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March 14, 2025

VIA E-FILING

Cynthia T. Brown
Chief, Section of Administration
Surface Transportation Board
Office of Proceedings
395 E Street, SW
Washington, DC 20423

**Re: STB Docket No. FD 22218, Atchison, Topeka & Santa Fe Railway
Co.—Operating Rights—Southern Pacific Transportation Co.**

Dear Ms. Brown:

Enclosed for e-filing in the above-referenced proceeding is a public version of BNSF Railway Company's Reply Statement and Evidence, with appropriate redactions that the Board can place in its docket. We are concurrently filing a highly confidential version of the Reply Statement and Evidence to be filed under seal.

Please contact me with any questions.

Respectfully submitted,

/s/ Peter W. Denton

Peter W. Denton
Attorneys for BNSF Railway Company

cc: All parties of record

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 22218

ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY
—OPERATING RIGHTS—
SOUTHERN PACIFIC TRANSPORTATION CO.

**BNSF RAILWAY COMPANY'S
REPLY STATEMENT AND EVIDENCE**

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Dated: March 14, 2025

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Verified Statements

- Reply Verified Statement of Michael R. Baranowski and Nathan S. Zebrowski, Senior Managing Directors at FTI Consulting

1. Background and Summary

In 2022, the year before UP¹ terminated the parties' 1993 Joint Stipulation and Agreement and began this proceeding, BNSF paid UP { [REDACTED] } in interest rental payments to use the Kern-Mojave Line. In UP's Opening Statement, filed simultaneously with BNSF's Opening Statement on May 3, 2024, UP claimed that the interest rental amount paid by BNSF had become "inequitable" and has led to UP "subsidizing" BNSF's operations over the Kern-Mojave Line. UP proposed that BNSF pay { [REDACTED] } per year as of 2023.

Rather than negotiate a new rate, as BNSF and UP usually do for trackage rights arrangements, UP asked the STB to intervene and reset the interest rental component, using the Board's *SSW Compensation* methodology. BNSF and UP both proposed on opening that the STB use the "capitalized earnings" ("CE") approach to determine the value of the Line and, therefore, establish an interest rental base.

Using the CE methodology and established Board precedent, BNSF calculated that the annual interest rental payment for its use of the Line should now be { [REDACTED] } per year as of 2023. In contrast, UP concluded, using flawed methodology and assumptions, that BNSF should pay interest rental payments of approximately { [REDACTED] } per year as of 2023.² On its face, there is a wide gulf

¹ Unless otherwise defined in this Reply Statement, the acronyms and defined terms used in this filing are the same as those used by the Board in its decision served on May 15, 2023 in this proceeding, or in BNSF's Opening Statement, filed on May 3, 2024.

² UP proposed an interest rental payment of \$1.62 per car mile for 2023. (UP Opening Statement, Opening V.S. Mathur 65, May 3, 2024.) Messrs. Baranowski and Zebrowski applied the \$1.62 per car mile rate to the average BNSF car miles on the Line for 2021 and 2022, because 2023 car mile data is not in the record of this proceeding. Under this calculation, the 2023 interest rental payment would be approximately { [REDACTED] }.

between UP's proposal and both the prior arrangement and BNSF's proposal. UP's CE-based interest rental proposal is approximately **22 times more** than BNSF's current proposal and **36 times more** than BNSF paid under the prior agreement. Moreover, UP's proposal improperly triple-counts inflation, so the gaps between the parties' proposals would continue to widen in future years.

UP characterizes its interest rental proposal as consistent with *SSW Compensation* precedent and as the neutral result of an unbiased mathematical application of the CE methodology conducted by UP's expert witness, Dr. Divya Mathur. But BNSF's expert witnesses, Michael R. Baranowski and Nathan S. Zebrowski, explain in their Reply Verified Statement that UP's proposal results from a self-serving and flawed application of the CE methodology. UP made numerous errors in applying the CE methodology, including in the calculation of base annual earnings attributable to the Kern-Mojave Line, the relevant earnings multiplier, and the interest rental rate and share terms. Additionally, UP failed to account for the 125-year history of the parties' joint use of the Kern-Mojave Line. BNSF's proposal more accurately comports to the Board's precedent.

Just as importantly, Messrs. Baranowski and Zebrowski conclude that UP's flawed proposal would cause a competitive imbalance and result in BNSF subsidizing UP. This would be inconsistent with the public interest standard that the Board must meet when authorizing or otherwise setting trackage rights arrangements.

Under UP's proposal, UP would earn {{ [REDACTED] }} per car mile in rent for a BNSF shipment moving over the Kern-Mojave Line than UP would earn from its own shipments moving over the Line. (Reply V.S. Baranowski & Zebrowski 84.) This would result in an irrational incentive for UP to collect rents from BNSF

rather than move UP's own traffic over the Line. Additionally, under UP's interest rental proposal, the "all-in" trackage rights rate that BNSF pays for use of the Line would be approximately {{ [REDACTED] }} than the "all-in" trackage rights rates for {{ [REDACTED] }} other trackage rights agreements UP has negotiated with BNSF {{ [REDACTED] }} in the past three decades. (*Id.* at 6.)

As described in further detail below, anticompetitive effects could flow from each of these results. The increase could disrupt the competitive balance for traffic over the BNSF and UP I-5 Corridor routes. Additionally, UP's interest rental proposal would upend a well-functioning market for trackage rights compensation amongst railroads and would be inconsistent with federal rail transportation policies. If the Board accepts UP's proposal, the Board will signal that its doors are open for railroads to seek trackage rights compensation windfalls via regulatory intervention. Indeed, many railroads would likely seize the ability to have the federal government increase their trackage rights compensation {{ [REDACTED] }} above the demonstrated market that has developed via private negotiation.

As discussed below and in the Reply Verified Statement of Messrs. Baranowski and Zebrowski, BNSF requests that the Board reject UP's flawed and inequitable proposal and instead accept BNSF's proposal, as modified in limited ways through this Reply Statement and Evidence to address certain issues raised by UP.

2. Argument

2.1. The Board should adopt BNSF's proposal, as UP's proposal is replete with conceptual and implementational errors.

2.1.1. Dr. Mathur incorrectly calculated base annual earnings attributable to the Kern-Mojave Line.

The first step in a CE calculation is to determine line-specific earnings. (*Id.* at 7.) There is considerable alignment between BNSF and UP on how to determine this figure. Both parties identified a very similar set of traffic moving over the Line.³ Both parties agree that the value of the Line should include earnings from BNSF and UP traffic. Both parties agree that BNSF's line-specific earnings should be based on the amount BNSF earns prior to making interest rental payments to UP, which avoids certain of the "circularity" issues identified in the past.⁴ To measure line-specific earnings, both parties use the Board's Average Total Cost ("ATC") procedures to allocate revenues attributable to the Line and the Board's Uniform Railroad Costing System ("URCS") to develop operating expenses attributable to the Line.

Despite these similarities, UP developed line-specific earnings that are significantly higher than BNSF's due to several methodological and technical errors in Dr. Mathur's application of the ATC implementation for UP's CE calculation. These errors lead, in part, to the wildly divergent interest rental rate proposals by the parties.

³ Over {{ [REDACTED] }} of the traffic UP and BNSF identify on the Line for 2021 and 2022 is the same. BNSF also analyzes 2019 and 2020 data, which UP does not.

⁴ In previous *SSW Compensation cases*, including the current proceeding (*see March 1993 Order*), the ICC and the Board have been concerned about "circularity" issues when using the CE methodology. Specifically, the agency cautions that the interest rental payment the landlord currently receives from the tenant should not be counted as the part of the earnings in a CE analysis, since it is this very interest rental amount that is subject to change based on the results of the CE analysis.

First, Dr. Mathur's ATC revenue allocation is irreparably flawed. Dr. Mathur overstated line-specific revenues due to serious flaws when developing the ATC fixed cost component. (*See id.* at 8-10.) Accurate ATC revenue allocations for line-specific earnings require accounting for changes in density across individual "off-line" segments over which "on-line" shipments move. The Board's precedent has long recognized this principle. (*Id.* at 10.) But Dr. Mathur concluded that such a process is "computationally infeasible" and instead used overall average density figures for the entire "off segment" portion derived from a limited and non-representative subset of lanes. Messrs. Baranowski and Zebrowski conclude that "Dr. Mathur's shortcut results in overstated average off-segment densities and vastly understated off-segment fixed costs, leading her to overstate the [Line's] share of total costs." (*Id.*) This leads to a significant overallocation of revenues to the Kern-Mojave Line, which in turn artificially inflates both the Line's capitalized earnings valuation and the interest rental payment amount UP seeks from BNSF. (*See id.*)

Messrs. Baranowski and Zebrowski identify additional reasons why Dr. Mathur's ATC revenue allocation is irreparably flawed. They explain that Dr. Mathur did not properly differentiate between "above-the-wheel" and "below-the-wheel" URCS costs in her ATC calculations. Rather, Dr. Mathur used an approach that creates conceptual gaps that depart from established ATC precedent and introduce distortions without any justification. (*Id.* at 21-22.) Messrs. Baranowski and Zebrowski also establish that Dr. Mathur's URCS variable costs underlying her ATC revenue allocations contain errors related to determining the portion of URCS variable costs to assign to switching activities. (*Id.* at 22-23.) This resulted in Dr. Mathur overstating earnings attributable to the Line and, thus, artificially inflating

the interest rental amount she would have BNSF pay UP. (*Id.* at 23.) Finally, Messrs. Baranowski and Zebrowski explain that Dr. Mathur applied a refinement to ATC made by the Board to address specific SAC-related issues, which is unnecessary in this proceeding. (*Id.* at 24-25.)

Second, Dr. Mathur's estimate of operating expenses attributable to shipments moving over the Line included unnecessary distortions. (*Id.* at 25.) Dr. Mathur's multi-step process created a distortion by allocating expense items proportional to, at least in part, the non-expense item of ROI included in URCS. (*Id.* at 26.) In addition, Dr. Mathur's ATC and operating expense calculations were affected by other costing errors. (*Id.* at 27.) The Board should use the approach proposed by Messrs. Baranowski and Zebrowski instead.

Third, Dr. Mathur failed to account for BNSF's predecessor's unilateral investment that allows double-stacked intermodal containers to move on the Line. (*See id.* at 27-28; Opening V.S. Baranowski & Zebrowski 13.) Because Dr. Mathur did not make the adjustment to reflect ATSF's investment, her calculation of earnings attributable to the Kern-Mojave Line incorrectly includes amounts generated by double-stack intermodal traffic. (Reply V.S. Baranowski & Zebrowski 27-28.) The inclusion of earnings from double-stack intermodal traffic increases the interest rental amount proposed by UP, effectively making BNSF pay multiple times for the same investment—once to improve the tunnels on the Line and again through increased interest rental payments.

Fourth, Dr. Mathur did not correctly address the issue of circularity when determining earnings attributable to the Line. Dr. Mathur incorrectly assumed that all of the earnings BNSF generates from the Kern-Mojave Line should be included in the rent BNSF pays to UP. (*Id.* at 28-30.) As Dr. Mathur recognizes elsewhere, a

portion of railroad earnings are properly allocated to non-roadway assets. Messrs. Baranowski and Zebrowski explain that a proper solution to “this circularity” issue should recognize that BNSF’s predecessor ATSF would have had no incentive to agree to establishing a joint facility with SP over 125 years ago if ATSF had no prospect of retaining any earnings it generated from the Line. Accordingly, only a portion of BNSF’s earnings should be assigned to UP’s ownership rights of the Kern-Mojave roadway assets. (*Id.* at 30.)

Because of these flaws, Dr. Mathur’s estimate of base annual earnings attributable to the Kern-Mojave Line is significantly inflated. Her proposal violates long-established protocols under the Board’s ATC methodology. Several of UP’s technical flaws are so pervasive, such as the issues with how Dr. Mathur calculated the segment densities for the ATC implementation, that the Board should reject UP’s line-specific earnings calculations. BNSF’s approach adheres to the Board’s ATC precedent, and therefore, the Board should use BNSF’s ATC implementation and associated determination of line-specific earnings.

2.1.2. Dr. Mathur’s earnings multiplier figure is flawed.

Once the base annual line-specific earnings are developed (step 1), the next step in a CE valuation is to convert these earnings into a total valuation amount by developing and applying an earnings multiplier (step 2).⁵ (*Id.* at 31-32.)

The parties’ approaches for determining a multiplier differ considerably. As Messrs. Baranowski and Zebrowski explain, Dr. Mathur’s approach for developing an earnings multiplier looks at the relationship between UP’s system-wide annual

⁵ An earnings multiplier converts the line-specific earnings for a base year into a total valuation of the Line. The multiplier is used to extend the base year amount into perpetuity and determines the net present value of the future amounts to calculate the total valuation of the Line.

earnings and a portion of UP's total enterprise value Dr. Mathur claims is attributable to roadway property. (*Id.* at 32.) However, since neither UP nor BNSF have been purchased recently, the required inputs to develop a reliable enterprise valuation-based multiplier consistent with *SSW Compensation* precedent are not available in this case. (*Id.* at 32-33.) On the other hand, BNSF uses the STB's nominal pre-tax cost of capital to calculate an earnings multiplier. This is consistent with other *SSW Compensation* proceedings where information for developing an earnings multiplier under other approaches was not available. (*See id.* at 33.)

Dr. Mathur's approach to developing a valuation-based earnings multiplier is flawed for several reasons. First, Dr. Mathur erred by applying a multiplier based on investor's expectations for UP's earning growth to BNSF's shipments.⁶ (*Id.* at 34-35.) BNSF and UP have different customer bases transporting different mixes of commodity types in different service types. (*Id.* at 34.) And, overall, BNSF's system-wide traffic generates lower profit margins than UP's. These elements make UP's multiplier a poor proxy for BNSF's and UP's traffic moving over the Kern-Mojave Line. (*Id.* at 35.)

Second, Dr. Mathur's use of a UP system-wide earnings multiplier is not representative of UP's or BNSF's shipments moving over the Line. (*Id.* at 36-37.) Both BNSF's and UP's traffic over the Line {{ [REDACTED] }} towards intermodal traffic. Intermodal traffic faces head-to-head competition with trucks that creates vastly different market dynamics than many lines of carload business that influences relative earning trajectories. (*Id.*) Additionally, Dr. Mathur's advocacy of using an earnings multiplier based on UP's system-wide

⁶ BNSF's multiplier cannot be developed under Dr. Mathur's novel methodology (which requires a stock price) because BNSF is privately held (and thus does not have a stock price).

expectations of future growth conflicts with UP's stated position that the Line is at capacity. (*Id.* at 37.)

Third, Dr. Mathur lacks the purchase price and purchase price allocation study required to develop a meaningful valuation-based earnings multiplier consistent with past *SSW Compensation* applications. (*Id.* at 38.) Because UP has not been bought or sold in recent history, there is neither a purchase price nor a purchase accounting study available to provide the market value of UP's road property assets. (*Id.*) Past *SSW Compensation* cases have required this information when developing an earnings multiplier in the fashion Dr. Mathur attempts. Lacking the required inputs, Dr. Mathur instead uses arbitrary and incorrect assumptions. She arbitrarily bases UP's market value on its stock price as of a given date. (*Id.* at 38-39.) Additionally, Dr. Mathur's stock price-based multiplier unfairly makes BNSF pay now for earnings growth UP may not realize in the future. (*Id.* at 40-41.)

Messrs. Baranowski and Zebrowski further explain that Dr. Mathur's use of relative net book value rather than a purchase price accounting study to allocate a portion of her flawed valuation of UP to road property is unsupported and contrary to *SSW Compensation* precedent. (*Id.* at 41-44.) Prior *SSW Compensation* cases have rejected use of net book value to allocate a portion of a current market valuation to road property. (*See id.* at 42.) In addition to being arbitrary, Dr. Mathur's approach incorrectly assumes that all of UP's market value is tied to either road property or equipment assets. (*Id.* at 44-45.) Recent rail transactions confirm that this assumption is false.⁷

⁷ Specifically, Berkshire's acquisition of BNSF in 2010 and CP's acquisition of KCS in 2021. (*See Reply V.S. Baranowski & Zebrowski 44.*)

Messrs. Baranowski and Zebrowski also explain that UP's intangibles valuations further confirm that Dr. Mathur errs by allocating her entire valuation to real property. (*Id.* at 46-48.) Dr. Mathur's approach fails to recognize that a portion of the earnings generated by the railroad assets are attributable to assets other than road property and equipment and may include other assets such as internally generated and/or acquired intangible assets. (*Id.* at 46.) Messrs. Baranowski and Zebrowski discuss two recent court proceedings that demonstrate that UP considers its intangible assets to be a material portion of its total enterprise valuation. (*Id.* at 47-48.)

Fourth, Dr. Mathur's arguments backing her multiplier actually support use of an earnings multiplier derived from the STB's nominal pre-tax cost of capital. (*See id.* at 48-52.) The prospective earnings growth levels embedded in her multiplier are well above the historical earnings growth trends she herself cites. Dr. Mathur does not explain why it is reasonable to lock in prospective earnings growth expectations that are well above historical trends. This is particularly problematic because, according to UP, the Kern-Mojave Line is capacity constrained. This may limit the potential for future earnings growth. Messrs. Baranowski and Zebrowski explain that if it is deemed necessary to account for future earnings growth, the appropriate way to do so is via annual adjustments to the interest rental payment based on changes in the CPI, since UP's and BNSF's earnings have tracked closely with inflation in recent history. (*See id.* at 51-52.)

Because of the serious flaws identified with UP's earnings multiplier calculation, the Board should use BNSF's approach to determine the earnings multiplier. This consists of using an earnings multiplier derived from the STB's 2019 to 2022 nominal pre-tax cost of capital figure and applying annual inflation

adjustments on a going-forward basis if deemed necessary—an approach that is consistent with STB precedent. (*See id.* at 51.)

2.1.3. The interest rental rate used by Dr. Mathur is flawed.

The line-specific earnings and the earnings multiplier together determine the interest rental valuation base. The third step in a CE calculation is to determine the total annual interest rental amount by multiplying the interest rental valuation base by an interest rental rate. Again, the approaches used by the parties here to determine an interest rental rate differ considerably. This has played a large part in the vastly different interest rental rate proposals from the parties. BNSF proposes that the 30-year treasury rate—approximately 4 percent—should be used as the interest rental rate. (*See* Opening V.S. Baranowski & Zebrowski 30; Reply V.S. Baranowski & Zebrowski 62.) BNSF’s approach is consistent with the parties’ historic practices for determining the interest rental rate. The parties’ 1899 and 1912 agreements, as well as the ICC’s *1967 Order*, set interest rental rates that were aligned with the then-prevailing interest rates. (*See* Reply V.S. Baranowski & Zebrowski 62.)

UP, on the other hand, argues that the STB’s nominal pre-tax cost of capital—approximately 14 percent in 2021 and 2022—should be used as the interest rental rate. (*See* Opening V.S. Mathur 62-63.) UP adjusted the pre-tax cost of capital figure to account for California state income taxes. (*See id.*) UP stated that its adjusted pre-tax cost of capital figure represents the return UP would need to earn to justify committing capital to the Kern-Mojave Line for BNSF use. (*Id.* at 30.)

This argument is misplaced, since BNSF has and will continue to provide much of the capital funding for the Line. (*See* Reply V.S. Baranowski & Zebrowski

56-57.) UP's reliance on *SSW Compensation* cases as support is also misplaced, since none of these cases addressed the facts and circumstances relevant here. The use of the Board's nominal pre-tax cost of capital as the interest rental rate is thus inconsistent with the parties' practices and the Board's precedent in the prior proceedings regarding compensation for the Kern-Mojave Line. (*See Reply V.S. Baranowski & Zebrowski* 52-53.)

Messrs. Baranowski and Zebrowski conclude that the interest rental rate used by Dr. Mathur is flawed for multiple reasons. (*See id.* at 52-67.)

First, UP's interest rental rate proposal fails to account for the Line's history. The ICC rejected SP's proposal to use the cost of capital figure as the interest rental rate in the *1967 Order*. (*Id.* at 53-54.) The ICC noted two critical circumstances in rejecting SP's proposal, each of which remains relevant today: (1) ATSF would have built its own parallel line except that SP offered commercially acceptable terms; and (2) ATSF contributed funds to updating and improving the line on which SP did not incur capital costs. (*Id.* at 54.) These observations led the ICC to conclude that a cost of capital interest rate would wrongly set ATSF's rental payments as though ATSF was a **new tenant** on the joint use Line, rather than reflecting the long history of the parties' shared use of the Line. This history has only deepened over the last half-century since the ICC's decision.

Messrs. Baranowski and Zebrowski further explain the ICC's examination of the special circumstances applicable to the Line. They explain that ATSF may have built its own parallel line if SP did not offer a trackage rights agreement with a one-half interest rental share and that ATSF's option of building its own parallel line influenced the terms established for the Kern-Mojave joint facility. (*See id.* at 54-57.) In particular, they state that ATSF only agreed to forgo constructing its own

line because the interest rental valuation base was based on its own cost of doing so, and, of equal importance, because the interest rental rate and interest rental share affecting its going-forward interest rental payment for the Kern-Mojave Line were commercially agreeable. (*Id.* at 55-56.) They also explain that the option for BNSF to build a parallel line is no longer realistically feasible and has not been for decades, and that ATSF contributed to the development of the Kern-Mojave Line. (*Id.* at 56-57.) Additionally, they discuss the ICC's rejection of SP's proposal to use a cost of capital interest rental rate due to the specific circumstances of the Line. (*Id.* at 60-61.) They note that the 1965 Kern Mojave Hearing Examiner Report, adopted by the ICC, explained that the use of the cost of capital:

[i]s not related to a fair return on an investment already made or upon a line of railroad which was completed in 1876, which has been in operation since that time, which has been used in these joint operations for more than 65 years, and which has been improved and updated as required.

(*See id.* at 60.) the Board should once again reject UP's proposal to use the cost of capital as the interest rental rate and continue to use an interest rental rate aligned with prevailing interest rate levels.

Second, UP's proposal is based on abstract economic principles that do not apply to the circumstances of the Line. Dr. Mathur failed to account for the facts the ICC weighed in reaching its decision to reject the use of the nominal pre-tax cost of capital as an interest rental rate (*Id.* at 61-62.) Over the past 125 years, funding for developing and upgrading the Line was largely provided by way of payments for renewals and replacements shared by SP/UP and ATSF/BNSF relative to usage. It would be unfair to BNSF for UP to earn a cost of capital return on monies that BNSF, not UP, has raised for the Kern-Mojave Line. (*Id.* at 62.)

Third, in trackage rights agreements that UP {{ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] }}

2.1.4. The interest rental share terms used by Dr. Mathur are flawed.

Once the total annual interest rental amount is developed, the next step of a CE calculation is to determine BNSF's annual interest rental payment by multiplying the annual interest rental amount (step 3) by BNSF's share of the interest rental amount (step 4). Historically, the interest rental amount paid by BNSF has reflected that both BNSF and UP share equal access to the line segment, with BNSF paying interest rental on one-half of the line value since the late 1800s. The parties' current approaches to determining the interest rental share differ considerably. BNSF believes that its share of the interest rental amount should remain one-half of the calculated interest rental amount. UP contends that BNSF's share should be based on its relative car-mile usage. (Opening V.S. Mathur 31-32.) The parties' approaches to both the interest rental rate (step 3) and the interest rental share (step 4) significantly contribute to the vast difference between the parties' interest rate proposals.

BNSF's proposal that its share of the interest rental should remain one-half is consistent with the Line's history and the ICC's precedent in this proceeding. (Reply V.S. Baranowski & Zebrowski 66.) Specifically, the parties' 1899 and 1912 agreements and the ICC's *1967 Order* all impose a one-half share arrangement. (See

id. at 62.) This even split of the interest rental payment has been a critical underpinning of the joint use arrangement. (*See id.* at 66.)

UP argues that BNSF's share should be based on BNSF's relative car-mile usage over the Line. (Opening V.S. Mathur 31-32.) This position ignores the unique history of the Line and the precedent set by the ICC in the *Kern-Mojave* proceeding, which supports continued use of a one-half share interest rental. Moreover, UP disregards the fact that BNSF has paid and will continue to pay usage-based maintenance and operation costs over the Line in accordance with the parties' practices for 125 years. (Reply V.S. Baranowski & Zebrowski 66.) These usage-based costs will compensate UP for all of the assets consumed by BNSF at a current value, while also funding the assets required for future revenue generation by both parties. (*Id.*) Therefore, BNSF's interest rental payment does not need to be used to reimburse UP for any capital funding that UP has raised on BNSF's behalf, because BNSF provided this funding through its usage-based maintenance and operation payments.

Additionally, while UP based its proposal that BNSF pay a usage-based share on *SSW Compensation* precedent, these cases dealt with condemnation principles which are simply not applicable to this proceeding. The Board applies condemnation principles in cases where a party's property has been "taken" or condemned by Board action—such as granting terminal trackage rights⁸ or imposing merger conditions.⁹ Here, as previously discussed, SP invited ATSF to use

⁸ *See* 49 U.S.C. § 11102(a) (“[T]he Board may establish conditions and compensation for use of the facilities under the principle controlling compensation in condemnation proceedings.”).

⁹ Many of the *SSW Compensation* cases concern the determination of compensation for trackage rights ordered by the STB (and the ICC) as a condition to its approval of a merger or acquisition, in order to remedy competitive harms.

the Line and ATSF voluntarily agreed based on specific terms between the parties, including that each party would pay a one-half share of the interest rental payment. This principle has held throughout the 125-year history of joint use of the Line. There is no reason for the Board to diverge from that standard now. (*See id.*)

Prior applications of *SSW Compensation* in different circumstances do not justify applying a cost of capital interest rental rate or usage-based share of interest rental to the Line. (*Id.* at 67.) Dr. Mathur fails to acknowledge that no past *SSW Compensation* cases have considered existing or prior interest rental rate or interest rental share provisions or resolved disputes among the parties regarding whether it would be appropriate to override these provisions. (*Id.*)

2.1.5. Dr. Mathur’s proposals regarding inflation and her approach to annually adjust the interest rental payment are flawed.

The annual rental amount BNSF should pay UP is calculated by multiplying the interest rental valuation base of the Line by the interest rental rate and the interest rental share. (*Id.* at 68 n.108.) The parties disagree on how to adjust this annual interest rental amount going forward.

UP’s interest rental compensation proposal is inflated because it counts the effects of inflation three separate times in different stages of Dr. Mathur’s CE calculations, a result that Messrs. Baranowski and Zebrowski describe as “inexplicable.” (*Id.* at 69-70.) First, Dr. Mathur applied an earnings multiplier that already includes inflation and earnings growth. This is because the UP stock price on which her multiplier is based is influenced by expected future earnings, and these future earnings include inflation. Second, Dr. Mathur uses a nominal pre-tax cost of capital as the interest rental rate that includes inflation. Third, Dr. Mathur takes the interest rental payments from her capitalized earnings valuations based

on 2021 and 2022 earnings, which already account for inflation twice, and increases these interest rental payments to so-called 2023 levels by applying a cost-based index. (*Id.*)

Messrs. Baranowski and Zebrowski explain that Dr. Mathur's proposal for a going-forward adjustment is particularly troublesome because it is based on earnings levels which do not change linearly with changes in costs. (*See id.* at 70.) In general, earnings decrease when costs increase. Messrs. Baranowski and Zebrowski conclude that none of Dr. Mathur's approaches for accounting for inflation are sound and adding them together creates an irrational and impermissible double- and triple-count of inflation. (*Id.*)

Moreover, Messrs. Baranowski and Zebrowski explain that adjusting for future earnings growth may not even be necessary. (*See id.* at 70-71.) BNSF already compensates UP for inflation via capital replacement payments under the maintenance and operating component of the existing trackage rights agreement. Also, capacity constraints may limit the prospects of future growth in earnings attributable to the Kern-Mojave Line. If the STB decides that adjustment for future earnings growth is necessary, BNSF proposed that its proposed interest rental amount of { [REDACTED] }¹⁰ should be adjusted annually using changes in the consumer price index ("CPI"). (*Id.* at 71-72.) Use of CPI is appropriate for adjusting the annual interest rental payment under the CE approach, because both UP's and

¹⁰ Messrs. Baranowski and Zebrowski conclude that if a nominal cost of capital interest rental rate is used, as UP proposed, the annual payment should not be adjusted on a going-forward basis. This is because each year a portion of BNSF's interest rental payment would include inflation for that year. This has been recognized in past *SSW Compensation* cases. (*See Reply V.S. Baranowski & Zebrowski* 68-69.)

BNSF's earnings have closely tracked inflationary trends reflected in the CPI over the last decade. (*See id.* at 71.)

2.2. BNSF has made minor adjustments to its proposed interest rental amount in response to UP's analysis.

As Messrs. Baranowski and Zebrowski describe, BNSF has made minor adjustments to its proposed interest rental amount based on a review of UP's analysis, where appropriate. (*See id.* at 72-80.)

To facilitate adjustments for inflation the STB may deem necessary on a going-forward basis, Messrs. Baranowski and Zebrowski have restated BNSF's opening CE calculations, initially performed using 2019-2022 nominal data, at 2023 levels based on changes in the CPI. (*Id.* at 72.)

In the course of reviewing Dr. Mathur's opening submission and comparing it to their own, Messrs. Baranowski & Zebrowski identified certain elements in their CE analysis that required adjustment. First, Messrs. Baranowski and Zebrowski refined BNSF's ATC analysis to better align with the cost sharing terms of the Kern-Mojave Line and to address a conceptual gap raised by UP in discovery. This was achieved by spreading UP's "below-the-wheel" fixed costs between UP and BNSF shipments traversing the Kern-Mojave Line. (*Id.* at 72-75.) Second, Messrs. Baranowski and Zebrowski removed the effects of the "return on investment" ("ROI") component of URCS in the constant cost markup used to derive operating expenses from URCS variable costs. This is appropriate since the URCS variable costs do not include ROI when fully allocated. (*Id.* at 75.) Third, Messrs. Baranowski and Zebrowski refined their density mapping process for UP shipments to improve accuracy. (*Id.* at 76.) Fourth, Messrs. Baranowski and Zebrowski modified the portion of costs in URCS treated as switching costs to properly include intermodal loading and unloading costs. (*Id.* at 77.)

Messrs. Baranowski and Zebrowski also changed certain inputs in their opening calculations to accept elements of Dr. Mathur's analysis with which they agree. (*Id.* at 77-79.) Specifically, Messrs. Baranowski and Zebrowski: (1) added a limited amount of shipments included by Dr. Mathur that were not included in BNSF's opening calculation, and removed a limited amount of shipments not included by Dr. Mathur that were included in BNSF's opening calculations; and (2) updated BNSF's URCS costs for UP to use the same approach as Dr. Mathur for determining which shipments move in railroad-owned cars. (*Id.* at 78-79.)

As a result of these adjustments, Messrs. Baranowski and Zebrowski updated their determination of the appropriate annual interest rental payment to be { [REDACTED] } as of 2023. (*See id.* at 80.)

2.3. Dr. Mathur's assessment of the reasonableness of her interest rental proposal based on BNSF's total earnings from the Line is flawed.

Dr. Mathur asserts that the compensation she developed is reasonable because BNSF's traffic that traverses the Line generates { [REDACTED] } total earnings for BNSF (across all line segments that the traffic traverses, including the Kern-Mojave Line) than the annual { [REDACTED] } rental amount she proposes BNSF pay UP for use of the Kern-Mojave Line. (*Id.* at 82.) However, Messrs. Baranowski and Zebrowski explain that Dr. Mathur's consideration of BNSF's total earnings from shipments that traverse the Line is only meaningful if trackage rights compensation under the *SSW Compensation* methodology were to include earnings beyond those attributable to the Line—which it does not. (*Id.*) Rather, the CE approach requires analysis of the earnings actually attributable to the line, which has been recognized in every case where the CE approach was used under the *SSW Compensation* methodology. (*Id.* at 82.)

Additionally, under Dr. Mathur's proposal, UP would generate {{ [REDACTED] }} from the Kern-Mojave Line by moving BNSF's traffic over the Line instead of moving its own traffic. (*Id.* at 83.) Messrs. Baranowski and Zebrowski demonstrate that Dr. Mathur's proposal would create the irrational incentive where, at least in the context of maximizing profitability of the Line assets, UP would be incentivized to collect rents from BNSF rather than move UP's own traffic over the Line. (*Id.* at 84.) Messrs. Baranowski and Zebrowski further explain that Dr. Mathur's views on relative competitive advantage are unsupported and ignore that her interest rental compensation proposal falls outside market-based trackage rights rates. (*Id.* at 86.) According to Messrs. Baranowski and Zebrowski, a comparison to market-based trackage rights compensation is "the benchmark most relevant to assessing the reasonableness of [Dr. Mathur's] compensation proposal." (*Id.*) Dr. Mathur's proposal would result in a competitive imbalance and in BNSF subsidizing UP, as discussed further below. (*Id.* at 87.)

2.4. If the Board decides to use the RCNLD approach to value the Line, it should apply an adjustment for economic obsolescence.

As explained in the parties' Opening Statements, the Board should use the CE method to determine the interest rental amount that BNSF should pay to UP for use of the Kern-Mojave Line. However, both parties also suggested that, if the Board chooses to use a different *SSW Compensation* methodology, it should select the Replacement Cost New Less Depreciation (RCNLD) approach, with adjustments to account for unique circumstances on the Line. (*See* Opening V.S. Baranowski & Zebrowski 21-28.)

UP's proposed valuation based on RCNLD was overall similar to BNSF's proposed valuation. (*See* Reply V.S. Baranowski & Zebrowski 90.) If the Board decides to use the RCNLD approach, rather than the CE approach, BNSF continues

to believe that an adjustment for “economic obsolescence” is required, regardless of whether the Board accepts UP’s or BNSF’s valuation of the Line. (*See* Opening V.S. Baranowski & Zebrowski 21-28; Reply V.S. Baranowski & Zebrowski 90-93.)¹¹ Messrs. Baranowski & Zebrowski updated the calculation of their economic obsolescence adjustment based on the minor adjustments made to BNSF’s CE valuation, described above. (Reply V.S. Baranowski & Zebrowski 92-93.)

2.5. UP’s flawed proposal is inconsistent with the applicable public interest standard, as it would cause a competitive imbalance and result in BNSF subsidizing UP.

As discussed in BNSF’s Opening Statement, the Board’s authority to prescribe trackage rights fees is governed by a public interest standard set forth at 49 U.S.C. § 11324(d). (*See* BNSF Opening Statement 10-11.) The “primary focus” of this standard “is on the anticipated competitive effects.” (*Id.* at 11.) UP has not established that its proposal is consistent with this public interest standard.¹²

Indeed, Messrs. Baranowski and Zebrowski identify two elements in UP’s proposal which could reduce competition between UP and BNSF for shipments moving over the Kern-Mojave Line. First, UP would have less economic incentive to compete with BNSF for traffic over the Line, as described below. (Reply V.S. Baranowski & Zebrowski 85.) Second, in order to use an essential element of BNSF’s network, BNSF would be forced to pay its competitor UP { [REDACTED] } than either the prior arrangement for this Line or any other trackage rights

¹¹ Economic obsolescence refers to adjusting an asset’s cost-based value downward if it generates less value than what it cost to provide that asset.

¹² The analysis Dr. Mathur performs purporting to show UP’s proposed interest rental compensation is reasonable is flawed. This analysis considers BNSF’s total end-to-end earnings from shipments moving over the Kern-Mojave Line. Under the CE approach, only line-specific earnings are relevant to determining a reasonable rental amount. (*See id.* at 82-83.)

arrangement between the parties. (*See id.* at 87-88.) UP's flawed proposal would cause a competitive imbalance and result in BNSF subsidizing UP—exactly the opposite of the scenario that UP claims to have suffered from under the prior arrangement. (*See id.* at 86-87.) The likelihood of such anticompetitive effects is directly relevant to the Board's public interest inquiry under Section 11324(d).

The inequitable level of UP's interest rental proposal becomes clear when comparing UP's proposed interest rental payment both to UP's own earnings on the Kern-Mojave Line and to other market-based trackage rights rates. Under UP's proposal, UP would earn {{ [REDACTED] }} per car mile in rent for a BNSF shipment moving over the Kern-Mojave Line than UP would earn from its own shipments moving over the Line. (*Id.* at 84.) In order to maximize profitability of the Kern-Mojave Line, UP would have more incentive to collect rents from BNSF rather than move its own traffic, and less incentive to compete with BNSF for traffic over the Line. (*Id.* at 84-85.)

Additionally, under UP's interest rental proposal, the "all-in" trackage rights rate that BNSF pays for use of the Line would be {{ [REDACTED] }} than prevailing trackage rights rate levels established between UP and BNSF through commercial negotiations { [REDACTED] }. (*Id.* at 88.)¹³

Furthermore, Dr. Mathur proposed an "all in" trackage rights rate for BNSF's use of the Kern-Mojave Line that is {{ [REDACTED] }} with other Class I rail carriers. (*Id.* at 88-89.) In contrast, BNSF's interest rental proposal—based on an accurate application of CE methodology—results in "all-in" compensation that is {{ [REDACTED] }}

¹³ This includes the rate that BNSF and UP recently agreed for UP's use of the Daggett-Riverside Line. As discussed in BNSF's Opening Statement, the Daggett-Riverside Line is similar to the Kern-Mojave Line.

}}. (*Id.* at 89.)¹⁴

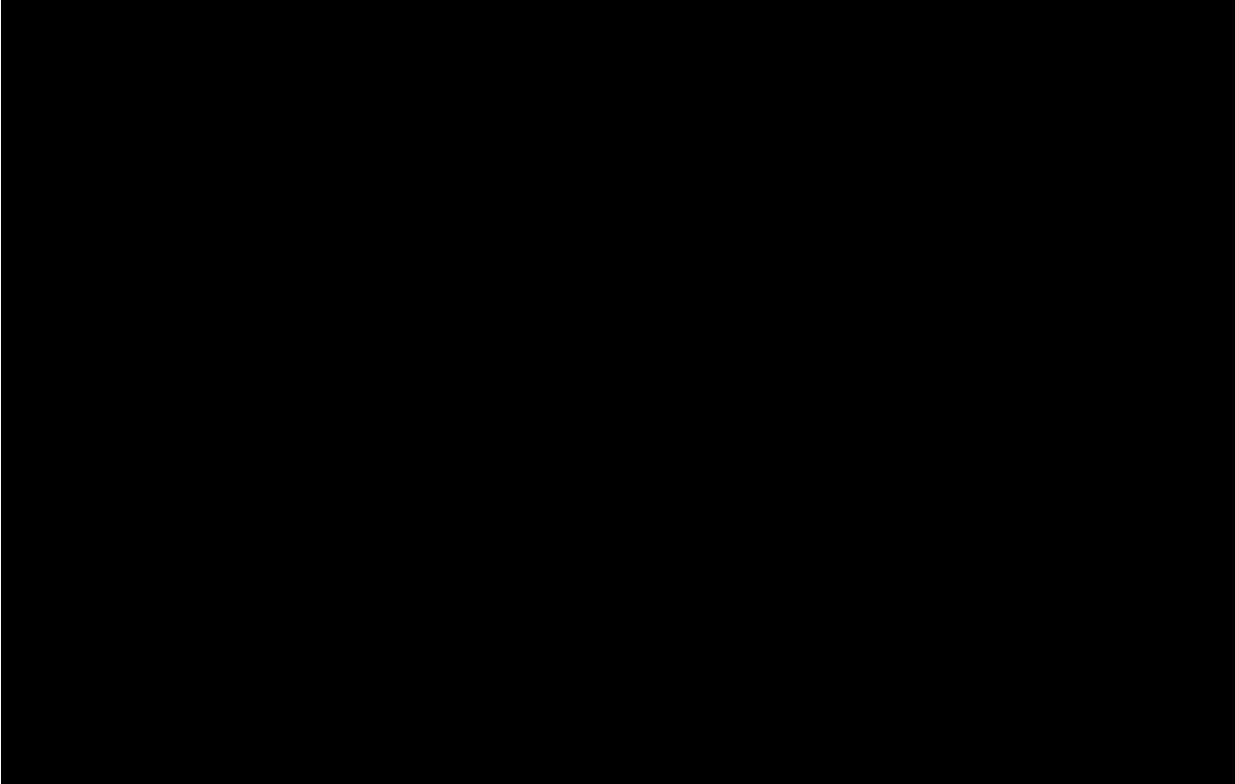
The chart below shows that Dr. Mathur's proposal is both {{

_____ } }

and the $\{\{$

_____ } }

UP “All-In” GTM Trackage Rights Rates Commercially Negotiated with BNSF and {{ [REDACTED] }} Compared to “All-In” Kern-Mojave Trackage Rights Rate Using Dr. Mathur’s Proposed Interest Rental Compensation {{ [REDACTED] }}



}} (*Id.* at 88-89.)

¹⁴ As the Board recently stated in its decision on BNSF’s motion to compel in this proceeding, “BNSF’s argument here—that the rates UP receives under trackage rights agreements with other carriers bear on the reasonableness of the rate BNSF pays for access to the Line—goes to the main issue in this proceeding: i.e., what the ‘new interest rental rate’ should be for BNSF’s use of the Line.” *Atchison, Topeka & Santa Fe Ry. Co.—Operating Rights—S. Pac. Transp. Co.*, FD 22218, slip op. at 4 (STB served Feb. 7, 2025).

As described in BNSF's Opening Statement, the Kern-Mojave Line forms the spine of BNSF's north-south route through the state of California and points farther north in the Pacific Northwest—sometimes referred to as the “I-5 Corridor.” In connection with the UP/SP merger in 1996, BNSF obtained certain trackage rights and access rights over the UP/SP network that allowed BNSF to form a single-line route through the I-5 Corridor. The Board recognized that one of the more significant benefits of the merger included “two new single-line routes on the west coast I-5 Corridor from Canada to Mexico.” *Union Pac. Corp.—Control & Merger—S. Pac. Rail Corp.*, 1 S.T.B. 233, 369 (1996). Today, BNSF and UP compete aggressively on rates and service along these single-line routes.

The Kern-Mojave Line is a necessary link in BNSF's I-5 Corridor route. As UP itself acknowledges, “BNSF is highly dependent on the Line.” (UP Opening Statement 3.)¹⁵ Yet, UP cavalierly states that “the *SSW Compensation* methodology will substantially increase the interest rental” BNSF would be required to pay. (*Id.* at 1.) UP's proposal would result in an “all-in” trackage rights payment from BNSF to UP that is {{ [REDACTED] }} than the “all-in” rates that the railroads pay each other on other trackage rights segments, including along the I-5 Corridor. It is self-evident that anticompetitive effects could flow from such an extreme rate increase on a critical line segment. Moreover, the increase could disrupt the competitive balance for traffic over the I-5 Corridor that the parties and the Board set at the time of the UP/SP merger.

¹⁵ UP further acknowledged that the Line “provides a critical link in BNSF's intermodal franchise. BNSF has no alternative route it could use to move double-stack intermodal from markets in Northern California to connect with its highly efficient Southern Transcon route that runs from Los Angeles to Chicago. The [L]ine is also critical to BNSF's ability to offer competitive service for all its traffic moving in the I-5 Corridor.” (UP Opening Statement 3-4.)

2.6. Acceptance of UP’s flawed proposal would upend a well-functioning market for trackage rights compensation and would be inconsistent with federal rail transportation policies.

Additionally, the Board’s acceptance of UP’s proposal would upend the commercial market for trackage rights—both between BNSF and UP, and more broadly amongst other Class I railroad competitors. BNSF believes that the Board should continue to serve as a backstop and a last resort if two railroads can truly not agree on trackage rights compensation. But the Board must employ its authority carefully in order to avoid introducing distortions into a market for trackage rights that otherwise functions effectively.

Indeed, regulatory intervention to dramatically increase trackage rights payments beyond commercially-established market rates would open the Board’s doors to other railroads seeking to extract higher payments than could be achieved through private negotiations. Proceedings that apply *SSW Compensation* methodologies typically take multiple years and consume large amounts of resources, from both the Board and the parties participating in the proceeding. However, for sophisticated railroads such as UP, with patience and deep pockets, the potential outcome may be worth the cost if the Board signals through this proceeding that UP’s approach is tenable. This would also be inconsistent with several of the federal government’s rail transportation policies.¹⁶

¹⁶ See, e.g., 49 U.S.C. § 10101(1) (“to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail”); § 10101(2) (“to minimize the need for Federal regulatory control over the rail transportation system and to require fair and expeditious regulatory decisions when regulation is required”); and § 10101(5) (“to foster sound economic conditions in transportation and to ensure effective competition and coordination between rail carriers and other modes”).

3. Conclusion

For the reasons stated above and in the accompanying verified reply statement, BNSF requests that the Board: (1) use BNSF's capitalized earnings methodology to determine a valuation for the Kern-Mojave Line of {{ [REDACTED] }}, (2) adopt an interest rental rate of 4.0%, and (3) determine that BNSF is responsible for one-half of the interest rental, taxes, and other special charges and assessments.

As explained in BNSF's Opening Statement and confirmed in this Reply after evaluating UP's Opening Statement, BNSF's proposal will yield total compensation that is equitable, in the public interest, procompetitive, and broadly consistent with a range of "market" rates that the parties {{ [REDACTED] }} have privately negotiated. That said, BNSF maintains that it would prefer not to require the Board to set compensation for the Kern-Mojave Line, and BNSF would remain open to further Board-sponsored mediation or other private negotiations following the submission of reply statements and evidence by the parties.

Respectfully submitted,

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Dated: March 14, 2025

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 22218

ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY
—OPERATING RIGHTS—
SOUTHERN PACIFIC TRANSPORTATION CO.

REPLY VERIFIED STATEMENT OF
MICHAEL R. BARANOWSKI & NATHAN S. ZEBROWSKI

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Verified Statement of Michael R. Baranowski & Nathaniel S. Zebrowski

1. Introduction

We are Michael R. Baranowski and Nathaniel S. Zebrowski of FTI Consulting. We previously submitted a verified statement accompanying BNSF's opening evidence in this proceeding filed on May 3, 2024 ("Opening VS"). In our Opening VS, we provided our view on the appropriate interest rental compensation that BNSF Railway Company ("BNSF") should pay Union Pacific Railroad ("UP") for use of UP's Kern-Mojave Line.¹ We explained that key foundational elements of the original joint line usage agreements between the parties should remain in place and that the Board's *SSW Compensation* methodology should form the basis for an update to the valuation of the Kern-Mojave Line. We determined that the interest rental payment should be based on a valuation of the Line using the capitalized earnings ("CE") methodology. We concluded that the annual interest rental payment based on the foundational elements of the original joint line usage agreements and the proper application of the CE methodology should be { [REDACTED] } per year. We also provided relevant evaluations under other *SSW Compensation* valuation methodologies, namely the Replacement Cost New Less Depreciation methodology ("RCNLD") and comparable line sales approaches. Finally, we reviewed a range of "market" rates for existing trackage rights agreements to validate the reasonableness of our CE-based compensation proposal. Details of our backgrounds and qualifications are set forth in Exhibits 1 and 2 of our Opening VS.

We have been asked by counsel for BNSF to review UP's opening evidence filed in this proceeding on May 3, 2024, and to respond directly to the CE analysis and proposed interest

¹ The abbreviations and defined terms used here are the same as the Opening VS, unless otherwise noted in this Reply VS.

rental developed in the verified statement submitted by Dr. Divya Mathur. We have also been asked to assess the relevance of the RCNLD analysis developed by UP witnesses Harvey A. Crouch and Charles W. Rex, III, and to address the need for an economic obsolescence adjustment should the Board embrace the RCNLD valuation approach.

As explained in our opening statement, our recommendation of CE as the appropriate valuation approach considers the unique circumstances of the Kern-Mojave Line, particularly that the Line has evolved into a modern high-capacity corridor as a direct result of capital contributions made by both users over more than a century. Given the limited amount of available financial information, it would be difficult to account for the parties' contributions to upgrading and improving the Line over this long period of time, and to properly quantify the effects of BNSF/ATSF's contributions on calculation of the interest rental valuation base.²

CE moves away from the question of how to develop a valuation based on an asset inventory that fully accounts for BNSF/ATSF's capital contributions and focuses instead on the relevant earnings of the joint users generated by the Line as it has developed over time. As such, it is uniquely suited to account properly for the commitment between the joint line users that neither party shall be entitled at any time to receive or assess interest rental payments with respect to tunnel clearance improvements made on the Line in the 1990s.

Like us, Dr. Mathur determines that the interest rental payment for BNSF's use of UP's Kern-Mojave Line should be based on a valuation using the CE methodology. She, however,

² Indeed, when asked in discovery to provide a financial ledger just for the assets currently in place on the Kern-Mojave Line, UP was not able to produce any responsive information. See UP response to BNSF's Request No. 50. "Union Pacific will produce responsive documents, to the extent they exist and can be located in a reasonable search." UP did not identify any responsive documents in any of its productions.

dismisses the relevant prior dealings between the joint users of the Line. Dr. Mathur’s version of CE results in an annual interest rental payment of approximately {REDACTED} for the year 2023, which is approximately 22 times more than our proposal.

In this statement, we discuss the significant conceptual flaws and implementational errors in Dr. Mathur’s work. We explain why her analysis is unsound and why her recommended compensation is unreasonable. We also discuss how UP’s evidence reaffirms that RCNLD is inappropriate for this proceeding and, if used, must include an adjustment for economic obsolescence. Last, we provide slightly updated results to our CE analysis, incorporating changes identified after reviewing UP’s opening evidence. We determine here that the proper annual interest rental payment for BNSF’s use of UP’s Kern-Mojave Line for the year 2023 is {REDACTED} and explain that that amount may be adjusted annually on a going-forward basis based on changes in the CPI if deemed necessary.

The below table summarizes UP’s opening and our reply determinations of the interest rental compensation BNSF should pay UP for use of the Kern-Mojave Line.

Table 1³
Summary of BNSF and UP Interest Rental Determinations Under the CE Approach

Line	Description	BNSF Reply	UP Opening
1	Annual Attributable Earnings (2022)	{REDACTED}	{REDACTED}
2	Earnings Multiplier (2022)	7.6	12.6
3	Interest Rental Rate	4.0%	14.4%
4	BNSF Interest Rental Share	50%	62%
5	Interest Rental Payment (2022) – 1/	{REDACTED}	{REDACTED}
6	Base 2023 Interest Rental Payment – 2/	{REDACTED}	{REDACTED}
1/ - Equals product of lines 1-4.			
2/ - Lines 1-5 show only 2022 results for clarity of illustration. Line 6 shows final 2023 results derived from BNSF’s 2019-2022 analysis and UP’s 2021-2022 analysis, as adjusted under the parties’ respective adjustment methods.			

³ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”. To facilitate comparison of the technical details in Dr. Mathur’s calculations and ours, we

In Section 2, we provide a summary of our findings. In Section 3, we address the flaws in Dr. Mathur’s development of the UP and BNSF earnings attributable to the Kern-Mojave Line and the portion of those earnings to include in the CE-based valuation. In Section 4, we address the flaws with Dr. Mathur’s proposed earnings multiplier and affirm the use of the Surface Transportation Board’s (“STB”) railroad industry cost of capital figure as the appropriate multiplier. In Section 5, we explain that Dr. Mathur’s assumptions regarding the interest rental rate and interest rental share used to determine the annual interest rental payment fail to account for relevant circumstances of the Kern-Mojave Line. In Section 6, we explain why Dr. Mathur’s interest rental compensation proposal errs by double-counting inflation, and then that her proposal to further adjust this interest rental per car mile amount on an annual going-forward basis triple counts inflation. In Section 7, we provide updated interest rental payment results incorporating minor adjustments to our opening calculations responsive to Dr. Mathur’s opening evidence, including a proposal for how to appropriately adjust the interest rental payment on an annual going forward basis using changes in the CPI. In Section 8, we explain why Dr. Mathur’s assertions related to the relative reasonableness of the interest rental compensation she develops are wrong. In Section 9, we show the effects of applying an economic obsolescence adjustment to the RCNLD estimate included in UP’s opening submission. In Section 10, we summarize our conclusions and recommendations regarding the appropriate interest rental compensation that should be set in this proceeding.

provide in separate workpapers side-by-side examples of the steps used by Dr. Mathur and ourselves to develop line-specific earnings for shipments traversing the Kern-Mojave Line. See Reply Workpapers in “CE” Reply Workpaper folder, at subfolder “CE Calculation Excel Examples”.

2. Summary of Findings

A summary of findings based on our review of UP's opening submission are as follows:

- Dr. Mathur agrees with us that the CE method is appropriate for determining the interest rental amount BNSF will pay UP for use of the Kern-Mojave Line. However, she fails to tailor her application of the *SSW Compensation* methodology to consider the facts and circumstances that the ICC correctly found necessary to account for when it set trackage rights conditions in 1967. In particular, Dr. Mathur ignores the interest rental rate and interest rental share negotiated by the parties when establishing the joint facility and the commitment made to never charge or collect interest rental on certain upgrades and improvements to the Line.
- While purporting to use the same CE method we use, because of a combination of errors, improper shortcuts and aggressive assumptions, Dr. Mathur's recommended annual interest rental payment of {REDACTED} million per year as of 2023 is approximately twenty-two times higher than the appropriate CE-based payment of {REDACTED} million per year as of 2023 we develop. Her analysis contains flaws in each of the three fundamental steps required when calculating an annual interest payment amount under the CE method:
 - *Base Annual Earnings.* Dr. Mathur's estimate of base annual earnings attributable to the Kern-Mojave Line is significantly inflated due to inaccurate and simplistic revenue allocations that, by mistakenly assuming that all individual segments a shipment traverses off of the Kern-Mojave Line have the same average density, directly violates long-established protocols under the STB's Average Total Cost ("ATC") methodology. Dr. Mathur also incorrectly allocates revenues to the Line based on costs for switching activities that do not occur on the Line.
 - *Earnings Multiplier:* Dr. Mathur uses a flawed and unsupported earnings multiplier based on UP's stock price to convert her already inflated base annual earnings amount into a total valuation amount for the Kern-Mojave Line. Among many problems, her novel approach illogically applies a UP-based earnings multiplier to BNSF earnings, ignores *SSW Compensation* precedent establishing that a purchase transaction is required in order to use this approach, and runs directly contrary to valuation evidence from UP's own intangibles valuations and the most recent major railroad transactions showing that not all market value is attributable to road property and equipment as she wrongly assumes. We estimate that Dr. Mathur's flawed earnings multiplier nearly doubles her CE-based valuation, and thus also nearly doubles the interest rental amount she would have BNSF pay UP, due to locking in into perpetuity future earnings growth assumptions that are well above actual historical earnings growth trends.
 - *Interest Rental Rate and Share.* The cost of capital based interest rental rate and usage based interest rental share, which Dr. Mathur applies to the Line's valuation to compute an annual interest rental payment, were correctly rejected by the ICC when prescribing the current trackage rights agreement in 1967. Dr. Mathur's

justification for why a cost of capital based interest rental rate would now be appropriate is based on an incorrect assertion that UP should earn a cost of capital return for funds provided by BNSF, not UP.

- In addition to these flaws, Dr. Mathur’s proposed annual interest rental payment amount is further inflated by illogically triple counting the effects of inflation. We explain that BNSF’s upfront funding for replacement capital under the existing trackage rights agreement already provides UP sufficient compensation for inflation. However, since there is some tension between this concept and the CE-based interest rental payment we develop, if the Board does deem it necessary to further account for inflation, the appropriate way to do this is by making annual going forward adjustments using the Bureau of Labor Statistics’ Consumer Price Index (“CPI”). Use of the CPI is consistent with the fact that UP’s and BNSF’s earnings have generally tracked inflation over the past decade.
- The unreasonableness of Dr. Mathur’s interest rental compensation proposal is clearly seen when considering that it produces what we describe as an “all-in” trackage rights rate that is approximately {{REDACTED}} than the “all-in” trackage rights rates for {{REDACTED}} other trackage rights agreements UP has commercially negotiated with BNSF {{REDACTED}} in the past three decades. Her claim that the interest rental amount she proposes is reasonable because it is less than BNSF’s total earnings from shipments traversing the Kern-Mojave Line is irrelevant. Only line-specific earnings are relevant when determining reasonable interest rental compensation under the CE method.
- The interest rental compensation Dr. Mathur proposes would create competitive imbalances since her proposed rate is {{REDACTED}} the market-based range of trackage rights rates UP and BNSF charge each other. Dr. Mathur’s claim that her proposal would cure an alleged competitive imbalance ignores the contributions BNSF has made and will continue to make to upgrading and maintaining the Line.
- We make minor updates to the CE analysis in our Opening VS responding to technical items raised in Dr. Mathur’s opening submission and determine that BNSF’s annual interest rental payment as of 2023 should be {{REDACTED}} million.⁴
- The UP RCNLD valuation, when adjusted properly for economic obsolescence and aligned with the relevant foundational elements of the original joint line usage agreements yields an annual interest rental payment for 2023 of {{REDACTED}}.⁵

⁴ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

⁵ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

3. Dr. Mathur's calculation of base annual earnings attributable to the Kern-Mojave Line suffers from implementational problems.

A correct measure of base annual earnings attributable to the Kern-Mojave Line is an essential component to accurately determining the proper interest rental payment amount under the CE approach. Dr. Mathur agrees with us that line-specific earnings should be developed using a combination of the Board's Average Total Cost ("ATC") procedures to allocate revenues and the Board's Uniform Rail Costing System ("URCS") to develop operating expenses. While Dr. Mathur included in her analysis a similar set of traffic moving over the Kern-Mojave Line as we included in our analysis, she made a number of errors that caused her results to differ significantly from ours.⁶ In this section, we identify the flaws in her analysis, many of which are pervasive and irreparable, and conclude that the Board should base its capitalized earnings calculation on the approach we used in our Opening VS, as updated here.

3.1. Dr. Mathur's ATC revenue allocation is irreparably flawed.

The first step in determining base annual line-specific earnings is identifying the portion of revenues for each shipment traversing the Kern-Mojave Line that should be allocated to the Line. Practically all shipments traversing the Kern-Mojave Line also travel over other rail segments as part of the move, and therefore the end-to-end revenues for each shipment must be apportioned among the different segments of the rail network over which they move. As both we and Dr. Mathur explained in our opening verified statements, the STB developed the ATC

⁶ Dr. Mathur only included 2021 and 2022 in her CE analysis, whereas we included 2019-2022 in our CE analysis. Consistent with the STB's preference in NECR for use of longer-period averages, we believe it is appropriate to develop CE analysis for all years which the data available in this proceeding allows. See 2017 NECR Decision as page 11. As shown in table 8 below, our results are relatively stable across all four years of analysis, so use of this longer period provides additional assurance of the validity of our results.

revenue allocation procedure to do precisely this.⁷ Under the ATC method, URCS costs are developed for the specific segments over which a shipment traverses, and a shipment's total revenues are allocated proportionally to these costs. The URCS costs that are developed for each segment include both variable and fixed costs.⁸ In this section, we describe the flaws with Dr. Mathur's application of ATC, specifically as related to her inaccurate development of URCS variable and fixed costs underlying the ATC revenue allocations.

3.1.1. Dr. Mathur's simplistic development of the ATC fixed cost component is grossly inaccurate and violates long-established ATC precedent.

The fixed cost component of ATC is developed using a "fixed cost per mile" amount derived from the URCS program, where system-wide fixed costs from URCS Phase II are spread across all the traffic that moves over a given mile of track for a particular segment. Traffic that moves over a given track segment is typically identified using density data, which reports the total tons of traffic moving over a given segment of a rail network.⁹ In the present proceeding, both BNSF and UP produced density data reporting the tonnage density for the many thousands of individual segments of rail track that comprise their respective rail networks. ATC requires that the segments of track in the density data be aligned with the segments over which the

⁷ See Baranowski/Zebrowski Opening VS at pages 14 and 15 and Mathur Opening VS at pages 22-25.

⁸ See *Major Issues in Rail Rate Cases*, Ex Parte No. 657 (Sub-no. 1) (STB served Oct. 30, 2006) ("*Major Issues*"). Under the Average Total Cost (ATC) approach, "parties can calculate the railroad's average total cost per segment of a move. The revenues from each portion of the movement would then be allocated in proportion to the average total cost of the movement on and off-SARR." See also *Rate Regulation Reforms*, Ex Parte 715, slip op. at 28-30 (STB served Jul. 18, 2013).

⁹ "[ATC] then uses the URCS system-average fixed cost and system-wide route miles to derive a system-average fixed cost per route mile. This calculation, when combined with the actual route miles and traffic tons of the segment in question, is used to derive the average fixed cost per ton of that segment." (See *Major Issues*, at page 34.)

individual shipments on the Kern-Mojave Line travel. This will allow for determining the appropriate allocation of fixed costs to each shipment by dividing the fixed costs for the segment by the total tons moving over the segment, and then allocating a pro-rata share of these fixed costs to the tons of a particular shipment.

It follows that inaccuracies in the development of segment fixed costs and density information will result in an incorrect allocation of revenues to the Kern-Mojave Line under ATC, and thus lead to an inaccurate determination of attributable earnings.

In the ATC calculations provided in our Opening VS, as well as in the ATC calculations in every Stand-Alone Cost (“SAC”) rate reasonableness case to date that we are aware of where sufficient data exists, significant work was done to align shipments with the density information for the segments they traverse. This is required under the ATC procedures first established in the STB’s 2007 WFA Basin decision.¹⁰ In contrast, Dr. Mathur concluded that the alignment process is “computationally infeasible” for the many thousands of lanes over which UP and BNSF shipments traversing the Kern-Mojave Line travel.¹¹ Instead she employed a shortcut that relies on a skewed and unrepresentative averaging approach of densities off of the Kern Mojave Line. Further, based on a flawed sensitivity analysis, Dr. Mathur wrongly concluded that changing the average density assumptions used in her approach would not have a significant impact on her results.¹² In fact, both Dr. Mathur’s ATC calculations and her sensitivity analysis incorrectly treated the entire off-segment portion of a shipment’s move as having a single, average density throughout, rather than recognizing the reality that individual segment densities vary throughout

¹⁰ Western Fuels Association, Inc., and Basin Electric Power Cooperative v. BNSF Railway Company, NOR 42088 (STB served September, 10 2007) (“2007 WFA Basin Decision”).

¹¹ See Dr. Mathur’s Opening Verified Statement, at paragraph 79.

¹² See Dr. Mathur’s Opening Verified Statement, at paragraph 80.

a railroad's system. As we will explain, accounting for the changes in density across individual segments is long-established under ATC precedent and is a critical aspect of accurately performing ATC revenue allocations. Dr. Mathur's shortcut results in overstated average off-segment densities and vastly understated off-segment fixed costs, leading her to overstate the Kern-Mojave Line's share of total costs. This, in turn, leads to an artificially inflated ATC revenue allocation percent and a significant over-allocation of revenues to the Kern-Mojave Line.

3.1.1.1. Dr. Mathur applied unrepresentative average densities sampled from the high-density intermodal portions of BNSF and UP networks to all other portions of BNSF and UP networks over which Kern-Mojave shipments travel.

Dr. Mathur's shortcut methodology for developing average density assumptions is unrepresentative and skewed. The below table summarizes the average density assumptions Dr. Mathur uses in her CE analysis compared to BNSF's and UP's system-wide density levels.

Table 2¹³
Dr. Mathur's Average Density Assumptions in her Capitalized Earnings Analysis

Figures in 2022 Annual Million Gross Ton Density (MGT)	Average Off-Segment Density Assumptions in Dr. Mathur's Exhibit 8	System Wide Density Figures in Dr. Mathur's Exhibit 1
UP	{{ [REDACTED] }}	27.2 MGT
BNSF	{{ [REDACTED] }}	50.5 MGT

As the above table shows, the off-segment densities Dr. Mathur calculates for Kern-Mojave shipments are far higher than BNSF's and UP's respective system-wide density levels. The reason for this is that Dr. Mathur's sampling method is skewed. Specifically, she developed average lane densities for only the top few dozen highest volume lanes over which UP and BNSF

¹³ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

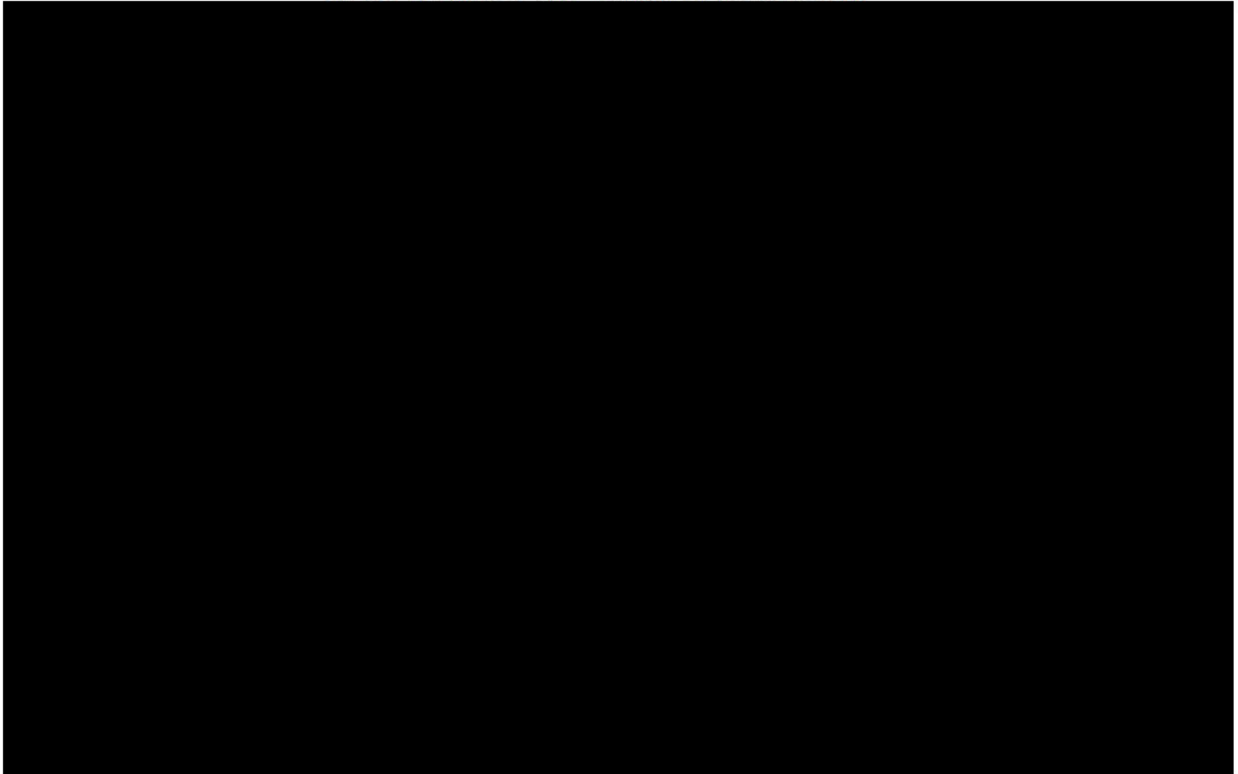
Kern-Mojave shipments travel as a proxy to apply to all other Kern-Mojave shipments, which comprise {{[REDACTED]}} of the revenues in her analysis.¹⁴ These sampled high-volume lanes are nearly all {{[REDACTED]}} lanes, and cover {{[REDACTED]}} {{[REDACTED]}}. She then calculated a weighted average density across these sampled lanes for BNSF and UP, respectively, and applied the resulting average density figures as a proxy to all other Kern-Mojave traffic. Unlike {{[REDACTED]}}
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]}}.

The below maps highlight the portions of the BNSF and UP networks which Dr. Mathur analyzed in developing her average density assumptions, compared to all the portions of the BNSF and UP networks over which Kern-Mojave Line shipments travel. This is shown for UP on the following map.

¹⁴ See Dr. Mathur's Opening Verified Statement, at paragraph 80. See also Dr. Mathur's Opening Verified Statement, Exhibits 8A and 8B.

Figure 1¹⁵

Dr. Mathur's Density Shortcut Ignores Most of the Portions of UP's Network Over Which Kern-Mojave Line Shipments Travel {{



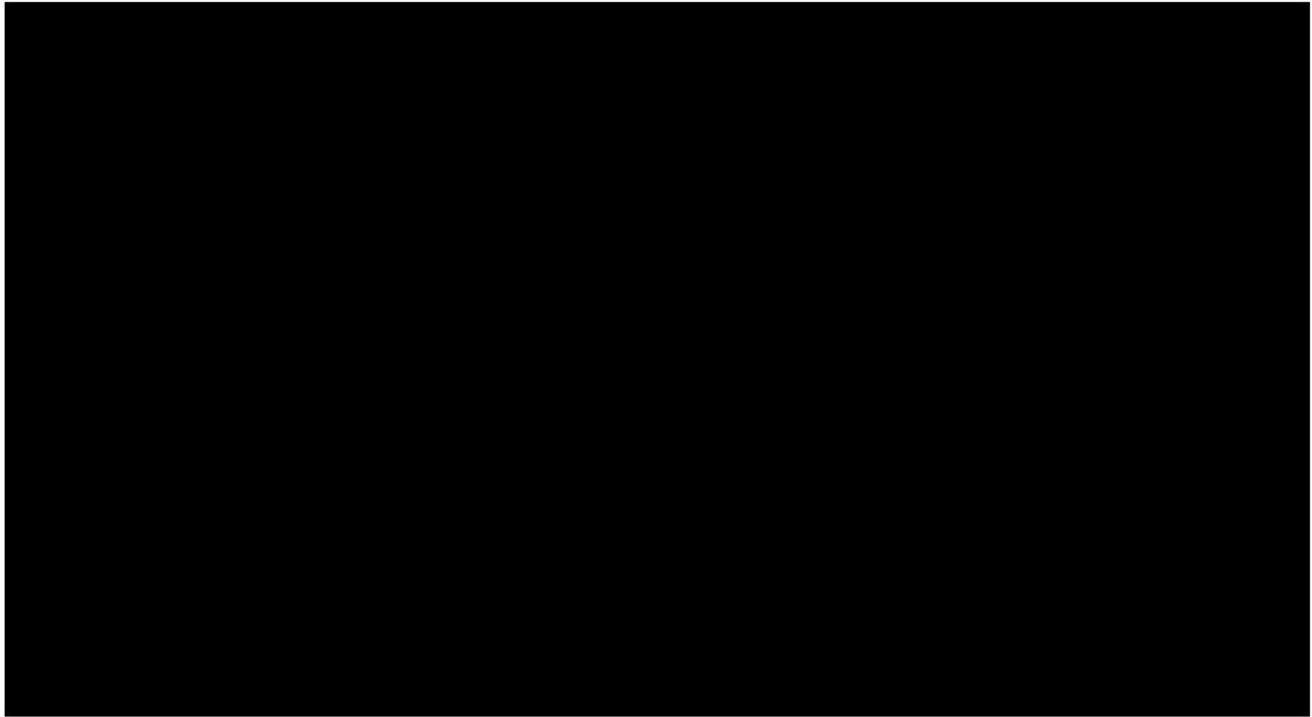
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¹⁵ See Reply Workpaper “Data for Maps.xlsx”, at tab “UP”.

This is shown for BNSF on the following map.

Figure 2¹⁶
Dr. Mathur's Density Shortcut Ignores Most of the Portions of BNSF's Network Over Which Kern-Mojave Line Shipments Travel

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As the above maps show, Dr. Mathur's results are clearly skewed and unrepresentative. Overall, Dr. Mathur used this shortcut proxy process for {{[REDACTED]}} of the revenues she allocates to the Line.¹⁷

3.1.1.2. Dr. Mathur calculated inaccurate results and violated established ATC precedent by treating all off-segment portions of a move as a single segment

An even more significant problem in Dr. Mathur's work is that she treats the entire off-segment portion of every move (even those on the top few lanes she develops actual densities

¹⁶ See Reply Workpaper "Data for Maps.xlsx", at tab "BNSF".

¹⁷ Ibid.

for) as having a single average density throughout, and develops fixed costs for the entire off-segment portion of the move accordingly.¹⁸ In actuality, each shipment moves over dozens if not hundreds of individual segments, among which there is considerable variation in density. Using the average density across many individual segments to develop an average fixed cost for all of the segments, as Dr. Mathur does, is an approach that the STB has rejected (as discussed below) because it provides inaccurate results.

As illustrated by the below table, the amount of fixed costs allocated to a shipment will differ significantly depending whether they are developed for individual segments or a combined average segment.

Table 3¹⁹
Example ATC Fixed Cost Calculations Using Correct Individual Segment Approach and Dr. Mathur's Combined Segment Approach

Individual Segment Approach Used in Our Opening VS		
	Segment A (5-miles)	Segment B (5-miles)
Total Fixed Costs	\$500,000	\$500,000
Total Tons	1 million	9 million
Fixed Cost Per Ton	\$ 0.50	\$0.06
Combined Average Segment Approach Used by Dr. Mathur		
	Segment A + B (10-miles)	
Total Fixed Costs	\$1,000,000	
Average Tons	5 million (average of above)	
Fixed Cost Per Ton	\$0.20	

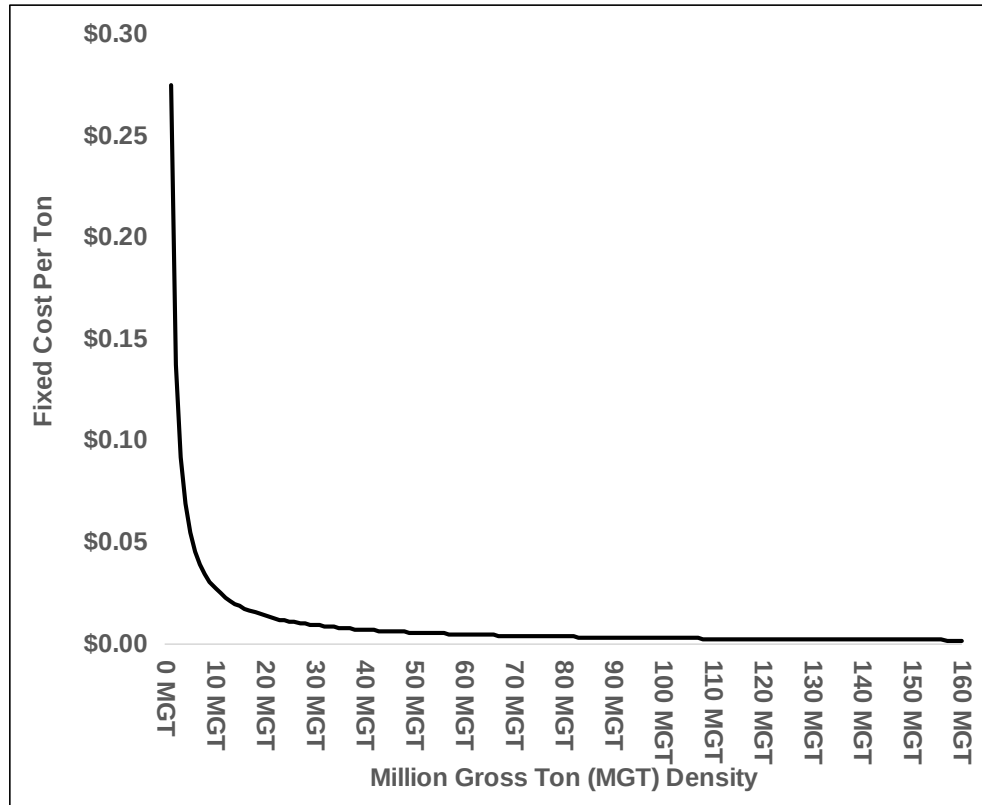
In this example, Dr. Mathur's combined average segment approach would only allocate \$0.20 per ton to a given shipment, whereas the correct individual segment approach would allocate \$0.56 per ton to that same shipment.

¹⁸ Dr. Mathur does the same for the on-segment portion over the Kern-Mojave Line, but this is not as problematic because the density is relatively constant throughout the segment.

¹⁹ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

The fundamental problem with computing fixed costs based on an average density figure across segments, as Dr. Mathur does, is that lower-density segments have exponentially higher fixed costs per ton. This is illustrated in the below chart.

Chart 1²⁰
Illustration That Fixed Costs Per Ton Increase Exponentially As Segment Density Decreases



Due to fixed costs per ton exponentially increasing as density decreases, averaging a low density segment and a high density segment would provide misleading and inaccurate results. For example, using an example based on BNSF’s 2022 fixed costs per mile, a 1-mile long segment with a density of 1 MGT has \$0.2747 fixed costs per ton and a 1-mile long segment

²⁰ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.

with a density of 130 MGT has \$0.0021 fixed costs per ton. Adding these two together results in \$0.2768 fixed costs per ton total. Under Dr. Mathur's method, the average density of the two segments would first be averaged together to equal 65.5 MGT, and then fixed costs of \$0.0042 per ton would be calculated from this average density figure.²¹ The fixed cost amount assigned to each ton of a shipment based on an average density figure is artificially lower by approximately 66-fold compared to an accurate calculation of fixed costs which accounts for the changes in density.

This precise issue was resolved in the STB's decision in the 2007 WFA Basin SAC rate reasonableness case when the STB found that it was appropriate to use the individual segment approach because it provided more accurate results.²² To the best of our knowledge, in every

²¹ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Charts".

²² See 2007 WFA Basin Decision at 13. "In calculating revenue allocations for cross-over traffic, WFA used a weighted average of the densities of the on-SARR and off-SARR portions of a move. BNSF claims that, rather than relying on the average density for these two portions of the move, a more accurate result can be achieved by separately measuring individual "density segments" within these two portions. On rebuttal, WFA claimed that its procedure was required by the Board, citing to the notice of proposed rulemaking (NPRM) for Major Issues. That discussion, however, actually supports BNSF's approach. In describing how ATC would be implemented, the NPRM used a simplified example that referred to the on-SARR segment and off-SARR segment. It stated that the parties "would then need to calculate the average fixed cost (AFC) per ton of traffic using the various segments" which "could then be combined with the route miles and the traffic density of any particular segment of the railroad's network." The use of the phrase "any particular segment of the railroad's network" indicated that a line would be segmented based upon differing densities, as BNSF has done. BNSF provided compelling and un rebutted evidence that the approach used by WFA would understate the average cost per ton for a movement. Because BNSF's approach more precisely derives the average-fixed costs per ton associated with each cross-over movement, we will use its approach." See also BNSF's second supplemental reply at 7-8. "For any given cross-over movement, the on-SARR and off-SARR portions of the movement may be comprised of individual segments of varying density. However, in calculating the average fixed costs for the on-SARR and off-SARR portions of a movement, WFA/Basin assume that there are only two segments - the on-SARR segment and the off-SARR segment - and that each segment has only one density - the average density for the entire route. Although WFA/Basin properly defined a "density segment" as a discrete segment of the SARR or residual BNSF system within which the traffic density is consistent, they ignored

application of ATC since then where the data allows (as is the case here), ATC has been applied using the more accurate and STB-endorsed individual segment approach. Dr. Mathur errs by not following this approach. Her approach is even more flawed when compounded by the fact that, as discussed above, the single off-segment average density figures she uses for BNSF and UP are significantly overstated since they are based on an unrepresentative sample of the high-density intermodal portions of the carriers' networks.

Based on comparisons to our results, which follow correct ATC procedures, we estimate that Dr. Mathur understates fixed costs for the portions of the move not on Kern-Mojave Line by {{[REDACTED]}} percent overall (although the final effects on revenue allocations may only be developed at the individual shipment level). This is summarized in the below table.²³

Table 4²⁴
Comparison of Dr. Mathur's and Baranowski/Zebrowski's 2022 Fixed Costs Allocated to Non-Kern-Mojave Portion of Movement for Shipments Traversing Kern-Mojave Line

	2022 Fixed Costs Allocated to Non Kern-Mojave Portion of Movement for Shipments Traversing The Kern-Mojave Line
Baranowski/Zebrowski	{{[REDACTED]}}
Dr. Mathur	[REDACTED]
Difference	[REDACTED]}}

The effect of understated off-segment fixed costs is that fixed costs for the Kern-Mojave Line appear relatively higher, and thus the Kern-Mojave Line receives a relatively higher

the individual density segments in their calculations of the average fixed cost per ton over the on-SARR and off-SARR portions of a movement. Instead, WFA/Basin simply use an average density across the entire on-SARR or off-SARR portion of the movement This approach understates the average cost per ton of the on-SARR and off-SARR portions.”

²³ This table reflects updates to our CE analysis discussed in Section 7.

²⁴ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

revenue allocation. This higher revenue allocation leads to an artificially high base earnings estimate. This, in turn, inflates the Line's capitalized earnings valuation and thus increases the interest rental payment Dr. Mathur would have BNSF pay to UP.

Due to the fact that the entirety of Dr. Mathur's calculations are based on this flawed framework, it is not possible to rely on her revenue allocation determination nor the interest rental amount she ultimately derives from this inaccurate determination.

3.1.1.3. Dr. Mathur's sensitivity analysis purporting to show that her unrepresentative average density assumptions do not make a meaningful difference is flawed

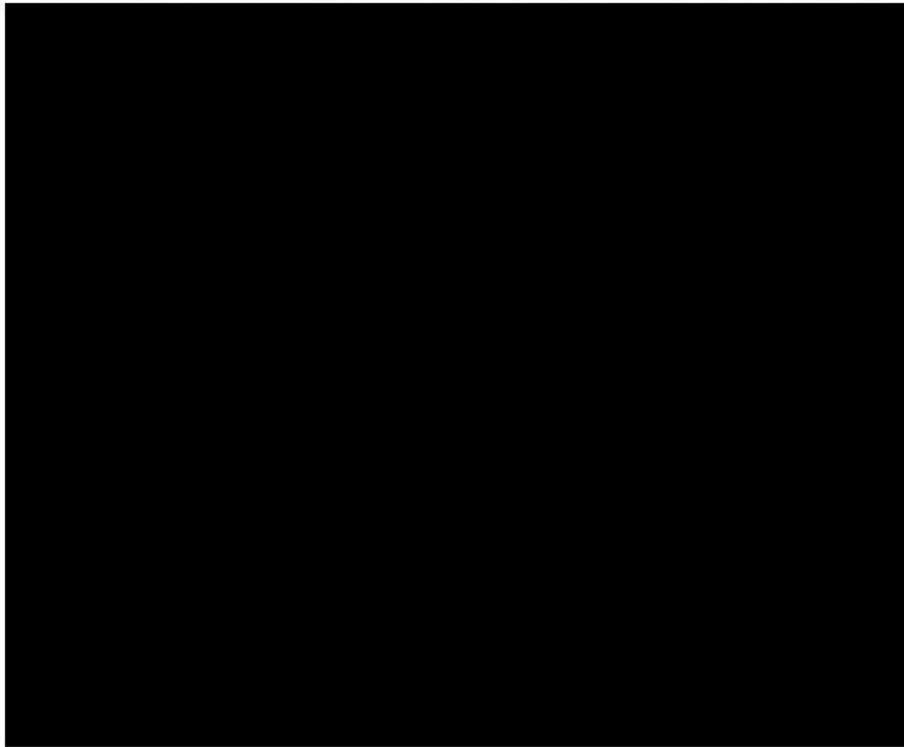
Dr. Mathur provided a flawed sensitivity analysis purporting to show that changing density assumptions would not significantly change the amount of revenue allocated to the Kern-Mojave Line.²⁵ However, this sensitivity analysis is based on the same flawed premise discussed above, namely, that fixed costs can be derived from a single average density applied to the entire off-segment portion of the move. As discussed in the prior section, that premise is false.

Dr. Mathur's sensitivity analysis only compares the effects of adjusting her overall off-segment average density assumptions up or down. For example, she analyzed the effects of adjusting her 2022 BNSF off-segment average density assumption of {{ [REDACTED] [REDACTED] }}²⁶. These are all very high-density levels with very low fixed costs. Thus, a sensitivity analysis at this high-density level only shows very small changes in fixed costs in response to changes in density. The below chart identifies the narrow density range which Dr. Mathur's sensitivity analysis considered.

²⁶ See Dr. Mathur's Opening Verified Statement, at Exhibits 11A and 11B.

Chart 2²⁷

Illustration That Fixed Costs Per Ton Increase Exponentially As Segment Density Decreases – Including Dr. Mathur’s Insufficient Test Range {{



}}

As this chart shows, Dr. Mathur only analyzed the effects of changing densities at a high density range, where changes in fixed costs per ton are exponentially lower in response to density changes. For example, the above chart shows that increasing density by {{ [REDACTED] [REDACTED] }}, which is in the range that Dr. Mathur considered, will result in fixed costs decreasing from {{ [REDACTED] }} per ton. In contrast, increasing density by the same 1 MGT amount from 1 MGT to 2 MGT, which is not in the range that Dr. Mathur considered, will result in fixed costs per ton decreasing from \$0.27467 per ton to \$0.13734 per ton. This incremental effect of a 1 MGT change is almost 8000-fold larger than the same change

²⁷ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.

at the higher density range which Dr. Mathur analyzed.²⁸ Lower density segments over which Kern-Mojave shipments traverse have exponentially higher fixed costs per ton than higher density segments, and thus, cannot be averaged out against higher density segments to provide an accurate result. For this reason, Dr. Mathur’s sensitivity analysis fails to identify the significant distortions caused by using inaccurate density assumptions in her ATC calculations.

3.1.2. Dr. Mathur did not properly differentiate between “above-the-wheel” and “below-the-wheel” URCS costs in her ATC calculations

Under ATC precedent, fixed costs pertaining to a carrier’s movement over a trackage rights segment of another carrier are calculated differently than fixed costs of that carrier moving over its own lines. Specifically, only a portion of the tenant’s total fixed costs per mile, called “above-the-wheel” fixed costs, are included when calculating fixed costs over trackage rights segments. “Above-the-wheel” fixed costs refer to those components of a carrier’s total fixed costs in URCS that are associated with cost items such as locomotives, crew, and equipment. Such costs which reflect the operational activities that are performed regardless whether a carrier moves over its own segment or a trackage rights segment, where another carrier owns the track infrastructure. In contrast, when moving over its own lines, all of a carrier’s fixed costs are accounted for, including both the “above-the-wheel” costs described above and “below-the-wheel” costs (which include items associated with fixed track infrastructure such as track maintenance).

In its 2007 WFA Basin decision, the Board determined that it was appropriate to only include “above-the-wheel” fixed costs when developing fixed costs for portions of a move where

²⁸ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.

a tenant's shipment is moving over the trackage segment of a landlord carrier.²⁹ To the best of our knowledge, this approach has been followed in every application of ATC since where the data allows (as it does here). Accordingly, we separately developed UP's and BNSF's "above-the-wheel" and "below-the-wheel" fixed costs when performing ATC revenue allocations. For example, for BNSF shipments moving over trackage rights segments (whether over the Kern-Mojave Line or any other trackage rights segment), we calculated fixed costs by spreading BNSF's "above-the-wheel" fixed costs across BNSF's total tons moving over the trackage rights segment. On the flip side, we calculated fixed costs for UP's shipments moving over the Kern-Mojave Line (or any other segment it owned) by spreading UP's "above-the-wheel" and "below-the-wheel" fixed costs over UP's total tons moving over the segment.

In contrast to long-established ATC precedent, the fixed costs Dr. Mathur computed as part of her ATC analysis do not make any distinctions between "above-the-wheel" and "below-the-wheel" components.³⁰ As a result, under Dr. Mathur's process, all shipments are treated the same regardless of whether they are traversing owned or trackage rights segments (except for the Kern-Mojave Line discussed below) and assumed to include the same fixed costs per mile, which include both "above-the-wheel" and "below-the-wheel" components. This approach

²⁹ See 2007 WFA Basin Decision at 13. "We find BNSF's alternative procedure, calculating the fixed costs per route mile for trackage rights segments differently than for BNSF-owned segments, reasonable and not overly complex or burdensome. BNSF simply included those URCS fixed costs that relate to track and roadbed (URCS Worktables D1 and D2) in the below-the-wheel cost, and the URCS fixed costs that relate to road operations, yard operations, equipment and overheads (URCS Worktables D3 through D8) in the above-the-rail cost. WFA has not demonstrated that BNSF's alternative approach is flawed or inaccurate and has failed to adequately explain its own rebuttal methodology. Accordingly, we use BNSF's approach of calculating trackage rights segments differently than BNSF-owned segments."

³⁰ See Dr. Mathur's Opening Verified Statement, at paragraph 78a and 94a.

creates conceptual gaps that depart from established ATC precedent and introduces distortions without any justification.

Dr. Mathur also created another conceptual gap when developing fixed costs for the Kern-Mojave Line segment. Specifically, unlike for all other trackage segments, she allocated a portion of UP's fixed costs to BNSF's shipments. These UP fixed costs contain "above-the-wheel" components, which include costs for items such as UP's locomotives, which BNSF does not use. Conversely, BNSF's "above-the-wheel" fixed costs are ignored for the Kern-Mojave Line. We correctly include both BNSF and UP "above-the-wheel" fixed costs in our ATC analysis. This is favorable to UP insofar as it results in more total costs assigned to the on-segment Kern-Mojave portion of the move, which leads to a higher share of revenues allocated to the Kern-Mojave Line all else equal.

3.1.3. Dr. Mathur's URCS variable costs underlying her ATC revenue allocations contain errors.

In addition to the errors described above related to determining fixed costs for Kern-Mojave shipments, Dr. Mathur also made errors related to determining the portion of URCS variable costs to assign to switching activities.

Dr. Mathur explained – and we agree – that URCS variable costs associated with switching activities should be assigned to the segments of the move where the switching occurs, which generally are not on the Kern-Mojave Line.³¹ However, Dr. Mathur failed to identify industry and interchange switching make whole costs, car costs related to yard time, intermodal pick-up and delivery costs, intermodal loading and unloading costs, and clerical costs as

³¹ See Mathur Opening VS as paragraph 76. While Dr. Mathur assumes no Kern-Mojave traffic originates or terminates on the Line, we have a more refined approach that identifies the subset of this traffic originates or terminates on the Line and include revenue and operating expense allocations for these activities. This serves to increase revenues attributable to the Line.

switching costs in URCS. Due to this, she assigned a portion of these switching costs to operations over the Kern-Mojave Line which do not involve switching activities. This leads to an overstatement of the portion of variable costs assigned to the Kern-Mojave Line, which under ATC also leads to an overstatement of the portion of shipment revenues allocated to the Line. The result is to overstate earnings attributable to the Kern-Mojave Line³² and, thus, artificially inflate the interest rental amount she would have BNSF pay UP. Our analysis correctly defines the URCS components described above as switching costs.³³

Furthermore, under its ATC methodology, the Board is explicit that unadjusted URCS should be used when calculating the variable costs associated with a given shipment.³⁴ Rather than calculating the unadjusted URCS variable costs for each individual shipment, as we did in our Opening VS, Dr. Mathur uses a regression to calculate a shipment's URCS variable costs based on its tonnage relative to the average tonnage for all shipments moving on the same lane.³⁵

³² While, as discussed below, Dr. Mathur's operating expense estimate is similarly overstated, this does not entirely cancel out the overstated revenue allocation insofar as the carrier is generating earnings on these shipments.

³³ As discussed in section VII, we correct a coding error in our opening calculations to include intermodal loading and unloading costs and clerical costs as part of switching costs associated with origin, termination, and interchange events in the URCS costing process.

³⁴ See Major Issues at page 34. "The ATC method calculates the average total cost per ton associated with the segments at issue. It does so by first calculating the railroad's system-average variable cost per ton using unadjusted URCS."

³⁵ See Dr. Mathur's Opening Verified Statement, at Appendix C paragraphs 27-28. "The only variable allowed to differ between waybills within the same "URCS group ID" is net weight because within an "URCS group ID," the relationship between net weight and total variable costs is linear. Thus, the variable costs for each waybill can be calculated (as explained further below) based on the net weight of each individual waybill and the URCS output for that waybill's "URCS group ID." 27. To convert the URCS output (i.e., the URCS variable costs) of each unique "URCS group ID" to waybill-specific URCS variable costs, the linear relationship between net weight and total variable costs is first calculated. This relationship is determined by running URCS twice for each URCS group ID: once assuming the net weight equals the average net weight of the waybills within the URCS group ID, and once assuming the net weight equals a different value. Because the relationship between net weight and total variable costs is linear, it is

This regression approach is wrong. Neither train mile nor car mile costs are a function of shipment tons in URCS, so Dr. Mathur's tonnage-based regression distorts that actual cost relationships which are developed using a correct application of URCS to determine the variable costs of individual shipments. It is unclear why this regression approach is required since URCS costs may be directly calculated for individual shipments based on the available data in this proceeding, and thus Dr. Mathur needlessly introduces distortions.

3.1.4. A refinement to ATC made by the Board to address specific SAC related issues applied by Dr. Mathur is unnecessary in this proceeding

After performing her initial ATC calculation that allocates a share of a shipment's end-to-end revenues to the Kern-Mojave Line proportional to that shipment's share of total costs assigned to the Kern-Mojave Line, Dr. Mathur took a second step to provide that the allocated revenues are sufficient to cover the URCS variable costs assigned to the Kern-Mojave Line.³⁶ Specifically, Dr. Mathur intended to increase the amount of revenue allocated to the Kern-Mojave Line when the initial amount of revenue allocated was less than the URCS variable costs assigned to the Line. This approach is fashioned after a methodology called modified ATC which is used in SAC rate reasonableness proceedings³⁷. The goal of modified ATC is to remove what the Board had characterized as an unintended consequence of its original ATC formulation that attributed revenue to the stand-alone railroad entrant that was below variable costs. The rationale does not apply here because there is no stand-alone entrant to consider. Further, as we explained

possible to solve for the equation of the line (i.e., total variable costs as a function of net weight) using two data points (i.e., two different variable costs obtained from URCS using the average net weight and the arbitrary net weight). This equation is used with the actual weight of each waybill."

³⁶ See Dr. Mathur's Opening Verified Statement, at paragraph 48.

³⁷ See *Rate Regulation Reforms*, Ex Parte 715, slip op. at 28-30 (STB served Jul. 18, 2013).

in our Opening VS, we conservatively treated any shipments generating negative earnings attributable the Kern-Mojave Line as generating zero rather than negative earnings.³⁸

Additionally, Dr. Mathur's opening calculations appear to contain technical errors which do not correctly apply modified ATC. In her work, when revenues initially allocated to the Kern-Mojave Line using average total costs are below URCS variable costs assigned to the Line, she instead allocated revenues proportional to average variable costs.³⁹ This approach does not have any logical connection to addressing the issues modified ATC is intended to account for and appears to be in error.

3.2. Dr. Mathur's estimate of operating expense attributable to shipments moving over the Line includes unnecessary distortions.

Once a portion of revenues for shipments traversing the Kern-Mojave Line are allocated to the Line, the next step in developing attributable earnings is to determine the operating expenses associated with moving these shipments over the Kern-Mojave Line. Revenues less operating expenses for the Kern-Mojave Line provides the line-specific base annual earnings amount. This amount will then be used to determine a capitalized earnings valuation for the Line. In this section, we describe the flaws with Dr. Mathur's approach for developing operating expenses for the shipments moving over the Kern-Mojave Line.

3.2.1. Dr. Mathur's determination of operating expenses proportional to URCS costs is unnecessary and creates distortions.

The approach Dr. Mathur took to determine operating expenses for the Kern-Mojave Line uses a multi-step process that unnecessarily creates distortions.

³⁸ See Baranowski/Zebrowski Opening VS at page 19.

³⁹ See Dr. Mathur Opening VS Workpapers, at folder "7. ATC Calculations", at subfolder "Script".

For UP shipments, Dr. Mathur developed a factor of UP's total system-wide URCS costs (including variable and fixed portions) to UP's total system-wide operating expenses. She then applied this factor to the total amount of UP URCS costs (including variable and fixed portions) assigned to the Kern-Mojave Line in her ATC process.⁴⁰

For BNSF shipments, Dr. Mathur developed a factor of BNSF's variable system-wide URCS costs to BNSF's total system-wide operating expenses. She then applied this factor to the total amount of BNSF's variable URCS costs assigned to the Kern-Mojave Line in her ATC process. She separately developed a factor of UP's fixed costs per mile to BNSF's total system-wide operating expenses. She then applied this factor to the total amount of fixed costs assigned to the Kern-Mojave Line in her ATC process (which are based on fixed cost per mile amounts in UP's URCS).

In effect, Dr. Mathur attempts to convert, through a series of complex and unnecessary steps, URCS costs into operating expenses based on system-wide relationships between the two figures. One problem with this approach is that URCS costs include a return on investment ("ROI") component that is not an expense item. Thus, Dr. Mathur unnecessarily created a distortion by allocating expense items proportional to, at least in part, the non-expense item of ROI included in URCS. It is also unclear what rationale there is behind certain system-wide relationships Dr. Mathur relies on, such as the relationship between total fixed costs in UP's URCS program and BNSF's system-wide operating expenses for a given year.

⁴⁰ There are additional steps Dr. Mathur takes related to BNSF's URCS fixed costs assigned to the Line discussed below. See Dr. Mathur's Opening Verified Statement, at paragraph 97.

Dr. Mathur cited the procedures used in NECR⁴¹ as support for this approach, which she claimed to improve by including fixed costs from URCS in addition to variable costs. This reliance is misplaced. In the NECR proceeding, because NECR (the landlord) is not a Class I railroad, NECR-specific URCS costs were unavailable . This is why an allocation of NECR’s operating expenses proportional to URCS costs for the eastern region developed for NECR shipments was necessary. In this proceeding, both BNSF’s and UP’s URCS costs are available and may be used to directly calculate operating expenses for BNSF and UP shipments traversing the Kern-Mojave Line by removing the ROI component and using fully allocated costs, which is the approach we follow.

3.2.2. Other costing errors affect both Dr. Mathur’s ATC and operating expense calculations

Because Dr. Mathur’s operating expenses are derived from her calculations of variable and fixed URCS costs assigned to the Kern-Mojave Line, the errors related to her development of these URCS costs discussed in section 3.1 also affect her operating expense calculations.

3.3. Dr. Mathur fails to account for BNSF’s tunnel clearance investment when determining earnings attributable to the Kern-Mojave Line.

In our Opening VS we explained why earnings generated by double-stack intermodal traffic traversing the Kern-Mojave Line must be excluded from the Line’s capitalized earnings valuation.⁴² This is required because double-stack traffic can only move over the Line and, in doing so, generate earnings, due to BNSF’s investment in providing sufficient tunnel clearances to accommodate this traffic. Dr. Mathur does not recognize this issue nor does she make the

⁴¹ See New England Central Railroad, Inc.—Trackage Rights Order—Pan Am Southern LLC, Finance Docket No. 35842 (STB served Oct. 31, 2017) (“NECR”).

⁴² See Baranowski/Zebrowski Opening VS at pages 12-14.

required adjustment to control for it. Thus, her calculation of earnings attributable to the Kern-Mojave Line includes amounts generated by double-stack intermodal traffic.

This inclusion of earnings from double-stack intermodal traffic effectively increases the interest rental amount that Dr. Mathur proposes BNSF pay. In the 1993 Joint Settlement Agreement (JSA), UP and BNSF agreed to preclude additional interest rental from being assessed relating to BNSF's tunnel-clearance investment. Specifically, as cited in our Opening VS, the JSA establishes that "neither party shall be entitled *at any time* to receive or assess interest rental payments with respect to such tunnel clearance improvements."⁴³ [emphasis added] This reflects the obvious principle that BNSF should not pay increased interest rental amounts as a result of BNSF's unilateral investments in the mid-1990s expanding tunnel clearances, which now allow for double-stack intermodal traffic to use the Kern-Mojave Line. Were BNSF to have not made this investment, neither party would be able to move double-stack traffic, and, accordingly, such traffic would not be generating the earnings Dr. Mathur counts when determining the interest rental compensation she would have BNSF pay UP.

3.4. Dr. Mathur does not correctly address the issue of circularity when determining earnings attributable to the Kern-Mojave Line.

While we and Dr. Mathur both agree that assessing BNSF's attributable earnings prior to deducting any interest rental amounts BNSF would pay UP avoids a circularity issue identified in past SSW cases, Dr. Mathur does not fully resolve the issue. Dr. Mathur's inclusion of all of BNSF's earnings on the Line presents a circularity issue previously identified by the Board and wrongly ignores that a portion of the BNSF earnings generated on the Line are attributable to BNSF's assets and resources.

⁴³ See Baranowski/Zebrowski Opening VS at page 13.

When performing a capitalized earnings valuation of the Kern-Mojave Line, both we and Dr. Mathur determined that BNSF earnings and not BNSF's interest rental payments should be used as the starting point for establishing the appropriate valuation base on which BNSF will pay interest rental. This general approach avoids a circularity issue identified in past *SSW Compensation* cases.⁴⁴ A tenant's existing interest rental payments should not be used to set the tenant's future interest rental payments, as would happen by including the existing interest rental payment as part of the Line's attributable earnings. Dr. Mathur addressed this inherent circularity issue by focusing on BNSF's underlying earnings rather than BNSF's current interest rental payment to UP, as do we. However, she assumes – without any explanation – that all of BNSF's attributable earnings should be included when developing the capitalized earnings valuation base.⁴⁵ This means that, under her approach, BNSF would pay rent on all of the attributable earnings it generates from moving its own traffic over the Kern-Mojave Line.

One problem with Dr. Mathur's approach is that BNSF's earnings are not solely generated by BNSF's access to the Line. Consistent with the above discussion on “above-the-wheel” and “below-the-wheel” fixed costs components in an ATC revenue allocation, not all of

⁴⁴ See *Arkansas and Missouri R.R. Co. v. Missouri Pac. R.R. Co.*, 6 I.C.C.2d 619 (Mar. 23, 1990)(“The current compensation is at issue in this case, and we must avoid the circular reasoning which would be involved in any attempt to establish a new level of compensation based on an existing level of compensation which is itself at issue.”).

⁴⁵ See Dr. Mathur's Opening Verified Statement, at paragraph 120. “When deducting line expenses from line revenues, I do not separately subtract the interest rental payments that UP receives from BNSF under the existing trackage rights agreement. Instead, I estimate BNSF's costs based on BNSF's overall operating expenses (for on-segment variable costs) and UP's overall operating expenses (for on-segment fixed costs) from the railroads' 10-Ks and allocate them to the line on the basis of URCS total costs [Footnote 194]. Therefore, the potential circularity concern of incorporating the current Mojave-Kern interest rental payment in the application of the CE method is avoided.”

BNSF's revenues allocated to the Kern-Mojave Line under the ATC process are associated with the "below-the-wheel" fixed track infrastructure that UP owns and BNSF rents. Instead, some portion of these revenues are allocated based on "above-the-wheel" items which pertain to BNSF's own operations and investments as to which UP has no claim.

The fact that not all of BNSF's earnings are attributable to UP's ownership of the Kern-Mojave Line track infrastructure is similarly apparent in Dr. Mathur's allocation of only a share of UP's enterprise valuation to road property (which, as discussed below, is conceptually correct but wrongly implemented). For the same reason that not all of UP's valuation should be allocated to road property, it is equally true that not all of BNSF's earnings associated with traffic moving over the Kern-Mojave Line should be attributed to UP's ownership of the road property. Accordingly, not all of BNSF's earnings should be treated as rent that should be paid to UP, as it would be under Dr. Mathur's proposal.

As we explained in our Opening VS, ATSF would have had no incentive to agree to establishing a joint facility with SP over 125 years ago if ATSF had no prospect of retaining any earnings generated by its operations over the Kern-Mojave Line. These operations involve BNSF's own resources in addition to SP's provision of the Line's fixed infrastructure.⁴⁶ Our inclusion of { [REDACTED] } is an equitable solution that accounts for these factors, whereas Dr. Mathur's approach would provide UP excessive compensation relative to the value of the track infrastructure assets used by BNSF.

⁴⁶ See Baranowski/Zebrowski VS at pages 10-12.

4. Dr. Mathur's development of an earnings multiplier is flawed

Once base annual earnings are developed, the next step in a capitalized earnings valuation is to convert these earnings into a total valuation amount through application of an earnings multiplier. This technique is used to determine the net present value of future earnings attributable to the Line, based on the starting base annual earnings amount. The net present value figure of future earnings provides a measure of the Line's value as a going concern, i.e., what the value of the Line is now based on the attributable earnings the Line will generate into perpetuity.

As we explain in this section, Dr. Mathur develops an earnings multiplier using a methodologically flawed and novel approach not previously used in *SSW Compensation* cases that rests on arbitrary assumptions, omits critical elements, and conflicts with her own observations about UP's and BNSF's actual earnings growth in recent history. While Dr. Mathur claims this novel approach is required to account for future earnings growth, the approach she uses produces an earnings multiplier that is vastly out of line with actual earnings growth for UP and BNSF. This unrealistic result is not surprising because the information required to develop a reliable valuation-based earnings multiplier consistent with past *SSW Compensation* cases is not available in this proceeding, and Dr. Mathur's approach attempting to overcome this lack of information is deeply flawed.

Consistent with past *SSW Compensation* cases where it is not possible to develop a reliable valuation-based earnings multiplier, an earnings multiplier based on the STB's cost of capital should be used in this proceeding, as we do. If it is deemed necessary to account for future earnings growth, the appropriate way to do this is via annual adjustments to the interest rental payment amount based on changes in earnings levels as they evolve. Adjusting the annual interest rental payment set in this proceeding for the Kern-Mojave Line by changes in the CPI may be appropriate, because UP's and BNSF's system-wide railroad earnings have tracked

closely with changes in economy-wide inflation in the past decade as measured by the CPI.

However, due to capacity constraints limiting volume growth, competition limiting rate inflation, and operational realities limiting opportunities for cost reductions, it is not clear whether this assumption is appropriate for the Kern-Mojave Line.⁴⁷

4.1. The required inputs to develop a reliable enterprise valuation-based multiplier consistent with *SSW Compensation* precedent are not available since neither UP nor BNSF have been purchased recently

Dr. Mathur's approach for developing an earnings multiplier looks at the relationship between UP's system wide annual earnings and a portion of UP's total enterprise value attributable to roadway property. However, unlike in the *SSW Compensation* cases where this general approach has been used, the latter figure is not available in the present situation.

In past *SSW Compensation* cases where the CE approach was used, the ICC/STB have used earnings multipliers derived either from (1) the inverse of the STB's nominal pre-tax cost of capital (the cost of capital approach) or (2) the ratio of the road property portion of the consideration paid to acquire the carrier owning the trackage line compared to that carrier's system-wide earnings (the purchase price approach). In the original *SSW Compensation* case, the ICC used the purchase price approach based on the consideration paid to acquire the owning carrier and the subsequent purchase price accounting study that determined the appropriate share of the purchase price to allocate road property.⁴⁸ This same approach was followed in the Conrail

⁴⁷ Also, as we explain in section 6.2, even if earnings inflation did occur in the future, BNSF's upfront funding for replacement capital under the existing trackage rights agreement already provides UP sufficient compensation for inflation.

⁴⁸ "Fortunately, we have before us a specific sale to use to construct the earnings multiple analysis-the primary consolidation transaction itself. This transaction effectively established the fair market value of MPC to UP." (SSW I.)

decision, which explicitly rejected use of relative net book value to determine the appropriate share of the purchase price to allocate to road property.⁴⁹

In other cases, including those where a purchase price was not available, the STB and ICC have used the cost of capital approach.⁵⁰ Most recently in NECR, PAS offered earnings multipliers based on both the purchase price approach and the cost of capital approach, and the STB selected the cost of capital approach.⁵¹ The required inputs to create an earnings multiplier under the purchase price approach as used by the STB in past *SSW Compensation* applications are not available in the present proceeding, and, accordingly, the cost of capital approach should be used instead. As we explain below, Dr. Mathur's attempt to try to account for the lack of required inputs introduces significant distortions, provides an unreliable figure, and should be rejected.

4.2. Dr. Mathur's novel approach to developing a valuation-based earnings multiplier is flawed.

Dr. Mathur advocates a variation of the purchase price approach which uses UP's stock price as of a given date to establish the equity valuation of UP in lieu of having any available

⁴⁹ See 1998 East of Hudson Decision at page 10 ("CP computes the fair market value of road property using the book value relationship of road property to total road property plus equipment. See Plaistow V.S. 12/10/98 Exhibit No. (JJP- 2-1). We use the value developed by Price Waterhouse for allocating road and equipment property, shown in the NS/CSX statement (CSX/NS-177 Exhibit WWW-5) in the Conrail merger case.") See also 1999 East of Hudson Decision at page 5.

⁵⁰ See NECR Decision at 16, footnote 22.

⁵¹ "PAS, on surrebuttal, offers an alternative CE calculation using total system earnings and railroad property as an earnings multiplier instead of the railroad industry pre-tax cost of capital, and the valuation is very similar to that of PAS's approach on reply. (See PAS Surrebuttal 11 & V.S. Baranowski 10, 12-13.) PAS presents this alternative calculation for comparison purposes, while continuing to propose its reply calculation using the pre-tax cost of capital. (Id., V.S. Baranowski 12.) Because the record already provides an acceptable application of the CE methodology from PAS's reply, the Board need not adopt an alternative calculation that neither party advocates."

purchase price information.⁵² Specifically, she multiplies UP's outstanding shares by UP's stock price, i.e., the market capitalization, as of the end of 2021 and 2022 to calculate the market value of equity, plus the book value of UP's debt and less UP's cash. She then allocates a portion of the resulting amount to roadway property based on the relative percentage of net book value for road property to the net book value of road property plus equipment. She calculates a final earnings multiplier by dividing the allocated roadway portion of enterprise value by UP's system wide earnings.⁵³ She then applies this earnings multiplier to both base annual UP and BNSF earnings attributable to the Line. This approach produces an earnings multiplier roughly two times the inverse of the STB's nominal pre-tax cost of capital. Her novel stock price-based approach is flawed and should be rejected for the reasons discussed below.

4.2.1. It is irrational to apply a multiplier based on investor's expectations for UP's earnings growth to BNSF shipments

First, Dr. Mathur uses, without any explanation or justification, the system-wide earnings multiplier she develops for UP to capitalize the earnings for BNSF shipments traversing the Kern-Mojave Line, which comprise the majority of traffic on the Kern-Mojave Line. This mixing and matching is illogical and unsupported. BNSF and UP have different customer bases transporting different mixes of commodity types in different service types. BNSF serves several states where UP either does not serve at all or only accesses small portions of. The two carriers' traffic mix varies considerably. In the 2013 to 2023 period, BNSF has carried almost twice as much intermodal traffic as UP.⁵⁴ Overall, BNSF's system-wide traffic generates lower profit

⁵² See Dr. Mathur's Opening Verified Statement, at paragraph 102.

⁵³ See Dr. Mathur's Opening Verified Statement, at paragraph 103.

⁵⁴ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures".

margins than UP's.⁵⁵ The same is true for Kern-Mojave traffic. {{ [REDACTED] }}
 [REDACTED]
 [REDACTED] R/VCs are a measure of relative profitability for rail shipments commonly used in regulatory matters at the STB that compare a shipment's revenues to its URCS variable costs, where higher R/VC ratios are indicative of higher levels of profitability. The differences in average R/VC levels for BNSF and UP shipments moving over the Kern-Mojave Line are shown on the below table.

Table 5⁵⁶
2022 Comparison of R/VCs for BNSF and UP Kern-Mojave Line Traffic

Average R/VCs For Traffic on Kern-Mojave Line		
	Carload	Intermodal
BNSF	{{ [REDACTED] }}	[REDACTED] }}
UP	{{ [REDACTED] }}	[REDACTED] }}

Given the markedly different characteristics of BNSF's and UP's businesses in general, and of BNSF's and UP's Kern-Mojave shipments in particular, it is illogical to assume, without any explanation as Dr. Mathur does, that a system-wide earnings multiplier based on investor's expectations for UP's future earnings growth would be a reliable proxy to apply to capitalize the attributable earnings of BNSF's shipments moving over the Kern-Mojave Line. For this reason alone, her novel approach should be rejected.

⁵⁵ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures". As of 2023, BNSF's earnings per unit was \$830 compared to UP's earnings per unit of \$1,096 according to each carrier's annual 10k filing.

⁵⁶ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

4.2.2. A UP-system wide multiplier is neither representative of UP's or BNSF's shipments moving over the Kern-Mojave Line

Second, Dr. Mathur's use of a UP system-wide earnings multiplier is not representative of the subset of either the UP or BNSF traffic traversing the Kern-Mojave Line, which has characteristics that are markedly different than both BNSF's and UP's overall system-wide traffic.

4.2.2.1. The Kern-Mojave Line is much more heavily weighted toward intermodal traffic, and using an earnings multiplier based on UP's system wide traffic base that is much more heavily weighted toward carload traffic creates significant distortions.

The Kern-Mojave Line comprises a very small portion of UP's network. In the original *SSW Compensation* case, where a system-wide earnings multiplier was used, the trackage segments at issue spanned over one-thousand miles and covered approximately ten percent of MP's network.⁵⁷ In contrast, the Kern-Mojave Line only comprises 0.2% of UP's network. The traffic characteristics between this small segment of UP's system and UP's system-wide traffic mix differ dramatically. While approximately { [REDACTED] } of UP's system-wide revenue units are intermodal⁵⁸, { [REDACTED] } of UP revenue units traversing the Kern-Mojave Line are intermodal as of 2022.⁵⁹ Similarly, { [REDACTED] } of BNSF revenue units traversing the Kern-Mojave Line are intermodal.⁶⁰ Intermodal traffic faces head-to-head competition with trucks that create vastly different market dynamics than many lines of carload business, which influences relative

⁵⁷ DRG&W was granted trackage rights over MP's 619-mile line between Pueblo, CO and Kansas City (See SSW I at 782) and SP/SSW was granted trackage rights over MP's 430-mile line between Kansas City and St. Louis (See SSW I at 792). MP owned approximately 11,000 route miles at the time of its acquisition by UP.

⁵⁸ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures".

⁵⁹ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

⁶⁰ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

earnings trajectories. Dr. Mathur's implicit assumption that an earnings multiplier that is more heavily weighted towards {{[REDACTED]}} traffic is an appropriate proxy for a traffic base more heavily weighted towards {{[REDACTED]}} traffic is unsupported and should be rejected.

4.2.2.2. UP has stated that the Kern-Mojave Line is capacity constrained, which makes system-wide growth assumptions inapplicable.

Dr. Mathur's advocacy of using an earnings multiplier based on UP's system-wide expectations of future growth also conflicts with UP's stated position that the Kern-Mojave Line is at capacity.⁶¹ Assuming this stated position is correct, it is reasonable to expect that the Line's future earnings potential will be limited due to lack of available capacity to grow volumes. Accordingly, it would not be reasonable to assume that the future earnings expectations for a railroad system generally able to expand, or use existing capacity, would be comparable to the future earnings expectations for a specific segment that had limited capacity to allow for future volume growth. Presumably, UP could also grow its future earnings on Kern-Mojave traffic by raising rates or cutting costs on this traffic more than the overall levels expected by investors across UP's system. But as long as BNSF remains a forceful competitor, any attempts by UP to raise rates ({{[REDACTED]}}) could result in lost volumes, which would diminish future earnings. Nor is it clear what opportunities would exist to reduce costs further for operations over the Kern-Mojave Line than on other parts of UP's system.

⁶¹ See UP Opening Evidence, verified Statement of David W. Hughes at page 3.

4.2.3. Dr. Mathur lacks the purchase price and purchase price allocation study required to develop a meaningful valuation-based earnings multiplier consistent with past *SSW Compensation* applications.

Third, Dr. Mathur lacks the required information to develop a reliable valuation-based multiplier because there has been no recent transaction involving UP. As described above, in every prior *SSW Compensation* case where a valuation-based earnings multiplier was used, a recent transaction established the value of the railroad at issue. These transactions provided two critical pieces of information: a purchase price and a purchase accounting study allocating a portion of that purchase price to road property. In contrast, the UP system, as it exists today, has not been bought or sold since it was created in the 1860s during the Civil War, and neither a purchase price nor a purchase accounting study is available. Dr. Mathur attempts to make up for this lack of information by developing alternative approaches, but, as we explain below, her methods are unreliable and arbitrary. Moreover, they are contradicted by all recent evidence indicating that only a share of the purchase price is allocated to real property in a railroad transaction. For these reasons, as well, Dr. Mathur's novel approach to developing an earnings multiplier should be rejected.

4.2.3.1. Dr. Mathur's use of a fluctuating stock price rather than a fixed purchase price is flawed and unsupported.

Dr. Mathur's approach of using UP's stock price market capitalization rather than a transaction purchase price to determine an equity valuation is arbitrary and has never been used in an *SSW Compensation* case, for good reason. Stock prices fluctuate over time, often due to exogenous market forces as much as changes in a companies' own business, and thus lead to

varying market capitalization equity valuations. In 2022 alone, UP's stock price fluctuated from lows around \$183 to highs around \$280.⁶²

While Dr. Mathur purports to provide support for her approach, the textbooks she cites describe how using stock-price based earnings multipliers are useful for comparing the relative value among companies, not for establishing an absolute value for a given company viewed in isolation.⁶³ Such comparisons among companies are understandably useful information for investors and stock traders ascertaining whether a particular company is over- or under-valued compared to other companies at a particular time, but do not establish a definitive indication of value for that company as is the case when it is purchased in a market transaction via acquisition of the entirety of its shares.

Since the earnings multiplier used here will influence the definitive valuation for the Kern-Mojave Line, on which the interest rental amount BNSF pays will presumably be established for a long time to come, it is unsupported and arbitrary to base this determination on what UP's stock price happened to be on December 31, 2021 or December 31, 2022, as does Dr. Mathur.

⁶² See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures".

⁶³ See Dr. Mathur Opening Verified Statement, at footnote 58 and 59. Damodaran (2012), p. 453 ("In relative valuation, the objective is to value assets based on how similar assets are currently priced in the market.) Koller et al., 2020, p. 257 ("By comparing the multiple of one company versus another, you can examine how the market perceives the company's future relative to other companies."). Koller et al., 2020, p. 203 ("One simple way that investors and executives value companies is to value a company in relation to the value of other companies...).

4.2.3.2. The stock price valuation Dr. Mathur uses unfairly makes BNSF pay now for earnings growth expectations of investors as of a given time that may or may not be realized in the future

Dr. Mathur’s stock-price based multiplier makes BNSF pay now for earnings growth UP may not realize in the future. As Dr. Mathur herself explains, the stock price on which she bases her valuation depends on investors’ current expectations (at least as of December 31, 2021 and December 31, 2022) of UP’s future earnings growth.⁶⁴ Dr. Mathur does not address the possibility that these expectations will not be realized, and, if they are not, what implications this has on BNSF’s interest rental payments to UP for use of the Kern-Mojave Line. As discussed further in Section 4.3, this is, in fact, what occurred in 2021 and 2022, when analysts’ forecasts for UP’s earnings growth at that time for 2023 and 2024 were higher than the earnings UP actually realized in 2023 and 2024.⁶⁵

Dr. Mathur would significantly increase BNSF’s interest rental payments for use of the Kern-Mojave Line based on investors’ expectations for UP’s system-wide earnings growth (among many other factors the affect stock prices at a given time) implicit in UP’s stock prices sampled as of December 31, 2021 and December 31, 2022. It would be unfair to make BNSF pay now for such speculative growth in the future, even if it were to occur. In its 2002 Trinidad Railway decision⁶⁶, the STB reached this same conclusion regarding the inappropriateness of accounting for future growth in a valuation used to set current compensation levels.⁶⁷ As

⁶⁴ See Dr. Mathur Opening Verified Statement, at paragraph 51.

⁶⁵ See Reply Workpaper “Earnings Multiplier Analysis.xlsx”, at tab “Charts and Figures.”

⁶⁶ See Trinidad Ry.—Aban. Exemption—in Las Animas Cty., Colo., AB 573X(STB served Apr. 17, 2002) (offer of financial assistance valuation).

⁶⁷ See 2002 Trinidad Railway Decision at page 6 (discussing how the line’s owner “states that it developed its GCV based on our methodology as described in Caddo Antoine, but a GCV based on future expectations does not follow the methodology in that decision, in which the GCV was determined by using the current value of a line, rather than a future value. Under that

discussed above, the STB has never embraced use of a stock-price-based valuation for establishing interest rental compensation. It should continue to follow this precedent and reject Dr. Mathur's flawed proposal.

4.2.3.3. Dr. Mathur's use of relative net book value rather than a purchase price accounting study to allocate a portion of her flawed valuation of UP to road property is unsupported and contrary to SSW Compensation precedent.

Dr. Mathur's novel approach to developing an earnings multiplier introduces another problem that is even more significant. Since there has been no recent transaction involving UP, there is no related purchase accounting allocation study that establishes the portion of the purchase price to allocate to road property. When a transaction occurs, an exhaustive purchase accounting study is typically performed to determine the appropriate share of the purchase price to allocate to the company's real property. This is especially important for a railroad transaction, since the purchase price accounting study influences how the STB makes costing determinations underlying its regulatory obligations.

Dr. Mathur lacked this critical piece of information that has been used in every *SSW Compensation* case where a valuation-based earnings multiplier has been used. Instead, Dr. Mathur allocated a portion of her stock-price based valuation to road property based on road property's share of net book value.⁶⁸ Specifically, using 2021 as an example, Dr. Mathur starts with her already-arbitrary stock-price based valuation of \$185 billion, and then allocates 82% of this valuation to roadway property because 82% of UP's net book value of real property is for road property.⁶⁹ She provides no explanation for why it is reasonable to expect that the road

methodology, [the witness for the line's owner] should have developed GCV based on current year 2002 data." See also 2017 NECR Decision.

⁶⁸ See Dr. Mathur Opening Verified Statement, at paragraph 103.

⁶⁹ See Dr. Mathur Opening Verified Statement, at Exhibits 14-15.

property share of the much lower net book value is representative of the road property share of her so-called enterprise valuation that is over three-times higher.

SSW Compensation precedent rightly cautions against using net book value to allocate a portion of a current market valuation to road property. Rather, the STB and ICC have consistently required a purchase accounting study, or some study of the current market value of road property, to be available in order to determine the appropriate share of the valuation to allocate to road property. In the original *SSW Compensation* case, the ICC recognized that information on the relative road property share of net book value was available, and then proceeded to conclude that another round of evidence was necessary since this net book information was insufficient to establish the portion of market value to allocate to roadway property.

“Since the tenant railroads would be using their own equipment, the use of a multiplier based on both road and equipment overstates the value of the railroad property to be used. As reported in the 1979 Annual Report Form R-1 of the MP, road property was 43.50% of railroad property, equipment was 55.2%, and other 1.3%. Thus, **a more precise multiplier would be one based only on the market value of the road property when the merger was undertaken. Since we do not have this figure, the multiplier cannot be developed at this time.** Consequently, comments are requested concerning the value of this road property. Specifically, **we are interested in the market value of that portion of the UP's consideration paid for the MP that is allocated to road property.** This, in turn, will serve as the basis for developing a revised "road property only" multiplier to apply to the line segment earnings.”(See *SSW II* at pages 680-1) [emphasis supplied]

As the above passage explains, the ICC, while having net book information, could not develop an earnings multiplier without further information on what portion of the market value was properly allocable to road property. Accordingly, it ordered a new round of evidence to obtain the information. Upon consideration of the evidence submitted, the ICC considered both a

current cost valuation of roadway property and the purchase accounting study following the transaction, concluded both were imperfect, but used the results from the purchase accounting study as reasonably accurate. This is described in the following quote.

“We have reservations concerning both SP’s and UP’s evidence regarding the relative weights of roadway, equipment, and other property. SP’s figures are based on 1982 purchase accounting, which may differ from the 1979 relative weights. UP’s figures are based on the current costs of road and equipment, values that are not similar to the price actually paid for MP.... In this case, the purchase in 1979 and the purchase accounting valuation reported in UP’s 1982 10-K are proximate enough in time to be considered a reasonable estimate of current market valuation. The UP’s contention that the relative weights of road, equipment, and other property should be based on the 1979 current cost valuation of MP is not reasonable. The current cost valuations of this property contained in the 1979 Form 10-K are three times the price actually paid for MP and WP combined.” (See SSW III at page 533).

In the above passage, the ICC expressed reservations over a road property allocation from an actual purchase accounting study because it was outdated by three years. In contrast, Dr. Mathur uses the relative net book value based on investment amounts often many decades old to determine the portion of current value to allocate to roadway assets, which the ICC dismissed summarily when concluding additional evidence was required. Moreover, while the ICC was concerned about a three-fold difference between the purchase price amount and the amount determined by a current cost valuation study, which it rejected, Dr. Mathur uses a net book value to allocate a current valuation amount which is over three-fold different without any concern or justification.

The STB also required sufficient data establishing the appropriate share of the valuation to allocate to roadway property in the *East of Hudson* Conrail case. This proceeding was likewise immediately preceded by a transaction, and there was likewise a purchase accounting study which was used to establish the portion of the valuation (based on the purchase price) to

allocate to road property when determining trackage rights compensation under the SSW
Compensation methodology.⁷⁰

4.2.3.4. Recent evidence shows that it is unrealistic for Dr. Mathur to allocate her entire stock-price based valuation for UP to road and equipment property.

In allocating a portion of her stock price-based valuation to road property based on its relative share of UP's net book value for road property and equipment, Dr. Mathur wrongly assumes that it is realistic for an entire current market valuation of a railroad to be allocated to only road property and equipment. This assumption is contradicted by the two major railroad transactions in recent times: Berkshire's acquisition of BNSF in 2010 and CP's acquisition of KCS in 2021. To show this, we first develop the valuations of those two companies immediately prior to when they were acquired using the same approach Dr. Mathur uses in this proceeding to develop an enterprise valuation for UP. Under Dr. Mathur's approach, the entirety of this valuation amount may be allocated to road and equipment property. However, as the below table shows, the amounts actually allocated to road property and equipment under the detailed purchase accounting studies following those transactions are less than the total valuation amounts as developed under Dr. Mathur's approach. This confirms that Dr. Mathur's unsupported assumption that the entirety of UP's valuation may be assigned to road property and equipment is flawed and contradicted by the evidence available from the most recent major railroad transactions.

⁷⁰ See, *infra*, footnote 50.

Table 6⁷¹
**Amount of Stock-Price Valuation Allocated to Real Property in Dr. Mathur's Work
 Compared to Actual Allocations in Purchase Accounting Studies from Recent Railroad
 Transactions**

	Valuation Using Dr. Mathur's Approach Immediately prior to Transaction	Actual Value Allocated to Road and Equipment Property in Purchase Accounting Study Following Transaction	Share of Mathur's Valuation Allocated to Road and Equipment Property
Berkshire's 2010 Acquisition of BNSF	\$35.0 billion	\$21.0 billion	60%
CP's 2021 Acquisition of KCS	\$24.4 billion	\$21.5 billion	88%
Dr. Mathur's 2021/22 Valuation of UP	\$186.0 billion	None Available	Assumed 100%

There is no way to reliably determine what portion of Dr. Mathur's stock price-based valuation of UP should be allocated to road property and equipment based on the available information. Moreover, there is no way to then reliably determine what subset of this amount should be allocated specifically to road property, as is required when developing an earnings multiplier for use in a capitalized earnings valuation under the *SSW Compensation* methodology. In the two major railroad transactions in recent history, not all of the pre-purchase valuation amount was allocated to road property and equipment, which directly contradicts Dr. Mathur's assumption that the entirety of the valuation amount she develops for UP should be allocated to either road property or equipment. Accordingly, her earnings multiplier is contrary to fact, arbitrary, and unsupported, and should be rejected.

⁷¹ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures".

4.2.3.5. UP's intangibles valuations further confirms that Dr. Mathur errs by allocating her entire valuation to real property.

In developing the earnings multiplier for the Kern-Mojave Line, Dr. Mathur acknowledges that “[u]nder the CE approach, a railroad line is valued as a going concern and as an economically productive asset.”⁷² She states further that “[t]he CE method estimates the value of the railroad line based on the earnings the line generates. Conceptually, the CE method aims to calculate the present value of economic benefits that the owner expects to derive from the railroad line given current earnings, expectations about growth and risk, and the time value of money.”⁷³ Thus while recognizing implicitly that the going concern value is derived from all railroad assets, Dr. Mathur apportions earnings and enterprise value to only road property and equipment. This approach fails to recognize that a portion of the earnings generated by the railroad assets are attributable to assets other than road property and equipment and may include other assets such as internally generated and/or acquired intangible assets.

Intangible assets commonly associated with railroad operations and the generation of railroad earnings may include:

- Proprietary information technology systems
- Trained workforce
- Customer relationships
- Leasehold interests
- Easements
- Air rights and water rights
- Government permits and licenses

Intangible assets are crucial for efficient operations, maintaining a competitive advantage and generating earnings and value. They are, however, rarely reflected on corporate balance sheets.

⁷² See Dr. Mathur's Opening VS, at paragraph 13.

⁷³ See Dr. Mathur's Opening VS, at paragraph 38, 39.

In discovery in this proceeding, BNSF requested from UP any valuations of its intangible assets undertaken as part of its normal course of business. UP did not produce any meaningfully responsive materials.

Its discovery responses notwithstanding, it is clear that UP recognizes the value of intangible assets and uses valuations of such where it is helpful. While the amount of publicly available information is limited, two recent court proceedings demonstrate that UP considers its intangible assets to be a material portion of its total enterprise valuation. In *Union Pacific Railroad Company vs. Wisconsin Department of Revenue, et al.*, a case concerning the tax-exempt status of UP's custom computer software assets decided in 2019, an expert appraiser of intangible assets valued these system-wide software assets at \$6.2 billion in 2015⁷⁴. This valuation for a single intangible asset represents approximately 13.3% of UP's 2015 road and equipment net book value of \$46.7 billion.⁷⁵

UP's intangible asset valuations are not limited to just its custom computer software assets. In *Union Pacific Railroad Company vs. Utah State Tax Commission*, a similar case decided in 2021 concerning the 2018 tax year, UP included intangible asset valuations of both its computer software and assembled workforce.⁷⁶ While the exact amounts of these valuations are redacted from publicly available filings, this case offers another example of how UP considers its intangible assets, in addition to its tangible road and property assets, to be a material portion of its total property values.

⁷⁴ See "Short Appendix of Appellants Wisconsin Department of Revenue and Secretary Peter Barca.pdf" in *Union Pacific Railroad Company vs. Wisconsin Department of Revenue*, at page 4

⁷⁵ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx".

⁷⁶ See Reply Workpaper "Findings of Fact and Conclusions of Law.pdf" at page 12.

These examples identify just two instances of UP's recognition of intangible assets as contributing to its overall valuation. There may, in fact, be others. Only UP possesses the requisite information to properly attribute the relevant portion of its enterprise valuation to the intangible assets contributing to that valuation. The fact that Dr. Mathur has attributed none of the enterprise valuation to intangible assets can only mean that her earnings multiplier for the Kern-Mojave Line is overstated.

4.3. The levels of earnings growth cited by Dr. Mathur as justification for her valuation-based multiplier support use of a multiplier based on the STB's cost of capital

Considering the numerous methodological flaws and omissions described above, it is not surprising that the earnings multiplier developed by Dr. Mathur would be inaccurate. In this section, we show that the net effect of her flawed approach is to develop an earnings multiplier for the Kern Mojave Line that is overstated due to locking in into perpetuity system-wide earnings growth assumptions that are significantly above UP's and BNSF's historical earnings growth. Dr. Mathur provides no reason to expect the historical earnings trends to change, much less increase significantly. This is particularly true for the Kern Mojave Line which, according to UP, has constrained capacity.

As a result of locking in future earnings expectations that are well above historical trends, Dr. Mathur's earnings multiplier nearly doubles the CE valuation, and hence also nearly doubles the interest rental amount she would have BNSF pay UP for use of the Kern-Mojave Line. In contrast, we recommend that the earnings multiplier be based on the STB's cost of capital, which discounts the effects of future earnings growth, and allows for actual earnings growth to be accounted for if and when it occurs. Based on the observation that UP's and BNSF's earnings growth has generally tracked economy-wide inflation as measured by the CPI, this may be done via annual adjustments via changes in the CPI if deemed necessary.

As support for her view that it is appropriate to use an earnings multiplier that includes the market's expectations for growth as of a particular time, Dr. Mathur observes that UP's and BNSF's earnings have grown at average annual rates of 3.2 and 2.9 percent respectively in the 2013 to 2022 period.⁷⁷ Dr. Mathur does not, however, explain why this justifies use of the prospective growth expectations embedded in her valuation-based earnings multiplier, which are many multiples higher than those historical levels.

The growth expectations implicit in Dr. Mathur's valuation-based multiplier may be most readily seen by examining the STB's Multi-Stage Discounted Cash Flow Model (MSDCF). The MSDCF backs out the effects of earnings growth expectations in order to isolate the cost of equity.⁷⁸ Dr. Mathur's approach is, in essence, a version of the MSDCF that does not back out future earnings growth expectations, and thus produces an earnings multiplier that includes an allowance for prospective earnings growth.⁷⁹

⁷⁷ See Mathur Opening VS, at paragraphs 100-101.

⁷⁸ The MSDCF is used as part of the STB's calculation of the cost of equity for the railroad industry, which in turn influences the STB's annual determination of the railroad industry cost of capital. The MSDCF starts with a rail carriers' base annual earnings and increases this amount in future years based on analysts' growth forecasts at the time for the next 10-years, and long run growth in real GDP plus inflation thereafter. The MSDCF then solves for the discount rate, i.e., the cost of equity, which equates the net present value of the future cash stream to the rail carrier's current stock-market capitalization. Effectively, this process isolates the cost of equity from the effects of growth expectations that are baked into the stock-market capitalization. From this, an earnings multiplier may be derived that likewise does not include an allowance for prospective earnings growth. Conversely, failing to apply prospective growth to future earnings would provide a cost of equity figure, and an associated earnings multiple, that includes an allowance for future earnings growth.

⁷⁹ We provide a workpaper illustrating that Dr. Mathur's calculation of the earnings multiplier as a ratio of the total valuation amount to base annual earnings is conceptually the same as running a MSDCF model that does not account for prospective earnings growth. For clarity, this example is focused on the cost of equity component and does not cover other differences between Mathur's enterprise-valuation approach and the STB's cost of capital determination for the railroad industry, such as how debt is accounted for and application of a roadway property share.

In 2021 and 2022 for UP, the STB’s MSDCF model shows earnings growth expectations ranging between 10 and 18 percent in the next ten years, and over 5 percent per year thereafter.⁸⁰ These earnings growth expectations are well above the actual earnings growth of 3.2 percent annually cited by Dr. Mathur for UP between 2013 and 2022. As the below table shows, in contrast to the market’s expectations of prospective growth for UP as of 2021 and 2022, in the following two years thereafter for which we have actual data (2023 and 2024) UP’s earnings were flat.

Table 7⁸¹
Comparison of Forecast and Actual Earnings Growth Rates Through 2024 in UP’s 2021 and 2022 MSDCF Models

MSDCF Year	Projected Annual Earnings Growth Rate Through 2024	Actual Annual Earnings Growth Rate Through 2024
2021	17.0%	1.3%
2022	9.6%	-1.0%
Average	13.3%	0.1%

Dr. Mathur has not explained why the modest earnings growth rates she has observed in recent history justify locking in the aggressive earnings growth expectations her valuation-based multiplier assumes will occur for future earnings attributable to the Kern-Mojave Line into

See Reply Workpaper “Earnings Multiplier Analysis Workpaper.xlsx”, at tab “MSDCF Illustration.”

⁸⁰ While the earnings forecasts are applied to free cash flow amounts in the STB’s MSDCF model, the original forecast figures are for operating earnings, which is consistent with how Dr. Mathur calculates UP’s and BNSF’s earnings growth from 2013 to 2022. See 5/1/2020 AAR Filing, EP 558, V.S. of John Grey at page 39 (“These growth rates are described in the Thomson Financial Glossary as the expected annual increase in operating earnings over a company’s next full business cycle.”).

⁸¹ See Reply Workpaper “Earnings Multiplier Analysis Workpaper.xlsx”, at tab “Charts and Figures”.

perpetuity. The valuation-based earnings multipliers she develops are nearly double those we derive from the STB's pre-tax cost of capital⁸² due to including these prospective growth expectations, which has the effect of nearly doubling the interest rental amount she would have BNSF pay UP, and should be rejected.

Instead of using the unreasonable approach of locking in prospective earnings growth expectations that may not be realized for the Kern-Mojave Line as Dr. Mathur proposes, the STB's nominal pre-tax cost of capital may be used to derive an earnings multiplier consistent with *SSW Compensation* methodology precedent, and the prospects of future earnings growth may be accounted for by making going-forward adjustments if deemed necessary.⁸³ This is consistent with other SSW cases where the prospects of future earnings growth have not prevented the STB from deriving an earnings multiplier from the STB's nominal pre-tax cost of capital in prior cases, including those where growth in line earnings may be expected.⁸⁴

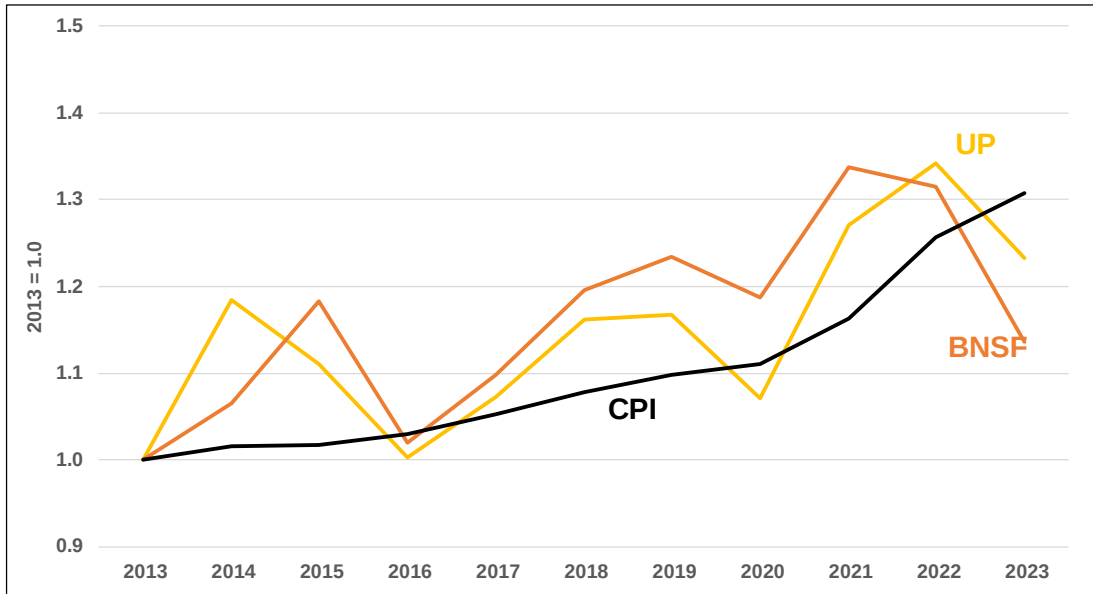
While UP's and BNSF's earnings levels have changed over time, as the below chart shows, actual levels of earnings growth are generally in line with economy-wide inflation as measured by the CPI.

⁸² Specifically, she develops valuation-based earnings multipliers of 15.7 and 12.6 for 2021 and 2022 respectively, compared to the earnings multipliers of 7.7 and 7.6 we derive from the STB's pre-tax cost of capital.

⁸³ For reasons explained in Section VI, such adjustments may not be necessary because inflation is already covered via capital replacement provisions in the maintenance and operating component of the existing trackage rights agreement.

⁸⁴ See 2002 Trinidad Decision at page 6 (as discussed above) and the 2017 NECR Decision.

Chart 3⁸⁵
UP and BNSF Earnings Compared to CPI: 2013 to 2023



As can be seen in the above chart, the overall trend of the CPI tracks closely with the changes in the two carriers' system-wide earnings over time. It is not clear whether earnings attributable to the Kern-Mojave Line will follow this same trend, in particular because according to UP the Kern-Mojave Line is already capacity constrained.⁸⁶ As further discussed in Section 6.2, an annual inflation adjustment using the CPI could be applied to the annual interest rental amount we develop to account for future inflation on a going forward basis if deemed necessary.

5. The interest rental rate and share terms used by Dr. Mathur are flawed.

In addition to overstating base annual earnings attributable to the Kern-Mojave Line and overstating the valuation of the Kern-Mojave Line by locking in future levels of earnings growth well above historical levels via her flawed earnings multiplier, Dr. Mathur's attempt to

⁸⁵ See Reply Workpaper "Earnings Multiplier Analysis Workpaper.xlsx", at tab "Charts and Figures".

⁸⁶ See UP Opening Evidence, verified Statement of David W. Hughes at page 3.

re-write long-standing interest rental terms of the Kern-Mojave Line joint facility is a principal reason why her interest rental compensation proposal falls { [REDACTED] } (as discussed below) and so far above levels of compensation previously agreed to by the parties and established by the ICC. Dr. Mathur dismisses the practice established by the parties and followed by the ICC of using an interest rental rate aligned with prevailing interest rate levels for the Line in favor of using the STB's much higher nominal pre-tax cost of capital rate. She further dismisses the parties' long-established practice of using a 50% interest rental share rather than a usage-based share, which is how maintenance and operating expenses (which include the vast majority of capital spending on the Line) are allocated under the existing trackage rights agreement.

As we explain below, Dr. Mathur's attempts to justify these changes are based on abstract economic assertions that do not apply to the Kern-Mojave Line and wrongfully rely on past instances where *SSW Compensation* principles were applied to categorically different circumstances. She ignores that the ICC has previously rejected using the cost of capital as an interest rental rate for the Kern-Mojave Line, and does not account for the important reasons that led the ICC to conclude that a cost of capital interest rate was inappropriate and that remain equally valid today. As such, her attempt to re-write the interest rental rate and share terms of the Kern-Mojave Line joint facility should be rejected..

5.1. The ICC properly rejected SP's prior attempt to re-write the interest rental rate using the cost of capital.

When the ICC set the terms of the current trackage rights agreement in the 1967 Order, significant consideration was given to the circumstances under which the parties first agreed to share the Line and the parties' long history thereafter of sharing in development of the joint facility. At the time, SP advocated for using the cost of capital with arguments comparable to

those now offered by Dr. Mathur. Referencing the existing agreement considerations, the ICC rejected SP's proposal to use a cost of capital rate for the interest rental rate.

The ICC cited two critical circumstances in rejecting SP's proposal: (1) BNSF's predecessor ATSF would have built its own parallel line had SP not offered commercially acceptable terms (terms that UP now seeks to override); and (2) ATSF has contributed substantially to updating and improving the Line. As discussed below, these observations led the ICC hearing examiner to conclude that a cost of capital interest rate would wrongly base ATSF's going-forward payments on the counterfactual supposition that it was a new tenant carrier using the joint facility for the first time. The ICC accepted this conclusion.⁸⁷ Dr. Mathur's advocacy for a nominal pre-tax cost of capital interest rental rate fully embraces this counterfactual supposition rejected by the ICC. The Board should reject it, just as the Board's predecessor rejected the same argument from UP's predecessor. The following section presents the relevant details of the ICC's examination of special circumstances applicable to the Kern-Mojave Line.

5.1.1. ATSF decided not to construct its own parallel line when ATSF agreed to establish the Kern-Mojave joint facility.

The ICC's 1967 Order explains that ATSF could have built its own line at the time it was negotiating with SP, but instead chose to share the Kern-Mojave Line due to the parties reaching commercially agreeable terms establishing the joint facility.

At the times the 1899 and 1912 agreements were negotiated Santa Fe was prepared and able to build its own railroad along the survey... The fact that the joint line had adequate excess capacity apparently was a major consideration that persuaded the two railroads to enter into joint operations. (*See* 1967 ICC Order at page 13)

⁸⁷ *See* 1967 ICC Order at 380. *See* also 1965 Hearing Examiner's report at 23. Both documents are also produced as Workpapers.

As the above passage explains, ATSF was not dependent on SP, but instead voluntarily entered negotiations at SP's invitation to determine whether a mutually beneficial arrangement could be reached establishing a joint facility. This history is easily distinguishable from other trackage rights situations where the STB imposes trackage rights which take the incumbent's property for the tenant's use and where the strict terms of condemnation compensation are presumably required. In the current proceeding, no such condemnation was involved, but rather both sides voluntarily bargained to reach a commercially acceptable arrangement.

5.1.2. ATSF's option of building its own parallel line influenced the terms established for the Kern-Mojave joint facility.

Importantly, ATSF had considerable leverage when it bargained for a commercially acceptable arrangement for shared use of the Kern-Mojave Line. Although SP had available capacity, ATSF was not dependent on using this capacity, but instead was ready and able to build its own parallel line in the alternative case that a deal was not reached. In fact, the terms negotiated for the Kern-Mojave agreement were made in direct reference to this alternative. In the following passage, the examiner explains how the valuation base, the interest rental share, and the interest rental rate for the 1912 agreement were all bargained for in context of ATSF's alternative to build its own parallel line.

"It has already been noted that, in negotiation of the 1912 operating agreement, Santa Fe advised Southern Pacific that Santa Fe would not agree to a rental based upon a greater valuation of the joint line than the \$3,770,000 estimated construction cost of the proposed Santa Fe Tejon Pass line between Bakersfield and Rogers, which Santa Fe was considering as its alternative to continued joint operations. The 1912 agreement fixed a rental on future capitalizable costs for additions and betterments at two and one-quarter percent per annum. That percentage applied to \$3,770,000 would result in a fixed annual rental of \$84,825, which is the fixed annual rental prescribed by the 1912 agreement." (See 1965 Hearing Examiner's report at page 10)

As described above, the fixed annual rental of \$84,825 divided by the valuation of \$3,770,000 equals 2.25 percent, which implies a fifty percent share of a 4.5 percent interest rental rate. This

makes clear that ATSF only agreed to forgo constructing its own line because the interest rental valuation base was based on its own cost of doing so, and, of equal importance, because the interest rental rate and interest rental share affecting its going forward interest rental payment for the Kern-Mojave Line were commercially agreeable.

5.1.3. The option of ATSF building a parallel line became prohibitively expensive.

While ATSF leveraged the option of building a parallel line when negotiating the terms of the Kern-Mojave Line joint facility, once the arrangement was in force this option eventually became infeasible, as recognized in the 1967 Order:

“The contract was renegotiated in 1912, and at that point, it was estimated that Santa Fe would have to expend \$3,770,000 if it were to construct its own connecting link. The present-day cost of construction would be prohibitively high.” (See 1967 ICC Order at page 368)

As the ICC’s careful review of the Line’s history reflects, it would not be appropriate to ignore the leverage exercised at the time when the agreement was reached simply because at some future point that leverage was no longer available.

5.1.4. ATSF contributed to the development of the Kern-Mojave Line.

No longer having the realistic option to build its own parallel line, ATSF instead co-developed with SP the Kern-Mojave Line into a modern joint facility. The examiner explains that the Line underwent major upgrades, towards which Santa Fe contributed substantially.

“When joint operations commenced in 1899, the line was a single track railroad constructed with lighter than 90 pound rail and with only such side tracks and passing tracks as were necessary for the traffic of that time. The current modern well-constructed joint line has been described. **Santa Fe has contributed substantially to the upgrading of the joint line...**” (See 1965 Hearing Examiner’s report at page 14) [emphasis added].

In the immediately following passage, the examiner lays out the distinction that the costs for these significant upgrades were not primarily additions and betterments funded by SP on which ATSF would pay interest rental on. Instead, the upgrades were largely accomplished through

renewals and replacements of existing facilities, to which ATSF directly contributed to the cost of by providing upfront funding:

“Net additions and betterments are made at the expense of Southern Pacific and the cost thereof is added, under the Commission’s uniform accounts requirement, to the valuation base upon which Santa Fe has paid fixed annual rental. **Improvement and upgrading of the joint line has largely been accomplished by renewals and replacements of existing facilities.** A large part of the cost thereof is chargeable to operating expense, not to capital accounts. For example, in laying new and heavier rail, only the cost of the increased weight of rail is capitalized and added to the rental base. All of the costs of labor, tools, and equipment to effect the changeout of the rail is chargeable to operating expenses, along with other incidental operating expenses occurring in connection with rail renewals or betterments. These expenses plus the current cost of the lighter rail retired, less the salvage value recovered, are apportioned as operating and maintenance expenses between Southern Pacific and Santa Fe...”(See 1965 Hearing Examiner’s report at page 14) [emphasis added]

As the examiner explains above, ATSF’s maintenance and operations payments under the cost-sharing provisions of the agreement significantly contributed to the transformation of the Kern-Mojave Line from a modest single-line facility into a modern, well-constructed facility capable of handling both parties’ traffic volumes of today.⁸⁸

5.1.4.1. Under RRB accounting, ATSF compensated SP for the full cost of all track related additions and betterments.

The passage quoted immediately above reflects the nuances of replacement-retirement-betterment accounting, under which replacement of existing track is treated as an operating expense that was shared based on usage by the parties. With each renewal, ATSF paid its share of the current cost of the existing rail weight (e.g., the fractional share of 90 divided by 110 if

⁸⁸ The examiner provides further descriptions of this at page 4-5. “The joint line is a modern, well maintained line of railroad with no deferred maintenance. The roadbed is fully ballasted with crushed rock. The rail is predominantly 132-pound and 136-pound rail... That portion of the joint line over the west slope of the Tehachapi range is 29 miles of single track with convenient passing sidings, and the balance of the line is 39 miles of double track with necessary passing sidings. Main line trackage totals approximately 107 miles. The single track has centralized traffic control and the double track has automatic block signals or centralized traffic control. The line is capable of handling the large volume of traffic now moving over it.”

upgrading 90-pound rail to 110-pound rail), plus all of the labor and equipment costs associated with installing any incremental upgrades of the rail.⁸⁹ Only the material cost for the incremental rail weight was treated as an addition and betterment. In the next replacement cycle, the entirety of the increased rail weight from the prior cycle was paid in a similar fashion, along with all installation costs. In essence, under RRB accounting, ATSF compensated SP for the full cost of all track related additions and betterments in the replacement cycle following the recording of the addition and betterment. In this way, the ICC correctly concluded that significant amounts of funding for improving and upgrading the line were contributed by ATSF via renewals and replacements of existing facilities.

5.1.4.2. Available financial data confirms the majority of Line improvements were funded by maintenance and operation payments shared by SP and ATSF based on relative usage rather than by additions and betterments exclusively funded by SP.

The available financial data for the Line corroborates the examiner's finding that SP and ATSF largely shared in the cost to upgrade the Line via charges to operating expense accounts rather than SP exclusively providing funding via charges to property expenses. Between 1912 and 1961, the valuation base increased from approximately \$4.2 million to \$9.2 million.⁹⁰ This indicates that only about \$5 million was charged to property accounts, i.e., this represents the amount funded exclusively by SP and added to the interest rental base on which ATSF would pay

⁸⁹ The ICC's 1967 Order provides an example of this methodology at page 374-375. "Thus, if 10,000 tons of 100-pound rail originally installed at a cost of \$50 per ton were replaced by 12,000 tons of 120-pound rail at a cost of \$100 per ton...Santa Fe...would increase the ledger amount by the net cost of the betterment." The Order goes on to provide an table that calculated the present evaluation of such rail assets at the Ledger value plus the net cost of the betterment. The net cost of the betterment is equal to the replacement cost (12,000 tons of new rail x \$100 per ton = \$1.2 million replacement costs) multiplied by the incremental weight share of the new rail (120 lbs. - 100 lbs. = 20 lbs./120 lbs.).

⁹⁰ See 1967 ICC Order at page 374.

annual interest rental.⁹¹ In contrast, over that same period ATSF paid as its usage-based share of charges to operating expense accounts over \$20 million, including the replacements and renewals the examiner identified as contributing to the Lines' upgrades and improvements.⁹²

The valuation base was updated to \$17 million in the 1967 Order. As of 1991, this valuation base was {REDACTED}.⁹³ Thus, only {REDACTED} of investment in the Kern-Mojave Line was provided exclusively by SP during this time period.

Consistent with the small amounts of funding for the Kern-Mojave Line which SP has exclusively provided and the large amounts of funding SP and ATSF have jointly provided in past history, recent patterns confirm that BNSF and UP continue to jointly contribute significant amounts of funding. Under the JSA, BNSF paid both a usage-based share of maintenance and operations and a one-half share of additions and betterments. Between the 2009 to October 2022, the time period for which data are available in the record of this proceeding, BNSF contributed approximately {REDACTED} in capital funding to the Kern-Mojave Line, the {REDACTED} {REDACTED} is for capital replacements.^{94, 95} As discussed further below, the fact that ATSF/BNSF has and continues to share in the majority of capital funding provided for the Line contradicts Dr. Mathur's view that UP is incurring investment costs on behalf of BNSF on which it should be compensated for at its cost of capital.

⁹¹ See 1965 Hearing Examiner's report at page 24.

⁹² See 1965 Hearing Examiner's report at page 11.

⁹³ See Reply Workpaper "SP's Reply Statement on Methodology and Procedure.pdf."

⁹⁴ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

⁹⁵ Even the small amount of capital for additions and betterments was shared 50/50 between the parties under the terms of the JSA then in place, as discussed further below.

5.1.5. The ICC rejected SP's proposal to use a cost of capital interest rental rate due to the specific circumstances of the Kern-Mojave Line.

The commercial and financial circumstances described above led the ICC to reject SP's proposal to base the interest rental rate on the cost of capital. SP had proposed using a 10 percent interest rental rate that was developed based on the rate of return investors would require when raising funds to finance railroad construction using a mix of debt and equity financing, i.e., the cost of capital.⁹⁶ The examiner found that, "after consideration of the relevant facts,"⁹⁷ SP's proposal to use the cost of capital for an interest rental rate should be rejected. Importantly, the examiner emphasized the parties' long-history of joint operations and shared contributions to improving and updating the Line described in detail above.

The Southern Pacific formula for computing fixed annual rental is based entirely on new financing of new construction. It is not related to a fair return on an investment already made or upon a line of railroad which was completed in 1876, which has been in operation since that time, which has been used in these joint operations for more than 65 years, and which has been improved and updated as required. In contrast, both parties agree that all future additions and betterments will be added to the valuation base, for the purpose of computing fixed annual rental, only to the extent that the cost thereof is chargeable to property accounts under required accounting procedures as discussed under the subject "Special circumstances for consideration." (See 1965 Hearing Examiner's report at 23)

This passage describes how a fair return on the Line needs to account for the original conditions of when the Line was built and the joint facility was established, and to recognize the extent to which both parties shared in the costs for improving and updating the Line since then.

To be clear, the examiner does not conclude that ATSF's contributions to the Line represent an ATSF ownership stake that should be exempted from the valuation base. This has

⁹⁶ See Examiner's report at 22 and UP brief at 39-40. Note this description is comparable to the description of the cost of capital provided by Mathur. "[T]he cost of capital represents the breakeven return on investment for investing capital to build or make additions and improvements to the railroad line." See Mathur at paragraph 58.

⁹⁷ See Examiner's report at page 23.

also been acknowledged in more recent ICC decisions. Rather, the fact that ATSF has contributed substantially to the development of the Line should influence the selection of an appropriate interest rental rate to apply to the valuation base. As we discuss more in the next section, a cost of capital interest rental rate implies that SP provided all up-front capital funding attributable to the current valuation, and thus would be entitled to recover a share of the costs of providing this funding from ATSF. However, as the examiner found, it would have been inappropriate for SP to earn a return on the cost of capital for capital contributions made by ATSF, since SP did not have to raise these funds or incur capital costs for doing so itself.

The ICC accepted the examiner's finding on the interest rental rate and interest rental share in full.⁹⁸ The only change in this arrangement since the 1967 ICC Order is that BNSF's responsibility for providing funding had been expanded to cover { [REDACTED] } under the JSA in place between 1993 and 2022, which further supports the view that UP should not be compensated at a cost of capital interest rental rate for funds that BNSF, and not UP, provides.⁹⁹

5.2. Dr. Mathur's abstract economic justification for a cost of capital interest rental rate does not apply to the Kern-Mojave Line.

Dr. Mathur failed to account for the facts the ICC weighed in reaching its decision to reject the use of the nominal pre-tax cost of capital as an interest rental rate. Instead, Dr. Mathur based her analysis on the general proposition that, where a landlord has committed capital on a tenant's behalf, it is entitled to recover the cost of raising this capital from the tenant.¹⁰⁰ This

⁹⁸ See 1967 ICC Order at 880 ("For the reasons stated in the examiner's report, we find also that an annual rate of 5 1/2 percent would provide a fair return and that a rental payment by Sama Fe of one-half of 5 1/2 percent of the valuation base would be just and reasonable under the circumstances here.").

⁹⁹ See JSA at pages 6-7.

¹⁰⁰ See Mathur Opening VS, at paragraph 33.

proposition – while true as an abstract economic notion – is inapplicable to the specific circumstances of the Kern-Mojave Line.

As explained above, funding for developing and upgrading the Line over the past 125-years was largely provided by way of payments for renewals and replacements shared by SP/UP and ATSF/BNSF relative to usage. The large majority of funding for sustaining the Line's capacity and maintaining its good condition since then has likewise been shared by UP and BNSF via replacement related contributions relative to usage.

Consequently, UP should not be entitled to earn a return on investment at the cost of capital on funds provided by ATSF/BNSF, since this is funding that UP did not have to raise. While UP retains full ownership of the joint facility, an equitable interest rental rate should be align with the terms originally agreed to among the parties. Further, the interest rental rate should reflect the appropriate rental for a joint facility, updated to reflect its current value, rather than to require BNSF to pay for capital costs on monies it funded. Dr. Mathur's proposal would abandon those terms and unfairly penalize BNSF and provide a regulatory windfall to UP that it could not have obtained in commercial negotiations.

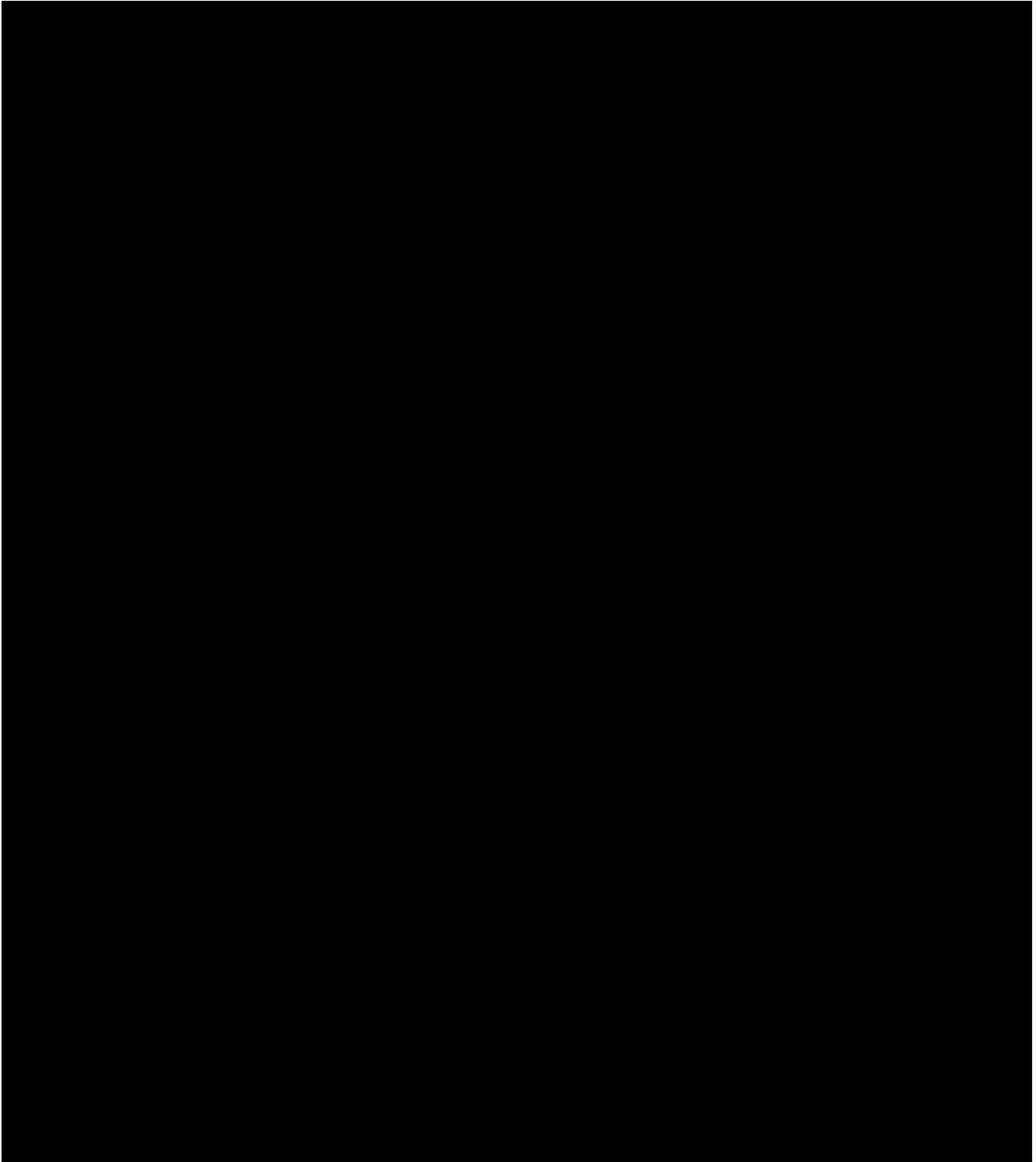
5.3. Interest rental rates in trackage rights agreements UP {

In our opening VS we explained that the interest rental rate in the 1912 Agreement and the interest rental rate in the 1967 Order both aligned with prevailing interest rates at the time.¹⁰¹ Based on additional materials UP has since produced, {

¹⁰¹ See Baranowski/Zebrowski Opening VS at page 30.

[REDACTED]

¹⁰² See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.



¹⁰³ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.

¹⁰⁴ { [REDACTED]

[REDACTED]

[REDACTED]

¹⁰⁵ See Reply Workpapers “UP-MK-004013.pdf”, “UP-MK-004827.pdf”, “UP-MK-003485.pdf”, “UP-MK-003690.pdf”, and “UP-MK-003715.pdf”.

5.4. BNSF's share of interest rental should be one-half, reflecting the joint nature of the line, while usage-based payments should be limited to maintenance and operating expenses

For the same reasons that the Board should base the interest rental rate on the terms originally agreed to among the parties pertaining to rental of the original facility, it is also inappropriate to change the interest rental share terms. BNSF's share of interest rental should reflect the fact that but for SP's invitation, BNSF would have built its own line. Based on the resulting agreements, UP and BNSF have equal and joint access for operating over the line and the interest rental share should reflect that.

To the extent that BNSF's usage of the Line exceeds that of UP, that is covered by sharing capital and maintenance and operations expense on a usage basis. For all funding provided in the past 125 years, except certain limited amounts related to additions and betterments, ATSF/BNSF has provided and will continue to provide its usage-based share of funding under the maintenance and operating component of the trackage rights agreement. This compensates UP for all of the assets consumed by BNSF at current value, while also funding the assets required for future revenue generation by both parties relative to current usage. Thus, the interest rental payment need not make UP whole for any capital amounts it has raised on BNSF's behalf. BNSF has provided these funds itself. Instead, the interest rental payment should reflect the fair terms that the parties voluntarily agreed to: ATSF/BNSF share access to the Line with SP/UP and should pay rent on a one-half share of the interest rental valuation base.

Moreover, the Board has previously adopted a usage-based share in *SSW Compensation* precedent because it has found this approach to be consistent with condemnation principles. As discussed above, ATSF voluntarily agreed to share the joint facility at SP's invitation, and respecting the commercial terms agreed to by the parties means that the principles of condemnation should not apply here.

5.5. Past applications of SSW Compensation in different circumstances do not justify applying a cost of capital interest rental rate or usage-based share of interest rental to the Kern-Mojave Line.

Dr. Mathur also attempts to justify the use of a nominal pre-tax cost of capital interest rental rate and a usage-based interest rental share because these have been adopted in past SSW *Compensation* cases.¹⁰⁶ What Dr. Mathur does not acknowledge is that no past SSW *Compensation* cases have considered existing or prior interest rental rate or interest rental share provisions. Nor have the cases resolved disputes among the parties about whether it would be appropriate to override these provisions. In the original SSW *Compensation* case, where the ICC selected the nominal pre-tax cost of capital as an interest rental rate, the tenant carrier was a new user of the line without having past commercial or financial involvement in the trackage segment. This was also true in the *East of Hudson* Conrail proceeding. In the two SSW *Compensation* cases involving renewal of a prior trackage rights agreement that had expired, to the best of our knowledge, the parties agreed on the basic terms of the interest rental rate and interest rental share assumptions, and thus there was no dispute for the ICC/STB to resolve.¹⁰⁷

In contrast, the present proceeding involves updating select terms of a prior trackage rights agreement prescribed by the ICC in its 1967 Order. It would not be appropriate for the Board to ignore the precedent set in the decisions specific to the circumstances of the Kern-Mojave Line in favor of newer precedent that is inapplicable to, and in fact does not address, the disputes at issue in the present proceeding. Accordingly, the findings reached in the 1967 Order regarding interest rental rate and interest rental share terms remain the most relevant standards to determining the appropriate interest rental terms to use in the present proceeding.

¹⁰⁶ See Mathur Opening VS, at paragraph 59 and 62.

¹⁰⁷ See A&M I and 2017 NECR Decisions.

6. Dr. Mathur's proposals related to inflation and her approach to annually adjust the interest rental payment are flawed.

The above three sections discuss the appropriate inputs for the basic calculation of a capitalized earnings valuation, which are, respectively, (1) the base annual earnings amount discussed in Section 3; (2) the earnings multiplier discussed in Section 4; and (3) the interest rental rate and interest rental share terms discussed in Section 5. These three inputs are effectively multiplied together to calculate the annual interest rental payment amount BNSF is to make UP for use of the Kern-Mojave Line.¹⁰⁸ Under Dr. Mathur's opening proposal, the amount resulting from this calculation will then be adjusted each year on a going forward basis based on changes in an AAR railroad cost index. In her opening evidence, she develops base 2021 and 2022 capitalized earnings results and adjusts these to 2023 levels.

In this section, we explain why Dr. Mathur's approach is flawed because, in addition to this ill-founded attempt to account for earnings inflation using annual adjustments based on changes in railroad costs, the prior steps of her calculation already accounted for inflation twice. Thus, her final proposed interest rental amount results in an illogical triple count of inflation. This is even more problematic because BNSF is already compensating UP for inflation under the maintenance and operating component of the existing trackage rights agreement for the Kern-Mojave Line via providing upfront funding for its share of capital replacements. We conclude that the upfront funding BNSF provides and will continue to provide to replace capital assets adequately compensates UP for inflation. If the STB determines that going-forward adjustments to the interest rental payment set in this proceeding are required, then the appropriate manner to

¹⁰⁸ Base Annual Earnings x Earnings Multiplier = Line Valuation. Line Valuation x Interest Rental Rate x Interest Rental Share = BNSF's Annual Interest Rental Payment.

account for prospective earnings growth (including inflation) is to annually adjust the base annual interest rental payment by changes in the CPI.

6.1. Dr. Mathur improperly triple counts inflation.

Dr. Mathur’s interest rental compensation proposal errs because it inexplicably triple counts the effects of inflation. Specifically, Dr Mathur’s results account for inflation in the following three ways, each of which has compounding effects that greatly inflate the amount of interest rental she develops: (1) first, Dr. Mathur applies an earnings multiplier with a highly aggressive allowance for future earnings growth, which fully covers inflation; (2) next, Dr. Mathur uses a nominal pre-tax cost of capital as the interest rental rate that fully covers inflation; and (3) finally, Dr. Mathur irrationally adjusts her 2021 and 2022 earnings figures to 2023 using a input cost- rather than earnings-based index that also fully covers inflation.

First, as Dr. Mathur herself recognizes, her stock price-based valuation multiplier is influenced by investors’ expectations for UP’s future earnings growth, among other factors. The levels of future earnings that investors expect UP will make includes the effects of inflation. Therefore, Dr. Mathur fully accounts for the effects of inflation by using a multiplier that makes an allowance for investor’s expectations of future earnings growth.¹⁰⁹

Second, the nominal pre-tax cost of capital Dr. Mathur proposes to use as the interest rental rate also fully accounts for inflation. The STB has previously held that a frozen valuation base with a nominal pre-tax cost of capital interest rental rate does not require further adjustment.¹¹⁰ This is correct because the inflation component in the STB’s nominal pre-tax cost

¹⁰⁹ See section 4.2.4.

¹¹⁰ See 1994 TPW Decision at page 5 (discussing use of a nominal pre-tax cost of capital rate applied “to an investment base with a valuation frozen as of the time of the decision.”) See, also, SSW II at 683. (“We have used the nominal instead of the real cost of capital to develop the pre-tax value since we are not changing the investment base by indexing it for inflation. If we had

of capital compensates the owner for inflation in the assets' value over time. Thus, Dr. Mathur's approach also fully accounts for future inflation by advocating for use of a nominal pre-tax cost of capital as the interest rental rate.

Third, Dr. Mathur takes the interest rental payments from her capitalized earnings valuations based on 2021 and 2022 earnings, which already account for inflation twice, and increases these interest rental payments to so-called 2023 levels by applying a cost-based index.¹¹¹ In addition to constituting another double count, this proposed annual adjustment mechanism is conceptually flawed. Earnings levels do not change linearly with changes in input costs. Rather, if costs increase, earnings will, all else equal, decrease. Dr. Mathur's proposal to adjust earnings levels from prior years using changes in costs going forward constitutes another double count of inflation, is economically irrational and should be rejected.

None of her approaches for accounting for inflation are sound. Adding all of them together as she does is irrational and results in an impermissible double- and then triple-count of the same single item.

6.2. BNSF's continued upfront funding of capital replacements fully compensates UP for inflation

Under the maintenance and operating component of the trackage rights arrangement BNSF will continue to pay its upfront share of capital replacements. This effectively means that,

indexed the investment base, use of the nominal cost of capital would have resulted in a double count.”)

¹¹¹ See Dr. Mathur's Opening Verified Statement, at paragraph 109. Specifically, she applies the Annual Index of Chargeout Prices and Wage Rates – “Material prices, wage rates and supplements combined (excluding fuel)” published by the Association of American Railroads (“AAR”) for the Western District. That this index was used in the NECR decision to adjust a trackage rights compensation figure that included operating expense components is no reason to apply it to a trackage compensation amount that is strictly limited to an interest rental component derived from a capitalized earnings valuation as is the case here.

after BNSF has consumed its portion of a prior asset, BNSF will pay to replace that portion of the asset at current cost levels. This payment at current cost levels compensates UP for inflation that occurred since the prior asset was put in service. In other words, it makes no sense for BNSF to pay an interest rental amount that includes further inflation when it is already compensating UP for inflation each time it pays to replace the portion of an asset consumed by its usage. This would constitute a double count of inflation that would unfairly increase BNSF's interest rental payment to UP.¹¹²

6.3. If the STB does determine an annual adjustment to the interest rental payment is required, the interest rental payment should be adjusted annually using changes in the CPI.

Although BNSF's ongoing funding of capital replacements for the Kern-Mojave Line sufficiently compensates UP for inflation, we recognize there is some tension between this concept of asset replacement at current cost levels and the capitalized earnings valuation on which we recommend BNSF's interest rental payments to UP should be based. As demonstrated in Section 4.3, both UP's and BNSF's earnings have closely tracked inflation since 2013. While this trend may not apply to the capacity constrained Kern-Mojave Line, if the STB deems an annual adjustment is fitting, a reasonable approach would be to adjust the interest rental payment we develop by changes in the CPI on a going forward basis.¹¹³ In the following section, we apply

¹¹² This issue is, to the best of our knowledge, unique to the current proceeding. In NECR and other SSW compensation cases, because the maintenance and operations component was developed in part based on past levels of capital replacement spending, it was appropriate to index the maintenance and operating component to account for inflation on a going forward basis. In contrast, the maintenance and operating component of the existing Kern-Mojave Line trackage rights agreement already provides for the effects future inflation by requiring each party to pay a share of the current costs of replacing the asset at the time it is replaced.

¹¹³ This adjustment is only necessary if the STB adopts the appropriate 4% interest rental rate or some other interest rental rate that does not directly provide for inflation, such as a real cost of capital. If the STB adopts another interest rental rate that already includes inflation, such as the STB's nominal pre-tax cost of capital, this adjustment should not be applied. See 1994 ICC

the CPI to restate our 2019-2022 earnings figures at 2023 levels to facilitate any going forward adjustments to the annual interest rental amount set in this proceeding that are deemed necessary.

7. We have updated to our proposed interest rental amount based on our review of UP's evidence.

In this section, we update our CE analysis to address inconsistencies and to adjust certain inputs based on a review of UP's opening in comparison to our own.¹¹⁴ We also provide interest rental payment results at the 2023 level. Specifically, to facilitate application of going-forward interest rental payments set in this proceeding, we re-state our opening capitalized earnings calculations, which were performed using 2019-2022 nominal data, at 2023 levels based on changes in the CPI.

7.1. We made required adjustments to our opening calculations identified when reviewing UP's opening in comparison to our own

Based on our review of UP's Opening, we reviewed our own CE analysis and identified the following elements requiring adjustment.

7.1.1. We refined the ATC Methodology's treatment of fixed costs for the portion of the move traversing the Kern-Mojave Line.

We believe a refinement to the ATC methodology tailored to account for the fixed costs allocated to BNSF and UP over the Kern-Mojave Line is appropriate. While the analysis in our Opening VS was directly aligned with existing ATC procedures, past applications of ATC in SAC rate reasonableness proceedings were not focused on the revenue allocation to a specific

LEXIS. 175 (TPW) at page 5 (discussing use a fixed valuation base frozen in time with a nominal pre-tax cost of capital figure applied as the interest rental rate).

¹¹⁴ In order to facilitate comparisons of our work, we provide in our workpapers detailed side-by-side examples of the steps used by Dr. Mathur and ourselves to develop line-specific earnings for shipments traversing the Kern-Mojave Line. See Reply Workpapers in "CE" Reply Workpaper folder, at subfolder "CE Calculation Excel Examples".

trackage rights segment, as is the case here. In the current proceeding, it is possible to account for the specific features of the trackage rights segment at issue when performing ATC allocations.

As discussed above in Section 3.1, fixed costs developed under ATC influence the relative amount of shipment revenues allocated to each segment. Under past ATC precedent, when a tenant carrier's shipment traverses a landlord's trackage segment, only the "above-the-wheel" portion of the tenant's carrier's fixed costs per mile are allocated to that shipment for the trackage segment.^{115, 116} This assumption is logical insofar as the tenant carrier does not share directly in the fixed costs for fixed track infrastructure, but instead only pays trackage rights compensation that varies proportional to its use of the trackage rights segment. The flip side of this calculation is that the entirety of the "above-the-wheel" and "below-the-wheel" fixed costs for the carrier owning the trackage rights segment are allocated to that carrier's shipments traversing the segment.

In the present case, this means that under ATC procedures followed in the past, BNSF's "above-the-wheel" fixed costs would be allocated to BNSF shipments traversing the Kern-Mojave Line, and UP's "above-the-wheel" and "below-the-wheel" fixed costs would be allocated to UP shipments traversing the Kern-Mojave Line. This is the approach we followed in our opening CE analyses.

Considering the cost-sharing terms of the existing trackage rights arrangement for the Kern-Mojave Line, under which BNSF and UP pay proportionate shares of maintenance and

¹¹⁵ See 2007 WFA Basin Decision at page 12-13.

¹¹⁶ As discussed above, "above-the-wheel" costs refer to fixed costs in URCS for items not associated with the fixed track infrastructure, including locomotive, car, and crew components.

operation expenses, it is appropriate to allocate UP’s “below-the-wheel” fixed costs per mile to both UP and BNSF shipments moving over the Kern-Mojave Line, in addition to allocating each carriers’ “above-the-wheel” fixed costs to their respective shipments moving over the Kern-Mojave Line as already done in our opening VS analysis. This approach is aligned with the fact that both BNSF and UP share in the full maintenance and operating costs for the Kern-Mojave Line under the existing trackage rights agreement. The fixed cost portion of UP’s costs for maintaining the Kern-Mojave (which BNSF partially reimburses under the cost sharing arrangement) presumably falls into UP’s “below-the-wheel” fixed costs in URCS, and thus it is logical for BNSF and UP to share these amounts. It is also logical to assume that both BNSF and UP incur separate “above-the-wheel” fixed costs pertaining to their respective operations over the Line, which should be spread over their respective traffic.

Our adjustment here to allocate a portion of UP’s “below-the-wheel” fixed costs to BNSF’s shipments traversing the Kern-Mojave Line also addresses a conceptual gap raised by UP in discovery related to how we develop operating expenses attributable to BNSF’s shipments. Specifically, UP posed a question raising the issue of whether it was appropriate to allocate revenues to BNSF shipments over the Kern-Mojave Line that did not include a “below-the-wheel” cost allocation¹¹⁷, while, in the same earnings calculation, deducting operating expenses that did include a “below-the-wheel” cost allocation for the portion of the move over the Kern-Mojave Line.¹¹⁸

¹¹⁷ A “below-the-wheel” cost allocation was not included in our initial ATC calculations because we only assigned “above-the-wheel” fixed costs to BNSF’s shipments traversing the Kern-Mojave Line.

¹¹⁸ A “below-the-wheel” cost allocation was included in our initial operating expense determination, because the fully allocated costs we developed using URCS included the fixed cost portion of “below-the-wheel” costs.

We agree this poses a conceptual problem, even if the impact on results are minimal. This problem is addressed by assigning a share of UP's "below-the-wheel" fixed costs to BNSF shipments moving over the Kern-Mojave Line. Given the circumstances of how BNSF and UP share in the maintenance and operations costs of the Kern-Mojave Line proportional to usage, UP's "below-the-wheel" fixed costs are an appropriate proxy for BNSF shipments when performing an ATC revenue allocation.

The effect of this adjustment is largely offsetting. UP's fixed costs, revenues, and operating expenses allocated to the Kern-Mojave Line decrease, and BNSF's increase. Our approach continues to assign more total fixed costs to the Kern-Mojave Line than under Dr. Mathur's approach, since we include both UP's and BNSF's "above-the-wheel" amounts in addition to UP's "below-the-wheel" amounts, where Dr. Mathur only includes UP's "above-the-wheel" and "below-the-wheel" amounts but omits BNSF's "above-the-wheel" amounts.

7.1.2. We adjusted the URCS constant cost markup used in our operating expense determination to remove the effects of ROI.

When reviewing Dr. Mathur's allocation of operating expenses relative to URCS costs that includes ROI, we also identified a mismatch in our initial development of operating expenses based on fully allocated URCS costs less ROI. Specifically, since the URCS variable costs we used to derive operating expenses exclude the ROI cost component, it is correct to apply a constant cost markup that excludes the ROI cost component when developing fully allocated costs. Accordingly, we calculate a constant cost markup based on the relationship of total costs to variable costs in URCS excluding ROI, and use this in place of the unadjusted constant cost markup in URCS which includes ROI amounts. Since the adjusted constant cost markup excluding ROI is lower, the effect of this adjustment is to reduce operating expenses. This increases attributable earnings and increases the interest rental payment amount.

7.1.3. We refined our density mapping process for UP shipments to improve accuracy

In the course of assessing the effects of Dr. Mathur's flawed use of average density assumptions, we identified certain areas where it was appropriate to refine our detailed density mapping process. These refinements involve updating the logic to select the mapping approach that aligns mostly closely to the distance of the UP density segment¹¹⁹ and manually mapping density assignments for additional UP subdivisions based on review of how the station-to-station routing in PC Miler aligned with the location information contained in the provided UP density file. To be conservative, we also updated our logic to default to the maximum density row in cases where it was unclear {{[REDACTED]}}. ¹²⁰ The overall effect of these refinements was to slightly increase off-segment densities and thus slightly decrease off-segment fixed costs. This led to a small decrease in revenues allocated to the Kern-Mojave Line and the interest rental payment amount. We also corrected a coding error in our ATC calculations for UP shipments that inadvertently identified a

¹¹⁹ Specifically, absent manually mapping the UP density segments in a given subdivision to align with PC Miler station-to-station segments, our initial calculations defaulted to use the start and end locations derived from {{[REDACTED]}} field in the UP density file, and only used start and end locations derived from {{[REDACTED]}} in the UP density file if the track segment description approach did not process in PC Miler. We now process the PC Miler distances using the start and end locations derived from {{[REDACTED]}} in the UP density file, and select the approach which results in a PC Miler segment distance that is most closely aligned with the milepost segment distance reported in the UP density file. See Reply Workpaper "UP Segment Density Mapping.xlsx" for details on how this refinement controls for situations where the UP density file does not clearly identify the proper geographies to use for defining the start and end locations of a given density segment. This file is located in the "UP CE Calculations" Reply Workpaper folder, at subfolder "Intermediate Tables".

¹²⁰ This addresses the limited situations where {{[REDACTED]}}.

small portion of the Kern-Mojave Line as owned by BNSF, which resulted in using the wrong fixed cost per mile assumptions.

7.1.4. We included loading and unloading costs as part of switching costs.

Our CE analyses, like Dr. Mathur's, accounts for switching costs when performing ATC revenue allocations and determining operating expenses attributable to the Kern-Mojave Line. We discussed above how Dr. Mathur omits many items in her definition of switching costs, including industry and interchange make whole costs, car costs for time spent in yards, clerical costs, and intermodal pickup and delivery costs. While we properly include these items as switching costs, we identified an error in our code that inadvertently failed to include intermodal loading and unloading costs and intermodal clerical costs as part of switching costs. We correct this coding error and treat intermodal loading and unloading costs and intermodal clerical costs as part of switching costs.

7.2. We made minor changes to certain of our inputs to accept elements of Mathur's analysis with which we agree.

We address two technical items updating the CE analysis in our opening VS. First, we add a limited number of shipments included by Dr. Mathur and remove a limited number of shipments she did not include to align our identification of traffic traversing the Kern-Mojave Line as much as possible. Second, we update our URCS costs for UP to use the same approach as Dr. Mathur for determining which shipments move in railroad-owned cars.

7.2.1.1. We slightly changed our identification of traffic traversing the Line

As discussed above, we and Dr. Mathur identified a similar set of traffic traversing the Kern-Mojave Line.¹²¹ Based on comparing the Kern-Mojave Line shipments in the years of 2021 and 2022 included in our respective analyses, we make minor changes to align our traffic identification even further with hers where possible. The large majority of changes (over 90%) relate to adding shipments from Dr. Mathur’s analysis that travel over between 0.3- and 1.3-miles of the Kern-Mojave Line that we did not initially include. Due to this short length, their inclusion has a very small impact on the results of our capitalized earnings analysis. We also remove a limited number of shipments we initially included and she did not, and add a limited number of shipments she initially included and we did not.¹²² The net result is that our CE analysis includes slightly more traffic than Dr. Mathur’s CE analysis and over 97 percent of our traffic is the same.

The below table summarizes the amount of Kern-Mojave traffic included in our respective CE analyses for 2021 and 2022.

Table 8¹²³
Comparison of 2021 and 2022 Shipments Identified As Traversing the Kern-Mojave Line

	Baranowski/Zebrowski Reply		Dr. Mathur Opening	
	BNSF Shipments	UP Shipments	BNSF Shipments	UP Shipments
2021	{{[REDACTED]}}	{{[REDACTED]}}	{{[REDACTED]}}	{{[REDACTED]}}
2022	[REDACTED]}}	[REDACTED]}}	[REDACTED]}}	[REDACTED]}}

¹²¹ As discussed above in footnote 31, we have a more refined approach that identifies the subset of Kern-Mojave Line traffic that originates or terminates on the Line. All else equal this leads to a higher revenue allocation to the Line.

¹²² We do not add all traffic initially included in her analyses but not in ours, since a portion of this does not appear to traverse any portion of the Kern-Mojave Line.

¹²³ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

7.2.1.2. We used UP’s definition of car ownership when calculating URCS costs.

Dr. Mathur relies on a field in waybill data produced by UP in discovery to determine whether a given UP shipment is travelling in a railroad-owned or private car. Under both of our CE analyses, this input influences the calculation of URCS variable costs for that shipment, which, in turn, affects the ATC revenue allocation and the determination of operating expenses attributable to the Kern-Mojave Line. We previously only identified UP shipments travelling in railroad owned cars when the car initial was “UP”. Dr. Mathur identified UP shipments travelling in railroad-owned cars when the UP waybill data field for car ownership reported either “system” or “foreign.” Upon review, we determine her approach is appropriate, and, accordingly, adopt it in our calculations as well.

7.3. We updated the results of our CE analyses to include the adjustments discussed above

The below tables provide the results of our updated capitalized earnings analysis incorporating the adjustments discussed above.¹²⁴ These tables also reflect our determination that, as discussed above, it is acceptable to adjust the 2019-2022 base earnings amounts in our calculation to 2023 levels, in order to facilitate going forward annual adjustments based on changes in the CPI, if they are deemed necessary.

¹²⁴ A complete set of updated tables comparable to those provided in our opening VS is included in Appendix A. In order to demonstrate the effects of our conservative approach of removing all negative earnings shipments from our CE valuation and facilitate comparison with Dr. Mathur’s calculations, our updated tables include negative earnings shipments, and then adjust the final annual earnings estimate to remove negative earnings shipments. Thus, the values reported here differ from those in the tables in our opening VS, which excluded revenue and operating expense amounts associated with negative earnings shipments throughout.

Table 9¹²⁵

Adjusting Final UP and BNSF Earnings Attributable to Kern-Mojave Line to 2023 Levels

Base Year	Final Kern-Mojave Attributable Earnings (Nominal)	CPI Inflation Factor to 2023 Levels	Final Kern-Mojave Attributable Earnings (2023 Levels)
2019	{{ [REDACTED] }}	[REDACTED]	[REDACTED]
2020	[REDACTED]	[REDACTED]	[REDACTED]
2021	[REDACTED]	[REDACTED]	[REDACTED]
2022	[REDACTED]	[REDACTED]	[REDACTED] }}

Table 10¹²⁶

Kern-Mojave Capitalized Earnings Summary at 2023 Levels

Base Year	Final Kern-Mojave Attributable Earnings (2023 Levels)	Earnings Multiplier (Based on STB's Pre- Tax Cost of Capital)	Capitalized Earnings Valuation of the Line
2019	{{ [REDACTED] }}	[REDACTED]	[REDACTED]
2020	[REDACTED]	[REDACTED]	[REDACTED]
2021	[REDACTED]	[REDACTED]	[REDACTED]
2022	[REDACTED]	[REDACTED]	[REDACTED]
Annual Average	[REDACTED]	[REDACTED]	[REDACTED] }}

Table 11¹²⁷

Summary of Proposed BNSF Annual Interest Rental Payment to UP For BNSF's Use of the Kern-Mojave Line on a Going-Forward Basis (2023 Levels)

Interest Rental Valuation Base of Kern-Mojave Line Using the CE Approach	{{ [REDACTED] }}
Interest Rental Rate	[REDACTED]
BNSF Share of Interest Rental	[REDACTED]
Annual BNSF Interest Rental Payment (2023 Levels)	[REDACTED] }}

¹²⁵ See Reply Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

¹²⁶ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

¹²⁷ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

8. Dr. Mathur’s conclusions regarding the reasonableness and competitive effects of her proposed interest rental rates are flawed.

Dr. Mathur proposes to increase BNSF’s annual interest rental payments from approximately {REDACTED} under the recently-terminated JSA to approximately {REDACTED} as of 2023.¹²⁸ Although Dr. Mathur only provided total interest rental payment amounts at 2021 and 2022 levels, we can estimate her 2023 interest rental payment by applying the \$1.62 interest rental per car mile figure she develops for 2023 to the average BNSF car miles on the Kern-Mojave Line from 2021 and 2022. This is summarized in the below table.

Table 12¹²⁹
Estimate of Dr. Mathur’s Interest Rental Amount as of 2023

Line	Description	Value	Notes
1	Dr. Mathur's Proposed 2023 BNSF Interest Rental Payment per Car Mile	\$1.62	
2	Average 2021/2022 BNSF Car Miles on Kern-Mojave Line	{REDACTED}	
3	Estimate of Dr. Mathur's Proposed 2023 Base Going Forward Annual BNSF Interest Rental Payment	{REDACTED}	= L1 x L2

Dr. Mathur’s justifications for this dramatic increase to {REDACTED} million are flawed. She first claims that her proposed interest rental compensation is reasonable because it is less than BNSF’s total earnings from shipments traversing the Kern-Mojave Line. As explained below, this is not a relevant or valid benchmark when determining reasonable compensation under the *SSW Compensation* methodology. She then asserts, without any analysis, that her proposed

¹²⁸ Dr. Mathur only provides total interest rental payments using her analysis of 2021 and 2022 levels of \$57 and \$71 million, respectively. A 2023 total interest rental payment is derived from the 2023 interest rental per car mile amount she provides.

¹²⁹ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

interest rental compensation will cure an alleged UP competitive disadvantage against BNSF and establish competitive parity.

In this section, we show that Dr. Mathur's results are economically incoherent, produce levels of trackage rights compensation that are much higher than market-based compensation levels, and create rather than cure competitive imbalances.

8.1. Dr. Mathur's reliance on BNSF's total earnings from the Kern-Mojave Line to test the reasonableness of her interest rental proposal is flawed.

Dr. Mathur asserts that the compensation she develops is reasonable because BNSF's traffic that traverses the Kern-Mojave Line generates {REDACTED} total earnings for BNSF (across all line segments that the traffic traverses, including the Kern-Mojave Line) than the annual {REDACTED} rental amount she proposes BNSF pay UP for use of the Kern-Mojave Line.¹³⁰ But Dr. Mathur's consideration of BNSF's total earnings from shipments that traverse UP's Kern-Mojave Line is only meaningful if, for some reason, trackage rights compensation under the *SSW Compensation* methodology were to include earnings beyond those attributable to the Line. As explained below, it does not. Therefore, Dr. Mathur's assessment of the reasonableness of her proposed interest rental payment for the Kern-Mojave Line based on BNSF's total earnings for traffic that traverses the Kern-Mojave Line is fundamentally flawed and irrelevant.

The CE approach requires analysis of line-specific earnings, or the earnings actually attributable to the line. This has been recognized in every case where the CE approach was used under the *SSW Compensation* methodology.¹³¹ Indeed, Dr. Mathur acknowledges this by using the ATC method to determine what portion of a shipment's total earnings should be attributable

¹³⁰ See UP Opening Evidence, Verified Statement of Dr. Divya Mathur ("Dr. Mathur Opening Verified Statement"), at paragraph 111-114.

¹³¹ See, e.g., 2017 NECR Decision at pages 14-18, Conrail/East of Hudson 1998 Decision at pages 9-10, and 1984 SSW I Decision at pages 788-9.

to the Kern-Mojave Line.¹³² If a shipment's total earnings were relevant to determining reasonable compensation, there would be no purpose to using the ATC methodology to allocate only a portion of revenues to the trackage segment at issue. Under the CE approach, the importance and value of the Kern-Mojave Line to BNSF on a system-wide basis does not entitle UP to a share of BNSF's earnings that are not attributable to the Kern-Mojave Line itself.¹³³

The earnings that BNSF generates on traffic that traverses the Kern-Mojave Line but that are attributable to other line segments simply have no relevance to calculating an interest rental amount for the Kern-Mojave Line and cannot be used to assess the reasonableness of that interest rental amount.

8.2. Under Dr. Mathur's proposal, UP would irrationally {{REDACTED}} from BNSF interest rental payments than UP would earn from UP's own traffic on the Kern-Mojave Line.

Dr. Mathur's compensation proposal produces fundamentally incoherent results that would cause UP to generate {{REDACTED}} from the Kern-Mojave Line by moving BNSF's traffic over the Line instead of moving its own traffic. The below table compares the average earnings per car mile UP would make depending whether the shipment that moved over the Kern-Mojave Line was a UP shipment or a BNSF shipment moving under Dr. Mathur's proposed interest rental rate.

¹³² See Mathur Opening VS at paragraphs 41-2.

¹³³ Dr. Mathur entertains, but does not fully develop, the notion that UP's position as a bottleneck carrier providing a critical link to BNSF may entitle UP to additional compensation from BNSF beyond the line-specific earnings included in the scope of the CE approach under the SSW *Compensation* methodology. See Mathur Opening VS at paragraph 112 (discuss how "[f]rom an economic perspective, however, line earnings and the underlying inputs into estimating line earnings such as costs and distance do not fully encompass the value associated with access to the line.") However, any attempt by UP to capture BNSF's earnings not attributable to the Kern-Mojave Line would conflict with the Board's public interest concerns when determining reasonable access compensation and would unfairly ignore that the reason BNSF is dependent on UP is due to ATSF agreeing to share SP's Kern-Mojave Line rather than building its own.

Table 13¹³⁴

Comparison of UP's Average Earnings Per Car Mile for UP Shipments and Dr. Mathur's Proposed Interest Rental Per Car Mile for BNSF Shipments

	Per Car Mile
UP's Average Kern-Mojave Earnings Per Car Mile from Its Own Shipments in Mathur's 2021/2022 Analysis (2023 Levels)	{{[REDACTED]}}
Mathur's Proposed Interest Rental Per Car Mile from BNSF	\$1.62

This table shows that UP would earn {{[REDACTED]}} per car mile for a BNSF shipment moving over the Kern-Mojave Line than UP would earn from its own shipments moving over the Line, even despite the fact she elsewhere recognizes the levels of earnings BNSF generates from moving traffic over the Kern-Mojave Line are {{[REDACTED]}} than UP's. To demonstrate the magnitude of this irrational outcome, the below table compares (1) the earnings UP would generate from the Kern-Mojave Line were it to move 100% of all shipments on the Line with (2) the earnings UP would generate from the Kern-Mojave Line were BNSF to move 100% of all shipments on the Line and pay UP the trackage compensation that Dr. Mathur proposes.

Table 14¹³⁵

Illustration of UP's Earnings Under Dr. Mathur's Proposal if the Kern-Mojave Line Were Used Exclusively by BNSF or UP

UP's Earnings if All Kern-Mojave Line Traffic Were UP Shipments (2023 Levels)	{{[REDACTED]}}
UP's Earnings if All Kern-Mojave Line Traffic Were BNSF Shipments (2023 Levels)	[REDACTED]}}

The above table shows that UP would generate approximately {{[REDACTED]}} profits per year from the Kern-Mojave Line were BNSF to become the Line's sole user under Dr.

¹³⁴ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

¹³⁵ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Tables".

Mathur's proposed interest rental compensation. This would create the irrational incentive where, at least in the context of maximizing profitability of the Kern-Mojave Line assets, UP would be incentivized to collect rents from BNSF rather than move UP's own traffic over the Line. As a consequence, UP would have, to the detriment of shippers, less incentive to compete for traffic, if losing that traffic meant receiving {{ [REDACTED] }} via interest payments from BNSF than it would have otherwise received had it won the traffic.

Dr. Mathur acknowledges a similar issue related to interest rental payments that are higher than earnings. Specifically, Dr. Mathur asserts it is reasonable for {{ [REDACTED] }} from shipments over the Kern-Mojave Line.¹³⁶ She justifies this apparent inconsistency on the grounds that {{ [REDACTED] }}¹³⁷ In particular, she argues that it is {{ [REDACTED] }}, since "BNSF does not profit on its portion of the traffic in proportion to the line's economic potential as an asset."¹³⁸ This notion of the "economic potential" of the Kern-Mojave Line is problematic, because it effectively means that the Line's worth to UP is a function of whatever amount UP is able to collect from BNSF. Dr. Mathur fails to recognize the conflict between this claim and the issue described in the prior paragraph. Specifically, she would not only have UP collect more in rent from BNSF {{ [REDACTED] }} from the Kern-Mojave Line, but would further have UP collect {{ [REDACTED] }} from use of

¹³⁶ See Mathur Opening VS at paragraphs 112-3.

¹³⁷ See Mathur Opening VS at paragraph 114.

¹³⁸ Ibid.

the Kern-Mojave Line to move its own traffic. This outcome is fundamentally incoherent and shows that Dr. Mathur's proposed interest rental compensation is unreasonable.

8.3. Dr. Mathur's views on relative competitive advantage are unsupported and ignore that her interest rental compensation proposal falls significantly outside market-based trackage rights rates

Dr. Mathur also fails to consider what we believe to be the benchmark most relevant to assessing the reasonableness of her compensation proposal, namely, a comparison to market-based trackage rights compensation. Although she discusses in the abstract why it is important that trackage rights rates should be neither too high nor too low¹³⁹, she gives no heed to the fact that her interest rental compensation proposal would result in total compensation for BNSF's use of the Kern-Mojave Line that would be an {REDACTED} compared to prevailing levels of trackage rights rates UP and BNSF, and {REDACTED}, have established through commercial negotiations.

Dr. Mathur does not consider this actual outcome and instead focuses only on abstract economic notions that do not apply in this proceeding. In particular, she wrongly asserts that UP is incurring capital costs on BNSF's behalf that UP is not recovering, but provides no evidence or analysis identifying what these costs are.¹⁴⁰ Since BNSF pays its usage share of replacement capital (as did ATSF back to at least 1912), and also paid upfront {REDACTED} of all additions and betterments capital under the JSA between 1993 and 2022, it is not clear what capital costs she believes UP is incurring on behalf of BNSF.

¹³⁹ See Mathur Opening VS at paragraph 11.

¹⁴⁰ See Mathur VS at paragraphs 35, 58 (discussing how "the cost of capital is a means of calculating the return that the landlord could have obtained if it put the capital invested in the asset to another productive use."), 105 (discussing how "to estimate UP's breakeven return on investment for its investment in and ownership of the Mojave-Kern Line..."), and 116 (discussing how "116. "BNSF has been and is continuing to obtain use of the line, an asset that UP owns, without adequately compensating UP for the full cost of its investment in that asset.").

In actuality, it is Dr. Mathur’s proposal that would cause a competitive imbalance and result in BNSF subsidizing UP. To demonstrate this, we derive the “all-in” trackage rights rate under her proposal and compare it to the commercially negotiated trackage rights rates UP and BNSF pay each other. The below table shows Dr. Mathur’s interest rental compensation proposal results in an “all-in” trackage rights rate per GTM of {REDACTED}.¹⁴¹

Table 15¹⁴²
2023 “All-In” GTM Trackage Rights Rate Using Dr. Mathur’s Interest Rental Proposal

Line	Description	Value	Notes
1	Estimate of Dr. Mathur's Proposed 2023 Base Going Forward Annual BNSF Interest Rental Payment	{REDACTED}	
2	BNSF's Share of Annualized Kern-Mojave M&O and Capital Expenses Derived From 2015-2021	REDACTED	
3	Estimate of Dr. Mathur's Proposed 2023 Base Going Forward BNSF "All-In" Annual Payment	REDACTED	= L1 + L2
4	BNSF 2022 GTMs on Kern-Mojave line	REDACTED	
5	Estimate of Dr. Mathur's Proposed 2023 Base Going Forward BNSF "All-In" GTM Rate	REDACTED }	= L3 / L4

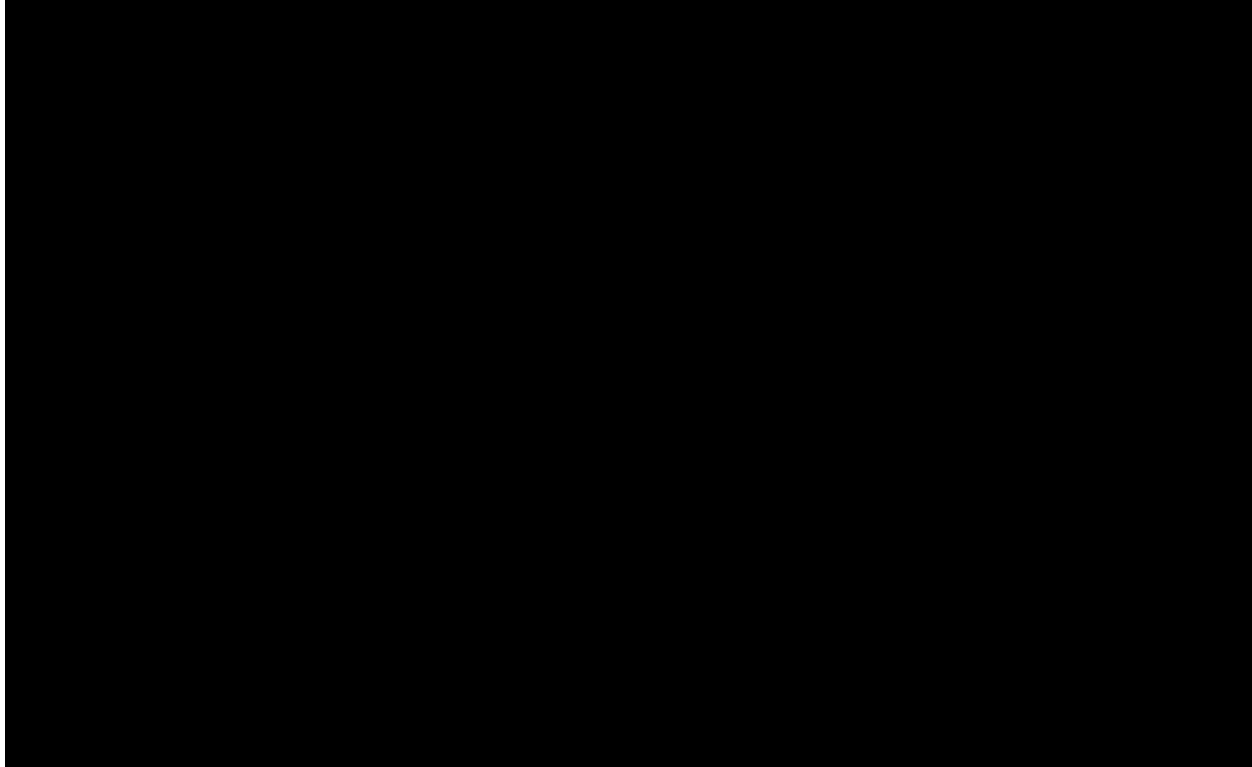
We next compare this “all-in” trackage rights rate of {REDACTED} per GTM under Dr. Mathur’s interest rental proposal to the “all-in” trackage rights rate under our interest rental proposal and to the “all-in” GTM trackage rights rates BNSF and UP pay each other for the {{REDACTED}} of other GTM trackage rights agreements negotiated over the past three decades.

¹⁴¹ This figure is calculated by adding her underlying total proposed annual interest rental amount to BNSF’s other levelized annual payments to UP under the existing trackage rights agreement and dividing by BNSF’s GTMs for over the Kern-Mojave Line.

¹⁴² See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

Chart 5¹⁴³

Comparison of UP/BNSF Commercially Negotiated “All-In” GTM Trackage Rights Rates With “All-In” Kern-Mojave Trackage Rights Rate Using Dr. Mathur’s Proposed Interest Rental Compensation}}



}}

The above chart shows that Dr. Mathur’s proposed “all in” rate is {{ [REDACTED] }} than prevailing trackage rights rate levels established between UP and BNSF through commercial negotiations { [REDACTED] }.

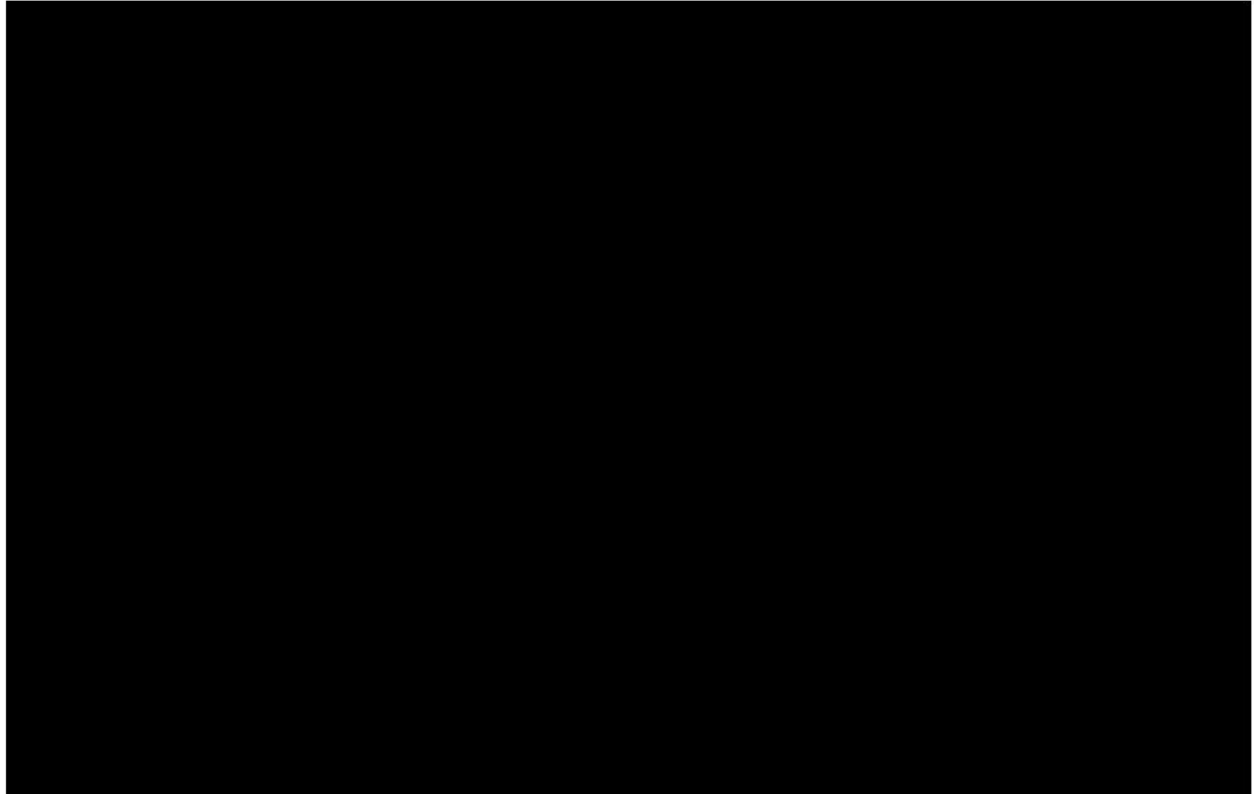
Dr. Mathur is also proposing an “all in” trackage rights rate for BNSF’s use of the Kern-Mojave Line that is {{ [REDACTED] }} with other Class I rail carriers. The following chart shows that Dr. Mathur’s proposed “all-in” rate is both {{ [REDACTED] }} and the {{ [REDACTED] }}

¹⁴³ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”.

{} In contrast, the “all-in”
trackage rights rate under our interest rental proposal is {{
}}

Chart 6

**UP “All-In” GTM Trackage Rights Rates Commercially Negotiated with BNSF and {{
}} Compared to “All-In” Kern-Mojave Trackage Rights Rate Using Dr.
Mathur’s Proposed Interest Rental Compensation¹⁴⁴ {{**



}}

Adopting a trackage rights rate for the Kern-Mojave Line that is {{
compared to market-placed outcomes, as Dr. Mathur proposes should be done, would create
significant competitive imbalance and distortions. This is because the cost for BNSF to move a
shipment over UP’s Kern-Mojave Line would be {{}} than either parties’ cost to

¹⁴⁴ See Reply Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Charts”

move a shipment over any other trackage rights segment of the other carrier. A round-trip move of a car over the Kern-Mojave Line would cost BNSF \$217 under Dr. Mathur’s proposal. Under prevailing “all-in” GTM rates UP and BNSF charge each other, a round-trip move of this same distance over any other trackage rights segment would cost approximately {{[REDACTED]}} for the same car.¹⁴⁵ This means that BNSF would have a cost {{[REDACTED]}} per car compared to what it would cost BNSF or UP to move a similar shipment the same distance over any of the other party’s respective trackage rights segments. This cost {{[REDACTED]}}

[REDACTED]

[REDACTED]}} As

discussed above, based on a misunderstanding of BNSF’s contributions to the Line, Dr. Mathur incorrectly asserts that her proposal would cure a competitive imbalance. Rather, as shown by practical marketplace realities, Dr. Mathur’s proposal would create a competitive imbalance.

9. UP’s evidence confirms RCNLD is inappropriate but, if used, requires an adjustment for economic obsolescence

UP submitted an RCNLD valuation that provides similar overall results as the RCNLD valuation submitted by BNSF in opening evidence. The below table compares these two valuations.

¹⁴⁵ This example assumes the car has a tare weight of 20 tons and carries 80 tons on the loaded portion of the move, which represents an average gross weight of 60 tons.

\$1.62 per car mile x 67.2 miles x 2.0 E/L ratio = \$217.60

{{[REDACTED]}}

Table 16¹⁴⁶
Comparison of RCNLD From BNSF and UP Opening Evidence

Line		BNSF Opening Evidence	UP Opening Evidence	Notes
1	Replacement Cost New Less Depreciation (RCNLD) of Rail Assets	{ [REDACTED] }	\$612,956,235	
2	Land Valuation under Sales Comparison Across The Fence (ATF) Approach	[REDACTED]	\$33,050,000	
3	Corridor Factor	[REDACTED]	3.50	
4	Total Real Estate Cost	[REDACTED]	\$115,675,000	= L2 x L3
5	Total Replacement Cost New Less Depreciation (RCNLD)	[REDACTED]	\$728,631,235	= L1 + L4
6	Less BNSF funded investments	[REDACTED]	\$39,026,339	
7	Adjusted Replacement Cost New Less Depreciation (RCNLD)	[REDACTED] }	\$689,604,896	= L5 - L6

For the same reasons discussed in our Opening VS, because BNSF forewent building its own line when SP invited ATSF to use the Kern-Mojave Line, and because the costs of constructing an alternative line have since become prohibitive, an economic obsolescence adjustment is equally required for UP’s RCNLD valuation. Specifically, this entails adjusting the cost-based valuation to align with the value of the asset on a going concern basis, which is what is measured by our capitalized earnings valuation.¹⁴⁷ This adjustment is summarized in the following table.

¹⁴⁶ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

¹⁴⁷ This adjustment is consistent with typical valuation practice. See, e.g., the following description provided by the long-established accounting firm Kroll. “Economic obsolescence is determined by comparing the operating enterprise value of the business derived using the income approach, also known as the discounted cash flow (DCF) method, with the operating tangible assets of the company. A situation where operating EV is less than value of operating fixed assets indicates economic obsolescence in assets of that plant. For the plants that are shown to be affected by economic obsolescence, adjustments are made to the Replacement Cost. Economic

Table 17¹⁴⁸

RCNLD from UP Evidence Less Economic Obsolescence Depreciation Adjustment

Line			Notes
1	Capitalized Earnings for UP and BNSF less Double Stack Intermodal Traffic	{ [REDACTED] }	
2	Total RCNLD from UP Study	\$689,604,896	
3	Capitalized Earnings to RCNLD Ratio	{ [REDACTED] }	= L1/L2
4	Obsolescence Depreciation Adjustment	[REDACTED]	= 1-L3
5			
6	Obsolescence Depreciation	[REDACTED]	= L2*L4
7	RCNLD Less Economic Obsolescence Depreciation	[REDACTED]	= L2-L6

We also provide an updated calculation of our economic obsolescence adjustment for BNSF’s RCNLD valuation based on updates to our capitalized earnings valuation discussed above.

obsolescence is determined by comparing the operating enterprise value of the business derived using the income approach, also known as the discounted cash flow (DCF) method, with the operating tangible assets of the company.”

<<https://www.kroll.com/en/insights/publications/valuation/economic-obsolescence-loss-of-utility-resulting-in-loss-of-value>>

¹⁴⁸ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”

Table 18¹⁴⁹
RCNLD from BNSF Evidence Less Economic Obsolescence Depreciation Adjustment – Updated

Line			Notes
1	Capitalized Earnings for UP and BNSF less Double Stack Intermodal Traffic	{ [REDACTED] }	
2	Total RCNLD from BNSF Study	\$676,988,627	
3	Capitalized Earnings to RCNLD Ratio	{ [REDACTED] }	= L1/L2
4	Obsolescence Depreciation Adjustment	[REDACTED]	= 1-L3
5			
6	Obsolescence Depreciation	[REDACTED]	= L2*L4
7	RCNLD Less Economic Obsolescence Depreciation	[REDACTED]	= L2-L6

10. We conclude that the interest rental amount we develop in this reply submission should be adopted and that Dr. Mathur’s proposed interest rental is riddled with conceptual and implementation errors and would represent a regulatory windfall not consistent with market-based outcomes

For the reasons discussed in this statement and in our opening VS, we conclude that the appropriate interest rental amount for BNSF to pay UP for use of the Kern-Mojave Line is { [REDACTED] } million annually as of 2023. We determined this interest rental amount based on a sound application of the *SSW Compensation* methodology including accounting for the relevant facts and circumstances, as this methodology requires. As we have shown, this results in trackage rights compensation { [REDACTED] } with market-based outcomes, which will both preserve competition to the benefit of shippers and the nation’s freight rail system and compensate UP at fair and reasonable levels.

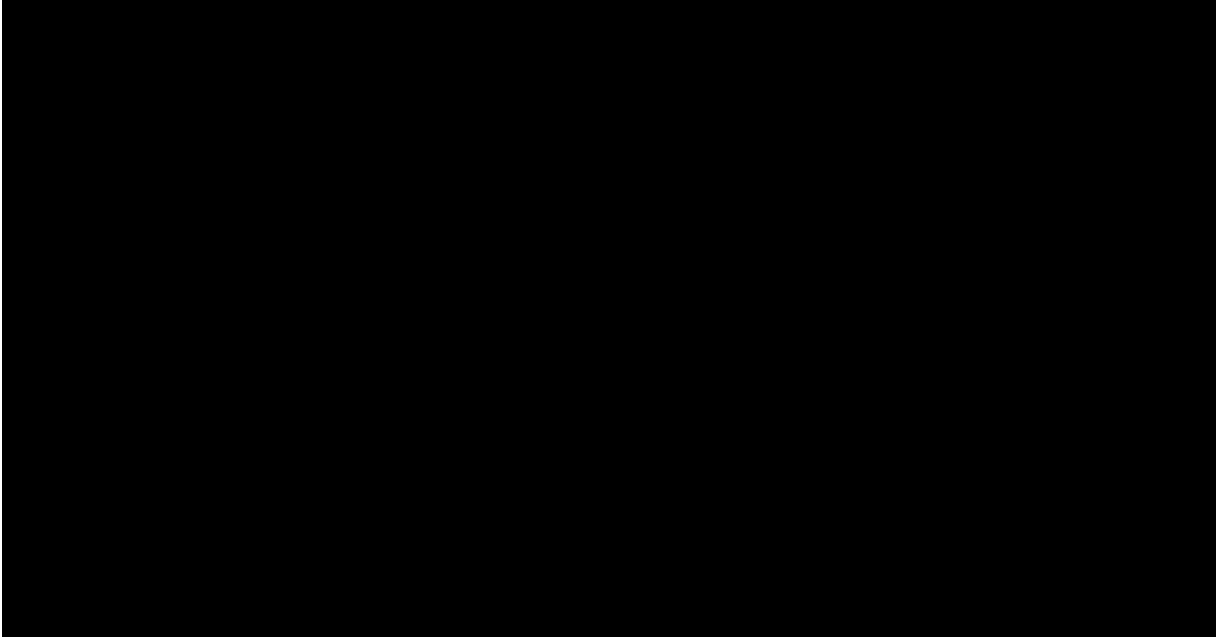
In contrast, Dr. Mathur’s compensation proposal must be rejected. As we have explained in this statement, Dr. Mathur made numerous and serious implementational mistakes and

¹⁴⁹ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Tables”.

conceptual errors that led her to recommend an { [REDACTED] } annual interest rental rate that would produce a level of trackage rights compensation that is { [REDACTED] } with market-based outcomes. Her implementational mistakes are both computationally inaccurate and contrary to foundational principles for performing ATC revenue allocations established by the STB. Her conceptual errors contradict precedent under the *SSW Compensation* methodology, rely on demonstrably inaccurate and highly aggressive assumptions, and ignore the relevant facts and circumstances of the Kern-Mojave Line that must be accounted for under a sound application of the *SSW Compensation* methodology. Dr. Mathur's compensation proposal, if adopted, would force BNSF and its shippers to pay excessive and unreasonable amounts to UP that would constitute a regulatory windfall whereby UP would obtain an enormous financial benefit from a skewed application of the *SSW Compensation* methodology that it could not have obtained in the marketplace. For these reasons, Dr. Mathur's proposed interest rental compensation should be rejected and the STB should set interest rental compensation for BNSF's use of UP's Kern-Mojave Line at the level we recommend.

APPENDIX A - UPDATED TABLES WITH CE ANALYSIS RESULTS¹⁵⁰

{{

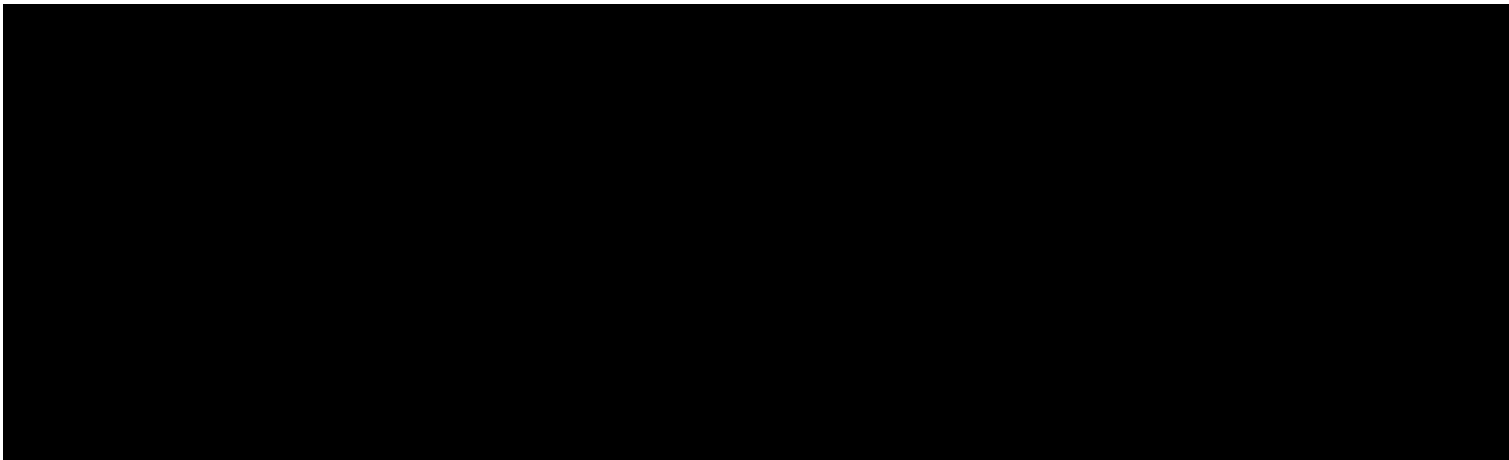


¹⁵⁰ In order to demonstrate the effects of our conservative approach of removing all negative earnings shipments from our CE valuation and facilitate comparison with Dr. Mathur's calculations, our updated tables include negative earnings shipments, and then adjust the final annual earnings estimate to remove negative earnings shipments. Thus, the values reported here differ from those in the tables in our opening VS, which excluded revenue and operating expense amounts associated with negative earnings shipments throughout.

¹⁵¹ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Appendix Tables".

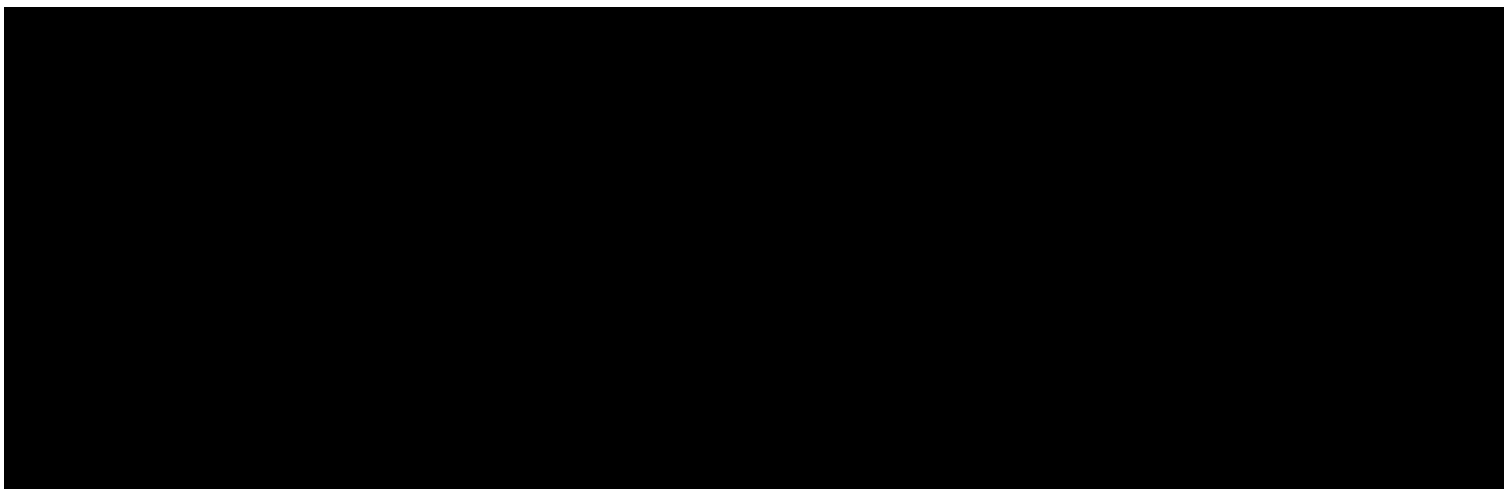
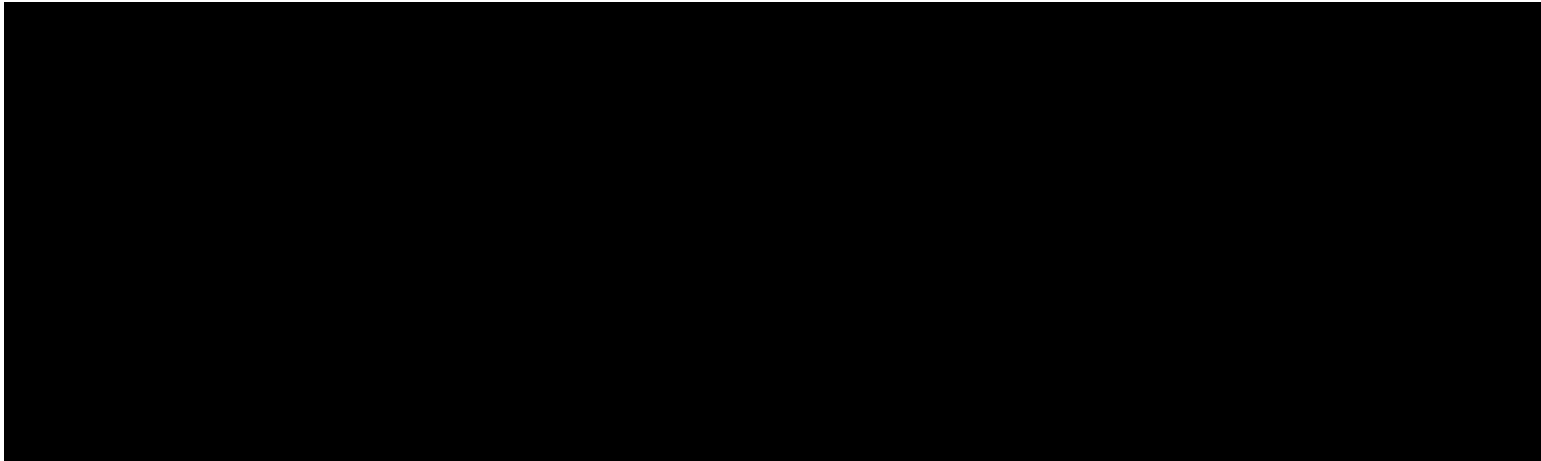
¹⁵² See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Appendix Tables".

¹⁵³ See Workpaper "Interest Rental Proposal Comparison Workpaper.xlsx", at tab "Appendix Tables".



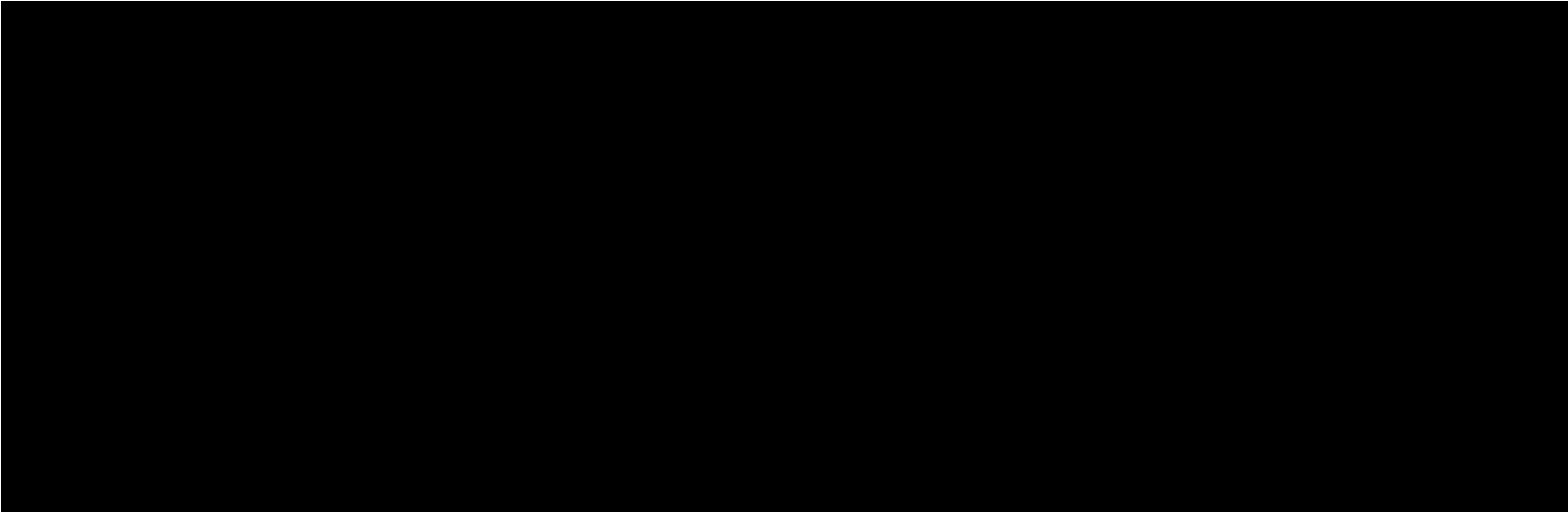
¹⁵⁴ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.

¹⁵⁵ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.



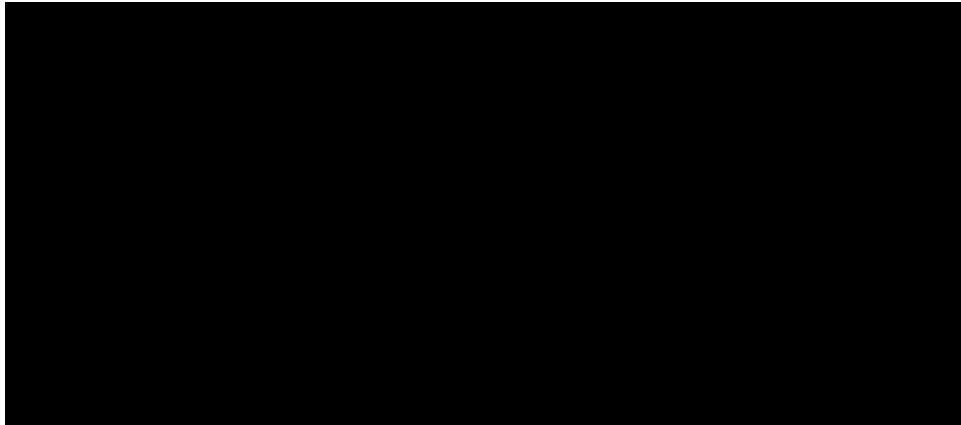
¹⁵⁶ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.

¹⁵⁷ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.



¹⁵⁸ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.

¹⁵⁹ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.



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¹⁶⁰ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.

¹⁶¹ See Workpaper “Interest Rental Proposal Comparison Workpaper.xlsx”, at tab “Appendix Tables”.

VERIFICATION

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

Executed on March 14, 2025.

/s/ Michael R. Baranowski

Michael R. Baranowski

VERIFICATION

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

Executed on March 14, 2025.

/s/ Nathaniel S. Zebrowski

Nathaniel S. Zebrowski

CERTIFICATE OF SERVICE

I hereby certify that on this 14th day of March, 2025, I have caused the foregoing BNSF Railway Company's Reply Statement and Evidence to be served electronically or by first-class mail, postage pre-paid, on all parties of record in this proceeding.

/s/ Sally Mordi

Sally Mordi
Attorney for BNSF Railway Company