stream from through traffic on the leased lines. If UP had ever thought that entering into the lease would place that revenue stream at risk, UP would have continued to operate the lines itself. (Wilson Initial Reply VS at 2-3.)

anticompetitive: “Prior to the transfer, as owner, BN exercised total control over the rates and routes on the [leased line], including the power to discourage shippers from interlining at certain BN-controlled gateways. Consequently, BN’s control over this traffic after the transfer, *even if MRL were totally precluded from offering competitive options to its shippers vis-a-vis the BN*, would not lead to the conclusion that competition would be reduced.” *Id.* at 20 (emphasis added). The ICC specifically rejected claims that BN had anticompetitively foreclosed potential alternate through routes: “BN’s control over MRL interline traffic subject to such charges is no greater, and cannot be greater, than when BN was the sole carrier.” *Id.*

More recently, in *Review of Rail Access and Competition Issues – Renewed Petition of the Western Coal Traffic League*, STB Ex Parte No. 575 (Decision served Oct. 30, 2007) (“*Ex Parte No. 575*”), the Board rejected claims that “interchange commitments are inherently anticompetitive . . . because they discourage or prevent short lines from offering existing shippers competitive through routes with third-party carriers.” *Id.* at 8. The Board explained that interchange commitments are not anticompetitive as long as shippers were “no worse off as a result of the interchange commitment.” *Id.* The Board observed that the critics of interchange commitments were generally seeking “to create a new competitive option that did not exist prior to the sale or lease,” and explained that the competitive effects of interchange commitments had to be “viewed *ex ante* (i.e., before the sale or lease of the facilities).” *Id.* at 9.

The Board’s decision in *Ex Parte No. 575* also reaffirmed the agency’s long-held view that interchange provisions have significant pro-competitive benefits: “Generally, interchange commitments have facilitated the creation and growth of short line railroads, which in turn has benefited the public by lowering transportation costs, improving service, and in some cases

preserving rail transportation to localities and communities that might otherwise have seen service over their lighter-density lines deteriorate or be lost altogether.” *Id.* at 7.

Entergy’s claim that the UP/M&NA Lease foreclosed a BNSF-M&NA through route to the Independence plant reflects the same flawed mode of analysis that the agency rejected in *Montana Rail Link* and again in *Ex Parte No. 575*. Entergy would have the Board ignore that M&NA could not have participated in a BNSF through route before it entered into the lease (when it did not even exist as a rail carrier). But as the Board has explained, such an approach would reflect an “entirely *ex post* view,” and a proper competitive analysis of any alleged restraint on competitive routings requires an *ex ante* approach – that is, it must compare conditions “before and after the restraint was imposed.” *Ex Parte No. 575* at 9, 10.²⁴

Entergy’s claim also disregards the basic fact that the lease does not prevent M&NA from establishing a through route with BNSF to serve the Independence plant. As discussed above, the lease would allow M&NA to use UP’s lines, without paying any rent to UP, to interchange a portion Entergy’s traffic with BNSF. The lease simply places a limit on M&NA’s ability to use UP’s lines, rent-free, to deprive UP of revenues by interchanging more than the bargained-for amount of traffic with another railroad.

²⁴ The same need to take an *ex ante* approach to the analysis applies to Entergy’s vague claim that UP and M&NA have somehow “contract[ed] away the statutory rights of a third party.” (Entergy Argument at 17, quoting June 2009 Decision at 7.) The UP/M&NA Lease does not present such a situation: neither M&NA nor BNSF nor Entergy nor any other party had any statutory right to a BNSF-M&NA through route before UP leased its lines to M&NA.

Indeed, if the Board were to accept Entergy’s analysis, railroads could never agree to provide overhead trackage rights to other carriers for fear that a shipper on the trackage rights line would assert that the restriction to “overhead” rights “anticompetitively” precludes the tenant railroad from serving its facilities and that the two carriers somehow “contracted away” the shipper’s right to demand common carrier service from the tenant.

2. The Prospect Of Creating Additional Competitive Rail Service To The Independence Plant Does Not Justify Awarding Relief Under Section 10705 And The Competitive Access Rules.

Entergy ignores the principles that underlie section 10705 and the competitive access rules when it claims that prescription of a BNSF-M&NA through route is in the public interest because it would “allow Entergy to obtain the benefits of competition.” (Entergy Argument at 18.) Congress took a broader view of the public interest – one that considers the overall welfare of railroads and the rail system, not just the interests of individual shippers. Under Congress’s view of the public interest as expressed in section 10705 and the competitive access rules, the creation of additional competition is not a goal to be achieved through regulatory intervention; competitive access is a remedy that is available only if a railroad is proven to have engaged in anticompetitive conduct.

As the Board has explained, “[t]he statute and the competitive access rules neither direct nor were meant to require the government to create additional, competitive rail through routes simply upon demand.” *CP&L I*, 1 S.T.B. at 1067 (citing *Baltimore Gas*, 817 F.2d at 114-15). Congress intended section 10705 to give railroads freedom to “rationalize their route structures making maximum use of efficient routings and eliminating others.” *Id.* at 1065 (quotation omitted). The competitive access rules implement Congress’s intent by “mak[ing] it easier for railroads to avoid participation in unremunerative and inefficient through routes.” *Baltimore Gas*, 817 F.2d at 115.

Board and court precedent confirm that a shipper’s interest in additional rail competition is not sufficient to justify through route prescription: “Simply establishing that a carrier refused to open an additional through route at the shipper’s desired interchange point is not, by itself, evidence of anticompetitive conduct sufficient under [the competitive access] rules to warrant the prescription of that route.” *CP&L I*, 1 S.T.B. at 1066-67. “If the [Board] were authorized . . . to

prescribe [competitive access] whenever such an order could enhance competition between rail carriers, it could radically restructure the railroad industry,” and there is not “even the slightest indication that Congress intended the [Board] in this way to conform the industry more closely to a model of perfect competition.” *Midtec*, 857 F.2d at 1507.

Moreover, Board and court precedent confirm that section 10705 and the competitive access rules were not promulgated “to provide shippers with an alternative form of rate relief.” *CP&L I*, 1 S.T.B. at 1068. Congress intended railroads to “enjoy some degree of ‘market power,’ . . . without liability to compelled competitive access.” *Midtec*, 857 F.2d at 1507. A railroad is entitled to the benefits “that its position attained from having constructed the only rail facilities to serve the shipper’s plant directly may provide.” *Vista Chem.*, 5 I.C.C.2d at 340; *see also W. Fuels Serv.* at 7 (“[A]n incumbent railroad’s ability to price its services above a level that might prevail if competitive service were available [is not] conduct that, standing alone, warrants a competitive access remedy.”).

Finally, Entergy’s discussion of the public interest standard shows no regard for impact that a through route prescription would have on the affected railroads. Entergy asserts that the Board should err on the side of prescribing a through route because, if the “routing ultimately cannot be used for some reason . . . no party will be harmed.” (Entergy Argument at 19.) However, Entergy ignores that M&NA and BNSF would be required to incur significant costs to construct new interchange facilities at Lamar or Aurora, and that those expenditures would be entirely wasted if Entergy ultimately chose not to use the prescribed through routes because they are less efficient or more expensive than the current route. Nothing would be further from Congress’s understanding of the public interest as reflected in section 10705.

B. UP Has Not Engaged In Anticompetitive Acts Or Abused Its Market Power By Providing Inadequate Service To The Independence Plant.

Entergy centers its attempt to show that UP engaged in anticompetitive acts on claims that UP abused its market power by providing inadequate service to the Independence plant. (Entergy Argument at 21.) Entergy also claims that UP's enforcement of the UP/M&NA Lease prevented Entergy from obtaining alternative service during the periods of service inadequacy, and that UP's actions during the most recent period of service difficulties enhanced UP's profitability at Entergy's expense. (*Id.* at 21-22.) Entergy has its facts wrong, and we set the record straight below. But even if Entergy had described the facts accurately, they would not establish a right to relief under section 10705: Entergy's claims do not demonstrate that UP engaged in anticompetitive acts by providing inadequate service or by enforcing the lease.

1. UP's Past Service Problems Do Not Constitute Anticompetitive Acts Or An Abuse Of Market Power.

In its June 26 Decision, the Board stated that it "may exercise its authority under section 10705 to order a carrier to open another route if a party demonstrates that the bottleneck railroad has exploited its market power by . . . providing inadequate service over its lines." June 26 Decision at 7. The Board's statement was consistent with the ICC's statement in *Midtec* that a shipper could show that a railroad had engaged in anticompetitive acts by establishing that "because of its monopoly position [the railroad] has shown a disregard for the shipper's needs by rendering inadequate service." *Midtec*, 3 I.C.C.2d at 181.

Entergy's complaints about UP service do not suggest that UP engaged in anticompetitive acts or abused its market power. Entergy does not allege that UP singled out Entergy for poor service because of competitive conditions at the Independence plant. Rather, Entergy identifies three episodes during which UP experienced service problems that had widespread effects across its network. Moreover, Entergy's own evidence regarding UP's service during the most recent

episode actually shows that competitive conditions had no correlation to UP's performance: according to Entergy's evidence, UP provided better service to the Independence plant than to Entergy's White Bluff plant, which is already served by both UP and BNSF. In fact, {
} UP provided better service to the Independence plant than BNSF provided to Entergy at the White Bluff plant.

Entergy complains about UP service problems during three time periods: 1993-1994, when UP experienced problems following record Midwest flooding; 1997-1998, when UP experienced problems following the UP/SP merger; and 2005-2006, when UP experienced problems following the impairment of the Joint Line in the PRB.

In each of those periods, however, UP service problems resulted from circumstances that had nothing to do with competitive conditions at the Independence plant, and they affected many shippers across UP's network – not just Entergy. In other words, UP's service problems do not indicate that UP abused its market power by showing a “disregard for [Entergy's] needs.”

Midtec, 3 I.C.C.2d at 181.

Entergy's and AECC's expert witnesses confirm that UP's service problems were caused by factors unrelated to competitive conditions at the Independence plant and that Entergy was one of many customers affected by those problems – that is, Entergy was not singled out for poor treatment. AECC's expert, Michael Nelson, states: the “first major episode occurred in 1993, when severe flooding impacted rail service over a broad area”; the “second episode occurred in the wake of the UP/SP merger, which produced the then-unprecedented ‘meltdown’ of service over a broad region”; and the “third episode began with the PRB Joint Line infrastructure and throughput problems that arose in May 2005 and continued through 2006.” (AECC Argument, Nelson VS at 7.) Similarly, Entergy's expert, Thomas Crowley, has testified that the service

problems Entergy experienced in 2005-2006 were part of “an industry wide problem.” and “nearly all PRB supplied utilities” had been “adversely affected by BNSF’s and UP’s poor service.” (UP Counsel’s Exhibit No. 5.)²⁵

Moreover, Entergy’s own evidence shows that competitive conditions had no correlation to UP’s performance during periods of service difficulties. According to Entergy, UP provided better service in 2005-2006 to the Independence plant than to Entergy’s White Bluff plant, which is already served by both UP and BNSF. Specifically, Mr. Crowley’s verified statement includes an exhibit comparing the degree by which UP exceeded contractual transit time standards for service to the Independence and White Bluff plants from the second quarter of 2005 through the fourth quarter of 2006. Mr. Crowley’s data show that UP’s service to the exclusively-served Independence plant was substantially better than its service to the competitively-served White Bluff plant in each quarter. (Entergy Argument, Crowley VS, Exhibit TDC-4 at 3, Table 3.)

UP does not endorse Mr. Crowley’s specific calculations or methodology, which were developed during prior litigation between Entergy and UP, but the results are consistent with UP’s Initial Reply evidence, which showed that, during 2005-2006, UP performed at a higher level than BNSF at the White Bluff plant, and UP performed at an even higher level at the Independence plant. (Gough Initial Reply VS at 6; *see also* Gough VS at 3.)

UP recognizes that Entergy suffered delivery shortfalls at the Independence plant during the three periods in which UP experienced service problems, but many other shippers were also affected by the same circumstances. Entergy’s experience does not show that UP “has exploited

²⁵ UP Counsel’s Exhibit No. 5 is an excerpt from *In the Matter of an Investigation into Entergy Arkansas, Inc.’s Interim Revision to Its Energy Cost Recovery Rider*, Arkansas PSC Docket No. 05-116-U, Rebuttal Testimony of Thomas D. Crowley at 10-11 (Mar. 15, 2006).

its market power.” June 26 Decision at 7. In fact, far from showing a disregard for Entergy’s service needs because of “market power,” UP took steps during each period to improve service to the Independence plant, as discussed in the next section.

2. UP Has Not Engaged In Anticompetitive Acts Or Abused Its Market Power By Refusing To Waive The UP/M&NA Lease’s Interchange And Contingent Rent Provisions During Periods Of Service Difficulties.

Entergy has no basis in fact or law for arguing that UP abused its market power by refusing to waive the UP/M&NA Lease’s interchange and contingent rent provisions during periods of service difficulty so Entergy could obtain alternate service to the Independence plant. As a factual matter, UP has never refused a request by Entergy to waive the lease’s interchange and contingent rent provisions when UP could not provide requested service to the Independence plant. As a legal matter, UP’s refusal to waive the lease’s interchange and contingent rent provisions, even during periods of service problems, would not constitute an abuse of market power under section 10705. A railroad’s refusal to waive lease terms would be no different than a railroad’s refusal to provide free access over its own lines during periods of service difficulties, and a shipper would have the same remedy in both circumstances – it could seek an emergency service order under 49 U.S.C. § 11123.

a) UP Has Never Refused A Request By Entergy To Waive The Lease’s Interchange And Contingent Rent Provisions When It Could Not Provide Requested Service To The Independence Plant.

Entergy’s argument that UP’s past refusals to waive the lease’s interchange and contingent rent provisions constitute an abuse of market power is based on a false premise because UP has never refused an Entergy waiver request when it could not provide requested service to the Independence plant. Entergy’s claims about UP’s alleged refusals to waive those

lease provisions merely echo the claims that Entergy made in its Initial Opening, filed in this case on July 11, 2008, which UP refuted in its Initial Reply.²⁶

(1) UP Did Not Refuse To Waive The Lease's Interchange And Contingent Rent Provisions In 1993-1994.

In its Initial Opening, Entergy incorrectly claimed that UP refused to waive the lease's interchange and contingent rent provisions to allow coal deliveries to Independence via a BN-M&NA routing when UP was experiencing service problems following record Midwest flooding in 1993. Entergy witness Daniel B. Gray said he asked UP to waive the interchange commitment in a letter dated May 17, 1994. (Gray Initial Opening VS at 6 & Exhibit DBG-3.) But the parties' correspondence shows that UP reacted promptly to Entergy's concern by developing a program to increase coal deliveries to the Independence and White Bluff plants, and Entergy responded that it was "pleased with the railroad's efforts" and was "withdrawing its request . . . that the BN and M&NA be allowed to transport coal into ISES [the Independence plant] from SPRB mines currently served by WRPI." (Gough Initial Reply VS at 4; UP Counsel's Exhibit Nos. 6 & 7.)²⁷

Mr. Gray revised his story in Entergy's Initial Rebuttal, filed on September 2, 2008.²⁸ He conceded that UP never refused Entergy's request and that Entergy withdrew its request, but he claimed that Entergy acted "under duress" and that Entergy's satisfaction with UP's efforts to

²⁶ UP refers to Entergy's prior opening evidence as Entergy's "Initial Opening." Citations to verified statements in the Initial Opening identify the witness's name, followed by "Initial Opening VS."

²⁷ UP Counsel's Exhibit No. 6 is a letter from UP's Steve Jensen to Entergy's Roy Giangrosso, dated May 24, 1994. UP Counsel's Exhibit No. 7 is a letter from Mr. Giangrosso to Mr. Jensen, dated June 1, 1994.

²⁸ UP refers to Entergy's prior rebuttal evidence as Entergy's "Initial Rebuttal." Citations to verified statements in the Initial Rebuttal identify the witness's name, followed by "Initial Rebuttal VS."

increase coal deliveries “soon dissipated.” (Gray Initial Rebuttal VS at 2-3.) However, Entergy offered no support for this revisionist history. Notably, Mr. Gray never claimed that Entergy renewed its request for a BN-M&NA routing.

(2) UP Did Not Refuse To Waive The Lease’s Interchange And Contingent Rent Provisions In 1997-1998.

Entergy also incorrectly claimed in its Initial Opening that UP refused to waive the lease’s interchange and contingent rent provisions to allow coal deliveries to Independence via a BNSF-M&NA routing during UP’s service problems following the UP/SP merger. Mr. Gray claimed that UP refused to waive the lease’s interchange provision in response to an Entergy letter dated April 7, 1998. (Gray Initial Opening VS at 8.) However, as UP observed in its Initial Reply, that letter shows that Entergy did not ask for a BNSF-M&NA routing to the Independence plant, as Mr. Gray had claimed. Instead, Entergy asked UP to give access to BNSF at the White Bluff plant. (Gough Initial Reply VS at 4.)²⁹ The letter, which Mr. Gray cited and attached to his testimony, showed that Entergy asked “that Union Pacific allow BNSF to utilize [its] trackage rights to serve *White Bluff*.” (Gray Initial Opening VS, Exhibit DBG-5, emphasis added; *see also* Gough Initial Reply VS at 4; UP Counsel’s Exhibit No. 8.)³⁰

Subsequently, Mr. Gray tried to confuse the issue. In Entergy’s Initial Rebuttal, he cited a September 23, 1997 letter in which Entergy said it wanted to “explore immediately options” to move coal via BNSF to the White Bluff plant or a via BNSF-M&NA route to the Independence plant, and asked UP for “information with respect to restrictions that may exist with respect to

²⁹ BNSF did not obtain access to the White Bluff plant until after 2000. *See Union Pac. Corp. – Control & Merger – S. Pac. Rail Corp.*, STB Finance Docket No. 32760 (Decision served Mar. 21, 2000).

³⁰ UP Counsel’s Exhibit No. 8 is a copy of Exhibit DBG-5, a letter from Entergy’s Charles W. Jewell, Jr. to UP’s Arthur W. Peters, dated April 7, 1998.

the M&NA's delivery of coal to White Bluff in connection with BNSF." (Gray Initial Rebuttal VS at 4, citing Exhibit DBG-4.) Mr. Gray then stated that the second reference to the White Bluff plant was an "obvious typographical error." (*Id.*) But the relevant issue was not Entergy's September 1997 request for information; the issue was Entergy's April 1998 request for alternate service. In the April 1998 letter, Entergy never asked to move coal using a BNSF-M&NA route to the Independence plant. Instead, Entergy clearly asked UP to allow BNSF to use its trackage rights over UP from Pine Bluff to Little Rock, to serve the White Bluff plant. (UP Counsel's Exhibit No. 8.)

Moreover, UP's response to Entergy during the 1997-1998 period of service difficulties also demonstrates that UP has not shown a disregard for Entergy's service needs. In an effort to improve service to the Independence plant, UP and M&NA developed and implemented a plan to route trains carrying Entergy's empty cars returning from the plant via M&NA to Kansas City. (Gough Initial Reply VS at 5.) The routing proved beneficial and remains in place today. (*Id.*)

(3) UP Did Not Refuse To Waive The Lease's Interchange And Contingent Rent Provisions In 2005-2006.

Entergy also claims that UP's enforcement of the lease's interchange and contingent rent provisions in the 2005-2006 period "precluded Entergy from obtaining interline service from BNSF/M&NA to supplement coal deliveries to [the Independence plant], despite Entergy's requests to obtain alternative service." (Entergy Argument at 21.) Entergy goes even further, and with the support of one of its witnesses, Mr. Crowley, claims that UP's refusal to waive the lease provisions to allow an alternate BNSF-M&NA route during 2005-2006 specifically "amounted to the abuse of market power" because {

} (*Id.* at 22; Crowley VS at 6-7.)

Entergy's entire argument is off the mark because, as UP explained in its Initial Reply, and as Entergy's Mr. Gray ultimately conceded, Entergy "did not ask UP for a waiver." (Gray Initial Rebuttal VS at 6; *see also* Gough Initial Reply at 5.)

In fact, the evidence shows that Entergy never considered asking UP for a waiver related to a BNSF-M&NA route to transport PRB coal to the Independence plant. Mr. Gray explained that Entergy had discussions with M&NA (not UP) involving "the possibility of moving foreign coals" (not PRB coal) to the plant "through Illinois Central's Rail Marine Terminal ('ICRMT') at Convent, Louisiana" using two potential routes: "[o]ne involved CN/UP/M&NA, and the other involved CN/KCS/M&NA." (Gray Initial Opening VS at 9.)³¹

Entergy's lack of interest in a BNSF-M&NA route is not surprising. As Entergy knew, BNSF service was also significantly affected by the impairment of the Joint Line in 2005-2006. Indeed, Entergy has previously acknowledged in Board filings that a BNSF-M&NA routing was not a viable alternative at that time because "BNSF was also having difficulty meeting its commitments." (*Review of Rail Access and Competition Issues*, STB Ex Parte No. 575, Comments of Entergy, Herndon VS at 8 (Mar. 8, 2008).)

In fact, as UP explained in its Initial Reply, UP repeatedly suggested to Entergy that it should ship more coal via BNSF to the White Bluff plant. (Gough Initial Reply VS at 5; *see also* Gough VS at 3.) Increased BNSF moves to the White Bluff plant would have allowed UP to

³¹ Mr. Gray complained that he believed M&NA tried to "stall and discourage [Entergy's] efforts to obtain service from M&NA" by pressing Entergy for information about "operational questions." (Gray Initial Rebuttal at 6.) UP has no knowledge of M&NA's communications to Entergy, but documents produced in discovery show that M&NA expressed concerns { } (UP Initial Reply at 41-42.) Viewed in light of the evidence regarding the costs and difficulties that would be involved in establishing a new BNSF-M&NA through route, M&NA's reaction to Entergy's request seems entirely justified. UP discussed Entergy's request to UP with respect to movements of foreign coal in more detail in its Initial Reply. (Gough Initial Reply VS at 7.)

take train sets from service to the White Bluff plant and divert them to the Independence plant, which would have increased the total amount of coal delivered to Entergy's plants in Arkansas. (Gough Initial Reply VS at 5; *see also* Gough VS at 3.) However, BNSF apparently was not in a position to provide additional service to the White Bluff plant; indeed, the available data show that UP was performing at a higher level than BNSF at the White Bluff plant. (Gough Initial Reply VS at 6; *see also* Gough VS at 3.) And if BNSF could not provide better service than UP to the White Bluff plant, where it already had access, it plainly was in no position to institute new service to the Independence plant. (Gough Initial Reply VS at 6; *see also* Gough VS at 3.)

{

} Mr. Crowley's verified statement includes an exhibit comparing the degree by which UP exceeded contractual transit time standards for service to the Independence and White Bluff plants from the second quarter of 2005 through the fourth quarter of 2006. (Crowley VS, Exhibit TDC-4 at 3, Table 3.) When UP cycle time data from Mr. Crowley's exhibit are compared with BNSF cycle time data for the same period that Entergy produced in discovery, {

} as shown in the table

below:

**Comparison of BNSF And UP Cycle Times
To Entergy's White Bluff And Independence Plants³²**

The fact that Entergy never requested a BNSF-M&NA route to transport PRB coal to the Independence plant in 2005-2006 destroys the central premise of Entergy's and Mr. Crowley's claims that UP's enforcement of the lease in that period constituted an abuse of market power.

Entergy and Mr. Crowley attempt to re-purpose testimony that Mr. Crowley offered in prior litigation by asserting that certain of UP's actions in 2005-2006 were connected to UP's enforcement of the lease, but that attempt falls apart in the face of the facts.

First, Mr. Crowley repeats claims from his prior testimony that UP {

} (Crowley VS at 6-7.) Mr. Crowley attempts to tie his prior testimony regarding the {

} to this case by asserting that Entergy {

} (*Id.* at 6.) However, Mr. Crowley's claim is based on the false premise

³² UP cycle time data are from Mr. Crowley's verified statement, Exhibit TDC-4 at 3, Table 3. BNSF cycle time data are from documents produced in discovery by Entergy, which are reproduced in UP Counsel's Exhibit No. 9.

that, in the absence of the lease, Entergy would have used a BNSF-M&NA through route to transport PRB coal to the Independence plant. As discussed above, Entergy never asked UP to allow an alternate BNSF-M&NA route, and BNSF was in no position to provide such alternate service in any event. Thus, the lease had nothing to do with the fact that {

}³³

Second, Mr. Crowley repeats claims from his prior testimony that UP {

} and adds the new assertion that such action “would not have been as effective for UP to enhance its profits, had M&NA and BNSF had the ability to deliver coal to Entergy without fear of the penalty provisions contained in the UP/M&NA Lease Agreement.” (Crowley VS at 7.) But Mr. Crowley never explains how UP’s supposed strategy would not have been as effective if BNSF and M&NA could have delivered coal to the Independence plant, and the explanation is not intuitively obvious.³⁴ In any event, Mr. Crowley’s attempt to tie his prior testimony to this case by asserting a causal connection to the lease is undone once again by the fact that the lease had nothing to do with BNSF’s inability to deliver PRB coal to the Independence plant in 2005-2006.³⁵

³³ Moreover, Mr. Crowley’s claim that UP was trying to { } is inconsistent with the fact that UP actually urged Entergy to ship more PRB coal to the White Bluff plant via BNSF. (See also Gough VS at 4.)

³⁴ One would think that, if UP had been engaged in some nefarious strategy to avoid providing service to the Independence plant, UP would have tried to make itself better off by waiving the lease’s interchange and contingent rent provisions, allowing BNSF and M&NA to provide alternate service, and devoting all of its available resources to its more profitable customers.

³⁵ Moreover, Mr. Crowley is wrong to assert that { } Mr. Crowley never offered any evidence that {

(continued...)

In sum, there is no support for Entergy's claim that UP took actions during 2005-2006 that would not "have been as effective for UP in maximizing its revenues at Entergy's expense in the absence of UP's continued enforcement of [the lease] and the unavailability of an alternative BNSF-M&NA through route [to the Independence plant]." (Entergy Argument at 23.) The facts clearly show that the UP/M&NA Lease had nothing to do with the unavailability of a BNSF-M&NA through route to the Independence plant.

b) UP's Refusal To Waive The Lease's Interchange And Contingent Rent Provisions Would Not Constitute An Abuse Of Market Power.

UP has already represented that it would waive the lease's interchange and contingent rent provisions if Entergy approached UP with a feasible plan to source substitute coal using a non-UP connection with M&NA in a situation in which UP was unable to meet its obligations to deliver PRB coal to the Independence plant and unable to offer a reasonable through route for the substitute coal. (UP Initial Reply at 47.) However, the Board should recognize that UP's refusal to waive the interchange and contingent rent provisions in the event of service problems would not constitute an abuse of market power or otherwise justify relief under section 10705.

A railroad's refusal to waive a lease provision to allow alternate service during service problems is no different than a railroad's refusal to allow free access over its other lines during periods of service problems. A railroad does not engage in an anticompetitive act by enforcing

VS, Ex. 4 at 13-16.) Mr. Crowley never showed that Entergy {

} In fact, a UP witness in the same litigation explained that UP {

} (UP Counsel's Exhibit No. 10.) Mr. Gough re-confirms that UP {

} (Gough VS at 4.)

its right to compensation for use of its facilities. The ICCTA expressly recognizes that a carrier is entitled to compensation for use of its facilities, even when alternate service is required in a service emergency. *See* 49 U.S.C. § 11123(b)(2). In fact, when the core of a shipper's claim for access relief does not involve not a railroad's general disregard for the shipper's service needs but instead involves the carrier's temporary inability to provide adequate service, the shipper should request temporary relief under section 11123, not permanent relief under section 10705. *Cf.* June 26 Decision at 10 ("Conduct is not appropriately challenged under section 10702 when there is another statutory provision that specifically governs the lawfulness of the conduct in question.").³⁶

3. Entergy's Concerns About Future UP Service Problems Do Not Justify A Through Route Prescription.

Entergy also argues that the possibility of future service problems justifies its request for a through route prescription. (Entergy Argument at 20-21.) One Entergy witness asserts that "it is just a matter of time before there is another service crisis during which UP will again rely on the anticompetitive terms of its lease with M&NA to preclude supplemental coal deliveries to Independence." (Trushenski VS at 4.) The same witness argues that prescribing a through route would be in the public interest because it would be less costly than if Entergy were to construct a build-out from the Independence plant to BNSF. (*Id.*) The Board should reject Entergy's arguments for several reasons.

First, as discussed above, Entergy has not shown, and cannot show, that the interchange and contingent rent terms in the UP/M&NA Lease are anticompetitive or that UP has ever used the lease in an anticompetitive manner to preclude supplemental deliveries to the Independence

³⁶ Section 11123 would allow the Board to "prescribe temporary through routes." 49 U.S.C. § 11123(a)(3).

plant. so Entergy's speculative concerns about UP's anticompetitive enforcement of the lease in the event of future service problems provide no basis for awarding relief under section 10705.

Second, as also discussed above, UP has represented that it would waive the lease's interchange and contingent rent provisions if Entergy approached UP with a feasible plan to source substitute coal using a non-UP connection with M&NA in a situation in which UP was unable to meet its obligations to deliver PRB coal to the Independence plant and unable to offer a reasonable through route for the substitute coal. Moreover, Entergy could seek temporary relief under section 11123(a).

Third, Entergy's service concerns are plainly exaggerated. Since recovering from the impairment of the Joint Line and several severe weather incidents in the first part of 2006, UP service to the Independence plant has been strong. UP ultimately delivered { } of Entergy's NCTA demand to the Independence plant in 2006. (Gough Initial Reply VS at 9.)³⁷ From 2007 through May 2010, UP has delivered { } of Entergy's NCTA demand to the Independence plant. (Gough VS at 5.)³⁸ In fact, UP could be delivering even more coal to the Independence plant than it is currently delivering, { } (Gough VS at 6.)

³⁷ NCTA demand refers to the process for planning Joint Line train operations by allocating train slots between UP and BNSF based on customer demand. NCTA matches the amount of coal shippers want with the amount producers have available for that customer. (Gough Initial Reply VS at 6 n.2.)

³⁸ Entergy complain about UP's *force majeure* declarations in 2007 and 2008, but the complaints ignore that UP's actual service performance was strong during those periods, despite having to overcome the conditions that gave rise to the *force majeure* declarations. Moreover, Entergy's complaints actually highlight the difficulties of providing service over M&NA. {

{ (Mohl Initial Rebuttal VS, Exhibit WMM-2.)

Entergy demonstrated its faith in UP service when it {

} (Gough VS at 5.)

Finally, with regard to Entergy's argument that a prescribed through route would be less costly than if Entergy were to construct a build-out to BNSF, any shipper that wanted additional competitive rail service could always make that same claim: it would always be cheaper to grant access to a competitor's facility than to build a new one. Moreover, as UP explained in its Initial Reply, such "free-riding" on UP's investments would not be in the public interest – it is contrary to sound economic principles and would be harmful to overall welfare. A build-out would be an appropriate, market-based method of advancing Entergy's goal of increasing rail competition at the Independence plant: Entergy would be paying its own money for the rights it seeks rather than seeking to free-ride on UP. (UP Initial Reply at 45-46.)

4. AECC's Arguments Regarding UP's Past Service Problems Do Not Justify A Through Route Prescription.

AECC's arguments regarding UP service to the Independence plant largely duplicate Entergy's arguments, and like Entergy, AECC does not show that UP engaged in anticompetitive conduct or abuse of market power. Like Entergy, AECC asserts that UP's enforcement of the UP/M&NA Lease prevented Entergy from obtaining alternate service to the Independence plant.

(AECC at 7.) However, as UP explained above, that assertion is false, and even if it were true, UP's enforcement of the lease would not be an anticompetitive act.³⁹

Also like Entergy, AECC complains that UP's past service problems have imposed costs related to delivery shortfalls at the Independence plant. AECC witness Michael Nelson identifies three types of costs: costs of acquiring substitute fuels, costs of increasing the target stockpile size at the Independence plant, and costs of acquiring additional rail cars. (Nelson VS at 7-8.)⁴⁰ However, Mr. Nelson recognizes that UP did not disregard the Independence plant's service needs because of the competitive conditions: he acknowledges that the service problems he identifies affected shippers across UP's network. (*Id.* at 7.) Thus, like Entergy's witnesses, Mr. Nelson offers no support for claims that UP's service problems were connected to anticompetitive conduct by UP.

Finally, AECC claims that UP acted anticompetitively by adopting the current route to the Independence plant because it is longer than the prior route over the Carthage Subdivision. (AECC Argument at 7; Nelson VS at 9.) AECC's claim is absurd. UP would have no interest in adopting a longer, less efficient route when it would be handling the traffic in single-line service over either route.⁴¹ AECC also forgets that Entergy agreed to the new route. *See* Section II.B.

³⁹ AECC asserts that UP's enforcement of the lease has prevented Entergy from obtaining "coal or lignite from Oklahoma or Texas originated by KCS." (AECC Argument at 7.) There is no evidence in the record that Entergy or AECC ever asked UP to waive the lease's contingent rent provision so it could transport Oklahoma or Texas coal to the Independence plant when there were service problems on UP (or at any other time).

⁴⁰ In response to UP's request for the workpapers that supported Mr. Nelson's assertions that the increase in stockpile size was a response to service problems and that rail cars were acquired to respond to service concerns at the Independence plant, as opposed to other plants in which AECC has an ownership interest (*i.e.*, the White Bluff plant, served by BNSF and UP, and Nelson Station, served by KCS), AECC stated that Mr. Nelson had no workpapers.

⁴¹ As discussed above, UP shifted the route for trains to the Independence plant several years before it entered into the UP/M&NA Lease.

AECC's additional suggestion that a longer route is necessarily less efficient than a shorter route ignores the characteristics of the Carthage Subdivision that make it an unattractive route for unit coal trains to the Independence plant. We discuss the characteristics of the Carthage Subdivision and provide a more complete analysis of the relative efficiency of potential alternate routes to the Independence plant in the next two sections.

C. Entergy's Proposed BNSF-M&NA Through Routes Are Not Feasible.

Entergy's proposed BNSF-M&NA through routes are not feasible because M&NA and BNSF would be required to spend millions of dollars to construct new interchange facilities and upgrade other facilities on M&NA's lines in order to accommodate the operations contemplated by Entergy. Entergy's own expert acknowledges that significant spending would be required. UP's witnesses reviewed Entergy's estimates and developed their own estimates based on their inspections of the proposed interchange locations and modeling traffic flows on M&NA. They conclude that Entergy significantly underestimates the investment that would be required to accommodate the operations it contemplates. We discuss the details below.

1. Entergy Has Never Received PRB Coal Using An Interchange At Lamar Or Aurora.

In its June 26 Decision, the Board suggested, based on evidence previously submitted by Entergy, that a M&NA-BNSF through route might be "feasible" because "before it entered into a contract with UP in 1983, Entergy received its coal via a joint movement of Missouri Pacific (over the lines now leased to MNA) and BNSF." June 26 Decision at 7. The Board thus appeared to believe that a through route prescription might "merely entail[] the activation of interchange relationships that, while perhaps dormant, already physically exist." *Id.* at 8.

In fact, BNSF and Missouri Pacific never interchanged coal moving to the Independence plant at either Lamar or Aurora – the two locations Entergy suggests as interchange points in a

BNSF-M&NA through route. As Entergy acknowledges, BN and Missouri Pacific interchanged Entergy's traffic in Kansas City. (Entergy Argument at 9 n.9.) Moreover, the proposed BNSF-M&NA through routes would also be different in that Entergy is proposing to move coal in 135-car trains with 286,000-pound carloads. (Crouch VS at 6.) In 1989, when a significant volume of loaded unit coal trains last moved over those portions of the Carthage Subdivision, the trains were only 115-cars long with 263,000-pound carloads. (Gough VS at 7.)

Entergy's engineering expert, Harvey Crouch, acknowledges that BNSF and M&NA would need "to modify the interchange facilities at Lamar and Aurora to accommodate loaded unit coal trains." (Crouch VS at 18.) Mr. Crouch states that this would require the construction of a new connection long enough to accommodate a loaded unit coal train, and he estimates the cost would be \$2.50 million at Lamar and \$2.84 million at Aurora. (*Id.* at 18-21.)⁴² Mr. Crouch also recommends upgrading bridges on M&NA's lines to handle 286,000-pound carloads. Based on his limited inspection, Mr. Crouch estimates that the upgrades would cost { } (*Id.* at 14-15.)⁴³ In sum, Entergy appears to acknowledge that M&NA would need to make an

⁴² Mr. Crouch says in his statement that the cost would be \$2.45 million at Lamar and \$2.86 million at Aurora, but his workpapers contain the dollar figures cited in the text. (*See* Entergy Opening workpaper "Interchange Preliminary Costs.xls.")

AECC's experts assert that it "is feasible" at Lamar and Aurora "to make an efficient connection." (Heavin & Brookings VS at 8.) However, they apparently mean that it would be feasible to develop such connections, not that they currently exist. They state that "[i]nterchange connections must provide the ability to move the trains from one carrier to another efficiently, minimizing delay to main track operations" and that "interchange track should provide the ability to stage trains in the clear of both railroads for crew changes and train meets," (*id.* at 7-8), but Entergy's expert recognizes that several million dollars in modifications would be needed at Lamar to avoid "making reverse moves on the BNSF and M&NA main lines" and at Aurora to avoid "blocking the M&NA main line." (Crouch VS at 19, 20.) UP witnesses Wheeler and Plum explain in detail why BNSF and M&NA could not interchange loaded unit coal trains using the existing facilities at Lamar and Aurora. (Wheeler & Plum VS at 5, 7.)

⁴³ Mr. Crouch did not include the figure in the text of his verified statement, but it appears in his workpaper "Master-M&NA Load Ratings.xls."

(continued...)

upfront investment of more than { } to accommodate the operations contemplated by Entergy.⁴⁴

Moreover, Entergy understates the start-up costs of a BNSF-M&NA through route in at least two respects. First, Mr. Crouch understates the costs of constructing facilities at Lamar or Aurora that would be sufficient to accommodate the volume of traffic that Entergy says it might move over the through routes – *i.e.*, approximately ten loaded unit trains per month { } and thirty-three loaded unit trains per month { } (Crouch VS at 6-7.) Second, Mr. Crouch fails to account for additional new infrastructure that would be needed on M&NA’s lines between the interchange locations and the Independence plant to handle the volume contemplated by Entergy.⁴⁵

2. Entergy Understates The Costs Of Constructing New Interchange Facilities At Lamar And Aurora.

Mr. Crouch understates the costs that would be required to construct new interchange facilities at Lamar and Aurora by proposing unworkable designs at both locations and omitting important items from his cost estimates.

AECC’s engineering experts do not attempt quantify the cost of upgrading bridges, but they appear to agree that “a capital bridge reconstruction program will be required.” (Heavin & Brookings VS at 4.)

⁴⁴ AECC’s engineering experts point to another significant expense that M&NA would have to address before operations could commence: “MNA is using some limestone spot ballast which will no longer be suitable with the introduction of heavier wheel loads.” (Heavin & Brookings VS at 10.) UP’s expert, Mr. Hughes, observes that there are no data on the amount of limestone ballast that would have to be replaced by granite, but that removing the limestone and replacing it with granite on just 5% of the lines at issue would cost more than { } (Hughes VS at 25.)

⁴⁵ UP has not attempted to estimate the immediate cost to upgrade bridges on M&NA, but we discuss the increase in bridge maintenance costs that would be associated with routing loaded unit coal trains over the M&NA lines in Section IV.D.3.

a) The Costs Of Constructing New Interchange Facilities For Coal Volumes At Or Below { } Tons Per Year Would Be Substantial.

Mr. Crouch's proposed Lamar and Aurora interchange facilities would be unsuitable at even the lowest volume of unit train traffic contemplated by Entergy because they would result in Entergy's trains blocking public grade crossings during crew changes between BNSF and M&NA. The flaws in Mr. Crouch's designs are described in the verified statement of David Wheeler and Robert Plum. (Wheeler & Plum VS at 5-8.) As Messrs. Wheeler and Plum note, even in the hyper-efficient world of stand-alone cost rate case litigation, interchange times are assumed to be 30 minutes at crew change locations, and that assumes each railroad always has a crew available. Moreover, in the real-world case of BNSF and M&NA, the crossings likely would be blocked for even longer than 30 minutes because Lamar and Aurora are not crew change locations for either railroad, and the railroads would have to try to coordinate their train arrivals and departures and taxi crews from a substantial distance away. (*Id.* at 6 & 8 n.12.) As Messrs. Wheeler and Plum explain, properly designed interchange facilities at Lamar and Aurora would allow loaded and empty trains to be chambered at either location without blocking public grade crossings. (*Id.* at 6, 8.)

UP has developed estimates of the cost to construct interchange facilities at Lamar and Aurora that would allow for crew changes without blocking public crossings. As discussed in the verified statement of David Hughes, this generally involves constructing a longer connecting track at both Lamar and Aurora than was proposed by Mr. Crouch. (Hughes VS at 38, 41.)

UP's cost estimates also include items that Mr. Crouch omitted from his estimates. For example, Mr. Crouch did not provide for powered switches, so Entergy's trains would block the main lines while the switches were thrown manually. Mr. Crouch also failed to provide for costs for signal work associated with the powered switches, costs to build the interchange track over

two existing bridges (at Lamar), costs associated with pier support where the connecting track would pass under a highway overpass (at Aurora), costs for signaling at street crossings, costs for environmental permitting, and costs for wetland mitigation. (*Id.* at 39-41.)

UP estimates that the costs to construct adequate BNSF-M&NA interchange facilities would be approximately \$8.6 million at Lamar and \$6.1 million at Aurora. (*Id.* at 37, 40.)

b) The Costs Of Constructing New Interchange Facilities For Coal Volumes Approaching 6.5 Million Tons Per Year Would Be Substantial.

The costs to construct new facilities necessary to support the interchange of loaded and empty unit trains between BNSF and M&NA would be even higher if Entergy were to transport volumes approaching 6.5 million tons of coal per year through Lamar or Aurora. At those traffic levels, which would involve thirty-three loaded trains per month and an equal number of empty trains, loaded trains would often arrive at the interchange when empty trains are occupying the connecting track. (Wheeler & Plum VS at 14.) The current UP-M&NA route avoids the conflict between loaded and empty trains at interchange points because it uses directional running. But, even with that advantage over the proposed BNSF-M&NA routes, UP still uses Neff Yard in Kansas City to hold empty trains delivered by M&NA. (*Id.*) At the very least, M&NA would need one additional staging track at Lamar or Aurora on which to leave empty trains until they could be picked up by BNSF. (*Id.*)

UP estimates that the costs to construct adequate interchange facilities to handle volumes approaching 6.5 million tons of coal per year would be approximately \$11.5 million at Lamar and \$10.3 million at Aurora. (Hughes VS at 40, 42.)

3. Entergy Ignores The Need For New Infrastructure Between Lamar Or Aurora And The Independence Plant.

Mr. Couch also fails to account for the costs of new infrastructure that would be needed on M&NA's lines between Lamar or Aurora and the Independence plant to accommodate the additional traffic that Entergy's proposed through routes would add to those lines. As Messrs. Wheeler and Plum explain, M&NA would need new staging tracks at the Independence plant, and it would need to extend at least one siding on its main line.

a) Entergy Ignores The Need For Staging Capacity At The Independence Plant.

Messrs. Wheeler and Plum conclude that M&NA would need to construct at least one staging track near the Independence plant if BNSF and M&NA interchanged { } tons of coal per year, and two staging tracks near the plant if they were to interchange 6.5 million tons of coal per year. (Wheeler & Plum VS at 11-14.)

UP can stage up to three loaded trains destined to the Independence plant just 11.5 miles from the plant in Newport, Arkansas, and two loaded trains are routinely staged at Newport. (*Id.* at 10.) If Entergy were to route coal via BNSF and M&NA, M&NA would need similar staging capacity near the plant to replicate the service levels currently provided using the UP-M&NA route. (*Id.* at 13-14.)⁴⁶ However, M&NA has no track it could use to stage loaded unit coal trains near the plant. (*Id.* at 12.)

UP's estimate of the new staging track that M&NA would need is conservative – at the 6.5 million ton level, M&NA would have less staging capacity for coal transported using a BNSF-M&NA route than UP uses to handle the same volume of coal. (*Id.* at 13-14.)

⁴⁶ As Messrs. Wheeler and Plum observe, even at volume levels of { } tons of coal per year, M&NA would need a place to stage trains near the plant without blocking its main line when trains moved via a UP-M&NA routing were occupying the track at the plant. (*Id.* at 13.)

b) Entergy Ignores The Need For Additional Siding Capacity On M&NA Lines.

Messrs. Wheeler and Plum also conclude that M&NA would need additional siding capacity on its main line if BNSF and M&NA were to interchange between { } and 6.5 million tons of coal per year. (*Id.* at 15.) In particular, they identify the need for additional capacity on a sixty-one mile stretch of M&NA's track that currently includes a siding that is too short to hold a 135-car train. (*Id.* at 16.)

AECC's experts acknowledge that many of M&NA's existing sidings are too short to accommodate 135-car unit trains, and they identified a potential need for capacity on the same portion of track that was identified by Messrs. Wheeler and Plum. (Heavin & Brookings VS at 8).⁴⁷ AECC's experts say that it would be "feasible" for M&NA to extend the existing siding or restore another siding on that portion of the track. (*Id.*) However, while extending or restoring a siding might be possible, M&NA would find it costly to add siding capacity in this stretch of territory because of the many bridges and steep grades. (Wheeler & Plum VS at 16.)

4. Substantial Investment In New Facilities Would Be Required If The Board Were To Prescribe A BNSF-M&NA Through Route.

UP has not attempted calculate the costs of all the new facilities that would be required before M&NA and BNSF could feasibly transport coal to the Independence plant at the volume levels contemplated by Entergy and AECC. However, the evidence is clear that the costs would be substantial. Even at the lowest volume levels contemplated by Entergy and AECC, the costs

⁴⁷ Mr. Crouch asserts that M&NA currently has { } sidings that could be used to pass unit coal trains without having to construct additional track, but his workpapers show only { } sidings between Lamar and the Independence plant that could hold a coal train without being extended. Entergy Opening workpaper "M&NA Siding Lengths.xlsx." Messrs. Heavin and Brookings assert that there are currently six sidings on the line that would be suitable for meets and passes. (Heavin & Brookings VS at 8.)

would be significantly higher than the millions of dollars already acknowledged by their experts. Moreover, as we discuss next, even if Entergy's proposed BNSF-M&NA through routes were considered "feasible," investment in those routes would be wasteful, because the BNSF-M&NA through routes would be less efficient and less cost-effective than the current UP-M&NA route.

D. Entergy's Proposed BNSF-M&NA Through Routes Would Be Less Efficient And Less Cost-Effective Than The Current UP-M&NA Route.

When a shipper seeks a through route prescription, the Board is required to consider the "efficiency of the rail routes in question, including the costs of operating via those routes." 49 C.F.R. § 1144.2(a)(1)(ii). In this case, Entergy's claim that the proposed BNSF-M&NA routes would be more efficient than the UP-M&NA route to the Independence plant is based solely on an analysis of the variable costs of movements to the Independence plant using URCS Phase III costing. (Entergy Argument at 24.)⁴⁸ However, Entergy's URCS cost calculations, even if they were accurate, would fail to address the broader efficiency issues that the Board would have to weigh before overriding the right of carriers to select routes to "rationalize their systems and maximize service over their most efficient routes." *CP&L I*, 1 S.T.B. at 1071. Entergy's evidence fails to address the crucial point that "a carrier must strive for efficient overall train operations for all the shippers it serves, not just those that are most direct for one particular shipper." *Vista Chem.*, 5 I.C.C.2d at 341.

In any event, Entergy's URCS cost calculations are inaccurate. As discussed in Section IV.D.1, Entergy's analysis ignores the actual UP-M&NA route for coal trains moving between the PRB and the Independence plant and contains other flaws that distort Entergy's proffered comparison between the UP-M&NA route and the proposed BNSF-M&NA routes. When the

⁴⁸ AECC uses an even more basic approach: it simply states that the alternative routes would be more efficient because they would be shorter. (AECC Argument at 7-8.)

costing calculations are performed properly, the UP-M&NA route proves to be a lower-cost route than either of the proposed BNSF-M&NA routes.

In addition, as discussed in Section IV.D.2, the current route proves to be superior to the proposed BNSF-M&NA routes in terms of efficiency measures that neither Entergy or AECC addresses; namely, the current UP-M&NA route produces faster cycle times and lower fuel consumption than the either of the proposed BNSF-M&NA routes would produce.

Finally, as discussed in Section IV.D.3, Entergy and AECC disregard the physical characteristics of the Carthage Subdivision that would make the movement of loaded unit coal trains from Lamar or Aurora to the Independence plant costly and inefficient. These physical characteristics, which contributed to UP's decision to reroute Entergy's traffic back in 1989, militate against a prescribed through route over the M&NA lines today.

1. URCS Costing Shows That The Current Route Is A Lower-Cost Route Than The Routes Proposed By Entergy.

Entergy used a flawed URCS costing analysis in its attempt to show that the costs of its proposed routes would be lower than the current route. When the flaws in Entergy's analysis are corrected, the current route proves to have lower variable costs than either of the routes proposed by Entergy: the first quarter 2010 variable cost for movements under the current route is \$14.08 per ton, compared with \$14.19 per ton for a route via Lamar and \$14.48 for a route via Aurora. (Plum & Newland VS at 3.)

As discussed in the verified statement of Robert Plum and Deborah Newland, Entergy's most significant error was to ignore the actual UP-M&NA route. Entergy's analysis assumes that empty coal trains follow the reverse route of loaded coal trains – that is, Entergy assumes that UP and M&NA interchange both loaded and empty coal trains at Diaz Junction, when in fact, M&NA moves the empty coal trains to an interchange with UP in Kansas City. (*Id.* at 4.)

Entergy also used a flawed approach to calculate the distance from the PRB the Independence plant. Entergy calculated a simple average distance from several different mines; UP developed a weighted average distance based on the mines from which Entergy actually obtained coal for the Independence plant in 2009. (*Id.* at 4-5.)⁴⁹

UP also corrected two other aspects of Entergy's URCS calculations. *First*, UP locomotives remain on the trains for the entire movement from the PRB to the Independence plant and back, and BNSF locomotives would presumably remain on the trains in the event of a BNSF-M&NA routing, but Entergy used Western Region URCS costs to determine locomotive-related costs for the M&NA portion of the route. UP substituted UP and BNSF locomotive-related costs, as appropriate, to present a more accurate analysis. (Plum & Newland VS at 6.) *Second*, Entergy included system-average URCS costs for private car rental in its calculations. UP excluded private car rental costs because Entergy supplies the cars for this movement at no cost to UP and would presumably do the same for BNSF. (*Id.*)

UP's URCS cost calculations show that the UP-M&NA route is a lower-cost route than the proposed BNSF-M&NA routes and refute Entergy's only evidence that the proposed routes would be more efficient and less costly to operate than the current UP-M&NA route.⁵⁰

⁴⁹ As AECC observes, in recent years, coal from the North Antelope Mine has accounted for the substantial majority of coal burned at the Independence plant. (Nelson VS at 10 n.12.)

⁵⁰ As discussed above in note 14, Entergy also requested that the Board prescribe a BNSF-UP-M&NA-UP route to the Independence plant as an alternative form of relief, but it did not present any evidence regarding the relative efficiency of such a route. UP determined that the costs of such a route would be \$14.94 per ton via Lamar and \$15.28 per ton via Aurora – compared with \$14.08 per ton for the current UP-M&NA route. (Plum & Newland VS at 3 n.1.)

2. Other Measures Show That The Current Route Is A More Efficient Route Than The Routes Proposed By Entergy.

AECC's efficiency-related evidence consists of a comparison of the loaded miles for the routes at issue and the assertion that "[a] shorter route means reduced resource consumption." (AECC Argument at 7-8; Nelson VS at 9-10.) Entergy also says that shorter routes are "less costly and thereby more efficient." (Crowley VS at 9.)

UP's cost calculations demonstrate that shorter routes are not necessarily less costly routes, even using URCS costing. UP also considered several additional measures of efficiency. These measures, which relate directly to the actual physical and operational characteristics of the routes at issue, also show that the UP-M&NA route is more efficient for coal traffic moving to the Independence plant than the BNSF-M&NA routes proposed by Entergy.

First, UP analyzed transit times for the routes at issue. Faster transit times translate directly into more efficient utilization of crews, locomotives, and rail cars. UP performed transit time comparisons using the RTC model. The RTC model, which the Board uses in stand-alone cost cases, uses as inputs actual track characteristics (*e.g.*, distance, grade, curvature, speed limits) and movement parameters (*e.g.*, number of locomotives, locomotive type, number of cars, car weight). The model can be programmed to produce a measure of "ideal," or "unopposed," transit time, which is a measure of transit time assuming a train could operate at the maximum possible speed given available locomotive power and resistance conditions (*e.g.*, grades, curves, car types, trailing tons), and without accounting for delays associated with train meets, train passes, maintenance, construction, weather, crew availability, or mechanical delays.

UP's modeling shows that the transit time for trains on the UP-M&NA route would be 60.9 hours, as compared with 64.2 hours for Entergy's proposed BNSF-M&NA route via Lamar,

and 65.9 hours for Entergy's proposed BNSF-M&NA route via Aurora. (Plum & Newland VS at 8.)

Second, UP compared fuel consumption for the routes at issue. The RTC model can use the same inputs it uses to compute "ideal" transit time in order to generate an estimate of "ideal" fuel consumption. The RTC model determines the locomotive throttle positions required for trains to maintain the maximum permissible speed based on route and track characteristics, and the throttle positions translate directly into a measure of fuel consumption.

UP's modeling shows that fuel consumption for trains on the UP-M&NA route would be 23,533 gallons, as compared with 24,773 gallons for Entergy's proposed route via Lamar, and 25,574 gallons for Entergy's proposed route via Aurora. (*Id.* at 9.)

Third, UP compared the curvature of the current route with the curvature of the routes proposed by Entergy, as measured by the degrees of central angle of the curves. Curvature is a meaningful measure of a route's efficiency because curvature increases train rolling resistance, which increases energy consumption and also results in high wear rates for wheels and rails. (Hughes VS at 5.) Thus, the curvature of the current and proposed routes affects the transit time and fuel consumption results presented above, and it also affects maintenance costs, which are discussed in more detail in the next Section.

UP's calculations show the curvature of the current route is 48,649 degrees, as compared with 68,529 degrees for Entergy's proposed route via Lamar, and 71,886 degrees for Entergy's proposed route via Aurora. (Plum & Newland VS at 10.)

UP's modeling of the alternate routes between the PRB and the Independence plant demonstrates that the current UP-M&NA route is more efficient for coal traffic moving to the Independence plant than either of the BNSF-M&NA routes proposed by Entergy.

3. An Assessment Of The Physical Characteristics Of The M&NA Lines Shows That The Current Route Is More Efficient Than The Routes Proposed By Entergy.

Entergy's and AECC's experts conclude that it would be physically possible to operate loaded unit trains of coal between Lamar or Aurora and the Independence plant – at least after investing millions of dollars in new interchange facilities and upgraded bridges – but apparently they were not asked to address whether such operations would be more efficient and less costly than the current route, particularly considering the additional costs involved in conducting regular operations of loaded coal unit trains at the volume levels contemplated by Entergy.

UP believes that it is not even a close question: the current UP route to the Independence plant is far more efficient and far less costly to operate than the BNSF-M&NA routes proposed by Entergy. As David Hughes explains in his verified statement, UP rerouted the Entergy traffic back in 1989 for good reasons, and the same considerations still hold true today: “the M&NA lines are much more difficult and expensive to operate and maintain at the level necessary to provide safe and reliable service for regular unit-train movements of coal than the present route” used to transport Entergy's coal to Independence. (Hughes VS at 5.) In particular, substantial portions of the lines have a high percentage of curved track and are susceptible to damage and service disruption from flooding and rock falls. (*Id.*) They also have a high concentration of tunnels and bridges. (*Id.* at 5-6.) These features make the M&NA lines expensive to operate and maintain – particularly in comparison with the current UP-M&NA route used for loaded coal trains to the Independence plant. (*Id.* at 6.)

Mr. Hughes also explains that Entergy's and AECC's experts significantly understate the work that would be required to restore the lines to a condition suitable for regular loaded unit-train coal operations. As Mr. Hughes observes, since UP rerouted the Entergy traffic in 1989, the M&NA lines have not been maintained at a level consistent with unit-train operations at the

volume levels contemplated by Entergy. {

} (*Id.* at 13-15.)

Mr. Hughes discusses the many respects in which Entergy's and AECC's experts either fail to recognize or fail to acknowledge the actual conditions on the M&NA lines and the impact of adding loaded coal unit trains to the lines. He analyzes current traffic moving on M&NA and shows that Entergy and AECC contemplate moving 286,000-pound cars in volumes that would be many, many times the volume of 286,000-pound traffic that is currently moving on M&NA. (*Id.* at 11-12.) He explains that Entergy's and AECC's experts are wrong to imply that M&NA's ability to accommodate some 286,000-pound cars shows that M&NA's lines are currently fit to handle unit trains of 286,000-pound cars in the volumes contemplated by Entergy and AECC, and he explains that they provide a superficial analysis that ignores the likely consequences of routing loaded unit trains of coal over the M&NA lines.

For example, Mr. Hughes explains that Entergy's and AECC's experts lack support for their assertions that M&NA's rail would be fit for use under increased volumes of loaded coal unit trains, given the actual history of rail installations on M&NA and M&NA's rail replacement practices. (*Id.* at 16-19.) {

} (*Id.* at 19-20.)

Mr. Hughes also explains that Entergy's and AECC's experts fail to address adequately the current condition of M&NA's ties and the effects on those ties of commencing operations of loaded coal unit trains in the volumes contemplated by Entergy and AECC. (*Id.* at 20-21.) {
} and that ties that
may superficially appear satisfactory can deteriorate quickly when required to bear the forces generated by substantial numbers of loaded coal unit trains. (*Id.* at 21-23.) {
} (*Id.* at 24.)⁵¹

Mr. Hughes also observes that Entergy's and AECC's experts expressed little concern regarding ballast conditions on the M&NA lines, but they appear not to have looked beneath the surface or considered the impact of operating loaded unit coal trains on the ballast in its current condition.⁵² Digging into the ballast reveals that it is generally fouled. (Hughes VS at 26.) Mr. Hughes explains that, while this condition might not hamper M&NA's current, light-density operations, M&NA would have to engage in regular ballast maintenance if loaded coal unit trains were routed from Lamar or Aurora to the Independence plant. (*Id.* at 26-27.)

As a final example, Mr. Hughes notes that Entergy's and AECC's experts appear not to have considered carefully the costs of maintaining bridges under the increased loads that would

⁵¹ AECC's experts say that, on average, 26% of ties were defective between the Independence plant and Lamar, a "high but manageable level for the traffic currently on the line." (Heavin & Brookings VS at 9.) The clear implication is that increasing the level of traffic on the line would require M&NA to take additional action. AECC's experts also acknowledge that introduction of loaded coal unit trains will increase maintenance expenses when they observe that "[h]eavy axle loads from unit coal movement will have measurable effect on cross tie condition in areas were 30% or more of the ties are defective." (*Id.* at 10.)

⁵² As noted above, AECC's experts appear to acknowledge the need to remove limestone ballast that M&NA has used and replace it with granite ballast. See note 44, *supra*.

result from routing loaded coal unit trains as proposed by Entergy. (*Id.* at 29-32.)⁵³ He observes that there are many bridges on M&NA between Lamar and the Independence plant, {
} (Hughes VS at 30-31.) He explains that M&NA's bridge maintenance approach has been {

} (*Id.* at 33.)⁵⁴

Mr. Hughes concludes that the lines between Lamar or Aurora and the Independence plant "would require a significant amount of catch-up and ongoing maintenance to enable them to provide safe and reliable service for significant numbers of loaded unit coal trains." (*Id.* at 36.) He explains that "[f]or more than two decades, the M&NA lines between Lamar and Aurora and Independence have been handling traffic that is very different from the loaded unit coal train operations contemplated by Entergy," and that "[i]f loaded unit coal trains are to operate over the

⁵³ As discussed above, Mr. Crouch appears to recommend upgrading certain bridges on M&NA's lines to handle 286,000-pound carloads at a cost of { } AECC's experts vaguely acknowledge that "a capital bridge reconstruction program will be required." (Heavin & Brookings VS at 4.)

⁵⁴ Mr. Hughes also specifically discusses the need to address the condition of tunnels on the M&NA and the need for vegetation control and drainage ditch restoration. (*Id.* at 33-36.)

lines, an entirely new set of requirements will be placed on them, necessitating an entirely new and different cost structure.” (*Id.*) Entergy’s and AECC’s experts largely ignore these substantial new costs that would be associated with the proposed BNSF-M&NA routes.

E. Entergy Would Pay Higher Rates For PRB Coal Transported Using BNSF-M&NA Through Routes Than The Rate It Pays UP.

When a shipper seeks a through route prescription, the Board is required to consider the “rates or compensation charged or sought to be charged by the railroad or railroads from which prescription . . . is sought.” 49 C.F.R. § 1144.2(a)(1)(iii). In this case, Entergy claims that BNSF-M&NA rates would be lower than the current UP-M&NA rate for moving PRB coal to the Independence plant. (Entergy Argument at 25.) However, Entergy conspicuously ignores the best evidence of likely BNSF-M&NA rates – BNSF’s offer late last year to transport PRB coal to Entergy’s White Bluff plant, which is already served by both BNSF and UP. Moreover, Entergy relies on evidence that erroneously compares BNSF data from 2009 with UP’s rate in 2010, and it fails to consider the costs of constructing new facilities in its rate analysis. Under any reasonable view of the evidence, there can be no question that the rates Entergy would pay for coal transported using a BNSF-M&NA route would be higher than the rate it is paying UP.

1. BNSF’s Proposed Rates To The White Bluff Plant Demonstrate That BNSF-M&NA Routes Would Have Higher Rates Than The Current UP-M&NA Route.

Entergy pays UP a very low rate for PRB coal moving to the Independence plant. UP’s current rate, which is just { } per ton, produces a revenue-to-variable cost ratio of { } (Plum & Newland VS at 11.) In fact, UP’s rate, *unadjusted* for inflation, is { } per ton that Entergy paid back in 1992. (*Id.*)

The best available evidence shows that BNSF-M&NA rates would be significantly higher than the current UP-M&NA rate: BNSF-M&NA rates likely would be more than { } per

ton, compared with UP's current rate of { } per ton. Entergy says that BNSF and M&NA have not provided a rate quote for a through movement that would permit it to make a direct comparison with the current UP rate, so it was forced to rely on a BNSF-M&NA proxy figure that it developed using publicly available information in BNSF's 2009 Investors' Report. (Entergy Argument at 25; Crowley VS at 11.) However, Entergy's filing reveals that BNSF actually provided Entergy with more direct information about potential BNSF-M&NA through rates: BNSF's October 2009 proposal to transport PRB coal to Entergy's White Bluff plant. (Trushenski VS, Exhibit RT-9.)

In a March 4, 2010 letter responding to Entergy's request that BNSF quote through rates to the Independence plant, BNSF stated that it would need more information to quote rates to the Independence plant. However, BNSF noted that it had recently quoted rates to the White Bluff plant and said it expected that "a joint route to the Independence Station would be *significantly more costly* given the need for capital upgrades and interchange operations and likely less efficient than single-line BNSF unit train coal service to the White Bluff Station." (*Id.* at 2, emphasis added.)

Discovery revealed that BNSF's quoted rate for movements to the White Bluff plant was {

2. Entergy’s Rate Comparison Uses Data From Different Years And Fails To Account For The Costs Of New Facilities That Would Be Needed For A BNSF-M&NA Through Route.

Not only does Entergy ignore the best evidence of BNSF-M&NA rates, but its attempt to develop BNSF-M&NA proxy rates using other, less specific BNSF data is flawed in concept and in execution. As Mr. Plum and Ms. Newland explain, Entergy’s approach relies on BNSF data that reflect a broad average of BNSF rates for moving coal, including non-PRB coal, to points across its entire system under a wide variety of circumstances. (Plum & Newland VS at 14.)

Entergy claims that its proxy approach is conservative because the data reflect movements “that are both captive to BNSF and for which BNSF faces competition.” (Crowley VS at 12.)

However, {

} (Plum & Newland

VS at 14.)

In addition, Entergy’s methodology contains a significant flaw that overstates UP’s actual rate relative to the BNSF-M&NA proxy rates: Entergy creates BNSF-M&NA proxy rates using BNSF rate data from 2009, but it compares the results to UP’s rate in 2010. (*Id.*) If the rates are compared on an apples-to-apples basis at 2009 levels, BNSF-M&NA rates would be \$15.95 per ton for movements via Lamar and \$16.31 per ton for movements via Aurora, while UP’s rate would be { } per ton. (*Id.*) Thus, even relying on Entergy’s proxy method to develop

⁵⁵ Mr. Plum and Ms. Newland performed several other analyses, using a series of increasingly conservative assumptions, and each of those analyses showed that { } (*Id.* at 13-14.)

BNSF-M&NA rates, one would have to conclude that {

}

Moreover, Entergy's proxy methodology fails to account for the costs of constructing new interchange facilities and other facilities that would be required for a BNSF-M&NA through route to the Independence plant. As BNSF observed in its response to Entergy's request for a rate quote, one would expect the costs of capital upgrades to be reflected in rates. (Trushenski VS. Exhibit RT-9 at 2.) Mr. Plum and Ms. Newland show that accounting for only Entergy's estimated costs of constructing new interchange facilities at Lamar and Aurora would increase the BNSF-M&NA proxy rate to { } per ton at Lamar and { } per ton at Aurora, as compared to a UP rate of { } (Plum & Newland VS at 15.) Using UP's estimated costs of constructing new interchange facilities at Lamar and Aurora would increase the BNSF-M&NA proxy rate to { } per ton at Lamar and { } per ton at Aurora, as compared with a UP rate of { } (*Id.* at 15-16.)

UP's analysis demonstrates that Entergy would pay higher rates for PRB coal transported using a BNSF-M&NA through route than the rate it is paying UP.

F. Neither Entergy Nor AECC Addresses The Impact Of A Through Route Prescription On The Revenues Of UP And M&NA.

Under the competitive access rules, the Board must take into account the effect on the "revenues, following the prescription, of the involved railroads for the traffic in question via the affected route." 49 C.F.R. § 1144.2(a)(1)(iv). Entergy and AECC fail to address this issue either with regard to UP or M&NA, and thus leave the Board with insufficient information to evaluate this critical factor.

With regard to UP, as long as the Board does not disturb the UP/M&NA Lease, the extent of UP's loss of revenue from the diversion of Entergy's traffic to a BNSF-M&NA routing would

be limited by the lease's contingent rent provision. However, as UP demonstrated in its Initial Reply, UP would lose more in contribution than it would obtain in rent if all (or nearly all) of the traffic to the Independence plant were diverted to a BNSF-M&NA route. (UP Initial Reply at 35; Baranowski Initial Reply VS at 7.) Neither Entergy nor AECC addresses the impact of this potential loss of contribution on UP, and thus their evidence is incomplete.

With regard to M&NA, neither Entergy nor AECC addresses whether M&NA would be in a better or worse position if the Board were to prescribe a through route, because neither party presents evidence regarding the revenue M&NA would receive from a BNSF-M&NA through route as compared to a UP-M&NA through route. In addition, neither party presents evidence regarding the impact on M&NA revenue of the additional investment that would be required to institute BNSF-M&NA service to the Independence plant. Finally, neither party addresses the impact on M&NA of the UP/M&NA Lease's contingent rent provision, except to argue that the Board should preclude UP's enforcement of that provision. In sum, neither Entergy nor AECC addresses the impact of a through route prescription on the revenues of M&NA.

G. Neither Entergy Nor AECC Shows That Entergy Would Use A BNSF-M&NA Through Route To Meet A Significant Portion Of Its Current Or Future Transportation Needs.

Finally, under the competitive access rules, the Board may not prescribe a through route unless it can determine that the "complaining shipper has used or would use the through route . . . to meet a significant portion of its current or future railroad transportation needs between the origin and the destination." 49 C.F.R. § 1144.2(a)(2)(i). Entergy and AECC fail to present evidence that would allow the Board to make this critical determination.

Entergy and AECC could not show that Entergy "has used" the BNSF-M&NA through routes they seek to transport traffic between the PRB and the Independence plant. Entergy has never used a BNSF-M&NA through route to transport PRB coal to the Independence plant. In

addition, as discussed above, even when BN and Missouri Pacific transported coal to the plant over the Carthage Subdivision, they interchanged the traffic at Kansas City, not at Lamar or Aurora.

Nor does Entergy or AECC show that Entergy “would use” a BNSF-M&NA through route to meet a significant portion of its current or future transportation needs. Entergy cites the volume of coal it could move over such a route in the near term and over the longer term, in light of its current contractual commitments to UP. (Entergy Argument at 20; Trushenski VS at 2.) However, Entergy never commits to using a BNSF-M&NA through route for any of that coal.

Entergy’s failure to commit to using a BNSF-M&NA through route dooms its request for a through route prescription under the competitive access rules. Entergy is asking the Board to require that M&NA, and potentially BNSF, invest a substantial amount of money to construct new interchange facilities at Lamar or Aurora and additional facilities on M&NA’s lines so the two railroads can provide service that Entergy may never use.

BNSF explained the problem when it responded to Entergy’s request that it quote rates for through routes via Lamar or Aurora: “BNSF would not be willing to undertake the capital investments required for BNSF to provide interline service with M&NA via Lamar or Aurora unless a commercial arrangement was put in place that assured our recovery of those investments.” (Trushenski VS, Exhibit RT-9 at 1.)

For the Board to prescribe a through route and require carriers to invest in new facilities that might never be used would be clearly inconsistent with Congress’s intent in section 10705, as reflected in the Board’s competitive access rules, to protect “railroads’ freedom to rationalize their systems and maximize service over their most efficient routes.” *CP&L I*, 1 S.T.B. at 1071. It would also be plainly inconsistent with Congress’s intent “to promote a safe and efficient rail

transportation system by allowing carriers to earn adequate revenues,” “to foster sound economic conditions in transportation,” and “to encourage honest and efficient management of railroads.” 49 U.S.C. §§ 10101(3), (5) & (9).

The Board should recognize Entergy’s failure to commit to transporting coal using a BNSF-M&NA through route for what it is: an implicit acknowledgment that a BNSF-M&NA through route would require substantial investment just to make it a feasible alternative, that a BNSF-M&NA through route would not be more efficient than the current UP-M&NA route, and that Entergy could not expect to pay lower rates for coal shipped using a BNSF-M&NA through route than the rate it is paying UP.

V. CONCLUSION

The Board should dismiss Entergy’s complaint. Entergy is not entitled to relief under section 10705 and the Board’s competitive access rules because it has not shown that a through route prescription is necessary to remedy or prevent anticompetitive acts. Entergy also has not shown that the proposed BNSF-M&NA through routes would be more efficient and more cost-effective alternatives to the current UP-M&NA route for PRB coal moving to the Independence plant. In fact, the evidence shows that the proposed BNSF-M&NA through routes would be less efficient and less cost-effective than the current UP-M&NA route, and that Entergy would pay more to ship PRB coal via a BNSF-M&NA through route than it is paying UP.

Respectfully submitted,



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June 4, 2010

CERTIFICATE OF SERVICE

I, Michael L. Rosenthal, certify that on this 4th day of June, 2010, I caused copies of Union Pacific's Reply Evidence and Argument to be served on counsel for the parties of record as follows:

By email and hand delivery: *(Two Copies each of Under Seal and Public Versions)*

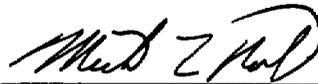
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Michael L. Rosenthal

VERIFIED STATEMENT

OF

F.M. "RICK" GOUGH

My name is Rick Gough. Until I retired earlier this year, I was Senior Business Director - Energy for Union Pacific Railroad Company ("UP"). I was employed by UP for more than 30 years, and had served as Senior Business Director - Energy since June 1, 2000. Until I retired, I had primary responsibility for the commercial relations with many of UP's customers that ship large quantities of coal from the Powder River Basin in Wyoming ("PRB"), including Entergy Arkansas, Inc., and Entergy Services, Inc. (collectively, "Entergy").

My direct dealings with Entergy date back to 1983, when UP, Western Railroad Properties, Inc., and Missouri Pacific Railroad Company first entered into long-term contracts to deliver PRB coal to Entergy, which was then named Arkansas Power & Light Company. As a result of my work, I am generally familiar with the 1992 lease between UP and Missouri & Northern Arkansas Railroad (the "UP/M&NA Lease"), including the lease terms that affect M&NA's rights to handle coal traffic to Entergy's Independence Steam Electric Station (the "Independence plant").

I previously submitted a statement in this proceeding in connection with UP's Reply Evidence and Argument, filed August 11, 2008, which I have attached to this statement as Exhibit 1. I am providing this statement to reaffirm my prior testimony refuting claims by Entergy and Arkansas Electric Cooperative Corporation ("AECC") that the existence of the UP/M&NA Lease impeded Entergy's ability to obtain the coal deliveries needed at the Independence plant during three periods in which UP experienced service difficulties and to respond to new allegations by Mr. Crowley, an Entergy witness, that UP's treatment of Entergy

during the 2005-2006 period following the impairment of the Joint Line in the PRB reflected an abuse of market power. This statement also updates information that I previously provided regarding UP service to the Independence plant since the 2005-2006 period, and I briefly address several additional points raised by new arguments and evidence submitted by Entergy and AECC.

I. MY PRIOR TESTIMONY

In my prior testimony, I explained that Entergy was wrong to claim that the UP/M&NA Lease had been an impediment to obtaining all of the coal deliveries that Entergy needed at the Independence plant in three separate periods: the 1993-1995 period following severe Midwest flooding in 1993; the 1997-1998 period of UP service problems following the UP/SP merger; and the 2005-2006 period following the impairment of the Joint Line in the PRB. I explained that none of those situations was caused by or exacerbated by the UP/M&NA Lease, and that Entergy would have been in the same position if UP had never leased its lines to M&NA. In addition, I provided testimonial and documentary evidence to refute Entergy's claims that UP had denied Entergy's requests to waive the lease's interchange and contingent rent provisions when UP could not provide requested service to the Independence plant. (*See Initial Verified Statement at 3-8.*)

Entergy and AECC are again claiming that UP/M&NA Lease precluded Entergy from obtaining coal deliveries it needed during the three periods described above, and I reaffirm my earlier testimony that Entergy's and AECC's description and characterizations of the events during those periods are inconsistent with my recollections and contrary to statements by Entergy personnel in contemporaneous documents.

II. ALLEGATIONS ABOUT “ABUSE OF MARKET POWER”

In its most recent filing in this proceeding, Entergy makes a new claim about the impact of the UP/M&NA lease on service to Entergy – that UP’s refusal to allow BNSF Railway and M&NA to provide alternate service over the leased lines in the 2005-2006 period following the impairment of the PRB Joint Line was an “abuse of market power.” (Entergy Argument at 22.) Through its witness, Mr. Crowley, Entergy claims that UP precluded BNSF/M&NA access in order to {

} (Entergy Argument, Crowley VS at 7.)

Mr. Crowley’s claims are entirely incorrect. In the first place, as I previously testified, Entergy never asked UP to allow alternate BNSF-M&NA service to the Independence plant over the leased lines during 2005-2006. (Initial Verified Statement at 5.)

In the second place, as I also previously testified, BNSF’s service was also severely affected by the impairment of the PRB Joint line in 2005-2006, and BNSF was in no position to provide new service to the Independence plant. UP actually suggested that Entergy ask BNSF to increase coal deliveries to Entergy’s White Bluff plant, where BNSF was already delivering a portion of Entergy’s PRB coal, which would have allowed UP to divert train sets from White Bluff service and focus its resources on Independence service, thus increasing the total amount of coal delivered to Entergy’s two plants in Arkansas. However, BNSF apparently was not in a position to provide additional service to the White Bluff plant. In fact, as I demonstrated in my prior testimony, the available data show that, during the 2005-2006 period, UP was performing at a higher level than BNSF at the White Bluff plant, and UP was performing at an even higher level at the Independence plant. (*See id.* at 5-6.)

Thus, Mr. Crowley's claims that UP refused to allow alternate BNSF/M&NA service as part of a strategy to {

} are based on false premises. UP never refused to allow alternate service, and, in any event, BNSF plainly was not in any position to provide additional PRB coal to the Independence plant. Indeed, far from trying to maintain a "stranglehold" on Entergy, as Mr. Crowley claims, UP affirmatively encouraged Entergy to seek additional service from BNSF. In short, the UP/M&NA Lease had nothing to do with Entergy's inability to obtain PRB coal via BNSF service in 2005-2006.¹

In addition, apart from Mr. Crowley's claims that UP abused its market power by means of the UP/M&NA Lease, there is also no merit to Mr. Crowley's suggestion that UP {

}

¹ It is also worth noting that Entergy approached UP {

}

III. UP SERVICE TO THE INDEPENDENCE PLANT SINCE 2005-2006

In its most recent filing, Entergy repeats earlier claims that it remains concerned about UP's ability to provide reliable service in the future. (Entergy Argument at 20-21 & Trushenski VS at 4.) However, as I discussed in my prior testimony, Entergy demonstrated its honest view of UP service in 2007 when it chose to {

} (Initial Verified Statement at 11.) Moreover, at the end of 2009, Entergy informed UP {
}

UP's service to the Independence plant since the 2005-2006 period has been strong. In 2007, 2008, and 2009, UP moved more than { } of the NCTA target for the Independence plant.² In 2007, we moved { } trains compared to the { } planned for the plant. In 2008, UP moved { } trains, compared to the { } planned. In 2009, UP moved { } trains compared to the { } planned. And through the first five months of 2010, UP has moved { } trains, compared to the { } planned.³ UP train cycle times to the Independence plant

² NCTA target refers to the process sponsored by the National Coal Transportation Association for using customer demand to assign train slots for loading between rail carriers on the Joint Line. Shippers input the tons of coal they demand by mine, by destination, and by rail carrier. Producers separately input the number of tons of coal they will supply from each mine by customer and by destination. The settled amount is used to determine the slot allocation for loading trains. NCTA target thus reflects the coal that producers have available for customers and provides a consistent measuring stick between customers.

³ See UP Reply workpaper "Entergy NCTA Percentage 2008 – 2010 YTD May.pdf."

ranged from { } than the contractual standard in each quarter in 2009, and were { } than the contractual standard in the first quarter of 2010.⁴

In fact, {

}⁵

IV. ADDITIONAL POINTS RAISED BY ENTERGY AND AECC FILINGS

UP has also asked me to respond to several other points raised in the filings by Entergy and AECC.

First, UP asked me to respond to AECC's suggestion that UP ignored Entergy's interests and created an inefficient route when it chose to reroute loaded trains to the Independence plant from a route that included the Carthage Subdivision to the current route via Diaz Jct., Arkansas. (AECC Argument at 7.) My recollection is that UP's analysis at the time showed that, while the route via Diaz Jct. would be longer, it would be more efficient to operate. The route via Diaz Jct. was determined to have more favorable operating characteristics than the route via the Carthage Subdivision in terms of grade and curvature. Rerouting the traffic also allowed UP to avoid the costs that would have been required to upgrade the Carthage Subdivision lines to handle regular movements of coal in 286,000-pound cars and to maintain the line at levels required to handle loaded unit trains of coal. Moreover, UP did not force the routing change on Entergy. UP needed Entergy's consent to reroute the trains, and because Entergy supplies the cars for the movement, UP reduced Entergy's rate to offset the increase in car-ownership costs associated with the longer route.

⁴ See UP Reply workpaper "Entergy Summary Cycle Data.pdf."

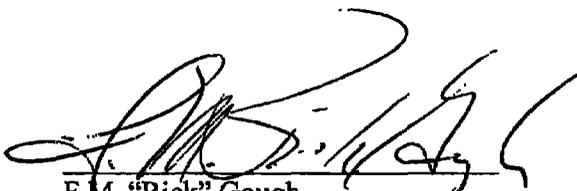
⁵ See UP Reply workpaper "Coal Transportation Agreement.pdf."

Second, UP has asked me to address how the loaded coal trains that Entergy and AECC apparently contemplate operating over the lines that UP leased to M&NA would differ from the trains that moved over the lines before UP rerouted Entergy's loaded trains in 1989. Before UP rerouted the traffic in 1989, Entergy's coal moved in trains that were not longer than 115 cars, and the cars had a capacity of 263,000 pounds. My understanding is that Entergy and AECC contemplate moving trains that are 135 cars long with a car capacity of 286,000 pounds. Thus, Entergy and AECC are contemplating moving loaded trains that are significantly longer and heavier than the loaded trains that UP moved over the leased lines up until 1989.

VERIFICATION

I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information.

Executed on June 3, 2010.



F.M. "Rick" Gough

REDACTED

VERIFIED STATEMENT
OF
DAVID R. WHEELER AND ROBERT J. PLUM

I. INTRODUCTION

Our names are David R. Wheeler and Robert J. Plum. We have been asked by Union Pacific Railroad Company (“UP”) to analyze the feasibility of operating loaded unit trains of coal from the Powder River Basin (“PRB”) to the Independence Steam Electric Station (the “Independence plant”), using the through routes proposed in this proceeding by Entergy Arkansas, Inc., and Entergy Services, Inc. (collectively, “Entergy”) and Arkansas Electric Cooperative Corporation (“AECC”).

We understand that Entergy and AECC contemplate moving { } tons of coal per year in the near term, and 6.5 million tons of coal per year in the longer term, over routes that would include an interchange at either Lamar or Aurora, Missouri, between BNSF Railway (“BNSF”) and Missouri & Northern Arkansas Railroad (“M&NA”).

As we discuss below, the proposed through routes could not accommodate the volume of unit coal trains contemplated by Entergy and AECC without constructing new interchange tracks and new staging tracks and increasing line capacity on M&NA.

II. QUALIFICATIONS

Mr. Wheeler: I am the founder and President of Rail Network Analytics. Throughout my twenty-five year career, I have specialized in advanced analytical techniques to understand and resolve operational challenges. I have more than seventeen years of specific experience in rail operations analysis, capacity expansion analysis, rail simulation, stand-alone rate case litigation, and merger rationalization. A sampling of projects include the Burlington Northern

Santa Fe Railway Five-Year (2006-2010) Coal Corridor Capacity Plan, the CSX Transportation Southeast Corridor Capacity Expansion Plan, the *Arizona Electric Power Cooperative* rate case, the *Western Fuels/Basin Electric* rate case, the *Xcel Energy* rate case, the *Otter Tail* rate case, and the *Duke Energy* rate case.

I previously held a number of leadership positions within UP. During my tenure at UP, I led teams within Finance, Capacity Planning, Network & Capital Planning, and Network Design & Integration. As General Director of Capacity Planning & Analysis, I led the capital planning function for UP's annual capacity plan, identifying and spending more than \$300 million per year on line and terminal capacity projects. In that role, my team used simulation and leading edge techniques to pinpoint and solve capacity constraints across the railroad. Also at UP, I conducted numerous strategic studies including the development of UP's Colorado/Utah coal strategy plan, the Powder River Basin Project Yellow III capacity plan, the Feather River/Donner Pass strategic plan and guided the Intermodal growth capacity initiative from Chicago to Los Angeles across UP's Sunset and Tucumcari routes. I also led teams working on proposals for new passenger service for Amtrak and numerous commuter agencies.

I hold an undergraduate degree in Electrical Engineering and a Masters in Business Administration.

Mr. Plum: I am a Managing Director at Parrish, Blessing & Associates, Inc. ("PBA"). I joined PBA in 2009 after working for twenty years in the Economic Consulting division of FTI Consulting. For the past thirty years, I have conducted operating cost of service studies, assisted clients on creating and evaluating railroad contract provisions, conducted field studies of railroad operations, and developed computer models to evaluate railroad engineering and operating requirements.

I have conducted numerous studies addressing operations and infrastructure along the routes at issue in this proceeding. These studies have covered operations at all mines in the PRB and major terminals including North Platte, Guernsey, Alliance, and Lincoln in Nebraska; and Kansas City in both Missouri and Kansas. I have inspected, by either hi-rail or coal train, all segments of the M&NA that the issue traffic both currently traverses and Entergy proposes to traverse.

I graduated from Villanova University with a Bachelor of Science degree in Accounting and from Seton Hall University with a Masters in Business Administration.

III. ANALYSIS

Our analysis focuses on three capacity-related issues that would arise if BNSF and M&NA were required to provide a through route from the PRB to the Independence plant using an interchange at either Lamar or Aurora. *First*, we focus on the need for a new connection between BNSF and M&NA at either Lamar or Aurora. *Second*, we focus on the need for new capacity to stage loaded and empty coal trains at either Lamar or Aurora. *Third*, we focus on the need for additional capacity on M&NA between either the Lamar or the Aurora interchange and the Independence plant.

In performing our analysis, we considered two scenarios: movements of { } tons of coal per year (or approximately 10 loaded unit trains per month), and movements 6.5 million tons of coal per year (or approximately 33 loaded unit trains per month). We assumed the coal would move in trains consisting of 135 cars, each 53 feet in length, with 286,000 lb. gross weight per car, and with three 6-axle locomotives in distributed power configuration.¹

¹ In fact, UP data show that the Entergy trains are sometimes longer than 135 cars because repaired cars are sometimes picked up in route to the Independence plant.

Our conclusions are based on our review of a variety of information, including M&NA track charts and time tables, information gathered during a five-day hi-rail inspection of M&NA lines in October 2009, information produced in discovery by Entergy and BNSF, information provided by UP regarding UP service to the Independence plant, traffic data provided by M&NA, and the results of capacity modeling performed using the RTC model.

A. M&NA Would Need New Connecting Track At Either Lamar Or Aurora.

The first capacity-issue that would arise with the proposed BNSF-M&NA through routes is the lack of adequate facilities to interchange unit coal trains at either Aurora or Lamar at even the lowest volume levels contemplated by Entergy. Currently, BNSF and M&NA do not have connections that would permit the efficient movement of unit coal trains from one railroad to the other at either Lamar or Aurora. Entergy acknowledges this point, and its evidence in this case includes proposals to construct new interchange facilities at either Lamar or Aurora. (Entergy Opening Evidence, Crouch VS at 18-21.)²

However, Entergy's construction plans leave much to be desired. As discussed in the verified statement of UP witness David J. Hughes, Entergy understates the costs that would be involved in constructing new connections at either Lamar or Aurora. And, as discussed in more detail below, Entergy's plans would create significant operational issues – in particular, they would result in blocked grade crossings during the interchange of loaded and empty trains between BNSF and M&NA.

² AECC's evidence does not expressly discuss the construction of new interchange facilities, but AECC's engineering experts acknowledge the need for interchange track that provides "the ability to stage trains in the clear of both railroads for crew changes and train meets." (AECC Opening Evidence, Heavin & Brookings VS at 8.) As we discuss in the text, such facilities do not currently exist at either Lamar or Aurora.

1. Lamar

Currently, BNSF and M&NA could not interchange unit trains of coal at Lamar without significantly interfering with operations on both BNSF and M&NA lines.³ Entergy's loaded coal trains moving south from Kansas City to Lamar on BNSF's busy single-track main line would have to run past the existing connection, stop on BNSF's main line, and then BNSF would have to shove the train north through the existing connection to M&NA, a time-consuming maneuver that would block traffic on the BNSF main line, the M&NA main line, and at several public grade crossings in Lamar.⁴ Entergy's trains would then block M&NA's single-track main line until M&NA could send a crew to the train. This operation would have to be repeated in reverse with empty trains.

Entergy proposes to address the lack of a suitable connection at Lamar by constructing a new 8,150-foot interchange track. The new track would allow straight-on movements between BNSF and M&NA. However, Entergy's proposal would pose operating challenges for M&NA. A loaded or empty train sitting on the new interchange track would block a public grade crossing at milepost 548.7 (21st Street) while waiting for either an M&NA or a BNSF crew to move the

³ The current configuration of tracks at Lamar can be seen in UP Reply workpaper "UP Plan Lamar.pdf."

⁴ When the head-end of the train arrived at the BNSF/M&NA switch, the train would stop on the BNSF main line and drop off the conductor, then the entire train would pass, and then the conductor would line the switch for M&NA. The conductor would then ride on the locomotive that is on what was formally the end of the train as the engineer shoved the train from the BNSF main line through the connecting track and onto the M&NA main line at a limited speed, while being directed by the conductor via radio. Once the train cleared the BNSF/M&NA switch, the engineer would have to disembark and line the switch for the BNSF main. The train then would either have to shove back approximately six miles on the M&NA main line to a location that would not block a public grade crossing, or clear M&NA's turnout and then reverse movement towards the BNSF/M&NA crossing, wait to acquire permission to cross the BNSF main line (all while blocking public grade crossings in Lamar), and then proceed two miles to a point on the M&NA main line that would not block public grade crossings, where the BNSF crew would leave the train and be taxied back to their crew change location at Fort Scott, Kansas.

train.⁵ To avoid blocking this crossing for excessive periods of time, M&NA and BNSF would have to have crews in Lamar waiting for the trains. This would be a complicated and costly undertaking for both M&NA and BNSF because Lamar is not a crew change location for either railroad. Crews would have to be taxied approximately 48 miles from Fort Scott, Kansas, for BNSF, or either 24 miles from Carthage, Missouri, or 28 miles from Nevada, Missouri, for M&NA.⁶ In our experience, with the variation that exists in real-world railroading due to unexpected failures and disruptions, it is very unlikely that each railroad would be able to coordinate their activities closely enough that they would always have crews available to meet trains delivered by the other railroad. Moreover, even if M&NA and BNSF crews were always available immediately, the crossing still would likely remain blocked for a substantial amount of time during the crew change. Even in the hyper-efficient world of stand-alone cost rate litigation, the most efficient interchange time is assumed to be 30 minutes at crew change locations, and that assumes each railroad always has a crew available.⁷

If a new BNSF-M&NA connection were constructed at Lamar, it should be constructed so that loaded and empty trains could be chambered without blocking the public grade crossing at 21st Street. This could be accomplished by constructing approximately 4,118 feet of additional track south of the endpoint designed by Entergy, to milepost 546.99, with the crossing

⁵ See Entergy Opening workpaper “Lamar Interchange.pdf.”

⁶ See UP Reply workpaper “Taxi Time Distance.xlsx.”

⁷ Entergy’s proposal has another significant shortcoming from an operational perspective, though it could be corrected with additional spending. Entergy does not provide for powered switches at the new connections. This means that Entergy’s loaded coal trains moving south on BNSF’s high-density, single-track main line would have to stop on the track, blocking the main line, while the train crew aligns the switch so the train could move onto the connecting track, and Entergy’s empty coal trains moving from the connecting track to BNSF’s main line would have to stop on BNSF after moving off the connecting track, while the crew realigns the switch.

set-back (250') at milepost 547.08, just short of the public grade crossing at milepost 547.03 (30th Street).⁸ In addition, the switch between the BNSF main line and the connecting track should be powered to minimize blockage of the BNSF main line.⁹ David Hughes discusses the costs to construct a properly configured connecting track at Lamar in his verified statement.¹⁰

2. Aurora

A BNSF-M&NA interchange at Aurora would present similar challenges. Currently, BNSF and M&NA could not interchange unit trains of coal at Aurora. BNSF interchanges some non-unit train traffic with M&NA at Aurora, but the existing BNSF-M&NA connection only allows direct movement for westbound BNSF trains to northbound movement on M&NA.¹¹ Because PRB coal trains would be traveling south on M&NA, the current track configuration would require the train to perform a reverse movement on M&NA, which would involve the same types of complications and blockages of BNSF and M&NA main lines and public road crossings as described above with respect to Lamar.

⁸ See UP Reply workpaper "UP Plan Lamar.pdf." Also, UP's inspection at Lamar revealed that the switch from BNSF's main line could not be located to the east of the public grade crossing at Gulf Street in Lamar, as shown in Entergy's construction proposal, because of the degree of curvature in the track to the east of Gulf Street.

⁹ See note 7. *supra*.

¹⁰ Entergy contends that a single connecting track at Lamar would be sufficient, and that if a loaded unit train needed to pass an empty unit train at the interchange, the trains could meet and pass at Pearl (milepost 525.8), which is approximately 23 miles from Lamar, or Stotts City (milepost 506.8) which is approximately 42 miles from Lamar. (Crouch VS at 19.) The need to hold trains at least 23 miles from the interchange means that an M&NA crew could not simply take an empty train to the interchange and swap it for a waiting loaded train, and a BNSF crew could not drop off a loaded train and board a waiting empty train. These inefficiencies may be tolerable at lower volume levels, but we conclude that it would be necessary to construct an additional staging track at Lamar to handle movements at higher volume levels, as we discuss below.

¹¹ The current configuration of tracks at Aurora can be seen in UP Reply workpaper "UP Plan Aurora.pdf."

Entergy proposes to address the lack of a suitable connection at Aurora by constructing a new 8,250-foot interchange track. The new track would allow straight-on movements between BNSF and M&NA. However, Entergy's proposal is not feasible. Entergy's proposal would leave loaded and empty trains blocking several public and private grade crossings in Aurora while awaiting either M&NA or BNSF crews to move the trains.¹² Most significantly, Entergy's proposal would leave the trains sitting across Old Highway 60 (Farm Road 2207) in Aurora (which is not even shown on Entergy's diagram of the proposed connecting track).¹³

If a new BNSF-M&NA connection were constructed at Aurora, it should be constructed so that loaded and empty trains could be chambered without blocking the public grade crossings, including Old Highway 60. This could be accomplished by moving the switch from the BNSF mainline to the west to milepost 266.5, and constructing approximately 1,531 feet of additional track to the south of the endpoint designed by Entergy, to milepost 485.8 on M&NA.¹⁴ Under this configuration, loaded and empty trains would still have to cross Old Highway 60, but they would not have to stop on this thoroughfare.¹⁵ In addition, the switch between the BNSF main line and the connecting track should be powered to minimize blockage of the BNSF main line.

¹² See Entergy Opening workpaper "Aurora Interchange.pdf." Aurora is not a crew change location for either railroad, so crews would have to be taxied at least 34 miles from Springfield, Missouri, for BNSF, and at least 46 miles from Carthage, Missouri, for M&NA. See UP Reply workpaper "Taxi Time Distance.xls."

¹³ Entergy's proposal for the new connection at Aurora also has the same additional problems as its proposal for the new connection at Lamar; namely, Entergy has not budgeted for powered switches between the main lines and the connecting track, which means that loaded and empty trains would block the main lines and local roads as switches are aligned and realigned.

¹⁴ See UP Reply workpaper "UP Plan Aurora.pdf."

¹⁵ See *id.*

David Hughes discusses the costs to construct a properly configured connecting track at Aurora in his verified statement.¹⁶

B. M&NA Would Need New Staging Capacity.

The second capacity issue that would arise with the proposed BNSF-M&NA through routes is the lack of staging capacity at either Lamar or Aurora and closer to the Independence plant. As discussed below, we conclude that if BNSF and M&NA were to interchange {

} tons of coal of per year, M&NA would need to construct at least one staging track near the Independence plant; if the they were to interchange 6.5 million tons of coal per year, M&NA would need to construct an additional staging/interchange track at either Lamar or Aurora, and two staging tracks near the Independence plant.

To understand the need for additional staging capacity on M&NA, it helps to understand the current UP-M&NA operations between the PRB and the Independence plant, which transport approximately 6.5 million tons of coal per year to the plant. Currently, UP-M&NA operations to the plant are very efficient, and there are at least four factors that contribute to the efficiency of the operation: the availability of staging capacity for loaded trains at Newport, Arkansas; the proximity of that staging capacity to the plant; the directional routing of loaded and empty trains

¹⁶ As with the situation at Lamar, Entergy asserts that a single connecting track at Aurora would be sufficient, and that if a loaded unit train needed to pass an empty unit train at the interchange, the trains could meet and pass at Crane (milepost 478.2), which is approximately 8 miles from Aurora, or Stotts City (milepost 506.8) which is 42 miles from Lamar. (Crouch VS at 20.) However, as with the situation at Lamar, the need to hold trains away from the interchange means that an M&NA crew could not simply take an empty train to the interchange and swap it for a waiting loaded train, and a BNSF crew could not drop off a loaded train and board a waiting empty train. Although these inefficiencies may be tolerable at lower volume levels, we conclude that it would be necessary to construct an additional staging track at Aurora to handle movements at higher volume levels, as we discuss below.

on UP and M&NA: and the availability of capacity to interchange empty trains at Neff Yard in Kansas City, Missouri.

Staging Capacity at Newport. UP has the capacity to stage up to three loaded coal trains destined to the Independence plant at Newport without having to break the trains to keep grade crossings clear. UP train event data demonstrate that there are routinely two loaded trains staged at Newport, and at times there are three trains staged between Newport and Diaz Junction.¹⁷ UP data also show that on occasions when there are two or more trains staged for the plant, the need to stage trains is typically not a function of UP's spacing of loaded trains; rather it is a function of either operating problems at the power plant or M&NA's need to wait for rested crews.¹⁸

Proximity of Staging Capacity to the Independence Plant. UP's staging capacity at Newport is just 11.5 miles from the Independence plant. The proximity of the staging capacity to the Independence plant means that once the plant is ready to accept the trains, or once M&NA crews become available, M&NA can deliver multiple trains quickly and with just one crew.¹⁹

Directional Routing on UP and M&NA. UP and M&NA interchange loaded coal trains at Newport/Diaz Junction, and M&NA returns the empty trains to UP at Neff Yard in Kansas

¹⁷ See UP Reply workpaper "Newport Dwell.xlsx." M&NA crews operate Entergy trains from Newport to the Independence plant using trackage rights over UP between Newport and Diaz Junction.

¹⁸ See *id.* In addition, UP data show that when the Independence plant is unable to handle the volume of coal arriving at the plant due to unscheduled maintenance or other problems, UP is able to hold trains at South Bridge Junction, Arkansas, Bald Knob, Arkansas, and certain other locations south of Diaz Junction. Because this portion of UP is almost entirely double track and operates directionally in a northbound direction, UP has the capacity to hold trains relatively close to the plant at these other locations, if necessary.

¹⁹ M&NA data show the ability of one crew to shuttle two and three loaded coal trains from Newport to the Independence plant. See UP Reply workpaper "MNA Traffic Detail.xls."

City. Thus, the empty trains do not consume capacity at the point where UP stages loaded trains, and they do not interfere with the movement of loaded trains to the Independence plant.

Capacity in Kansas City. As noted above, M&NA returns empty trains to UP at Neff Yard in Kansas City. The empty trains can remain in Neff Yard without blocking crossings or interfering with other traffic until UP crews can begin moving the trains back to the PRB.

Neither Entergy nor AECC addresses the need for additional staging capacity on M&NA. Entergy's engineering expert, Mr. Crouch, purports to consider the feasibility of moving up to 6.5 million tons of coal per year to the Independence plant using a BNSF-M&NA routing, but he fails to discuss staging capacity.²⁰ This oversight is particularly egregious because it should be indisputable that a BNSF-M&NA routing could not replicate UP's service performance without providing comparable staging capacity. Even at a volume level of { } tons of coal per year, M&NA would need new staging capacity on its lines to hold loaded trains near the Independence plant at times when they cannot move into the plant.²¹

1. New Staging Capacity To Transport { } Tons Per Year

Based on our analysis, we conclude that the minimum additional staging capacity required to transport { } tons of coal per year using a BNSF-M&NA routing would

²⁰ Notably, AECC's experts did not purport to consider the feasibility of handling 6.5 million tons of coal per year over a BNSF-M&NA routing. (Heavin & Brookings VS at 5.)

²¹ Entergy or AECC may claim that no additional staging capacity should be needed because the M&NA line once handled significant volumes of unit coal trains moving to the Independence plant. However, as UP witness Rick Gough notes, when UP shifted its coal traffic off the Carthage Subdivision in 1989, the coal trains to the Independence plants were substantially shorter – 115 cars, compared with 135 cars – so more of M&NA's sidings would have been available for staging capacity. (Gough VS at 7.) In addition, our review of M&NA track charts shows that several sidings have been removed since 1989, as well as additional track just outside the plant, as discussed below. In short, the M&NA lines do not have the same capacity to accommodate loaded unit coal trains as they had when UP was using the lines to move loaded unit coal trains to the Independence plant.

be one 8,000-foot staging track – that is, capacity to stage one loaded coal train – located near the Independence plant. We feel this additional capacity is very conservative and, in the event of a modest plant outage, the BNSF-M&NA route could become very congested. Currently, the nearest siding that could accommodate a loaded coal train is Cushman siding, which extends from milepost 287.1 to milepost 288.6.²² However, Cushman siding could not be used either in the same manner or with the same level of efficiency as the staging capacity that UP provides in Newport. Staging a train at Cushman siding while awaiting a slot at the Independence plant would result in the blockage of Gainer Ferry Road.²³ To prevent complete blockage for long periods of time, the crew would have to decouple the train and split it at road crossings, and then recouple the train when given authority to move, which would add significant time to the operation.²⁴ In addition, Cushman siding is located 18 miles from the plant, which means that it could not be used with the same level of efficiency as the staging capacity that UP currently provides at Newport. Moreover, if Cushman were occupied by staged trains, the siding could not be used for meets and passes of other trains, which would reduce M&NA’s line capacity.

We believe that it might be feasible to provide the required staging capacity by adding a second track parallel to the main line at the Independence plant. During our site visit, we were told that there had once been a second track at that location, and photographs show that the area is already graded.²⁵

²² See UP Reply workpaper “Cushman Siding.pdf.”

²³ See UP Reply workpaper “Batesville - Cushman Area.pdf.”

²⁴ The crew would have to walk the train to accomplish both of these operations, which would take a significant amount of time for these trains, which are more than a mile long.

²⁵ See UP Reply workpapers “Independence Facing North.jpg” and “Independence Facing South.jpg.”

Entergy or AECC may claim that additional staging capacity would not be required to handle traffic moving at a rate of ten loaded trains per month, but it is important to remember that those ten trains would not be the only trains transporting coal to the Independence plant. M&NA's ability to move the ten trains into the Independence plant for unloading would be affected by the presence of other trains delivering coal that would not be shifted to a BNSF-M&NA route. In other words, BNSF-M&NA trains may need to be staged while waiting for trains that moved via a UP-M&NA routing to be unloaded.²⁶

2. New Staging Capacity To Transport 6.5 Million Tons Per Year

Based on our analysis, we conclude that the minimum additional staging capacity required to transport 6.5 million tons of coal per year using a BNSF-M&NA routing would be two 8,000-foot staging track located near the Independence plant and an additional staging/interchange track at Lamar or Aurora.

If Entergy were to move 6.5 million tons of coal per year using a BNSF-M&NA routing, BNSF and M&NA would need to provide staging capacity near the plant that is similar to the staging capacity provided by UP. We conclude that the minimum additional staging capacity that would be required would include two 8,000-foot staging tracks – that is, sufficient capacity to stage two loaded unit coal trains. This is again a very conservative estimate – M&NA would have less staging capacity available for coal transported using a BNSF-M&NA routing than UP

²⁶ In addition, based on our review of Entergy's schematics of the track at the Independence plant, it appears that Entergy designed its capacity based on the assumption that loaded trains would enter the plant from the south – the direction from which trains enter the plant using the current UP-M&NA route – and Entergy may not be able to use the plant's track capacity as efficiently if trains are entering the plant from the north as well as the south. See UP Reply workpapers "Entergy Map 2.pdf" and "ISES_Scan.jpg."

currently has available at Newport to handle essentially the same volume of coal that is currently moving to the Independence plant using a UP-M&NA route.

Again, we believe the most promising location to construct the required staging capacity would be parallel to M&NA's main line at the Independence plant. As discussed above, there is room to accommodate at least one new 8,000-foot staging track, and there may be room at the same location to accommodate a second, similar track.

We also conclude that M&NA would need to construct an additional staging/interchange track long enough to hold either a loaded or empty unit coal train at either Lamar or Aurora. One interchange track at either Lamar or Aurora simply would not be sufficient to accommodate movements of 6.5 million tons per year, or thirty-three loaded trains per month. At a traffic level of thirty-three loaded trains per month, and an equal number of empty trains, loaded trains will often arrive at the interchange when empty trains are occupying the connecting track. The current UP-M&NA routing avoids this type of congestion at interchange points because of directional running, but even with that advantage over the proposed BNSF-M&NA routes, UP still uses Neff Yard in Kansas City to hold empty trains delivered by M&NA. At the very least, there would need to be at least one additional track at either Lamar or Aurora on which M&NA could leave an empty train until it could be picked up by BNSF, or BNSF could leave a loaded train until it could be picked up by M&NA.

At Lamar, it appears that an additional 8,000-foot staging track could be constructed adjacent to the proposed new connecting track, extending between 21st Street and 30th Street, so as not to block any public crossings. David Hughes addresses the costs of constructing this track in his verified statement.

At Aurora, it appears that an additional 8,000-foot staging track could be constructed adjacent to the proposed new connecting track, but starting further south on the M&NA portion of the connecting track and extending further south on M&NA because there would not be room to place this third track under the Highway 60 overpass. David Hughes also addresses the challenges and costs of constructing this track in his verified statement.

C. M&NA Would Need Additional Capacity On Its Lines Between Lamar Or Aurora And The Independence Plant

The third capacity issue that would arise with the proposed BNSF-M&NA through routes is the need for additional main line capacity on M&NA. The primary issue presented by the prospect of adding loaded unit coal trains to the M&NA lines is the absence of long sidings. Loaded Entergy trains would be approximately 7,400 feet long, which is too long for many of the existing sidings on M&NA.²⁷ In addition, Entergy's proposal to route loaded trains via either Lamar or Aurora would mean that those southbound loaded trains would be competing for capacity with the northbound empty trains returning from the Independence plant to an interchange with either BNSF (at Lamar or Aurora) or with UP (at Kansas City).

We used the RTC model to perform a long train, long siding capacity analysis to identify whether the absence of long sidings would create operating bottlenecks at the { } ton and 6.5 million ton volume levels. Our analysis was very conservative in that we assumed there would be no interference with long trains from short train on-line work events, even though there is a significant short train volume that works at locations along the M&NA main line on a daily basis, and M&NA would be challenged to operate the short trains into sidings whenever necessary to avoid interference with long trains.

²⁷ See UP Reply workpaper "M&NA Sidings Lengths.xlsx."

Our analysis showed that additional siding capacity would be required on the stretch of single-line track between Crane siding (milepost 477.8) and Bergman siding (milepost 416.8).²⁸ The results of our analysis are shown graphically in Exhibit 1. The sixty-one mile stretch of track between Crane siding and Bergman siding currently includes just one short siding at Gretna (milepost 451.5). This section of track is under additional capacity pressure because the Branson Scenic Railway operates three round trips per day between Branson (milepost 447.30) and milepost 427. AECC's engineering experts recognized that additional siding capacity might be required on this section of M&NA. (Heaving & Brookings VS at 8.)

We expect that M&NA would find it very costly to add siding capacity in this stretch of territory. The same features that make this territory an attraction for the Branson Scenic Railway – significant bridges, curves, and grades, as well as Cricket Tunnel and Crest Tunnel – will make construction very difficult. AECC's engineering experts suggest that M&NA could extend an existing siding – presumably the Gretna siding – to accommodate loaded unit coal trains. (*Id.*) However, Entergy's engineering expert notes in his workpapers that the Gretna siding would be "Difficult to Extend."²⁹ We believe Mr. Crouch is correct. At one end of the Gretna siding is an overhead viaduct, and at the other end an extension would have to span three bridges, ranging from 83-feet to 137-feet in length.³⁰

AECC's engineering experts also suggest that M&NA could "restore one of the sidings retired by UP." (Heavin & Brookings VS at 8.) AECC's experts may be referring to the former Davis siding, which lies near the Crest Tunnel, and which was removed after UP and M&NA

²⁸ See UP Reply workpaper "MNA Bottleneck.xlsx."

²⁹ See Entergy Opening workpaper "M&NA Sidings Lengths.xls."

³⁰ See UP Reply workpaper "Gretna Siding.pdf."

entered into their lease. That siding was 6,851-feet long – not long enough to chamber an Entergy coal train. Moreover, the former Davis siding was also on a 0.95% grade, which means that hand brakes on the train must be set if a train is forced to dwell on the siding for a period when it must be left without a crew (for example, if the current crew expires on hours of service). The setting of hand brakes is a time consuming event that requires the crew to walk the 1.4-mile long train to set the brakes on each of the 135 cars, and essentially the same work would have to be repeated to release the handbrakes when the new crew arrives.

IV. CONCLUSION

Entergy's and AECC's proposal to route loaded unit coal trains to the Independence plant using an interchange between BNSF and M&NA at either Lamar or Aurora could not be implemented without constructing new interchange facilities at either Lamar or Aurora, new staging capacity at the plant, and new capacity along M&NA's main line. The proposed routings would involve more construction, and at higher costs, than either Entergy or AECC appears to contemplate.

VERIFICATION

I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information. Further, I certify that I am qualified and authorized to file this statement.

Executed on May 29, 2010

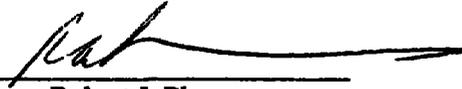
A handwritten signature in black ink, appearing to read "DRW", written over a horizontal line.

David R. Wheeler

VERIFICATION

I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information. Further, I certify that I am qualified and authorized to file this statement.

Executed on June 3, 2010



Robert J. Plum

REDACTED

VERIFIED STATEMENT
OF
ROBERT J. PLUM AND DEBORAH G. NEWLAND

I. INTRODUCTION

Our names are Robert J. Plum and Deborah G. Newland. We have been asked by Union Pacific Railroad Company (“UP”) to analyze whether the alternate through routes proposed in this proceeding by Entergy Arkansas, Inc., and Entergy Services, Inc. (collectively, “Entergy”) and Arkansas Electric Cooperative Corporation (“AECC”) for transporting unit coal trains between the Powder River Basin (“PRB”) and Entergy’s Independence Steam Electric Station (the “Independence plant”) would permit Entergy to receive more efficient and economic service than the current route provided by UP and Missouri & Northern Arkansas Railway (“M&NA”). We have also been asked to analyze the testimony regarding these issues submitted by Mr. Thomas D. Crowley on behalf of Entergy and Mr. Michael A. Nelson on behalf of AECC.

As we discuss below, we conclude that Entergy’s proposed through routes would be more costly and less efficient to operate than the current route and that Entergy would pay higher rates for coal transported using the proposed through routes than the rate it is paying UP.

II. QUALIFICATIONS

Mr. Plum: I am a Managing Director at Parrish, Blessing & Associates, Inc. (“PBA”). I joined PBA in 2009 after working for twenty years in the Economic Consulting division of FTI Consulting. For the past thirty years, I have conducted operating cost of service studies, assisted clients on creating and evaluating railroad contract provisions, conducted field studies of railroad operations, and developed computer models to evaluate railroad engineering and operating requirements.

I have conducted numerous studies addressing operations and infrastructure along the routes at issue in this proceeding. These studies have covered operations at all mines in the PRB and major terminals including North Platte, Guernsey, Alliance, and Lincoln in Nebraska; and Kansas City in both Missouri and Kansas. I have inspected, by either hi-rail or coal train, all segments of the M&NA that the issue traffic both currently traverses and Entergy proposes to traverse.

I graduated from Villanova University with a Bachelor of Science degree in Accounting and from Seton Hall University with a Masters in Business Administration.

Ms. Newland: I am a Director at Parrish, Blessing & Associates, Inc. I joined PBA in 2009 after working for seven years in the Economic Consulting division of FTI Consulting. While at PBA and FTI Consulting, I have focused on costing, demand and revenue forecasting, and statistical analyses. I have performed comprehensive cost analyses to model costs for clients across industries and have extensive experience in modeling variable and fixed costs for the railroad industry. I have examined Class I railroad operations and conducted detailed costing studies, including switching studies at major yards in Nebraska.

I have also performed studies of historic contract rates and developed long term demand and revenue forecasts for testimony within regulatory proceedings. I have performed extensive statistical analyses and critiqued statistical analyses submitted by opposing experts. In addition, I have sponsored testimony in multiple rate cases before the Surface Transportation Board.

I received a Bachelor of Arts degree in Economics, with coursework in statistics and mathematics, from Furman University in Greenville, South Carolina, in 1999, and a Masters of Science degree in Economics, with a specialty in regulation and industrial organization, from the University of North Carolina at Chapel Hill in 2001.

III. COST AND EFFICIENCY FACTORS FAVOR THE CURRENT UP-M&NA ROUTE OVER THE PROPOSED BNSF-M&NA ROUTES.

The current UP-M&NA through route used to serve the Independence plant is more efficient and cost-effective than either of the through routes proposed by Entergy and AECC, which would involve an interchange between BNSF Railway (“BNSF”) and M&NA at Lamar or Aurora, Missouri. Our conclusion is based on our analysis of several measures of efficiency and cost-effectiveness. First, we compared the variable cost of providing service over the routes at issue using the Board’s Uniform Railroad Costing System (“URCS”). Second, we compared several operational measures of efficiency – specifically, transit times, fuel consumption, and track curvature – as they relate to the routes at issue.

A. The Cost Of Providing Service Over The Current UP-M&NA Route Is Lower Than The Cost Of Providing Service Over The Proposed BNSF-M&NA Routes.

The cost of moving unit trains of coal between the PRB and the Independence plant using the current UP-M&NA route is lower than the cost of providing the same service using Entergy’s proposed BNSF-M&NA routes. Using the Board’s URCS costing methodology, we determined that the variable cost of providing service to the Independence plant is \$14.08 per ton using the current UP-M&NA route, compared with \$14.19 per ton using a BNSF-M&NA route with an interchange at Lamar, and \$14.48 per ton using a BNSF-M&NA route with an interchange at Aurora, as shown in Exhibit 1.¹

¹ These costs are calculated using the STB’s 2008 URCS unit costs, indexed to first quarter 2010 levels using the most recent Producer Price Index and the most recent AAR rail cost indices. *See* UP Reply workpaper “Entergy – Independence Costing Results.xlsx.”

In its Second Amended Complaint, Entergy includes an alternative request for relief involving a routing between the PRB and the Independence plant that would be BNSF-Lamar (or Aurora)-UP-Bergman, Arkansas-M&NA-Guion, Arkansas-UP. (Second Amended Complaint, ¶ 41.) We determined that the variable costs for such a route would be \$14.94 per ton via Lamar and \$15.28 (continued...)

Mr. Crowley produced different results in his URCS costing calculations because he ignores the actual UP-M&NA route used to transport unit coal trains between the PRB and the Independence plant and because his calculations contain other flaws that distort the actual cost differences between the current route and the alternate routes proposed by Entergy.

Critically, Mr. Crowley's URCS costing calculations ignore the actual UP-M&NA route. By using UP's and M&NA's loaded miles as the mileage parameters for his URCS costing process and ignoring empty miles, Mr. Crowley implicitly assumes that Entergy's empty coal trains follow the reverse route of loaded coal trains. (Entergy Opening Evidence, Crowley VS, Exhibit TDC-6.) However, as Mr. Crowley plainly understands, and as he even shows in his Exhibit TDC-3, Entergy's empty trains do not follow the reverse route of loaded trains. Our URCS cost calculations reflect the actual UP-M&NA routing of loaded and empty trains between the PRB and the Independence plant.²

Mr. Crowley's mileage calculations, and therefore his URCS costing calculations, are also flawed in two other respects. *First*, Mr. Crowley develops the number of miles from PRB

per ton via Aurora. These calculations are included in UP Reply workpaper "Entergy – Independence Costing Results.xlsx."

One of AECC's alternative requests for relief would require a BNSF-M&NA routing using "terminal trackage rights" over UP between Hoxie, Arkansas, and Diaz Junction, Arkansas. (AECC Argument at 11.) We determined that the variable costs for such a route would be \$15.24 per ton. These calculations are also included in UP Reply workpaper "Entergy – Independence Costing Results.xlsx."

² To reflect the actual number of loaded and empty miles on UP and M&NA in our URCS calculations while avoiding distortion of URCS switching cost calculations, it was necessary to set the interchange switching costs to account for 270 cars at each interchange. Otherwise, switching costs would have been inappropriately low for UP's portion of the movement (since UP has fewer empty miles than loaded miles) and inappropriately high for M&NA's portion of the movement (since M&NA has more empty miles than loaded miles). We also used the actual loaded and empty miles when calculating URCS costs for the proposed BNSF-M&NA routes, although the difference between loaded and empty miles is small, and we made the same interchange switching adjustment.

mines to the Independence plant using a simple average distance from several different PRB mines.³ However, Entergy receives a substantial majority of its coal from just a few of those mines, as Mr. Nelson acknowledges. (AECC Opening Evidence, Nelson VS at 10 n.12.)⁴ To develop mileage inputs for our URCS analysis that more accurately reflect actual operations to the Independence plant, we used the actual origins of Entergy’s PRB coal in 2009 to calculate a weighted average distance from the mines to the plant.⁵ *Second*, Mr. Crowley used a computer program to calculate miles, and the computer program uses approximate locations for origins, destinations and interchanges, and does not account for actual track configurations at junctions and interchanges. To develop mileage inputs for our URCS analysis, we used UP, BNSF, and M&NA track charts, together with UP traffic data, to determine the actual routes and miles for movements of loaded and empty trains between the PRB and the Independence plant.⁶

When Mr. Crowley’s flawed mileage calculations are corrected, the differences between the actual UP-M&NA route and the proposed BNSF-M&NA routes essentially disappear. The UP-M&NA round-trip of 2,495 miles is just 0.9% longer than the BNSF-M&NA round-trip of 2,472 miles via Lamar, and it is 1.3% *shorter* than the BNSF-M&NA round-trip of 2,528 miles via Aurora.

³ It is unclear how Mr. Crowley selected the mines he used to calculate his average, because he omitted from his calculations at least one mine that shipped PRB coal to the Independence plant. Moreover, Mr. Crowley calculated distances for Jacobs Ranch Mine and Black Thunder Mine not from the mines themselves but from Reno Junction – a point on the PRB Joint Line.

⁴ In fact, Entergy obtained { } of its coal from North Antelope Mine, and { } of its coal from just three different mines in 2009. *See* UP Reply workpaper “2009 Coal Origins by Mine.xlsx.”

⁵ *See* UP reply workpaper “2009 Coal Origins by Mine.xlsx.”

⁶ *See* UP reply workpaper “Entergy Miles.xlsx.”

Mr. Crowley's URCS calculations also fail to reflect actual UP-M&NA operations and likely BNSF-M&NA operations in two additional respects. *First*, Mr. Crowley used Western Region URCS costs as a proxy for locomotive-related costs on the M&NA portion of the route. However, as we determined through discussions with UP personnel familiar with the current operations to the Independence plant, UP locomotives remain on the Entergy trains for the entire movement from the PRB to the Independence plant and back to the PRB, and BNSF locomotives would presumably remain on the trains in the event of a BNSF-M&NA routing. We therefore substituted UP or BNSF locomotive-related costs, as appropriate, for Western Region URCS costs to present a more accurate analysis. *Second*, Mr. Crowley's cost calculations included system-average URCS costs for private car rental payments. However, as we determined by reviewing the current transportation contract between Entergy and UP, Entergy supplies the cars for this movement at no cost to UP, and it would presumably do the same for BNSF. We therefore removed private car rental costs from our URCS cost calculations.

Mr. Crowley's testimony regarding URCS costs concludes with a calculation that purports to show the reduction in costs of providing service to the Independence plant that could be achieved during the ten-year period from 2011 through 2020 if Entergy were able to use a BNSF-M&NA route for coal that Entergy was not obligated to move via UP. (Crowley VS at 10-11.) However, Mr. Crowley's results merely reflect his flawed URCS costing calculations. Using the corrected URCS costs described above produces a very different result. We replicated Mr. Crowley's methodology using the corrected URCS costs, and our calculations show that the costs of providing service to Entergy would *increase* relative to UP-M&NA service – by \$2.68

million during the 2011-2020 period if a BNSF-M&NA routing via Lamar were used, and by \$9.69 million if a BNSF-M&NA routing via Aurora were used – as shown in Exhibit 2.⁷

In sum, the current UP-M&NA route for Entergy’s trains is much more efficient and cost-effective than the alternate BNSF-M&NA routes proposed by Entergy.

B. Other Measures Of Efficiency And Cost-Effectiveness Show That The Current UP-M&NA Route Is Superior To The Proposed BNSF-M&NA Routes.

In addition to measuring efficiency and cost-effectiveness using URCS cost calculations, we examined several other measures that reflect the relative efficiency and cost-effectiveness of the routes at issue in this proceeding. Specifically, we used the RTC model, which the Board uses in its stand-alone cost rate cases, to model the routes at issue and generate measures of transit time, fuel consumption, and track curvature.⁸

The modeling results show that the current UP-M&NA route is superior to the BNSF-M&NA routes proposed by Entergy in all three measures, both in the loaded direction and on a round-trip basis. These results refute Mr. Crowley’s assertion that a simple comparison of the distance that loaded coal trains would travel between the PRB and the Independence plant over the routes at issue provides a basis for concluding that the UP-M&NA route would be less efficient than the BNSF-M&NA routes proposed by Entergy. (Crowley VS at 8-9.)⁹

⁷ See UP Reply workpaper “Entergy – Independence Total Costs.xlsx.”

⁸ We asked David R. Wheeler, an expert in the use of the RTC model, who is also providing testimony in this proceeding relating to the feasibility of operating loaded coal trains over a BNSF-M&NA route, to run the RTC model and provide the data we needed for these analyses. The RTC model output is in UP Reply workpaper “Entergy RTC.zip” and the results are summarized in UP Reply workpaper “Independence Plant – Route Comparisons.xlsx.”

⁹ Mr. Nelson takes an even narrower view and compares UP’s route for loaded trains south of Kansas City with a BNSF-M&NA route south of Kansas City. (Nelson VS at 9-10.) However, as we discuss in the next several sections, UP’s advantages from using its own higher-speed, less (continued...)

1. The UP-M&NA Route Produces Faster Transit Times.

We analyzed transit times for the routes at issue because faster transit times translate directly into more efficient and cost-effective utilization of crews, locomotives, and rail cars. The RTC model uses as inputs actual track characteristics (*e.g.*, distance, grade, curvature, speed limits) and movement parameters (*e.g.*, number of locomotives, locomotive type, number of cars, car weight). The model can be programmed to produce a measure of “ideal,” or “unopposed,” transit time, which is a measure of transit time assuming a train could operate at the maximum possible speed given available locomotive power and resistance conditions (*e.g.*, grades, curves, car types, trailing tons), and without accounting for delays associated with train meets, train passes, maintenance, construction, weather, crew availability, or mechanical delays.¹⁰

As shown in Table 1, the unopposed transit time for loaded coal trains on the UP-M&NA route would be 32.4 hours, as compared with 34.6 hours for Entergy’s proposed route via Lamar, and 35.6 hours for Entergy’s proposed route via Aurora. On a round-trip basis, the unopposed transit time for the UP-M&NA route would be 60.9 hours, as compared with 64.2 hours for Entergy’s proposed route via Lamar, and 65.9 hours for Entergy’s proposed route via Aurora.

Our analysis of the RTC modeling data suggests that UP’s slight mileage disadvantage for loaded trains south of Kansas City is more than offset by UP’s use of its own line south of Kansas City, rather than the M&NA route over the Carthage Subdivision, and by UP’s superior route between the PRB and Kansas City.

curved lines south of Kansas City overwhelm any disadvantages associated with using a slightly longer route.

¹⁰ Thus, the results of calculating “unopposed” transit times are instructive when performing comparisons of alternate routes, but they can significantly understate real-world results.

Table 1
Routes Sorted By Time (Hours)¹¹

<u>Route</u>	<u>Loads</u>	<u>Empties</u>	<u>Total</u>
UP-M&NA	32.4	28.5	60.9
BNSF-M&NA via Lamar	34.6	29.6	64.2
BNSF-M&NA via Aurora	35.6	30.3	65.9

2. The UP-M&NA Route Produces Lower Fuel Consumption.

We also analyzed fuel consumption using the RTC model, because routes that consume less fuel are plainly more efficient and result in lower costs. The RTC model can use the same inputs used to compute unopposed transit time to generate an estimate of fuel consumption. As part of the modeling process, the RTC model determines the locomotive throttle positions required for trains to maintain the maximum permissible speed based on the track characteristics and other movement parameters described above, and it uses the throttle position data combined with data regarding fuel consumption rates for the locomotives powering the trains being modeled to calculate fuel consumption over a particular route under unopposed condition.¹²

As shown in Table 2, fuel consumption for loaded trains on the UP-M&NA route would be 12,910 gallons, as compared with 13,506 gallons for Entergy’s proposed route via Lamar, and 14,034 gallons for Entergy’s proposed route via Aurora. On a round-trip basis, fuel consumption for UP-M&NA route would be 23,533 gallons, as compared with 24,773 gallons for Entergy’s proposed route via Lamar, and 25,574 gallons for Entergy’s proposed route via Aurora. Again, our analysis of the RTC modeling data suggest that UP’s slight mileage disadvantage for loaded trains south of Kansas City is more than offset by UP’s use of a more efficient route for its trains

¹¹ See UP Reply workpaper “Independence Plant – Route Comparisons.xlsx.”

¹² Like results of calculating “unopposed” transit time, the results of calculating fuel consumed by unopposed trains can significantly understate actual fuel consumption, but they are instructive in comparing alternate routes.

south of Kansas City, rather than the M&NA’s route over the Carthage Subdivision, and by UP’s use of a more efficient route between the PRB and Kansas City.

Table 2
Routes Sorted By Fuel (Gallons)¹³

<u>Route</u>	<u>Loads</u>	<u>Empties</u>	<u>Total</u>
UP-M&NA	12,910	10,623	23,533
BNSF-M&NA via Lamar	13,506	11,267	24,773
BNSF-M&NA via Aurora	14,034	11,540	25,574

3. The UP-M&NA Route Has Less Total Curvature.

Finally, we used the track characteristics that are input into the RTC model to compare the curvature of the UP-M&NA route with the curvature of the BNSF-M&NA routes proposed by Entergy, as measured by the degrees of central angle of the curves. As UP witness David J. Hughes explains in his verified statement, a line’s curvature affects transit times and fuel consumptions, as well as maintenance costs: greater curvature leads to longer transit times, higher fuel consumption, and higher maintenance costs.

As shown in Table 3, on loaded portion of the move, the curvature of the UP-M&NA route is 17,585 degrees of central angle, as compared with 34,271 degrees for Entergy’s proposed route via Lamar, and 35,956 degrees for Entergy’s proposed route via Aurora. On a round-trip basis, the curvature of the UP-M&NA route is 48,649 degrees of central angle, as compared with 68,528 degrees for Entergy’s proposed route via Lamar, and 71,886 degrees for Entergy’s proposed route via Aurora. Again, much of the difference reflects UP’s more efficient route south of Kansas City.

¹³ See UP Reply workpaper “Independence Plant – Route Comparisons.xlsx.”

Table 3
Routes Sorted By Curvature
(Degrees of Central Angle)¹⁴

<u>Route</u>	<u>Loads</u>	<u>Empties</u>	<u>Total</u>
UP-M&NA	17,585	31,064	48,649
BNSF-M&NA via Lamar	34,271	34,258	68,529
BNSF-M&NA via Aurora	35,956	35,930	71,886

IV. ENTERGY WOULD PAY HIGHER RATES FOR COAL TRANSPORTED OVER THE ALTERNATE BNSF-M&NA THROUGH ROUTES THAN THE RATE IT IS PAYING UP.

Entergy pays a very low rate for PRB coal moving to the Independence plant using the UP-M&NA route. As Mr. Crowley observes, UP’s current rate is { } per ton. (Crowley VS at 11.) Based on the variable cost calculations discussed above, that rate produces a revenue-to-variable cost ratio of { }¹⁵ In fact, Entergy’s current rate, *unadjusted* for inflation, is { } per ton rate that Entergy paid back in 1992.¹⁶

Mr. Crowley claims that rates for a BNSF-M&NA through route would be even lower. However, Mr. Crowley says that BNSF and M&NA did not provide rate information regarding a BNSF-M&NA through movement to the Independence plant, so he was forced to rely on a crude comparison between UP’s actual current rate for moving PRB coal to the Independence plant and a BNSF-M&NA proxy figure that purports to reflect BNSF’s average rates for coal in 2009. (Crowley VS at 11.)

In fact, BNSF did provide Entergy with more direct information about potential rates for a BNSF-M&NA through movements to the Independence plant, though Entergy may not have

¹⁴ See UP Reply workpaper “Independence Plant – Route Comparisons.xlsx.”

¹⁵ See UP Reply workpaper “Entergy Rate Comparison.xlsx.”

¹⁶ Entergy’s rate in 1992 is provided on page 2 of the Reply Verified Statement of F.M. “Rick” Gough, filed in this docket as part of UP’s Reply Evidence and Argument on August, 11, 2008.

shared the information with Mr. Crowley. As described in the verified statement of Entergy witness Ryan Trushenski, Entergy asked BNSF to provide rates for unit train service from the PRB to the Independence Station in a letter dated October 22, 2009. (Trushenski VS at 5.) BNSF responded in a letter dated November 5, 2009. BNSF explained that it would need more information from Entergy about the proposed service to develop a firm rate offer, {

}

(*Id.*, Exhibit RT-6 at 2.)

When Mr. Trushenski subsequently sent BNSF an additional letter asking for a rate quote for a BNSF-M&NA joint route to the Independence plant, BNSF “reiterate[d] [its] view that such a joint route to the Independence Station would be significantly more costly given the need for capital upgrades and interchange operations and likely less efficient than single-line BNSF unit trains service to the White Bluff Station.” (*Id.*, Exhibit RT-9 at 2.)

Mr. Crowley does not discuss {

}

To be conservative in our analysis, {

} See Exhibit 3.²¹

To be even more conservative in our analysis, we also considered the possibility that BNSF would set its rates to the Independence plant at a level reflecting the same revenue-to-variable cost ratio reflected in UP's current rate. Applying UP's revenue-to-variable cost ratio to

¹⁷ See UP Reply workpaper "BNSF Rate Quote.pdf."

¹⁸ See UP Reply workpaper "Entergy Rate Comparison.xlsx."

¹⁹ See *id.*

²⁰ See *id.*

²¹ See *id.*

the variable costs of the BNSF routes requested by Entergy would produce rates of { } per ton to Lamar and { } per ton to Aurora – { }
} See Exhibit 3.

As a final step in our rate analysis, we considered Mr. Crowley’s attempt to develop a proxy for BNSF-M&NA rates based on data from BNSF’s 2009 Investors’ Report. In our view, Mr. Crowley’s proxy, which reflects a broad average of BNSF’s rates for moving coal, including non-PRB coal, to points across its entire system under a wide variety of circumstances, is far inferior to use of information regarding {

} Mr. Crowley contends that his proxy approach is conservative, because the data reflect movements “that are both captive to BNSF and for which BNSF faces competition.” (Crowley VS at 12.) However, {

}
Moreover, Mr. Crowley’s methodology contains a significant error that overstates UP’s rate relative to his proxy for BNSF-M&NA rates. Mr. Crowley developed BNSF-M&NA proxy rates using BNSF data from 2009, and then compared them to UP’s actual rate in 2010. If the rates are compared on an apples-to-apples basis at 2009 levels, the BNSF-M&NA rates would be \$15.95 per ton for movements via Lamar and \$16.31 per ton for movements via Aurora, while UP’s rate would be { } per ton, as shown in Exhibit 4.²² Thus, even using Mr. Crowley’s proxy methodology, {

²² See *id.* BNSF’s rates appear even lower than in Mr. Crowley’s Table 1 because we have calculated them using the more precise miles we developed.

Finally, Mr. Crowley fails to consider how BNSF-M&NA rates would be affected by BNSF's and M&NA's need to recover the investment that they would have to make before they could commence service to the Independence plant. Entergy's own expert concedes that the costs of constructing new interchange facilities would be approximately \$2.50 million at Lamar and \$2.84 million at Aurora.²³ UP's evidence in the verified statement of David R. Wheeler and Robert J. Plum and the verified statement of David J. Hughes indicates that the costs for the new interchange facilities would be even higher, and that other investments also would be required to provide efficient service at the volumes contemplated by Entergy.

Even assuming just \$2.50 million in additional costs for new interchange facilities at Lamar and \$2.84 million of the new interchange facilities at Aurora, if those costs were spread over the approximately { } tons of coal that Entergy { } that would amount to an additional { } per ton for Lamar and { } per ton for Aurora. That would mean that the BNSF-M&NA rate to Lamar would be { } and the BNSF-M&NA rate to Aurora would be { } than the UP rate (at 2009 levels), as shown in Exhibit 4.²⁴ Assuming just the \$8.57 million in additional costs for new interchange facilities at Lamar and the \$6.14 million in additional costs for new interchange facilities at Aurora, as estimated by UP, that would amount to an additional { } per ton at Lamar and { } per ton at Aurora. That would mean that

²³ See AECC Opening workpaper "Interchange Preliminary Costs.xls."

²⁴ {

}

the BNSF-M&NA rate to Lamar would be { } and the BNSF-M&NA rate to Aurora would be { } than the UP rate (at 2009 levels). See Exhibit 4.

V. CONCLUSION

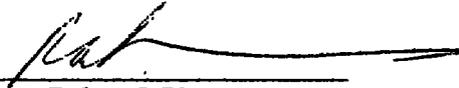
Based on our analysis of URCS costs and other measures of efficiency and cost-effectiveness, the current UP-M&NA route is superior to the BNSF-M&NA routes proposed by Entergy. Moreover, based on our analysis of {

} and even based on Mr. Crowley's effort to develop a proxy for BNSF rates, once Mr. Crowley's calculations are corrected to reflect an apples-to-apples comparison, Entergy would be paying more to transport its coal using the proposed BNSF-M&NA routes than it is paying UP.

VERIFICATION

I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information. Further, I certify that I am qualified and authorized to file this statement.

Executed on June 3, 2010

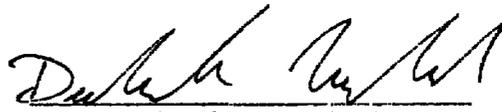


Robert J. Plum

VERIFICATION

I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information. Further, I certify that I am qualified and authorized to file this statement.

Executed on June 3, 2010



Deborah G. Newland

Summary of 2008 URCS Phase III Costs/Ton for UP-MNA and BNSF-MNA Entergy Routes (Indexed to 1Q 2010)

Route	Carrier	Loaded Miles	Empty Miles	2008 Costs	Index	Cost Results
UP-MNA	UP	1,312.0	762.0	\$13.91	0.9495	\$13.20
	MNA	9.6	411.2	\$0.93	0.9430	\$0.88
	Total	1,321.6	1,173.2	\$14.84		\$14.08
Proposed BNSF-MNA (Lamar)	BNSF	949.7	960.1	\$13.54	0.9348	\$12.66
	MNA	282.2	280.5	\$1.63	0.9430	\$1.53
	Total	1,231.9	1,240.6	\$15.17		\$14.19
Proposed BNSF-MNA (Aurora)	BNSF	1,038.6	1,049.0	\$14.10	0.9348	\$13.18
	MNA	220.9	219.1	\$1.38	0.9430	\$1.30
	Total	1,259.5	1,268.1	\$15.48		\$14.48
BNSF Mine to Lamar-UP Lamar to Guion-MNA Guion to UP-Independence	BNSF	949.7	960.1	\$11.38	0.9348	\$10.64
	UP	133.0	133.0	\$1.91	0.9495	\$1.81
	MNA	102.0	102.0	\$0.83	0.9430	\$0.79
	UP	47.3	45.5	\$1.79	0.9495	\$1.70
	Total	1,231.9	1,240.6	\$15.92		\$14.94
BNSF Mine to Aurora-UP Aurora to Guion- MNA Guion to UP-Independence	BNSF	1,038.6	1,049.0	\$12.41	0.9348	\$11.60
	UP	71.6	71.6	\$1.26	0.9495	\$1.20
	MNA	102.0	102.0	\$0.83	0.9430	\$0.79
	UP	47.3	45.5	\$1.79	0.9495	\$1.70
	Total	1,259.5	1,268.1	\$16.29		\$15.28
BNSF to Independence (via Hoxie)	BNSF	1,340.2	1,255.4	\$15.76	0.9348	\$14.73
	MNA	9.6	9.2	\$0.54	0.9430	\$0.51
	Total	1,349.8	1,264.6	\$16.30		\$15.24

Source: UP Reply workbook "Entergy - Independence Costing Results.xlsx"

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VERIFIED STATEMENT

OF

DAVID J. HUGHES

My name is David J. Hughes. I am an independent consultant with over 30 years of experience in the railroad industry, primarily in the areas of railroad operations, maintenance, and track supply and maintenance contracting. My most recent position in the industry was as Amtrak's Acting Chief Executive Officer (from 2005-2006). My railroad industry experience is supplemented by many years of management consulting experience in the United States and abroad. I describe my qualifications in detail in Part II.

I. STATEMENT OF PURPOSE AND SUMMARY OF CONCLUSIONS

This verified statement is submitted in support of the Reply Evidence and Argument of Union Pacific Railroad Company ("UP"), which is filed in response to (1) the Opening Evidence and Argument of Entergy Arkansas, Inc. and Entergy Services, Inc. (collectively "Entergy") and (2) the Opening Evidence and Argument of Arkansas Electric Cooperative Corporation ("AECC"). UP has asked me to analyze the feasibility and efficiency of Entergy's and AECC's proposal to route loaded unit trains of coal to Entergy's Independence Steam Electric Station ("Independence") over Missouri & Northern Arkansas Railroad ("M&NA") via an interchange with BNSF Railway Company ("BNSF") at either Lamar or Aurora, Missouri. More specifically, UP has asked me to (1) assess the general characteristics of the proposed route, (2) evaluate the expert testimony presented by Entergy and AECC regarding the route's present condition and capability of accommodating the number and type of trains required to transport the volumes of coal contemplated by Entergy and AECC, and (3) assess the engineering and on-

going maintenance costs necessary for transporting loaded unit coal trains over the route in the volumes contemplated by Entergy and AECC.¹

First, I conclude that the characteristics of the proposed route render it a particularly poor candidate for the service in question. As a historical matter, UP used the lines at issue (some of which UP has leased to M&NA, some of which it sold to M&NA) to move loaded coal trains to Independence between 1984 and 1989. Well before the lease and sale of the lines to M&NA in 1992, UP re-routed Entergy's coal traffic to the route (via Diaz Junction) that is still in use today. It did so for a number of sound operational reasons—for example, to achieve cost efficiencies by consolidating traffic on a higher density line and to avoid the former route's problematic topography, including its curves, grades, and susceptibility to damage and disruption from flooding. Particularly given the available alternative provided by UP's current route, it would be expensive and inefficient to operate and maintain the M&NA lines at the level required to reliably handle loaded unit coal trains. The same considerations that led UP to change the route for Entergy's coal traffic in 1989 still hold true today.

¹ My conclusions are based on information generated from multiple sources regarding the M&NA lines in question. I conducted an inspection of the lines from October 5-8, 2009. I was accompanied on this inspection by M&NA and UP operating and maintenance officials, with whom I reviewed and discussed (1) the present condition of the lines, (2) { } (3) potential additional investments required to sustain the line for light density operations, and (4) previous inspections performed by UP track and bridge engineers and the conclusions drawn from those inspections. In addition to my physical inspection of the line, I also reviewed aerial photographs and topography maps of the areas surrounding the existing UP route and the proposed through route; the workpapers accompanying the opening evidence filed by Entergy and AECC; and materials obtained from UP, M&NA, and Entergy, as well as analyses that were performed at my direction using those materials. I also had discussions with UP personnel regarding (1) costs related to new track and facilities necessary to allow for the interchange of loaded unit coal trains between BNSF and M&NA at Lamar or Aurora, and (2) other physical improvements to the lines in question that would be necessary for BNSF and M&NA to provide reliable service for loaded trains of coal at the volumes contemplated by Entergy.

Second, I conclude that the present condition of the lines in question would not permit BNSF and M&NA to route loaded coal cars via Lamar or Aurora and that an order prescribing a BNSF-M&NA through route would impose substantial costs on M&NA and/or BNSF. Investment in new infrastructure would be required before BNSF and M&NA could interchange unit trains of coal at either Lamar or Aurora for movement to Independence. Indeed, Entergy's and AECC's expert witnesses appear to agree that the proposed route would require M&NA to spend millions of dollars to construct new BNSF-M&NA interchange facilities at Lamar and/or Aurora, and potentially millions of dollars more on other portions of the lines between the proposed BNSF-M&NA interchange points and Independence.

Third, I conclude that the Entergy and AECC expert witnesses fail to acknowledge the actual condition of the M&NA lines and thus fail to acknowledge the likely additional investment and maintenance expenditures that would be required for BNSF and M&NA to transport the coal volumes contemplated by Entergy and AECC via a BNSF-M&NA through route to Independence.

I discuss these conclusions in greater detail below.

II. STATEMENT OF QUALIFICATIONS

As I note above, my most recent position in the railroad industry was serving as Amtrak's Acting Chief Executive Officer from 2005-2006. Prior to becoming Acting Chief Executive Officer, I was Chief Engineer of Amtrak from 2002-2005. As Chief Engineer, I was responsible for overseeing the installation and maintenance of Amtrak's track, structures, and electrical and signal system across the United States.

I began my railroad career with the Southern Pacific Railroad. While working for Southern Pacific, I served as a general track foreman in charge of track maintenance around

Ogden, Utah, and as bridge and building supervisor responsible for the inspection, maintenance, and construction of bridges and buildings on a 600-mile line from Shreveport, Louisiana, to Brownsville, Texas. Subsequently, I served as President of the Bangor and Aroostook Railroad (a Class II railroad) and as Chief Engineer of the Boston and Maine Railroad (formerly a Class I railroad that is now part of the Pan Am Railways network). In both of these positions I was responsible for infrastructure similar to that of the M&NA lines at issue in this proceeding.

In addition, I have five years of experience as President of Pandrol, Inc., a company that supplies railroad track fasteners to U.S. railroads, and five years of experience as President of Speno Rail Services (now part of Harsco Corporation), a company that provides contract track maintenance services such as ballast cleaning and rail grinding in both the U.S. and Canada. In both of these positions I spent significant time in the field with railroad maintenance managers assessing track maintenance problems involving ballast, ties, and rail and developing solutions to address these problems.

In addition, as a management consultant, I have over 15 years of experience consulting in the areas of railroad operations and railroad infrastructure capital requirements. The bulk of this work has been in North America for both Class I and short line railroads, though I have worked with over 50 railroads in 25 countries. My typical consulting clients have been investors and financial institutions involved in the acquisition or refinancing of railroad property, government-owned railroads, and other entities seeking to understand future capital investment requirements for railroad track, structures, and signal systems. By way of example, I am currently working with the government of South Africa to develop operational and maintenance plans to facilitate the annual export of 90 million tons of coal from the Mpumalanga and Gauteng coal fields through the coal terminal at Richards Bay on the Indian Ocean.

III. THE CHARACTERISTICS OF THE PROPOSED ROUTE ARE PARTICULARLY UNFAVORABLE FOR TRANSPORTING HIGH VOLUMES OF LOADED UNIT COAL TRAINS

Anyone with significant railroad engineering and operating experience who reviews the relevant characteristics of M&NA's lines between western Missouri and Independence should understand UP's decision to shift Entergy's loaded coal trains from the M&NA lines to the current route via Diaz Junction. In essence, the M&NA lines are much more difficult and expensive to operate and maintain at the level necessary to provide safe and reliable service for regular unit-train movements of coal than the present route. The M&NA lines traverse significantly more challenging topography than the high density route UP currently uses to transport Entergy's coal to Independence.² They have at least double the curvature of the current UP route via Diaz Junction.³ (Greater curvature increases train rolling resistance, which in turn increases locomotive power requirements, fuel consumption, and wear on rolling stock, track, and other rail components.) They are more susceptible to damage and service disruptions resulting from flooding and rock falls. They are more difficult to repair when they are damaged, as they are more difficult to access. They incur relatively higher maintenance costs, particularly in relation to the low volume of traffic moving over the lines, due to a high concentration of

² For examples of comparative topographical maps covering representative portions of the proposed routes and UP's existing route, *see* UP Reply workpaper "M&NA Topographical Map (Portion).ppt" & UP Reply workpaper "UP Parsons Subdivision Topographical Map (Portion).ppt."

³ Ranging between approximately 34,000-36,000 degrees of curvature for the former versus only about 17,600 degrees of curvature for the latter. *See* UP Reply workpaper "M&NA Workbook.xlsx," tab "Curvature." *See also* UP Reply workpaper "Independence Plant - Route Comparisons.xlsx."

tunnels and bridges.⁴ UP officials with knowledge of route conditions in 1989 indicate that the physical features of the lines and the area's topography figured prominently in UP's decision to reroute the Independence coal traffic via Diaz Junction.

In particular, lines with a high percentage of curved track, like the 174-mile stretch of M&NA line between Reeds Spring, Missouri, and Batesville, Arkansas—which has numerous curves ranging between four and six degrees (with a handful of curves up to eight degrees)—are expensive to operate and maintain. While these may not be considered extreme conditions when compared to the topography faced by some lines—such as those traversing the Rockies or the Appalachians—they are challenging enough that any efficient railroad would seek to avoid them (particularly when transporting long, heavy trains) if given the opportunity. The existing UP route to Independence via Diaz Junction provides just such an opportunity.

In addition, with regard to the incidence of damage and service disruptions, the M&NA lines' water grade segment in the Buffalo River valley (between M&NA mileposts 382 and 286, spanning approximately 96 miles) has a history of regular flooding, sometimes shutting down railroad operations for days at a time, according to M&NA officials who accompanied me on my inspection of the M&NA lines in October 2009.⁵ This stretch of track is sandwiched between the river on one side and often tall bluffs on the other. UP engineering officials who accompanied me on my inspection⁶ estimate that as much as 3.2 miles of track in this area is at risk from rock falls, and thus would likely require some form of intervention to remove loose rock and/or install

⁴ The routes via Lamar or Aurora would include 2.4 miles of tunnels south of Aurora and 5.5 miles of bridges for the route via Lamar or 4.4 miles of bridges for the route via Aurora. See *infra* Tables 4 & 5.

⁵ Tommy Gibson (M&NA General Manager), Daryl Gabriel (M&NA Regional Chief Engineer), and Kess Creech (M&NA Roadmaster).

⁶ Brent Waguespack (UP General Director-Maintenance of Way).

slide detectors to avoid potential derailments if unit coal trains were to be operated over the line in high volumes.

By contrast, routes with higher traffic densities and fewer degrees of curvature—such as the route via Diaz Junction that UP currently uses to transport Entergy’s coal to Independence—tend to be less expensive to operate and maintain. Various costs, including those covering inspections and the maintenance of highway crossings, bridges, tunnels, and signals can be spread across higher traffic volumes. Certain other maintenance costs, such as those for track surfacing and rail and tie replacement, are reduced by using state-of-the-art high production rate machines commonly employed on high density mainlines. This combination of spreading costs over a larger traffic base and lowering unit maintenance costs by using state-of-the-art processes tends to produce a lower overall engineering cost per unit of traffic operated. Indeed, it was precisely these economics that motivated UP and other railroads to begin consolidating traffic into high density corridors and away from multiple routes in the 1980s.

IV. EXISTING M&NA INFRASTRUCTURE WOULD REQUIRE SUBSTANTIAL UPGRADES AND ONGOING MAINTENANCE EXPENDITURES TO RELIABLY TRANSPORT SIGNIFICANT VOLUMES OF LOADED COAL TRAINS FROM LAMAR AND/OR AURORA TO INDEPENDENCE

Although UP once used the M&NA lines in question to move Entergy’s loaded coal trains to Independence, these lines have not been maintained at their former level for many years. As a result, they would require a significant infusion of capital to sustain movements of loaded unit coal trains between Lamar or Aurora and Independence at the volume levels contemplated by Entergy and AECC. Moreover, once these lines were restored to something approaching their former condition, they would require expensive, ongoing maintenance. These are precisely the circumstances that led UP to shift Entergy’s coal traffic away from the M&NA lines back in 1989.

In this section, I briefly discuss some of the reasons why the lines are in their current condition, and what adding the coal volumes contemplated by Entergy and AECC would mean for the lines in terms of the impact from the increase in traffic density and heavy axle loads. I also discuss {

} I then describe in detail the condition of the track and associated structures as I observed them in late 2009 and the investments likely required to render them adequate for transporting significant numbers of loaded unit coal trains. I also review the testimony of the Entergy and AECC expert witnesses about the present fitness of the proposed route for the transportation of loaded unit coal trains.

A. General Background Regarding The M&NA Lines

UP's lease and sale of its Carthage Subdivision lines to M&NA in 1992 was part of an industry-wide trend by Class I railroads to consolidate traffic into high density corridors and avoid the capital expenditures necessary to maintain larger, lower density networks. Short lines were spun off by Class I railroads at least in part because the bigger railroads simply could no longer devote sufficient resources or attention to these economically and often physically frail lines. Main line operations and maintenance often took precedence over competing needs on light density lines. In general, Class I railroads had operated these lines for years without significant reinvestment. When reinvestment could be delayed no longer, these railroads often

⁷ {

}

decided either to abandon such lines or sell or lease them to highly focused operators better attuned to managing and operating commercially and physically fragile light density lines. Even then, however, many short-line railroads could not be sustained.

One key attribute of the surviving short lines, and one that has featured prominently in the operation of M&NA, is the ability to control operating expenses and limit capital expenditures to the absolute minimum required for continued short-term operation while maintaining a positive cash flow. According to M&NA officials,⁸ the operation of M&NA over the past two decades has been a textbook example of meticulous expenditure control. In recent years, for example, {

}⁹

B. Entergy Traffic Assumptions

Entergy and AECC contemplate movements of loaded unit trains of coal over the M&NA lines in a range between approximately { } million tons of coal and approximately 6.5 million tons of coal. As demonstrated by the following table, this would represent a significant increase in gross-ton miles over the relevant M&NA line segments and would represent a similarly significant increase in traffic density over the lines in question.

⁸ Tommy Gibson (M&NA General Manager), Daryl Gabriel (M&NA Regional Chief Engineer), and Kess Creech (M&NA Roadmaster).

⁹ { } According to Kess Creech (M&NA Roadmaster), maintenance activities include inspection of track, structures, and signals and minor infrastructure repairs, including broken rail replacement, spot tie replacement, maintenance of drainage systems, and vegetation control. Capital expenditures cover the general replacement of cross ties, rail, structures, and surfacing.

TABLE 1
Change in Traffic Density by Line Segment¹⁰

Line Segment	Base	6.5 mtpy				6.5 mtpy			
		6.5 mtpy via Lamar	% of Base Traffic Density	6.5 mtpy via Aurora	% of Base Traffic Density	mtpy via Lamar	% of Base Traffic Density	mtpy via Aurora	% of Base Traffic Density
Lamar - Carthage	4.6	13.4	291%	2.3	50%	{ }	{ }	{ }	{ }
Carthage - Aurora	4.7	13.5	288%	2.4	51%	{ }	{ }	{ }	{ }
Aurora - Bergman	4.3	13.1	305%	13.1	305%	{ }	{ }	{ }	{ }
Bergman - Guion	3.6	12.5	347%	12.5	347%	{ }	{ }	{ }	{ }
Guion - Independence	4.3	13.1	305%	13.1	305%	{ }	{ }	{ }	{ }

The Table above demonstrates that diversion of 6.5 million tons of coal per year via Aurora or Lamar would essentially triple traffic density on the M&NA lines south of those stations. Diversion of { } million tons per year would increase traffic density on the M&NA lines south of those stations by approximately { }%. However, even these figures do not reflect the full extent of track and structural damage that would result from such density increases because they do not account for train length or makeup. The { }%-247% density increase that Entergy has proposed for the relevant lines would involve adding some of the longest and heaviest unit trains currently operating in North America. Train length is important

¹⁰ { } In the column headings here, "mtpy" refers to millions of net tons of coal per year. In the body of the Table, the individual numbers refer to millions of gross tons per year, accounting for all commodities moving over the segment and the locomotives and railcars required to move the traffic. For example, in the column "Base," the figure 4.6 on the line demarked "Lamar - Carthage" means that a total weight of 4.6 million gross tons will move over this segment in the base year. The Table assumes that non-coal traffic volumes will remain fixed.

because longer trains exert more lateral force as they traverse curves in the track. Train makeup is important because unit trains cause more track wear-and-tear than do mixed traffic trains. Because the cars in a unit train are essentially identical, each responds to track imperfections in the same manner. In other words, unit trains exert repeated force on the same track structural points while cars in a mixed train exert force at varying points along the track. This concentration of force on specific track structural points inevitably leads to track and associated structure wearing out more quickly (and needing to be replaced more often) where the transportation of unit trains is involved.

Entergy and AECC suggest that the M&NA lines in question could accommodate the full extent of the loaded unit coal train operations contemplated by Entergy because the lines currently carry some 286,000-pound unit train traffic. Mr. Crouch states “that {

} In fact, during the inspection,

numerous grain cars were observed that were labeled for 286,000 lb. gross weight.” Crouch Opening VS at 5. Messrs. Heavin and Brookings observe that “[t]he MNA today is 286,000 pound compliant and does handle rail cars of this weight over its system. The grain is handled in unit trains from Pleasant Hill, Missouri to Bergman, Arkansas. Blocks of these commodities are handled elsewhere on their system.” Heavin & Brookings Opening VS at 11.

However, in 2009 only { } loaded unit grain cars approximating this weight traveled between Lamar and Aurora and only { } loaded unit grain cars approximating this weight traveled between Aurora and Bergman. { } loaded unit grain cars approximating this weight

traveled between Bergman and Independence in 2009.¹¹ In contrast, the transportation of million tons of coal would result in an additional { } loaded unit train cars approximating this weight traveling over the lines in question, while the transportation of 6.5 million tons of coal would result in an additional { } loaded unit train cars approximating this weight traveling over the lines in question. The potential impact of introducing such heavy axle load traffic in such dramatic volumes on the Bergman-Independence segment in particular cannot be overstated.

C. 2008-2009 Evaluations Of The M&NA Lines

In early 2008, UP and M&NA engaged in discussions regarding the physical condition of the M&NA lines. {

¹¹ { } In contrast, { } loaded unit coal cars approximating this weight traveled between Diaz Junction and Independence in 2009.

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Entergy's and AECC's expert witnesses (Harvey A. Crouch for Entergy and Jerry W. Heavin and David W. Brookings for AECC) inspected the relevant lines in November 2009. {

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See id.

} Entergy's and AECC's expert witnesses appear to conclude that the lines are fit to transport a significant number of loaded unit coal trains, substantially as is.¹⁹ In fact, neither of the reports submitted by those experts provides any indication that significant maintenance or improvement of existing track and structures would be necessary to allow for the movement of loaded unit coal trains. {

}

D. Track And Structural Improvements Required Before Loaded Unit Coal Trains Could Be Reliably Transported From Lamar Or Aurora To Independence

Because significant numbers of loaded unit trains have not moved over the proposed routes for more than 20 years, because the lines in question have a documented history of deferred maintenance, and because the maintenance that has been performed over the past 20 years has been done with an eye only towards accommodating light traffic densities, it is

¹⁹ {

} the Entergy and AECC experts relied on a brief hi-rail visual inspection in forming their opinions, which even they admit was insufficient in many respects. *See, e.g.*, Crouch Opening VS at 13 (acknowledging that “three days was not an adequate time for us to fully rate all of the bridges on the route”).

impossible to assess the full extent of the impact that moving significant numbers of loaded unit trains of coal would have on the lines. The Entergy and AECC expert witnesses blithely ignore these facts and suggest that the present condition of the lines in question poses no obstacle to the near-term institution of such operations. In fact, to restore the lines in question to a condition suitable for regular loaded unit coal train operations, M&NA likely would need to address significant issues relating to rail, ties, ballast, bridges, and tunnels. I discuss each of these categories, and the views of the Entergy/AECC expert witnesses thereon, in turn below.

Before turning to this discussion, one preliminary point should be noted. While Entergy's expert witness, Mr. Crouch, indicates in his verified statement that he analyzed the feasibility of the proposed reroutes in the context of the full coal volumes Entergy contemplates moving over the M&NA lines in question (6.5 million net tons of coal per year), *see* Crouch Opening VS at 6, AECC's expert witnesses, Messrs. Heavin and Brookings, only analyze the feasibility of the proposed reroutes for transporting "between 500,000 and 1,950,000 tons of coal annually," Heavin & Brookings Opening VS at 5. Whatever their conclusions, therefore, the testimony of Messrs. Heavin and Brookings provides no support for a claim that transportation of the full volumes of coal contemplated by Entergy over the M&NA lines in question is feasible either now or at some future point in time.

1. Rail

Messrs. Crouch, Heavin, and Brookings express undue confidence that the rail on the relevant M&NA lines is presently fit for use in transporting loaded unit coal trains. Focusing on the 112-pound and 115-pound rail that comprises half of the M&NA lines, Messrs. Heavin and Brookings note that it was "typically rolled between 1940 and 1960 and is generally in its second position," and state that "[w]hen the rail was removed from its first position, it was inspected and classified, taking only the rail with sufficient remaining life." Heavin & Brookings Opening VS

at 9. Messrs. Heavin and Brookings seem satisfied that a past inspection demonstrates that the rail “presents no hindrance to the feasibility of using the line for unit coal trains.” *Id.* However, even assuming that the rail was inspected and classified before it was laid on the M&NA lines (generally between 1964 and 1988), it is not reasonable simply to assume that all (or even a majority) of the rail on the lines in question is presently fit for the purpose of moving loaded unit coal trains on the basis of an inspection and classification procedure that took place several decades ago. It is simply not possible for Messrs. Heavin and Brookings—or anyone, for that matter—to reach a meaningful conclusion in this regard without first reviewing the service history of the rail in question as well as current data regarding actual rail failure rates and rail wear, which are the prime criteria used to assess rail condition and project future performance.

Moreover, without conducting a more extensive inspection, it is particularly problematic to claim that 112-pound rail rolled between 1940 and 1960 would be suitable for the traffic levels contemplated by Entergy and AECC. Mr. Crouch asserts that “112 RE CWR is adequate for the operation of loaded unit coal trains.” and suggests that support for his conclusion can be found in the fact that 286,000-pound cars currently operate on M&NA’s lines. Crouch Opening VS at 10. M&NA does move some 286,000-pound cars over 112-pound rail on certain portions of the lines at issue.²⁰ However, {

}²¹ Significant

²⁰ See UP Reply workpaper “Gross Weight Analysis.xls.”

²¹ { }

increases in traffic volume and axle loads, when combined with relatively soft track²² and rail of uncertain origin, would call the fitness of the line's 112-pound rail stock into serious question—particularly when one considers the issue of rail cleanliness.

Rail rolled between 1940 and 1960 is not nearly as “clean” as modern rail. Older rail is “dirtier” because it includes a higher number of impurities that can lead to rail fractures than does “cleaner” modern rail. Rail fatigue failures simply were not much of a concern when most of the 112-pound rail on the M&NA lines was rolled, a period during which 112-pound rail would be removed from service when vertical head wear caused the flange of the wheel to strike joint bars in the track. Only later, when higher axle loads became prevalent, did rail fatigue become a significant issue. As the prime cause of rail failure changed from wear to fatigue, the importance of clean steel was recognized. Modern steel rail now has two to three times the fatigue life of rail manufactured between 1940 and 1960. Mr. Crouch mistakenly suggests that rail weight alone determines fitness for unit coal train traffic, and ignores the fact that cleanliness of the rail in question is an equally important factor. Again, because M&NA's 112-pound rail was manufactured over 50 years ago, it does not have the same fatigue life of modern rail. Mr. Crouch therefore cannot reasonably conclude that it is suitable for transporting significant numbers of loaded unit coal trains.

While Messrs. Crouch, Heavin, and Brookings confidently proclaim that the rail on the M&NA lines in question is fit for immediate use by unit trains transporting large volumes of coal, in reality there are not enough data available to allow anyone to render confident judgments regarding what precisely must be done to the rail to prepare these lines for such high-density

²² For a discussion of track stiffness, *see infra* Section IV.D.3. In general, soft track results in greater rail bending under the axle, thereby increasing rail fatigue and shortening rail life.

operations. It is eminently reasonable, however, to presume that at least some of the 371 installation segments between Aurora and Independence—with their varying combination of rail sizes, ages, and laying dates—will need to be replaced in the short term if significant unit coal train operations are initiated over the lines in question.

In fact, {

} However, we know that the rail on the M&NA lines in question is generally welded rail weighing between 112 and 133 pounds per yard, and was installed second-hand. Again, the 221-mile stretch of M&NA between Aurora and Independence represents 371 separate rail installation segments, each coming from a different original location and each with a different history of use and failure.²⁴ While prior tonnage history and the reasons for removing the rail segments from their original locations are unknown, rail is generally cascaded to lighter density lines because failure rates have grown to levels that render the rail no longer safe for use in main-line track.

A fairly conservative approach to evaluating rail replacement requirements is to assume an 80-year useful life²⁵ for rail after installation on the M&NA. Under the assumption of an 80-year useful life for rail, M&NA should have been replacing 2.75 or 3.5 miles of rail per year (for the stretch between Aurora-Independence and Lamar-Independence, respectively) during the 16-

²³ Daryl Gabriel (M&NA Regional Chief Engineer) and Kess Creech (M&NA Roadmaster).

²⁴ See Entergy Opening workpaper Folder “M&NA Track Charts From M&NA.”

²⁵ Eighty-year maximum rail life is a widely-accepted metric used to avoid the unrealistic estimates that come from using traffic density and other contingent factors to estimate rail life. See, e.g., Randolph R. Resor et al., *Positive Train Control (PTC): Calculating Benefits and Costs of a New Railroad Technology*, Journal of the Transportation Research Forum (Summer 2005), available at <http://www.trforum.org/journal/2005sum/article6.php#rn10> (last visited June 1, 2010) (80-year useful track life used to estimate current new track construction requirements for purposes of cost-benefit analysis conducted by Zeta-TECH).

year period between 1992 and 2008.²⁶ {

}²⁸

2. Ties

Messrs. Crouch, Heavin, and Brookings also project undue confidence that the ties on the relevant M&NA lines are fit for use in transporting loaded unit coal trains. Messrs. Heavin and Brookings try to avoid addressing the tie-related issues of adding loaded unit coal trains to the lines in question. They say they found that “on average, between Independence and Lamar, 26% of the ties were defective, or approximately 850 ties per mile” and that “[t]his is a high but manageable level for the traffic *currently on the line.*” Heavin & Brookings Opening VS at 9 (emphasis added). However, they implicitly concede that current tie condition is not suitable for future movements of loaded unit coal trains when they remark that “[h]eavy axle loads from unit coal train movement will have [a] measureable effect on cross tie condition in areas where 30% or more of the ties are defective.” *Id.* at 10. Of course, their assessment reflects that the route’s current *average* defective tie rate is very close even to their stated practical limit of 30%, and

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workpapers submitted by Entergy show that the 30% threshold is actually equaled or exceeded { }²⁹

Moreover, Heavin's and Brookings's 30% threshold is not appropriate for the M&NA lines. Thirty percent would be a reasonable threshold for a line that routinely carries loaded unit coal trains only if the line has been maintained for unit coal train traffic with regular maintenance cycles, and thus the other 70% of track ties are of normal age and condition. {

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On Entergy's behalf, Mr. Crouch concludes that "[b]ased on the average tie counts, there are 17 good ties per 39' rail, which is well in excess of the minimum Federal Railroad Administration (FRA) Track Safety Standards." Crouch Opening VS at 11. Mr. Crouch seems to imply that because the average good tie count on the proposed M&NA route is above the minimum required by the FRA, no spending on tie replacement is necessary for either existing M&NA operations or future operations involving significant numbers of loaded unit coal trains. However, Mr. Crouch's reliance on FRA minimums is inconsistent with what is known about the tie replacement history on the M&NA lines.

From the mid-1990s until 2003, {

²⁹ See Entergy Opening workpaper "M&NA Defective Tie Counts.xls."

³⁰ Under normal climatic and topographic conditions, the life of creosoted hardwood ties varies between 25 years on higher density mainlines and 35-40 years on branch lines. Given the traffic, topography, and climatic conditions that exist between Lamar and Independence, I estimate tie life at 35 years. *See also* Neel Schaffer in affiliation with Crouch Engineering, P.C., *Task 6 Maintenance Requirements (Prepared for the Tennessee Department of Transportation)* at 4 (Nov, 2005), available at http://www.tdot.state.tn.us/publictrans/docs/Task6_Report.pdf (last visited June 1, 2010) (using 35-year expected cross tie life).

A 35-year tie life generates an annual replacement requirement of 26,279 for the route via Lamar (919,750 total ties divided by 35) and 20,559 for the route via Aurora (719,550 total ties divided by 35). If fewer than the annual number are in fact replaced, average tie age naturally increases.

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If significant numbers of loaded unit trains were to be operated over the proposed routes, it would be highly advisable to switch to the FRA's approved Gauge Restraint Measuring System ("GRMS") for the measurement of tie condition adequacy and take whatever corrective action is indicated by the GRMS measurements prior to initiating substantial loaded unit train operations. GRMS exerts horizontal spreading force between the rails and measures the spreading of the rails versus the level of force applied. Where ties are sound, measured resistance is high. Low resistance indicates the possible need to replace ties at that location.

}³⁵

Moreover, while the current expected life of an M&NA cross tie is approximately 35 years,³⁶ Entergy's proposal to effectively triple the traffic density on the proposed routes with loaded coal trains would substantially lower the expected life of the cross ties on those routes. If introduction of loaded unit coal trains were to result in a reduction of expected tie life from 35 to 30 years, {

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See id.

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See supra note 30.

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(continued...)

3. Ballast And Roadbed

Messrs. Crouch, Heavin, and Brookings alternatively minimize and ignore issues relating to ballast type and amount, as well as issues relating to overall condition of the ballast and subgrade. Messrs. Heavin and Brookings correctly point out, however, that “M&NA is using some limestone spot ballast which will no longer be suitable with the introduction of heavier wheel loads.” Heavin & Brookings Opening VS at 10. When limestone ballast is subjected to heavy loads, it crushes and cements together. This in turn prevents proper track drainage and ultimately requires wholesale ballast replacement, and perhaps repair of the subgrade if the failure is left unaddressed for an extended period of time. Thus, track segments with measurable amounts of limestone should have their ballast replaced prior to the institution of significant unit coal train operations.

Ballast replacement would be performed by a ballast screening machine, which would discard 100% of the old limestone/granite mix upon detection and replace it with 100% granite ballast. The track would then require two passes of surfacing (with stabilization). There are no data regarding the full extent of limestone ballast on the M&NA lines in question. However, if one were to assume that just 5% of the track along the proposed route would need its ballast removed and replaced—totaling 11 miles of ballast along the proposed Aurora route (5% of 221) and 14 miles of ballast along the proposed Lamar route (5% of 283)—the total cost of this procedure would be {

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Regarding ballast amounts, Mr. Crouch concludes that the ballast section has “more than sufficient shoulders for CWR, and is therefore adequate for loaded unit coal train operation.”

Crouch Opening VS at 11. Directly contrasting this assertion is {

}³⁹ Ballast shoulder width is determined not only by the type of rail, however, but also by the segment’s degree of curvature, a fact for which Mr. Crouch’s ballast evaluation does not account.

Another relevant fact left unaddressed by Messrs. Crouch, Heavin, and Brookings is the condition of the ballast under the ties and the degree to which that ballast allows water to flow away from the track subgrade. None of these experts appears to have examined the sub-surface ballast conditions along the proposed routes. While casual observation might lead one to conclude that the sub-surface ballast is clean, digging into this ballast at the tie ends (as I did at several locations) reveals dirt clogging the interstices between ballast stones. This results from rain washing windblown dirt and plant material off the top-level ballast surface and down into the interstices between ballast stones, where such debris accumulates over time. Leakage of material onto the track from railcars further aggravates the situation. Thus, ballast on the proposed M&NA route is generally fouled, particularly on the south end of the line where I observed water trapped in the ballast and the subgrade. {

} While such ballast conditions do not materially hamper light density train operations with limited numbers of 286,000-pound cars, they would present a significant issue for greater density operations

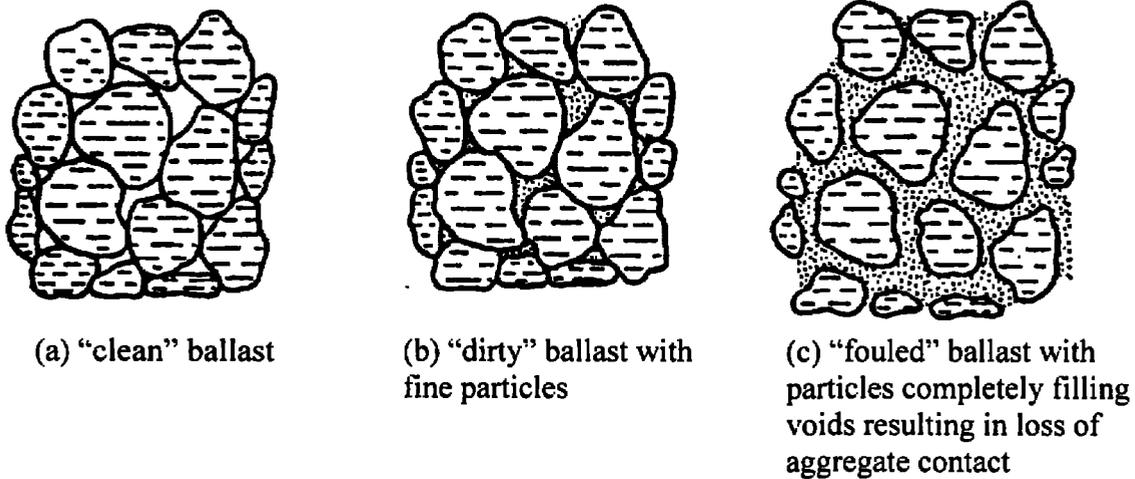
³⁹ {

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involving high axle load unit trains, as water cannot freely drain out of the ballast and thus seeps into the subgrade and reduces its ability to support the track.

As shown in Figure 1 below, almost all aggregates remain in surface contact with each other in a “clean” ballast sample. The voids between aggregates will be filled by fine particles in a “dirty” ballast sample, though aggregates will remain in surface contact. In “fouled” ballast, aggregate surface contact is largely eliminated due to excessive fine particle levels. “Fouled” ballast is relatively weak, because the strength of the fine particle materials will tend to govern overall ballast strength.

FIGURE 1
Critical Ballast Stages Illustrating Loss of Aggregate Surface Contact



Messrs. Heavin and Brookings also observe that “[t]here are few instances of problem areas [on the lines], and in no instances were chronic sub-grade failures endangering the reliability or safety of the line.” Heavin & Brookings Opening VS at 10. The introduction of substantial numbers of loaded unit coal trains, however, could have a significant effect on subgrade conditions. Small problem areas and what had been the occasional chronic failure area can easily blossom into events requiring full-blown maintenance interventions in a loaded unit train operating environment. Again, transporting an additional 6.5 million net tons of coal over

the lines in question would effectively triple the traffic density, while transporting an additional { } million net tons would increase traffic density by approximately { }%.⁴⁰ The additional coal traffic proposed by Entergy, which will move in 135-car, 286,000-pound unit trains, is of an entirely different order of magnitude than the small number of heavy cars that currently move over the proposed routes.⁴¹ And again, the damage caused by the transportation of significant numbers of unit trains, with their repetitive action and the attendant increased stress on specific track points, to the ballast and the roadbed would likely be even more severe than a tripling of density alone might suggest.

For the past 18 years, {

} As a result, contaminants have accumulated in the ballast, trapping water and softening the track, thereby creating conditions that are inconsistent with substantial increases in heavy axle load traffic such as those proposed by Entergy. Given the lines' fouled ballast condition and the relatively wet conditions along the 174-mile stretch between Reeds Spring and Batesville, satisfactory track geometry likely could not be maintained with spot tamping alone. If the proposed reroute is effected, regular continuous tamping will be required along the lines in question on a regular basis. {

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⁴⁰ See *supra* Table 1.

⁴¹ { }

⁴² { }

Even with regular continuous tamping, subgrade may fail at certain locations due to increased tonnage, soft subgrade, heavy axle loads, and ballast clogging. Such subgrade failures would in turn result in a higher incidence of speed restrictions and significant increases in track maintenance costs. While subgrade failures cannot be predicted with certainty, they pose a clear and present risk that could substantially interfere with the ability to deliver coal reliably to Independence over the proposed routes. The potential cost of recovering from subgrade failure could be several million dollars over several years.

4. Bridges

Despite suggestions that the lines in question are currently capable of handling the volumes of coal proposed by Entergy, expert witnesses for both AECC and Entergy concede that the line's bridge system requires significant upgrading. First, Messrs. Heavin and Brookings acknowledge that "a capital bridge program will be required,"⁴³ but then inexplicably conclude that today "[t]he MNA today is 286,000 pound compliant" because it "handle[s] rail cars of this weight over its system." Heavin & Brookings Opening VS at 4 & 11. Second, Mr. Crouch notes that he design load rated approximately 54 timber trestles (representing approximately "44% of [all] timber bridges" on the proposed route), but acknowledges that 19 were rated at less than 286,000 pounds.⁴⁴ By Mr. Crouch's own calculations, then, at least 44 of the line's bridges⁴⁵ are

⁴³ Messrs. Heavin and Brookings explain that a capital bridge reconstruction program will be required "[d]epending on the volume of new coal traffic and the desired level of service." Heavin & Brookings Opening VS at 4. Again, these experts limit their feasibility analysis to the transportation of "between 500,000 and 1,950,000 tons of coal annually" over the proposed routes. *Id.* at 5. And again, Entergy contemplates moving as much as { } million tons of coal in 2011. It is therefore clear that the "capital bridge reconstruction program" envisioned by Messrs. Heavin and Brookings would need to be implemented in the very near future, and certainly before such coal volumes begin moving over the lines in question.

⁴⁴ Crouch Opening VS at 14. It is unclear exactly how many bridges Mr. Crouch rated. The text specifically refers to 55, *see id.*, but explains that 19 were rated at less than 286,000 (continued...)

rated at less than 286,000 pounds and require “repairs...to upgrade the design load rating.”⁴⁶ Mr. Crouch’s workpapers include an estimate of { } to upgrade the load ratings to 286,000 pounds.⁴⁷ Moreover, Mr. Crouch explains that his evaluation was based primarily on “a cursory...inspection of the bridges on the [M&NA] mainline,” and that because his inspection was not “in-depth,” it would not have found “all defective or hidden conditions.”⁴⁸ Thus, Mr. Crouch effectively concedes that his evaluation likely understates the full breadth of bridge repairs necessary to allow for the movement of significant numbers of unit coal trains over the lines in question.

Indeed, one can safely assume that the need for bridge repairs would pose a significant obstacle to moving coal in the volumes contemplated by Entergy and AECC. As a baseline matter, there are approximately 5.5 miles of bridges between Lamar and Independence (as illustrated by Table 4, below).

while 35 were rated at 286,000 (totaling 54), *see id.* at 14-15. The workpaper referenced by Mr. Crouch identifies only 53 bridges that were subject to rating. *See* Entergy Opening workpaper “Master – MNA Load Ratings.xls.”

⁴⁵ *See* Entergy Opening workpaper “Master – M&NA Load Ratings.xls,” tab “Summary.”

⁴⁶ Crouch Opening VS at 15. Despite this, Mr. Crouch apparently believes “that the bridges on the line are adequate for carrying the additional 286,000 lb. car loads” proposed by Entergy. *Id.* at 15-16. However, Mr. Crouch appears to be carefully trying to avoid the question whether the bridges can *currently* handle the traffic levels *contemplated by Entergy*. While Mr. Crouch states that “the bridges [can] currently accommodate additional 286k cars, and can accommodate the additional loaded unit coal trains contemplated for the BNSF/M&NA through route(s),” *id.* at 16-17, he specifically does not claim that the bridges *currently* can accommodate the *loaded unit coal trains* contemplated for the proposed through routes.

⁴⁷ *See* Entergy Opening workpaper “Master – M&NA Load Ratings.xls,” tab “Summary.”

⁴⁸ Crouch Opening VS at 16. Mr. Crouch further explains that he “did not conduct any destructive testing of members, underwater inspections, nor subsurface exploration, nor did [he] move any bridge members to determine conditions.” *Id.* Moreover, Mr. Crouch’s estimate fails to account in any way for issues relating to steel, concrete, and stone bridges.

TABLE 4
Bridge Length by Line Segment⁴⁹

Line Segment	Length of Bridge (feet)	Length of Bridge (miles)
Lamar-Carthage	2,490	0.47
Carthage-Aurora	3,154	0.60
Aurora-Bergman	7,519	1.42
Bergman-Guion	11,619	2.20
Guion-Independence	4,308	0.81
Total	29,040	5.5

{ }⁵⁰ Bridges tend to have long useful lives so long as they are systematically maintained and repaired, thereby ensuring the integrity of structural subsystems such as bents, stringer packs, and decks. {

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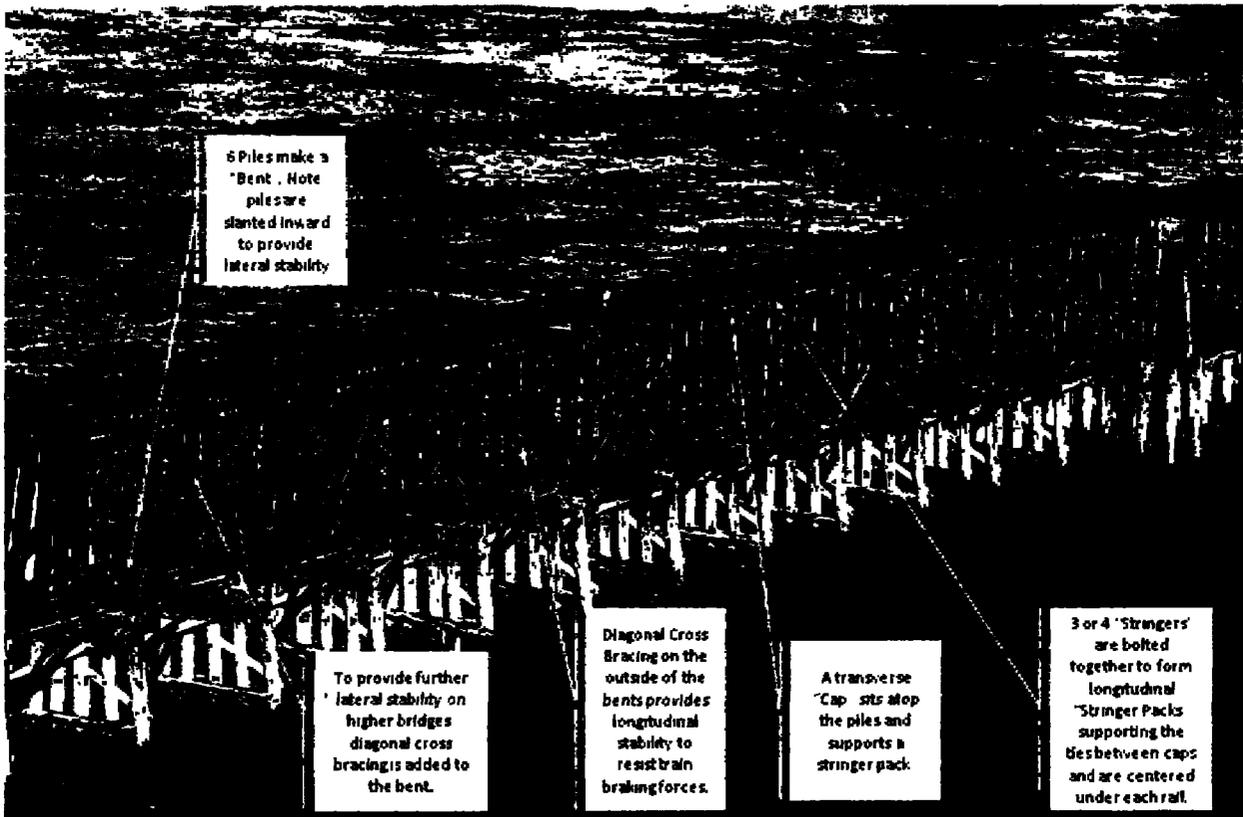
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Moreover, there is a particular concern about the stability of the timber trestles on the portion of the proposed routes that runs through the Buffalo River valley. given that these bridges are significantly higher than the average timber trestle height. The figure below is similar in design to the taller open deck timber bridges on the lines in question, and demonstrates that a timber trestle is a complex system of components each of which must function together to ensure bridge stability.

FIGURE 2
Typical Open Deck Timber Trestle System



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}⁵² Assuming

existing traffic density levels, this program can be stretched over a number of years. If the tonnage is trebled by virtue of running loaded unit coal trains over these lines (as would occur if the Independence coal arrived from the north), such repairs would need to be completed in the very near future.

5. Tunnels

As an initial matter, the lines in question include six tunnels with a total length of about 2.4 miles, as shown below in Table 5.

TABLE 5
List of Tunnels on M&NA South of Aurora⁵³

Tunnel	From MP	To MP	Length (Feet)	Length (Miles)
Reeds Spring	460.10	459.60	2,904	0.55
Crest	435.70	435.04	3,485	0.66
Cricket	432.38	431.86	2,746	0.52
Payatt	401.44	401.32	637	0.12
Cotter	383.07	382.88	1,003	0.19
Cotter #2	382.52	382.52	2,000	0.38
Total			12,775	2.42

Messrs. Heavin and Brookings state that they performed “[c]ursory inspections of 3 tunnels...during the hirail trip” and that “[t]here are only minor rock falls presently.” Heavin &

⁵² {

}

⁵³ There are no tunnels on the line between Lamar and Aurora.

Brookings Opening VS at 11.⁵⁴ However, even minor rock falls indicate tunnel roof instability that may require rock bolting or lining of certain tunnel sections. {

}

According to my inspection, the tunnels are principally unlined and there is a substantial probability that some rock scaling or lining may be required to ensure tunnel roof stability.

There is significant water intrusion from the side walls and roof, and the drainage ditches do not effectively carry the water away from the track. At the tunnel entrances and exits, narrow rock cuts likewise experience side hill water intrusion and track-side drainage is poor with water intruding into the ballast section.

The tunnels are all located south of Aurora {

}⁵⁷ It is likely that this increased tonnage involving heavier axle

loads will aggravate latent failures in the tunnel arches and hasten the deterioration of track in the tunnels and the wet tunnel approaches.

Based on my tunnel-related engineering experience, I believe it is reasonable to assume that 5% of the 12,775 feet of tunnel is likely to require some combination of lining, rock bolting,

⁵⁴ Mr. Crouch does not mention or discuss tunnels in his verified statement.

⁵⁵ {

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⁵⁶ See *supra* Table 1.

⁵⁷ When coal was last carried through the tunnels in 1989, it was common practice to use 263,000-pound cars and 110-car trains.

and scaling {

}⁵⁸

6. Vegetation Control And Drainage Ditch Restoration

Substantial segments of track on the southern 200 miles of the proposed reroute are overgrown with brush and weeds. These segments are heavily shaded from the sun and tend to stay wet, reducing track stability. {

} While such conditions may be tolerable for light density train operations, they simply cannot be tolerated on main-line track.

{ } and there is standing water near the track in many locations, particularly in the water grade segment where there is little slope to carry water away. Despite this, Mr. Crouch observes that “[d]itches...appear[] to be well maintained.” Crouch Opening VS at 11.⁵⁹ To accommodate main-line operations involving significant numbers of loaded unit coal trains, however, drainage would need to be restored to ensure the consistent movement of water away from the track. Based on my inspection of the line, a one-time ditch cleaning and vegetation removal project is required to ensure a dry, well-

⁵⁸ {

}

⁵⁹ Messrs. Heavin and Brookings do not mention or discuss drainage ditches in their verified statement.

drained subgrade south of Lamar. Assuming 25% of the line needs some kind of ditching, {

}

7. Summary

As discussed above, the M&NA lines between Lamar or Aurora and Independence would require a significant amount of catch-up and ongoing maintenance to enable them to provide safe and reliable service for significant numbers of loaded unit coal trains. Despite this, Messrs. Crouch, Heavin, and Brookings suggest that no work, or only minimal work, would be required prior to initiating substantial unit coal train operations on the lines in question. In reaching their conclusions, they have failed to consider many of the risks I have outlined, actions that should be taken to mitigate those risks, and the costs associated with such actions.

While not all of the items I have discussed may be required to run, for example, the first 200,000 tons of coal along the proposed routes to Independence, they must be considered in determining the relative efficiency of the various routes. To accommodate significant loaded unit coal train operations over the proposed reroutes would require a total repurposing of the lines in question. For more than two decades, the M&NA lines between Lamar and Aurora and Independence have been handling traffic that is very different from the loaded unit coal train operations contemplated by Entergy. If loaded unit coal trains are to operate over the lines, an entirely new set of requirements will be placed on them, necessitating an entirely new and different cost structure.

V. COSTS OF NEW INTERCHANGE TRACK AT LAMAR AND/OR AURORA

There is no dispute about the fact that in order to accommodate the loaded unit coal train operations in the volumes contemplated by Entergy, new BNSF-M&NA interchange facilities

would need to be constructed at Lamar and/or Aurora. Specifically acknowledging this point, Mr. Crouch includes proposals to construct new interchange connections at Lamar and/or Aurora in his verified statement. *See* Crouch Opening VS at 18-21.⁶⁰ However, Entergy’s interchange construction cost estimates—\$2.5 million for Lamar and \$2.8 million for Aurora—once again seriously underestimate the cost of preparing the lines in question for the transportation of significant new volumes of coal.

To develop a realistic estimate of the costs to construct new BNSF-M&NA interchange facilities in Lamar and Aurora, I reviewed the designs proposed by Mr. Crouch, consulted with UP expert witnesses David R. Wheeler and Robert J. Plum (who describe operating conditions at Lamar and Aurora and the operational shortcomings of Mr. Crouch’s designs in their verified statement), and supervised UP engineering personnel who visited Lamar and Aurora with the specific objective of evaluating Mr. Crouch’s designs and estimating the costs for adequate interchange facilities based on standard Union Pacific estimating practices.

A. Lamar⁶¹

I estimate that it would cost approximately \$8.5 million to construct new interchange facilities at Lamar that would be adequate to accommodate the interchange of { }

⁶⁰ While AECC’s expert witnesses do not specifically address the construction of new interchange facilities, they acknowledge the need for interchange track that provides “the ability to stage trains in the clear of both railroads for crew changes and trains meets.” Heavin & Brookings Opening VS at 8. As discussed in greater detail in the accompanying verified statement of David R. Wheeler and Robert J. Plum, such facilities do not currently exist at either Lamar or Aurora.

⁶¹ Included in the workpapers are various photographs of the area surrounding the Lamar interchange area taken during UP’s inspection and a schematic showing UP’s proposed Lamar interchange construction. *See* UP Reply workpaper folder “Lamar Photographs” & UP Reply workpaper “UP Plan Lamar.pdf.” UP’s proposed track is indicated by a green line on the schematic.

tons of coal per year between BNSF and M&NA.⁶² The cost difference between my estimate and Entergy's estimate stems largely from several significant flaws in the design proposed by Mr. Crouch.⁶³

First, Mr. Crouch's estimate is premised on an unworkable track design. As Messrs. Wheeler and Plum explain in their verified statement, Entergy's proposal would leave loaded and empty unit coal trains blocking a public grade crossing in Lamar (at 21st Street) for extended periods of time. *See Wheeler & Plum VS at 5-6.* Any new BNSF-M&NA connection at Lamar should be constructed so that loaded and empty trains could be chambered without blocking public grade crossings. This could be accomplished by constructing approximately 4,188 feet of additional track south of the endpoint designated by Entergy—to M&NA milepost 546.99 rather than milepost 547.77. This would also provide sufficient track to chamber a loaded or empty unit coal train between 21st Street and 30th Street, though it would require closing a private crossing between the two streets and require acquisition of additional land.⁶⁴ UP personnel also determined during their site visit that Mr. Crouch's proposal to place the switch from the BNSF mainline to the interchange track to the east of Gulf Street would not be possible due to the

⁶² *See* UP Reply workpaper "Lamar Interchange Costs 1.pdf."

⁶³ It is unclear precisely how much track Entergy proposes to build at Lamar. Exhibit 3 to Mr. Crouch's verified statement suggests that 8,250 feet of new track would be required. Entergy workpapers variously suggest that 8,150 feet of new track, *see* Entergy Opening workpaper "Lamar Interchange.pdf," and 7,928 feet of new track, *see* Entergy Opening workpaper "Interchange Preliminary Cost.xls." tab "Lamar," would be required. Mr. Crouch apparently did not conduct a detailed enough inspection to identify the end points of the proposed interchange track. *See* UP Reply workpaper "April 16 Email From Kolesar To Rosenthal.pdf."

⁶⁴ UP's design would require the switch connecting the interchange track and the M&NA mainline to be located north of 30th Street, but there would be room between 21st Street and 30th Street to chamber a unit train without blocking either street.

track's curvature, so UP's design reflects that the switch would be placed to the west of Gulf Street.⁶⁵

Second, Mr. Crouch overlooked the costs of two bridges—a 76-foot bridge located at M&NA milepost 548.3 and a 50-foot bridge located at M&NA milepost 548.1—that would have to be rebuilt to accommodate the new interchange track. My workpapers include photographs of these two bridges.⁶⁶

Third, UP's design includes the costs of powered switches and the costs of signal work—cost items that are not included in Mr. Crouch's estimate. Messrs. Wheeler and Plum explain that the connecting track should be equipped with powered switches to prevent Entergy's trains from blocking main-line tracks—especially BNSF's mainline through Lamar—for the length of time it would take to stop the train, operate the switches manually, restart the train, and pull clear of the BNSF main track. *See id.* at 6 n.7.

Fourth, Mr. Crouch's estimate does not provide for signaling at street crossings. Because signaling at street crossings is commonly required when a second track is added through a grade crossing, my estimate provides for the installation of a signaling system at both the 21st Street crossing and the 30th Street crossing.

My estimate includes items that Mr. Crouch apparently failed to consider, including estimated costs associated with equipment rental, environmental permitting, and wetland

⁶⁵ Constructing an interchange track at Lamar would also require BNSF and M&NA to remove existing industry track that was used to serve a currently-vacant industrial facility located in the southwest quadrant of the crossing. However, in my cost estimates, I did not include the costs of compensating the landowner for the loss of rail access. The industrial facility can be seen in the photographs of the Lamar site that are included in my workpapers. *See* UP Reply workpaper folder "Lamar Photographs."

⁶⁶ *See* UP Reply workpaper "Lamar Bridge Photographs.pdf."

mitigation (based on conditions that I observed during my October 2009 inspection and those more recently observed by UP engineering personnel). Taken together all of the items described above—along with the accompanying increases in engineering, contingency, and mobilization costs based on a straight percentage—account for approximately two-thirds of the difference between the parties’ Lamar interchange construction estimates. The remaining difference is largely associated with the excessively low unit costs estimated by Mr. Crouch.

In addition, I estimate that it would cost approximately \$11.5 million to construct new interchange facilities at Lamar that are adequate to accommodate the interchange of 6.5 million tons of coal per year between BNSF and M&NA.⁶⁷ The bulk of this increase results from the need to construct an additional 8,000-foot staging track, adjacent to the proposed new connecting track and extending between 21st Street and 30th Street so as not to block any public crossings.⁶⁸ As explained by Messrs. Wheeler and Plum, Mr. Crouch’s suggestion that a single connecting track at Lamar could efficiently accommodate the higher coal volumes contemplated by Entergy is simply incorrect. *See id.* at 7 n.10.

B. Aurora⁶⁹

I estimate that it would cost approximately \$6.3 million to construct new interchange facilities at Aurora that would be adequate to accommodate the interchange of { }

⁶⁷ See UP Reply workpaper “Lamar Interchange Costs 2.pdf.”

⁶⁸ This additional staging track is indicated by a purple line on the interchange schematic. See UP Reply workpaper “UP Plan Lamar.pdf.”

⁶⁹ Included in the workpapers are various photographs of the area surrounding the Aurora interchange area taken during UP’s inspection and a schematic showing UP’s proposed Aurora interchange construction. See UP Reply workpaper folder “Aurora Photographs” & UP Reply workpaper “UP Plan Aurora.pdf.” UP’s proposed track is indicated by a green line on the schematic.

tons of coal per year between BNSF and M&NA.⁷⁰ Once again, the cost difference between my estimate and Entergy's stems largely from a handful of specific factors, many of which are similar to the issues identified above regarding Mr. Crouch's design for the interchange at Lamar.

Mr. Crouch's estimate is again premised on an unworkable assumption regarding the placement of new track.⁷¹ As Messrs. Wheeler and Plum explain in their verified statement, any new BNSF-M&NA connection at Aurora should be constructed so that loaded and empty trains could be chambered without blocking public grade crossings, including Old Highway 60.⁷² *See id.* at 8. This could be accomplished at Aurora by moving the switch from the BNSF mainline to the west to BNSF milepost 266.5 and constructing approximately 1,531 feet of additional track to the south of the endpoint designated by Entergy (to M&NA milepost 485.8).⁷³ And again, my estimate provides for equipping the connecting track with powered switches and signals. Additional cost items covered by my estimate for Aurora but omitted by Mr. Crouch's estimate include necessary concrete pier protection to support the overpass where the track passes under new Highway 60 and wetland mitigation.

⁷⁰ See UP Reply workpaper "Aurora Interchange Costs 1.pdf."

⁷¹ Again, it is unclear precisely how much track Entergy proposes to build at Aurora. Exhibit 4 to Mr. Crouch's verified statement suggests that 8,250 feet of new track would be required, while Entergy workpapers suggest that only 7,928 feet of new track would be required. *See* Entergy Opening workpaper "Interchange Preliminary Cost.xls," tab "Aurora."

⁷² Old Highway does not appear in the track diagram prepared by Mr. Crouch. Old Highway 60 is alternatively referred to as Farm Road 2207.

⁷³ Under this configuration, loaded and empty trains would still have to cross Old Highway 60, but they would not have to stop on this thoroughfare. UP's plan does not merely add track to Mr. Crouch's proposed design—UP moves the switch from the BNSF mainline to the interchange track to the west, towards the crossing at Old Highway 60, because there is no need for the additional interchange track to the east of Old Highway 60.

In addition, I estimate that it would cost approximately \$10.3 million to construct new interchange facilities at Aurora that are adequate to accommodate the interchange of 6.5 million tons of coal per year between BNSF and M&NA.⁷⁴ The bulk of this increase results from the need to construct an additional 8,000-foot staging track, adjacent to the proposed new connecting track but starting further south on the M&NA portion of the connecting track and extending further south.⁷⁵ Such a configuration would be necessitated by the fact that a second interchange track would not fit under the Highway 60 overpass as it is currently constructed. Another significant portion of this increase results from the need to rebuild a bridge at the southern tip of the line to accommodate the second track.⁷⁶ As explained by Messrs. Wheeler and Plum, Mr. Crouch's suggestion that a single connecting track at Aurora could efficiently accommodate the higher coal volumes contemplated by Entergy is simply incorrect. *See id.* at 9 n.16.

⁷⁴ See UP Reply workpaper "Aurora Interchange Costs 2.pdf."

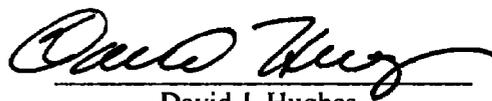
⁷⁵ This additional staging track is indicated by a purple line on the interchange schematic. See UP Reply workpaper "UP Plan Aurora.pdf."

⁷⁶ See UP Reply workpaper folder "Aurora Photographs."

VERIFICATION

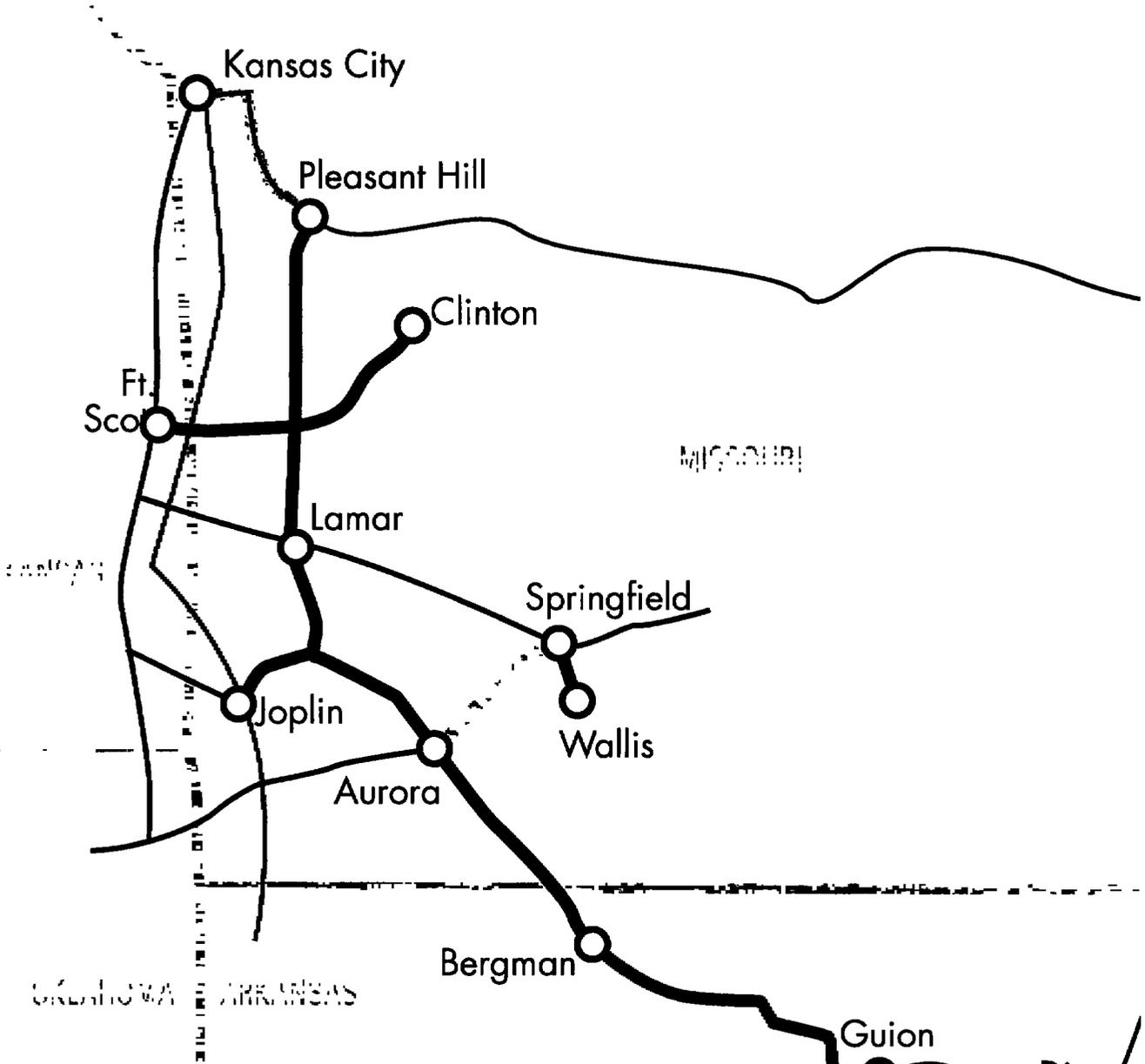
I declare under penalty of perjury that the foregoing statement is true and correct to the best of my knowledge, belief, and information. Further, I certify that I am qualified and authorized to file this statement.

Executed on June 3, 2010


David J. Hughes

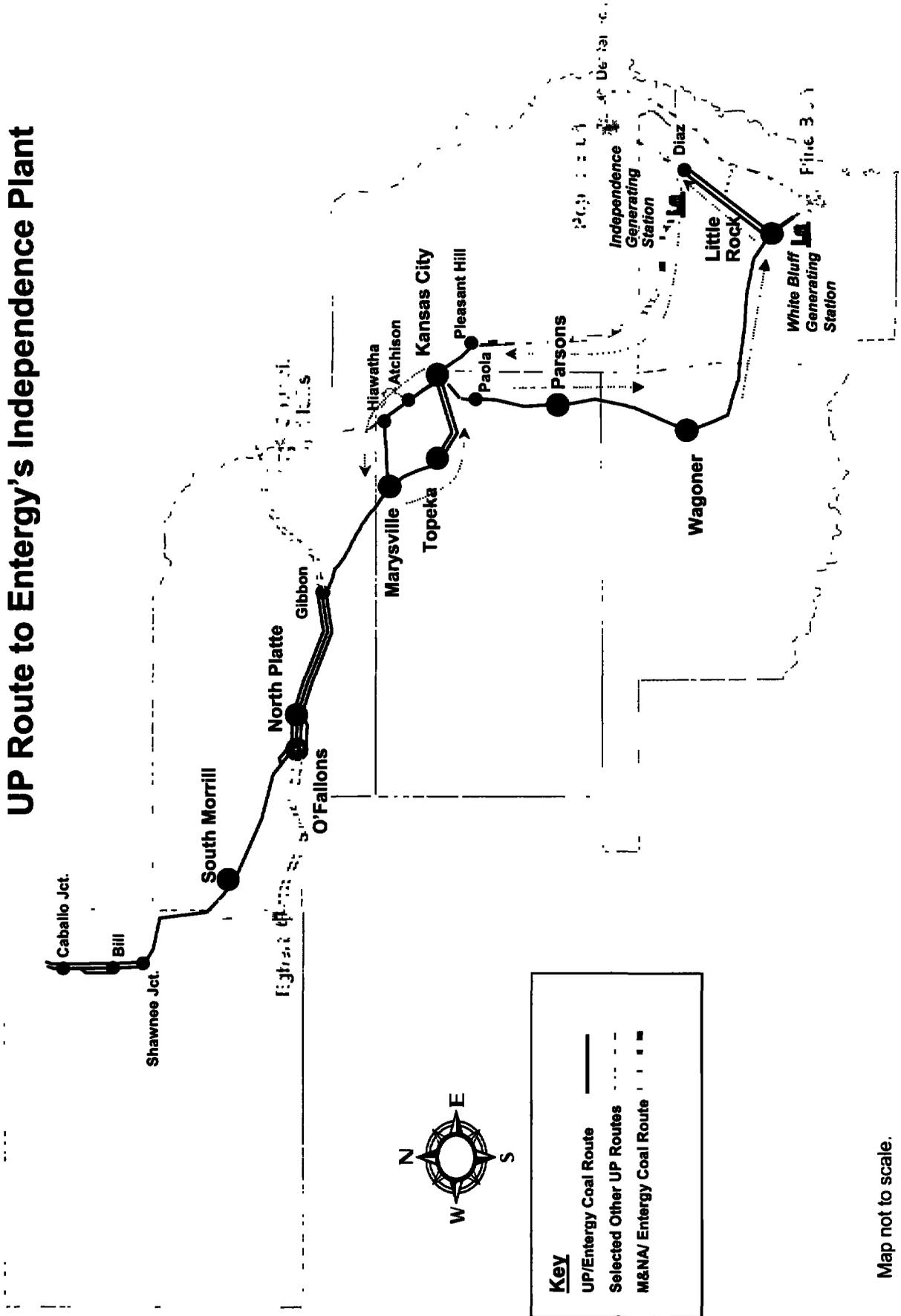
REDACTED

M&NA Lines



	Leased Track
	Sold Track
	UPRR Granted Trackage Rights
	Trackage Rights on Other RR
	BNSF
	KCS
	Other UPRR Tracks

UP Route to Entergy's Independence Plant



Key

- UP/Entergy Coal Route ———
- Selected Other UP Routes - - - - -
- M&NA/ Entergy Coal Route

Map not to scale.

REDACTED

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BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

FILED

IN THE MATTER OF AN INVESTIGATION)
INTO ENTERGY ARKANSAS, INC.'S)
INTERIM REVISION TO ITS ENERGY)
COST RECOVERY RIDER)

DOCKET NO. 05-116-U

REBUTTAL TESTIMONY

OF

THOMAS D. CROWLEY

PRESIDENT

L. E. PEABODY & ASSOCIATES, INC.

ON BEHALF OF

ENTERGY ARKANSAS, INC.

MARCH 15, 2006

7
1

1 I. **BACKGROUND AND INTRODUCTION**

2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3 A. My name is Thomas D. Crowley. My business address is 1501 Duke
4 Street, Suite 200, Alexandria, VA 22314-3449.

5

6 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

7 A. I am an economist and President of L. E. Peabody & Associates, Inc., an
8 economic consulting firm that specializes in fuel procurement, fuel
9 management and fuel transportation matters.

10

11 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
12 PROFESSIONAL WORK EXPERIENCE.

13 A. I have approximately 35 years of experience advising clients, including
14 electric utility companies, on a wide variety of issues, including economic,
15 marketing, transportation, fuel supply and fuel management problems. I
16 have been involved in the negotiation of over 100 coal transportation
17 agreements, as well as provided consultation relating to the administration
18 of economic, operational, and logistical aspects of these agreements. In
19 the course of performing these duties, I have obtained an intimate
20 familiarity with the major western railroads, The BNSF Railway Company
21 ("BNSF") and Union Pacific Railroad Company ("UP") (collectively the
22 "Railroads"). This familiarity includes detailed knowledge of railroad
23 operations in the principal coal supply regions they serve, including the

1 A. Yes. I have advised EAI on certain matters under those Agreements over
2 the years, such as operation of rail rate adjustment procedures, equipment
3 issues, and rail costing analyses. I also served as an expert witness on
4 rail transportation matters and EAI's damages in connection with its
5 litigation against the UP relating to delivery shortfalls in connection with
6 UP's 1997-1998 service crisis related to its merger with the Southern
7 Pacific Railroad. In connection with that function, I also reviewed and
8 advised EAI concerning the current transportation agreement with UP
9 (UP-C-37743), which was a part of the settlement of the service litigation.

10

11 Q. WERE THE INCREASED CYCLE TIMES AND SHORTAGE OF
12 RAILCARS DURING MID-2004 AND 2005 DESCRIBED BY MR. MOHL
13 UNIQUE TO EAI?

14 A. No. Based on my extensive work with PRB coal shippers, I know that
15 nearly all PRB supplied utilities also have been adversely affected by
16 BNSF's and UP's poor service. The Railroads' poor service is a result, in
17 part, of shortages of rail cars, locomotives and crews – which has
18 contributed to the increases in cycle times and under-delivery of declared
19 tonnages for PRB coal shippers. In the course of my work, I have
20 reviewed Federal Energy Regulatory Commission and Securities and
21 Exchange Commission filings, press releases by various utilities and trade
22 press articles that demonstrate that increased cycle times and reduced
23 delivery volumes is a widespread problem for PRB coal burning utilities.

1 Through these public sources, I am aware of 20 different utilities reporting
2 problems similar to those experienced by EAI. A list of these utilities is
3 attached to my testimony at EAI EXHIBIT TDC-2.

4

5 Q. ARE THE TONNAGE SHORTFALLS EXPERIENCED BY EAI UNDER ITS
6 RAIL TRANSPORTATION AGREEMENT UNIQUE?

7 A. No. As stated above this is an industry wide problem. Of those utilities
8 reporting delivery shortfalls, the amount of the shortfall appears to be
9 similar across all of the utilities, i.e., like EAI, other utilities are receiving
10 only 80 to 85 percent of their declared volumes.

11

12 Q. HOW WOULD YOU DESCRIBE THE CAUSE OF THE REDUCTIONS IN
13 DELIVERIES OF POWDER RIVER BASIN COAL BEGINNING IN
14 MAY 2005?

15 A. The Railroads have cited a number of factors as the cause for the
16 reductions in deliveries of PRB coal. In addition to the causes identified in
17 Mr. Mohl's testimony, i.e., the *force majeure* event relating to the
18 derailment and weather event that caused the fouling of the ballast on a
19 substantial portion of UP's coal route, the Railroads have claimed that the
20 impact of these events was exacerbated by increased demand for PRB
21 coal.

22

REDACTED

REDACTED

REDACTED

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