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BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 22218

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

**UNION PACIFIC RAILROAD COMPANY'S
REPLY STATEMENT AND EVIDENCE**

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EXHIBIT A – Reply Verified Statement of David W. Hughes

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In Union Pacific’s Reply Statement and Evidence, Highly Confidential information is enclosed in double braces, and Confidential Information is enclosed in single braces. Highly Confidential and Confidential information is redacted from the public version of documents filed at the Board.

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I. Introduction and Summary

This proceeding involves the interest rental BNSF Railway Company pays for trackage rights over Union Pacific Railroad Company's line between Kern Junction and Mojave, California (the Tehachapis Line or Line). When line owners and tenants cannot agree on appropriate compensation for trackage rights and the issue cannot be left to bargaining by the railroads, the Surface Transportation Board resolves the dispute using the principles established in *SSW Compensation*.¹ This is such a dispute, because it involves reopening this proceeding to modify compensation terms the Interstate Commerce Commission prescribed in *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Co.*, 331 I.C.C. 367 (1967), *modified*, 333 I.C.C. 342 (1968) (jointly referred to as the *1967 Order*).

Under the Board's *SSW Compensation* methodology, the interest rental component of trackage rights compensation is determined "by multiplying (i) the value of the assets that comprise the trackage rights line by (ii) a rate of return equal to the current pre-tax

¹ See *New England Cent. R.R.—Trackage Rights Order—Pan Am S. LLC*, FD 35842, slip op. at 8–9 (STB served Oct. 31, 2017); *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Transp. Co. (1992 Order)*, 8 I.C.C.2d 297, 303 (1992); *Arkansas & Missouri R. Co. v. Missouri Pacific R. Co. (A&M)*, 6 I.C.C.2d 619, 621–22 (1990).

nominal cost of capital.”² Under *SSW Compensation*’s capitalized earning (CE) method, the value of the assets that comprise the trackage rights line, also called the interest rental base, is determined by “multiplying the specific earnings assigned to the line by an earnings multiplier”³ that “relates corporate earnings to corporate value.”⁴ Properly applied, *SSW Compensation* and the CE method set compensation terms for trackage rights that “put the tenant in the same position as the owning carrier.”⁵ BNSF’s opening evidence is an attack on *SSW Compensation* and the CE method.

Union Pacific and BNSF essentially agree on the interest rental that would be determined in a straightforward application of *SSW Compensation* and the CE method. The parties agree the Board should use *SSW Compensation* and the CE method to calculate the Line’s value and the Average Total Cost (ATC) revenue allocation methodology to assign specific Union Pacific and BNSF earnings to the Line. The parties largely agree on the mechanics of applying ATC, earnings multipliers, and rates of return, as well as the Union Pacific and BNSF traffic that moves over the Line and the revenues and costs associated with those movements. However, BNSF does not like the bottom-line result, so rather than accept an outcome that eliminates its advantage over Union Pacific, it presents arguments and evidence that flout *SSW Compensation* and the CE method.

² *New England Cent. R.R.*, slip op. at 3; accord *CSX Corp.—Control & Operating Leases/Agreements—Conrail Inc.*, 4 S.T.B. 75, 78–79 (1999).

³ *1992 Order*, 8 I.C.C.2d at 304.

⁴ *St. Louis Southwestern Ry.—Trackage Rights Over Missouri Pacific R.R.—Kansas City to St. Louis (SSW I)*, 1 I.C.C.2d 776, 787 (1984); see also *1992 Order*, 8 I.C.C.2d at 304 (“The earnings multiplier is derived through dividing the market value of the landlord’s total railroad property by the landlord’s total railroad earnings.”).

⁵ *SSW I* at 786.

While urging the Board to apply *SSW Compensation* and “use the capitalized earnings method to determine the valuation of the Kern-Mojave Line,”⁶ BNSF’s opening evidence departs substantially from both *SSW Compensation* and the CE method.

Contrary to *SSW Compensation* and the CE method, BNSF does not calculate the Tehachapis Line’s value by “multiplying the specific earnings assigned to the line by an earnings multiplier.”⁷ BNSF understates the specific earnings assigned to the Line by:

- excluding all BNSF and Union Pacific earnings from double-stack intermodal traffic that traverses the Line;
- excluding 50% of BNSF earnings from non-double-stack traffic that traverses the Line; and
- reducing BNSF earnings from the non-double-stack traffic that it includes by inconsistently using a low calculation of BNSF’s fixed costs when assigning revenue to the Line and a high calculation of BNSF’s fixed costs when assigning operating expenses to the Line.

BNSF further understates the Line’s value by adopting an earnings multiplier that assumes Line earnings will not grow, despite real-world evidence showing long-term earnings growth for both railroads and BNSF investment in new facilities designed to increase traffic moving over the Line. Finally, BNSF understates the Line’s value by failing to adjust its calculations for inflation.⁸

BNSF also understates its interest rental obligation by using the yield for 30-year U.S. Treasury Bonds, rather than the current pre-tax nominal cost of capital, as the rate of

⁶ BNSF Railway Company’s Opening Statement and Evidence (BNSF Op.) at 13.

⁷ 1992 Order, 8 I.C.C.2d at 304.

⁸ See *New England Cent. R.R.*, slip op. at 19.

return on the Line's value.⁹ BNSF also understates its rental obligation by proposing to pay less than its usage-based share of the total return on the Line's value.¹⁰

BNSF tries to justify its actions by arguing that *SSW Compensation* "is a flexible approach."¹¹ However, BNSF's departures bend *SSW Compensation* and the CE method far beyond their breaking points: they are fundamentally inconsistent with *SSW Compensation* and the CE method and with the facts.

BNSF's most blatant departure from *SSW Compensation* is using yields for 30-year U.S. Treasury Bonds, rather than the pre-tax nominal cost of capital, as the rate of return on the Line's value. BNSF claims "the parties have recognized that the interest rental [rate] . . . should align with prevailing interest rates and not the cost of capital."¹² However, the parties do *not* agree on the appropriate interest rental rate, and *SSW Compensation* says that in the absence of an agreement, the interest rental rate should be the pre-tax nominal cost of capital.¹³ Using the current pre-tax nominal of capital "ensures that the renting carrier is not being subsidized by the owning road" and "plac[es] the renter in the same position as the owner," thus "assuring a competitive relationship between the two systems on the line."¹⁴ BNSF's use of U.S. Treasury Bond yields is not a flexible

⁹ See *St. Louis Southwestern Ry.—Trackage Rights Over Missouri Pacific R.R.—Kansas City to St. Louis (SSW II)*, 4 I.C.C.2d 668, 682–84 (1987); see also *New England Cent. R.R.*, slip op. at 3.

¹⁰ See *SSW I*, 1 I.C.C.2d at 791; *SSW II*, 4 I.C.C.2d at 687.

¹¹ BNSF Op. 11–12 (quoting *BNSF Ry.—Terminal Trackage Rts.—Kan. City S. Ry.*, FD 32760 (Sub-No. 46), slip op. at 16 (STB served Feb. 21, 2020)).

¹² BNSF Op., Verified Statement of Michael R. Baranowski and Nathan Zebrowski (Baranowski/Zebrowski VS) at 30.

¹³ See, e.g., *SSW II*, 4 I.C.C.2d. at 681–82 (adopting interest rate based on 19.13% pre-tax nominal cost of capital despite evidence "that none of the hundreds of existing voluntary trackage [rights] agreements imposes an interest rate exceeding 8%").

¹⁴ *Id.* at 682, 688.

application of *SSW Compensation*; rather, it disregards *SSW Compensation*'s basic function of supplying terms when parties do not agree and *SSW Compensation*'s pro-competitive objective in using the pre-tax nominal cost of capital as the rate of return.

BNSF's departures from the CE method are similarly blatant and improper. BNSF touts the CE method's ability to determine "the fair market value of an asset – which is, of course, the goal of the valuation under the *SSW Compensation* methodology."¹⁵ However, BNSF's CE calculations do *not* determine the Tehachapis Line's fair market value because, among other things, they exclude all earnings from BNSF and Union Pacific double-stack traffic and half of the earnings from BNSF non-double-stack traffic.

BNSF claims excluding earnings from double-stack traffic is necessary to "avoid BNSF having to pay twice" for certain improvements to tunnels on the Line for which "ATSF alone paid."¹⁶ But BNSF has its facts wrong: Union Pacific repaid BNSF in kind for SP's share of the tunnel improvements after acquiring SP. More importantly, ATSF and SP agreed on how to account for ATSF's investment: consistent with precedent, the Line's interest rental base would not be increased by the cost of the improvements.¹⁷ However, BNSF's CE calculations do not exclude the cost of the improvements from the interest rental base, as would be appropriate to "avoid BNSF having to pay twice"; rather, they exclude earnings from double-stack traffic from total line earnings before applying an earnings multiplier to develop the interest rental base. In other words, rather than reduce

¹⁵ Baranowski/Zebrowski VS at 21.

¹⁶ BNSF Op. at 15.

¹⁷ See *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Transp. Co. (July 1993 Order)*, FD 22218 et al. (ICC served July 8, 1993), Appendix ("Joint Stipulation and Agreement").

the Line's value by \$6.37 million (*i.e.*, ATSF's purported investment), their methodology results in a {{ }} understatement of the Line's value based on Dr. Mathur's calculation of the interest rental base.¹⁸

BNSF's justification for excluding half of its earnings from non-double-stack traffic is less clear but equally inconsistent with the CE method. At some points, BNSF says the exclusion is necessary to address "circularity."¹⁹ At other points, BNSF acknowledges any "circularity" issue is addressed by using BNSF's earnings, rather than BNSF's rental payment, in determining the new interest rental.²⁰ BNSF also says the exclusion is an "equitable" adjustment, claiming BNSF otherwise would "have no benefit from the activities it undertakes that are necessary for its traffic to move over the Line."²¹ However, BNSF significantly understates its benefits from the trackage rights, counting only line-specific earnings as determined by ATC, rather than total earnings from traffic it could not move but for the rights. *SSW Compensation* does not require special adjustments to achieve equitable results. *SSW Compensation* "provides a reasonable and equitable basis of compensation."²²

BNSF tries to bolster its distorted approach to *SSW Compensation* and the CE method by invoking two other potential *SSW Compensation* valuation methods,

¹⁸ See Mathur RVS at 31.

¹⁹ See BNSF Op. at 15; Baranowski/Zebrowski VS at 10.

²⁰ See Baranowski/Zebrowski VS at 11 ("The circularity issue would only arise under this hypothetical scenario if we used the \$0.2 million current BNSF interest rental payment to determine the new interest rental amount that BNSF should pay UP.").

²¹ *Id.* at 12.

²² *St. Louis Southwestern Ry.—Trackage Rights Over Missouri Pacific R.R.—Kansas City to St. Louis (SSW Compensation IV)*, 8 I.C.C.2d 80, 95 (1991) (emphasis added).

Replacement Cost New Less Depreciation (RCNLD) and Comparable Line Segments (CLS). However, BNSF’s evidence is inconsistent with both RCNLD and CLS.

BNSF’s RCNLD analysis *initially* produces an interest rental base very similar to the one Union Pacific develops using both the CE and RCNLD methods, but very different from the interest rental base BNSF develops using its distorted application of CE:

Valuation Approach	Interest Rental Base for 2023 (\$Millions)
Union Pacific CE Method	{{
Union Pacific RCNLD Method	\$728.6 ²⁴
BNSF RCNLD Method (before “economic obsolescence”)	—
BNSF CE Method (excluding “circularity” adjustment)	}}

Unwilling to accept the result of its own RCNLD analysis, BNSF applies a fabricated “economic obsolescence adjustment” that reduces its RCNLD result to match its CE result (excluding its circularity adjustment). Stated differently, BNSF does not actually use RCNLD to support its CE departures; rather, it mathematically replaces its RCNLD result with its CE result (implicitly attacking the validity of *SSW Compensation’s* RCNLD method).

BNSF also attempts to bolster its distorted application of the CE method by using comparisons to trackage rights rates paid under voluntary agreements. However, BNSF’s comparisons are nothing like the CLS method. The CLS method, which values the line at

²³ See Mathur VS at 62, Figure 13 $((\$754.0 + \$631.5)/2)$.

²⁴ See Union Pacific Railroad Company’s Opening Statement and Evidence, Verified Statement of Harvey A Crouch, PE, at 58, Table 3.

²⁵ See Baranowski/Zebrowski VS at 25, Table 11.

²⁶ See *id.* at 27, Table 12.

issue using a comparable line segment as a proxy, requires (1) an RCNLD-, CE-, or SAC-based valuation of the proxy line, and (2) evidence that the proxy line is sufficiently comparable to the line at issue to use such valuations. BNSF does not even clear the first hurdle: none of the trackage rights rates it uses for comparison purposes were based on RCNLD, CE, or SAC; rather, they are products of voluntary agreements. Comparisons to trackage rights rates established in voluntary agreements have no place in *SSW Compensation* cases, where the Board is “being asked to set trackage rights compensation due to the inability of the parties to achieve a meeting of the minds.”²⁷

The remainder of this Reply Statement details BNSF’s departures from *SSW Compensation* and the CE method. Part II addresses BNSF’s departures from *SSW Compensation*’s use of (i) the pre-tax nominal cost of capital as the rate of return when calculating the annual rental, and (ii) a usage-based allocation of the annual rental. Part III addresses BNSF’s departures from the CE method, including BNSF’s (i) exclusion of double-stack earnings, (ii) exclusion of 50% of its non-double-stack earnings, (iii) further reduction of earnings through its treatment of fixed costs; (iv) adoption of an earnings multiplier that assumes no earnings growth, and (v) failure to account for inflation. Part IV addresses BNSF’s flawed “economic obsolescence adjustment.” Part V shows why the Board should disregard BNSF’s discussion of other trackage rights agreements.

In support of its Reply Statement, Union Pacific is submitting verified statements and supporting workpapers from two expert witnesses: Dr. Divya Mathur of Analysis Group, Inc. (Mathur RVS), and Harvey A. Crouch, PE, of Crouch Engineering (Crouch

²⁷ *SSW II*, 4 I.C.C.2d at 682 n.13; *see also id.* at 681–82 (adopting interest rate based on 19.13% pre-tax nominal cost of capital despite evidence “that none of the hundreds of existing voluntary trackage [rights] agreements imposes an interest rate exceeding 8%”).

RVS). Dr. Mathur discusses BNSF's departures from *SSW Compensation* and the CE method and explains why the Board should rely on the CE calculations she submitted in Union Pacific's Opening Evidence. Dr. Mathur also discusses BNSF's economic obsolescence adjustment and BNSF's references to other trackage rights agreements. Mr. Crouch discusses BNSF's RCNLD valuation and makes certain corrections to the RCNLD valuation he submitted in Union Pacific's Opening Evidence. Union Pacific's Reply Evidence also includes a reply verified statement from Mr. David W. Hughes, Union Pacific's Assistant Vice President of Joint Facilities and Interline Operations (Hughes RVS). Mr. Hughes addresses many of the factual errors underlying claims BNSF witnesses make to support their arguments for departing from *SSW Compensation* and the CE method.

II. BNSF's Use Of "Long Ago" Agreement Terms To Calculate A New Interest Rental Payment Is Contrary To *SSW Compensation*.

SSW Compensation principles apply in a case such as this one, where the parties cannot agree on appropriate compensation for trackage rights and the issue cannot be left to bargaining by the railroads. When the ICC previously reopened this proceeding to address the compensation terms it prescribed in 1967, it found that "trackage rights compensation . . . should be consistent with more recent Commission decisions," referring to *SSW Compensation*.²⁸

Under *SSW Compensation*, the interest rental component of trackage rights compensation is determined "by multiplying (i) the value of the assets that comprise the trackage rights line by (ii) a rate of return equal to the current pre-tax nominal cost of

²⁸ 1992 Order, 8 I.C.C.2d at 303.

capital.”²⁹ The trackage rights tenant’s share of the interest rental is established by applying a “usage factor.”³⁰ The usage factor is based on the parties’ proportionate use of the track, typically measured using car miles.³¹

BNSF asks the Board *not* to set the rate of return equal to the current pre-tax nominal cost of capital and *not* to allocate interest rental based on usage.³² BNSF provides no justification for these departures, other than claiming the parties “long ago” agreed to a different approach³³ and asserting “[n]othing could have changed regarding this approach that the ICC found equitable in 1967.”³⁴ However, much has changed since the ICC’s 1967 Order, and those changes require the Board to set the rate of return equal to the pre-tax nominal cost of capital and establish a usage-based rental share in this proceeding.

A. *SSW Compensation* requires setting the rate of return equal to the current pre-tax nominal cost of capital.

The most significant change since ICC’s 1967 Order is the ICC’s recognition that setting a rate of return below the pre-tax nominal cost of capital would be *inequitable* to the line owner. In *SSW Compensation*, the ICC concluded that when parties cannot agree on trackage rights compensation, the tenant should pay a usage-based share of an interest rental amount determined using a rate of return equal to the pre-tax nominal cost of

²⁹ *New England Cent. R.R.*, slip op. at 3; *CSX Corp.*, 4 S.T.B. at 75.

³⁰ *SSW II*, 4 I.C.C.2d at 687.

³¹ See *A&M*, 6 I.C.C.2d at 622 n.8; *CSX Corp.—Control & Operating Leases/Agreements—Conrail Inc.*, 3 S.T.B. 955, 965–66 (1999).

³² BNSF Op. at 20–21; Baranowski/Zebrowski VS at 29–30.

³³ Baranowski/Zebrowski VS at 30.

³⁴ *Id.* at 29.

capital.³⁵ In adopting that conclusion, which this agency has reaffirmed in an unwavering line of cases, the ICC found use of the pre-tax nominal cost of capital was fair to both railroads: “Its use favors no carrier over another and places both the incumbent and tenant railroads on an identical footing regarding a required rate of return,” and “[i]t ensures that the renting carrier is not subsidized by the owning road.”³⁶ In fact, when the ICC reopened this proceeding in 1992, it specifically recognized that “the 5.5% [interest rental] rate, which has been in place since 1967, does not take into account the changing and most current market rate of return on investment which investors are entitled to earn on their capital,” and that “its continued use would produce inaccurate results.”³⁷

BNSF implies that changing the compensation arrangement SP and ATSF established in 1899 and 1912 would be unfair because ATSF relied on the arrangement “in lieu of constructing its own route through the Tehachapi mountains.”³⁸ However, the ICC flatly rejected a similar argument in 1993, explaining that ATSF’s decisions in 1899 and 1912 had no bearing on the appropriate interest rental now and into the future, and ATSF was free to construct its own line if it is unwilling to pay interest rental established using *SSW Compensation* principles:

Had ATSF built its own line, it would seek to earn the cost of capital rate for movements on that line. That it did not build such a line years ago should not affect SP’s rental now and in subsequent years. In fact, subject to regulatory

³⁵ See *SSW II*, 4 I.C.C. at 681–84 (“Determining Rate of Return: Use of the Current Cost of Capital”).

³⁶ *Id.* at 682.

³⁷ *1992 Order*, 8 I.C.C.2d at 303–04.

³⁸ *Baranowski/Zebrowski VS* at 30.

approval and obtaining the necessary rights-of-way, ATSF is free to construct its own line today.³⁹

Moreover, BNSF does not even try to claim a rate of return based on U.S. Treasury Bond yields would produce an equitable result here by “plac[ing] both the incumbent and tenant railroads on an identical footing” and “ensur[ing] that the renting carrier is not subsidized by the owning road.”⁴⁰

As Dr. Mathur explains, establishing a rate of return based on U.S. Treasury Bond yields would not produce an equitable or economically sound result here. The interest rental payment should provide the landlord an economically appropriate return on the investment on the value of its asset, which requires that the landlord railroad be compensated at the rate of return that equity and debt investors need to receive to be compensated for the risk of investing—that is, the cost of capital.⁴¹ Use of U.S. Treasury Bond yields as the rate for return, which implies Union Pacific’s investment in the Tehachapis Line is no riskier than an investment in the U.S. Government, “would provide a windfall to [BNSF] and impose a penalty on [Union Pacific].”⁴² Board precedent requires using the industry-wide railroad pre-tax cost of capital as the rate of return when calculating the interest rental payment, which results in an economically appropriate

³⁹ See *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—Southern Pac. Transp. Co. (March 1993 Order)*, FD 22218, slip op. at 9 (ICC served Mar. 26, 1993).

⁴⁰ *SSW II*, 4 I.C.C.2d at 682.

⁴¹ See Mathur RVS at 14–15.

⁴² *Id.* at 17.

interest rental rate.⁴³ The industry-wide railroad pre-tax cost of capital rates are approximately 3.6 times higher than the Treasury Bond rate used by BNSF.⁴⁴

BNSF's reliance argument is also factually flawed. BNSF presents no evidence that SP and ATSF ever agreed to use U.S. Treasury Bond yields to establish the rate of return on the interest rental base. BNSF's claim that the "parties long ago agreed that the interest rental rate would be based on prevailing interest rates" is based on the coincidence that the 4.5% interest rate contained in the parties' 1912 Agreement is similar to the 1912 "average of the Index of Yields of High Grade Corporate and Municipal Bonds of 4.46 percent."⁴⁵ However, the 1912 Agreement does not refer to any interest-rate benchmark, much less U.S. Treasury Bond yields.⁴⁶ There is no reason to believe the 1912 Agreement's interest rate represented anything but a negotiated outcome. In fact, the parties' subsequent behavior shows they never agreed to any benchmark. In 1962, given their first opportunity to revisit the rate of return, the parties adopted very different positions: SP argued for a rate of return based on its then-current cost of capital;⁴⁷ ATSF proposed to continue the 4.5% rate.⁴⁸ When they next revisited issue in 1993, the parties again adopted very different positions: SP argued for return based on the nominal pre-tax

⁴³ *See id.* at 15.

⁴⁴ *See id.* at 19–20.

⁴⁵ Baranowski/Zebrowski VS at 30.

⁴⁶ *See* Hughes Reply Workpaper "Tehachapis 1912 Agreement.pdf."

⁴⁷ *See* Hughes Reply Workpaper "Hearing Examiner Report.pdf" at 22 ("The basic effort of those studies and computations was to determine the rate of return which investors would require before the investors in current market conditions would finance the construction of a line of railroad such as the joint line, or before they would finance additional railroad property.").

⁴⁸ *See id.* at 24 ("Santa Fe proposes a continuation of the 4.5 percent rate of return on investment . . .").

cost of capital; ATSF proposed a return based on SP's annual return on investment.⁴⁹ The parties never agreed to base the rate of return on U.S. Treasury Bonds.

BNSF suggests using 30-year U.S. Treasury Bond yields would be justified because SP and ATSF used that benchmark to adjust the interest rental payment they ultimately negotiated to resolve their dispute in 1993.⁵⁰ However, using a benchmark to *adjust* an established interest rental is entirely different from using that benchmark as the rate of return to *establish* the interest rental in the first place.⁵¹ BNSF does not claim otherwise.

As for BNSF's claim that the ICC's *1967 Order* found the parties' "approach" to be "equitable,"⁵² the prior discussion shows the parties never agreed on any "approach" to the rate of return, and nothing in the *1967 Order* indicates the ICC relied on the parties' 1912 Agreement or U.S. Treasury Bond yields when it established the 5.5% interest rate. Rather, the ICC established a rate it considered "realistic, fair, and in line with rates approved in other proceedings."⁵³ The ICC subsequently recognized that an interest rate that is "realistic, fair, and in line with rates approved in other proceedings" is one based on the pre-tax nominal cost of capital. In fact, as noted above, the ICC expressly criticized the *1967 Order*'s 5.5% interest rate in its *March 1993 Order*.⁵⁴

⁴⁹ See *March 1993 Order*, slip op. at 9 ("SP agrees with the use of the nominal pretax railroad industry cost of capital. . . . [ATSF] argues that economic competition and efficiency require the use of SP's annual return on investment (ROI) instead of the industry cost of capital rate.").

⁵⁰ See *Baranowski/Zebrowski VS* at 30.

⁵¹ See *Mathur RVS* at 19.

⁵² *Baranowski/Zebrowski VS* at 29.

⁵³ *1967 Order*, 331 I.C.C. at 370.

⁵⁴ See also *1992 Order*, 8 I.C.C.2d at 303–04.

Finally, as discussed above, even if the parties had agreed on an appropriate interest rate in the past, they do not agree today. *SSW Compensation* addresses such disagreements by supplying appropriate terms based on economic principles, not relying on “long ago” terms to which the parties no longer agree.⁵⁵

B. *SSW Compensation* requires establishing interest rental shares on a usage basis.

BNSF’s resistance to paying a usage-based share of interest rental is also flatly at odds with *SSW Compensation*. From the beginning, the *SSW Compensation* was designed to reimburse line owners for the “tenants’ share” of interest rental “on a usage basis.”⁵⁶ Over time, the standard usage measure has shifted from gross-ton miles⁵⁷ to car miles,⁵⁸ but *SSW Compensation* cases consistently recognize “interest rental should vary with actual usage.”⁵⁹

BNSF offers no justification for disregarding usage, beyond its irrelevant observation that SP and ATSF had previously agreed ATSF would pay a one-half share.⁶⁰ As discussed above, such agreements are not entitled to any weight once parties no longer agree on the other components of interest rental and turn to *SSW Compensation*. Further,

⁵⁵ Further, the *1967 Order* never promised the rate of return would continue to reflect any particular rate or methodology. To the contrary, Condition 30 expressly provided for revisiting and revising “such of the terms and conditions imposed on the transaction as may have become inequitable.” *1967 Order*, 331 I.C.C. at 404.

⁵⁶ *SSW I*, 1 I.C.C.2d at 780.

⁵⁷ See *SSW II*, 4 I.C.C.2d at 687 (“Ideally, the usage percentage should be determined by the railroads themselves, preferably using gross-ton-miles.”).

⁵⁸ See *A&M*, 6 I.C.C.2d at 622 n.8; *CSX Corp.*, 3 S.T.B. at 965–66.

⁵⁹ *SSW II*, 4 I.C.C.2d at 687.

⁶⁰ See *Baranowski/Zebrowski VS* at 29.

when this proceeding was reopened in 1993, ATSF and SP both told the ICC a usage-based approach was appropriate.⁶¹

The record evidence shows why disregarding usage would be inconsistent with *SSW Compensation* principles. BNSF's use of the Line consistently exceeds Union Pacific's on a car-mile basis. As Dr. Mathur explains, allocating usage based on car miles makes sense from an economic perspective, because it reflects the usage of available capacity on the Line. In 2021 and 2022, BNSF's usage factor exceeded {{ }}⁶² BNSF's payment of a one-half share of the total interest rental while using a proportionately larger share of the Line's capacity would be contrary to the objectives the ICC sought to advance by adopting *SSW Compensation*: BNSF would be advantaged over Union Pacific by paying proportionately less for its use of the Line, and Union Pacific's proportionately higher payments would be subsidizing BNSF.

III. BNSF Departs From *SSW Compensation*'s CE Method By Failing To Appropriately Attribute Line-Specific Earnings To The Tehachapis Line.

SSW Compensation is designed to ensure line owners and trackage rights tenants bear responsibility for their appropriate share of the required return on the value of the trackage rights line. The valuation of the line is also called the "valuation base" or "interest rental base." Under *SSW Compensation*'s CE method, the interest rental base is determined by "multiplying the specific earnings assigned to the line by an earnings

⁶¹ See *March 1993 Order*, slip op. at 10 ("Both parties agree that ATSF's payment should be based on its use of the line.").

⁶² See Mathur RVS at 20.

multiplier”⁶³ that “relates corporate earnings to corporate value.”⁶⁴ Only after establishing the interest rental base does one apply the interest rental rate and interest rental share to determine the tenant’s actual interest rental payment.

BNSF itself recognizes that, under the CE method, “the value of the trackage rights line segment to the landlord is based on the earnings attributable to the line for shipments that use the line.”⁶⁵ However, BNSF never calculates the Tehachapis Line’s value as required by the CE method because its calculations improperly exclude two categories of line-specific earnings when developing the interest rental base: (i) BNSF and Union Pacific earnings from double-stack traffic, and (ii) 50% of BNSF earnings from non-double-stack traffic. BNSF also understates line-specific earnings through its inconsistent treatment of fixed cost and other errors. BNSF then understates the interest rental base by applying an earnings multiplier that reflects the pre-tax nominal cost of capital rather one that reflects Union Pacific’s corporate value, and its calculations fail to incorporate an adjustment for inflation.

BNSF’s opening statement expressly addresses only the first two issues, offering justifications that do not withstand scrutiny. All of these issues are addressed below.

⁶³ *1992 Order*, 8 I.C.C.2d at 304.

⁶⁴ *SSW I*, 1 I.C.C.2d at 787; *see also 1992 Order*, 8 I.C.C.2d at 304 (“The earnings multiplier is derived through dividing the market value of the landlord’s total railroad property by the landlord’s total railroad earnings.”).

⁶⁵ *Baranowski/Zebrowski VS* at 9–10.

A. BNSF's CE calculations improperly exclude double-stack traffic.

1. BNSF's exclusion of double-stack traffic understates the fair market value of the Tehachapis Line, contrary to the CE method.

A substantial part of the Tehachapis Line's value is derived from and devoted to BNSF's and Union Pacific's use of the Line to move double-stack traffic. Double-stack traffic refers to intermodal traffic moving in rail cars specially designed to carry two layers of intermodal containers. BNSF uses the Line as a critical link in its network to move high priority and standard priority intermodal trains.⁶⁶ Union Pacific uses the Line for its own high priority and standard priority intermodal trains.⁶⁷ According to BNSF's calculations, approximately {{ }} of BNSF's earnings and {{ }} of Union Pacific's earnings attributable to the Line are generated by double-stack traffic.⁶⁸

BNSF departs from the CE method by developing the Line's value as though the Line cannot be used for double-stack traffic. Specifically, BNSF excludes all revenues and costs associated with double-stack traffic when calculating line-specific earnings for purposes of developing the interest rental base.⁶⁹ Under the CE method, a line's fair market value is determined based on the earnings attributable to the line.⁷⁰ As the ICC observed in *SSW II*, the "market value of a piece of investment property usually is based

⁶⁶ BNSF Op., Verified Statement of Olivia E. Power (Power VS) at 3–4.

⁶⁷ Union Pacific Railroad Company's Opening Statement and Evidence, Verified Statement of David W. Hughes (Hughes VS) at 2.

⁶⁸ See Mathur RVS at 24.

⁶⁹ See Baranowski/Zebrowski VS at 19 ("[W]e eliminate the UP and BNSF earnings attributable to intermodal containers moving in double-stack service that are attributable to the Kern-Mojave Line.").

⁷⁰ See *SSW II*, 4 I.C.C.2d at 684; see also Baranowski/Zebrowski VS at 9–10 ("Under this CE approach, the value of the trackage rights line segment to the landlord is based on the earnings attributable to the line for shipments that use the line.").

on the earnings potential of that property.”⁷¹ By excluding earnings from double-stack traffic, BNSF’s CE calculation significantly understates the fair market value of the Tehachapis Line, violating the *SSW Compensation* principle that “valuation should be based on fair market value.”⁷²

By substantially understating the Line’s value, BNSF develops an interest rental payment that would leave it paying a disproportionately low share of the required return on the Line’s actual fair market value. Union Pacific would be required to make up the difference, effectively subsidizing BNSF operations over the Line. This outcome would be contrary to *SSW Compensation*’s objective of “plac[ing] both the incumbent and tenant railroads on an identical footing” and “ensur[ing] that the renting carrier is not subsidized by the owning road.”⁷³

2. BNSF’s justification for excluding double-stack earnings is economically, legally, and factually flawed.

BNSF erroneously claims excluding earnings from double-stack traffic is necessary to “avoid BNSF having to pay twice” for \$6.37 million in tunnel improvements for which “ATSF alone paid.”⁷⁴ First, BNSF has its economics wrong. Under the CE method, BNSF’s rental payment will not reflect the tunnel improvement costs, so excluding the costs is not necessary to avoid any double-payment issue. Moreover, BNSF’s calculations do not exclude the cost of the improvements from the interest rental base; rather, they exclude earnings from double-stack traffic from total line earnings

⁷¹ *SSW II*, 4 I.C.C.2d at 674; *see also New England Cent. R.R.*, slip op. at 15.

⁷² *SSW II*, 4 I.C.C.2d at 674.

⁷³ *Id.* at 682.

⁷⁴ BNSF Op. at 15.

before applying an earnings multiplier to calculate the interest rental base. As a result, BNSF would not be paying its share of the required return on Union Pacific's investments in the Line's land and track assets used to generate earnings from all traffic, including double-stack traffic. Second, BNSF's exclusion of double-stack earnings is inconsistent with ATSF's and SP's agreement on how to account for ATSF's investment in the tunnel improvements. Consistent with precedent, ATSF and SP agreed the Tehachapis Line's interest rental base would not be increased by the cost of the improvements.⁷⁵ Third, BNSF has its facts wrong. Union Pacific repaid BNSF in kind for SP's share of the tunnel improvements that ATSF initially funded after it acquired SP.

a) BNSF's exclusion of double-stack earnings violates the CE method.

BNSF's exclusion of earnings from double-stack traffic is inconsistent with the economics underlying the CE method. As discussed above and in Dr. Mathur's statement, the CE method is based on the principle that a rail line's value can be measured by the future earnings potential of the property.⁷⁶ Here, the Tehachapis Line's future earning potential includes its potential use for moving double-stack traffic, so any rental payment determined using the CE method must account for earnings from double-stack traffic.

BNSF says its calculations exclude double-stack earnings to "avoid BNSF having to pay twice" for ATSF's tunnel clearance investment.⁷⁷ However, as Dr. Mathur explains, not "paying twice" for ATSF's investment is very different from not paying rent based on

⁷⁵ See *July 1993 Order*, Joint Stipulation and Agreement at 4 ("provided, however, that neither party shall be entitled at any time to receive or assess interest rental payments with respect to such tunnel clearance improvements"); see also Hughes RVS at 11–13.

⁷⁶ See Mathur RVS at 44.

⁷⁷ BNSF Op. at 15.

Union Pacific’s CE-based valuation of the Line also did not require any adjustment to account for ATSF’s investment in tunnel improvements. As Dr. Mathur explains, the CE method employs a fundamentally different approach to valuation than the RCNLD method—one that does not involve consideration of construction costs or which party paid the costs. The CE method bases the Line’s value on its earning potential, which as a theoretical and practical matter would be the same regardless of ATSF’s investment costs.⁸¹ Board precedent recognizes the difference between the CE method and the RCNLD method in regard to accounting for investment by trackage rights tenants. In discussing application of the CE and RCNLD methods in the *February 1992 Decision*, the ICC said that if RCNLD was used, “it would seem that the appraised value should be adjusted to exclude improvements made by ATSF; otherwise, ATSF would be paying twice for these.”⁸² However, ICC did not identify a similar need to adjust a valuation developed using CE.⁸³ In any event, as discussed above, Union Pacific’s evidence showed there is no need for any adjustment under RCNLD, so even if the same adjustment were required under RCNLD and CE, there would be no need for any adjustment under CE.⁸⁴

As Dr. Mathur also explains, BNSF’s exclusion of double-stack traffic incorporates a basic conceptual flaw in valuing ATSF’s investment in the Line relative to Union Pacific’s investment in the Line. BNSF says it “should be able to realize its full

⁸¹ See Mathur RVS at 25–26.

⁸² *1992 Order*, 8 I.C.C.2d at 305.

⁸³ See *id.*

⁸⁴ BNSF appears to agree. See BNSF Op. at 16 n.7 (asserting the “‘double payment’ issue” presented under the CE methodology is the “same issue” presented “in the context of the RCNLD methodology”).

earnings from [ATSF's] investment without any offsetting payments to UP.”⁸⁵ Essentially, BNSF claims it should pay no rent for moving its double-stack traffic over the Line because ATSF invested to improve the tunnels on the Line.⁸⁶ The same flawed logic could support the argument that BNSF's rent should reflect the total earnings from moving its double-stack traffic to the Line, not just the line-specific earnings developed using ATC, because none of that traffic would be moving over the Line if SP had not invested in the land and track facilities, including the tunnels, that make up the Line.⁸⁷

Even if some adjustment to the Line's interest rental base were required to “avoid BNSF having to pay twice,” BNSF's exclusion of double-stack earnings would improperly overstate the appropriate adjustment. As Dr. Mathur explains, a potential method could assess how much a similar investment would cost today, then offset the interest rental base by that amount. She calculates that ATSF's 50% share of the \$6.37 million construction project in 1993 would cost approximately \$7.7 million today, justifying at most a \$7.7 million reduction in an interest rental base.⁸⁸

By contrast, BNSF's exclusion of double-stack earnings goes far beyond subtracting the cost of ATSF's investment from the interest rental base. It even goes beyond subtracting double-stack earnings from the interest rental base. BNSF subtracts double-stack earnings from the line-specific earnings that are multiplied by an earnings

⁸⁵ Baranowski/Zebrowski VS at 13.

⁸⁶ BNSF's approach does more to reduce BNSF's rent than just exclude the value related to its own double-stack earnings from the interest rental base. By also excluding the value of Union Pacific's double-stack earnings from the interest rental base, BNSF further reduces the rent owed when it uses the Line for double-stack or non-double stack traffic. *See Mathur RVS* at 28.

⁸⁷ *See id.* at 26, 30.

⁸⁸ *See id.* at 31–32.

multiplier to establish the interest rental base in the first place. BNSF's exclusion of double-stack earnings is not justified as a means to "avoid BNSF having to pay twice" for ATSF's costs.

In sum, BNSF's exclusion of double-stack earnings is economically unsound, inconsistent with CE, and far beyond even the largest adjustment that could be justified to ensure BNSF would not "pay twice" for ATSF's tunnel improvement costs.

b) BNSF's exclusion of double-stack earnings conflicts with the parties' Joint Stipulation Agreement and precedent.

BNSF's exclusion of double-stack earnings not only conflicts with the CE method and sound economics, but it also conflicts with the Joint Stipulation and Agreement through which ATSF and SP settled their dispute over interest rental payments and the tunnel clearance improvements in the early 1990s. The Joint Stipulation and Agreement protected ATSF from "having to pay twice" for the improvements by providing that ATSF's share of the costs would not be added to the Line's interest rental base. Union Pacific's opening evidence was consistent with the Joint Stipulation and Agreement because, as discussed above, the improvements had no material impact on the Line's valuation under the RCNLD or CE methods. Nothing in the Joint Stipulation and Agreement supports excluding double-stack earnings in developing the interest rental base, contrary to claims made by BNSF.⁸⁹

As Mr. Hughes describes in his Reply Verified Statement, the Joint Stipulation and Agreement established an exception to Conditions No. 16 and 17 of the *1967 Order* that allowed SP to use the tunnel improvements upon reimbursing ATSF for one-half of

⁸⁹ See Baranowski/Zebrowski VS at 13–14.

ATSF's costs, while insuring ATSF would not pay twice for its costs. Under Condition No. 16, ATSF could have required SP to make changes to the Line at ATSF's cost for ATSF's exclusive use, in which case the cost would not be added to the Line's interest rental base. Condition No. 16 also provided that SP could later elect to use the changes, but only by reimbursing ATSF for the total costs of the changes, in which case the costs would be added to the Line's interest rental base, under Condition No. 17.⁹⁰ In the Joint Stipulation and Agreement, the parties agreed to an exception to Conditions Nos. 16 and 17: ATSF would pay initially for the tunnel improvements; SP could use them if it reimbursed ATSF for 50% of the cost, in which case SP could not add ATSF's cost to the Line's interest rental base (and thus could not require ATSF to pay twice for its share of the costs).⁹¹

The parties' approach in the Joint Stipulation and Agreement was consistent with ICC precedent—specifically, the ICC's discussion earlier in the proceeding about the treatment of any improvements ATSF paid for when developing an investment base using the RCNLD method: "[A]ny part of the investment base actually paid for by ATSF should not be included in the interest rental calculation."⁹² The Joint Stipulation and Agreement followed the ICC's direction by ensuring the Line's interest rental base would not be

⁹⁰ Condition No. 17 provides, in relevant part: "Periodically, as such charges are made or accounted for, there shall be added to that valuation the portion of the cost chargeable to property accounts under the rules of the Commission, and under section 16 hereof, of all changes, additions and betterments to the joint line which became chargeable on or subsequent to January 1, 1962" *1967 Order*, 331 I.C.C. at 394 (Condition No. 17(a)).

⁹¹ See *July 1993 Order*, Joint Stipulation and Agreement at 3–4.

⁹² *March 1993 Order*, slip op. at 7; see also *1992 Order*, 8 I.C.C.2d at 305 ("However, if [the RCNLD] method is selected, it would seem that the appraised value should be adjusted to exclude improvements made by ATSF; otherwise, ATSF would be paying twice for these – once by constructing them and then by paying rent on their value.").

increased by the tunnel clearance costs paid by ATSF. BNSF's exclusion of double-stack earnings is inconsistent with the Joint Stipulation and Agreement because it addresses ATSF's costs by excluding double-stack earnings in calculating the interest rental base, rather than excluding ATSF's costs after determining the interest rental base.

c) BNSF's exclusion of excluding double-stack earnings conflicts with the facts.

BNSF's exclusion of double-stack earnings is also inconsistent with the facts. BNSF says excluding double-stack earnings in developing the interest rental base is appropriate because "ATSF alone paid for the \$6.3 million in tunnel improvements"⁹³ and "[w]ithout [ATSF's] investment, the double-stack intermodal trains that move routinely over the Line would not have been possible, and thus no earnings associated with those double-stack trains would have accrued."⁹⁴ BNSF is incorrect on both counts.

First, Union Pacific compensated BNSF for SP's share of the costs of the tunnel improvements when it acquired SP—that is why Union Pacific has equal rights to use the tunnel improvements. As Mr. Hughes explains, in exchange for value provided as part of BNSF's settlement agreement with Union Pacific in the UP/SP merger, BNSF "'waive[d] SP's requirement to pay any portion of the Tehachapi tunnels clearance improvements.'"⁹⁵

Second, Union Pacific would have made the tunnel improvements after acquiring SP, even if it had to pay their full cost. As Mr. Hughes explains, Union Pacific was focused on expanding its double-stack business before acquiring SP.⁹⁶ Union Pacific had begun

⁹³ BNSF Op. at 15.

⁹⁴ Baranowski/Zebrowski VS at 12–13.

⁹⁵ See Hughes RVS at 9 (quoting Restated and Amended BNSF Settlement Agreement § 8(e)).

⁹⁶ See *id.* at 10.

improving tunnel clearances on its intermodal routes in the late 1980s.⁹⁷ Further, Union Pacific's merger with SP included plans to spend more than a quarter of a billion dollars in new intermodal facilities and to improve tunnel clearances.⁹⁸ In authorizing the UP/SP merger, the Board expressly noted Union Pacific's plans to improve tunnel clearances, recognizing: "[T]he merged system will clear tunnel restrictions that block SP from competing for most doublestack traffic in the I-5 and Central Corridors."⁹⁹ And following the merger, Union Pacific spent approximately {{ to increase clearances in tunnels and on bridges on other portions of its I-5 Corridor and approximately {{ to increase tunnel clearances on the former-SP Central Corridor.¹⁰⁰ For anyone but the financially struggling SP, \$6.37 million would have been a small price to pay to take full advantage of double-stack efficiencies on the Tehachapis Line.¹⁰¹

B. BNSF's CE calculations improperly exclude 50% of earnings from BNSF's non-double-stack traffic.

BNSF also departs from the CE method by excluding 50% of earnings from BNSF's non-double-stack traffic when calculating line-specific earnings for purposes of developing the interest rental base.¹⁰² BNSF's exclusion of earnings from non-double-

⁹⁷ *See id.*

⁹⁸ *See Union Pacific/Southern Pacific Merger*, 1 S.T.B. 233, 382 n.117 (1996).

⁹⁹ *Id.*

¹⁰⁰ *See Hughes RVS* at 11.

¹⁰¹ In addition, even if the tunnel improvements had been physically impossible, at least some traffic currently moving in double-stack configuration would still be moving over the Tehachapis Line. As Mr. Hughes explains, the tunnel improvements were needed to accommodate cars with two layers of domestic intermodal containers. Domestic intermodal traffic could move through the original tunnels in a single-layer or in a stacked configuration where one layer was a shorter international container. *See id.* at 9–10. Along with its many other flaws, BNSF's exclusion of double-stack earnings is unprincipled because it fails to account for such traffic.

¹⁰² *See Baranowski/Zebrowski VS* at 12.

stack traffic conflicts with CE method and violates *SSW Compensation* principles for the same reason as its exclusion of double-stack earnings: the CE method uses line-specific earnings, not some reduced portion of those earnings, to develop a line's fair market value,¹⁰³ and *SSW Compensation* principles require basing interest rental payments on a line's "fair market value."¹⁰⁴

BNSF's justification for excluding non-double-stack earnings is unclear. At some points, BNSF says the earnings exclusion addresses "circularity."¹⁰⁵ At other points, BNSF says the earnings exclusion is "equitable."¹⁰⁶ Neither justification is consistent with the CE method.

BNSF's opening evidence confirms that the earnings exclusion does not address circularity because both parties constructed their CE valuations to avoid creating a circularity issue. A circularity issue would have arisen if either party attempted "to establish a new level of compensation based on an existing level of compensation which is itself an issue."¹⁰⁷ As BNSF explains, in the context of the CE method, "[t]he circularity issue would only arise . . . if we used the . . . current BNSF interest rental payment to determine the new interest rental amount that BNSF should pay UP."¹⁰⁸ Using BNSF's line-specific earnings to determine the new rental amount, rather than its interest rental payment, avoids any circularity issue. As BNSF explains, "we may consider as part of a

¹⁰³ See *SSW II*, 4 I.C.C.2d at 684.

¹⁰⁴ *Id.* at 674.

¹⁰⁵ See BNSF Op. 3–4.

¹⁰⁶ See *Baranowski/Zebrowski VS* at 12.

¹⁰⁷ *A&M*, 6 I.C.C.2d at 625.

¹⁰⁸ *Baranowski/Zebrowski VS* at 11.

capitalized earnings valuation, without encountering a circularity issue, the . . . total BNSF earnings” attributable to BNSF operations over the Line.¹⁰⁹ As Dr. Mathur confirms, no circularity issue exists in this case because both parties use BNSF’s line-specific earnings, not BNSF’s current interest rental payment, in their CE valuations of the Line.¹¹⁰

BNSF’s “equitable” argument for the earnings exclusion is equally flawed. BNSF attacks the very foundation of the CE method and *SSW Compensation* by denying the bedrock principle that a straightforward application of the CE method and *SSW Compensation* provides “a reasonable and *equitable* basis of compensation.”¹¹¹ Excluding line-specific earnings when calculating the Tehachapis Line’s interest rental base means the earnings-based valuation would not establish the Line’s fair market value, which in turn means BNSF would not pay rent based on the Line’s fair market value.

BNSF’s equitable argument rests on the false premise that the value BNSF obtains from using the Line is equal to the earnings specifically attributed to the Line for purposes of developing the interest rental base.¹¹² However, when BNSF uses the Line to move intermodal traffic from the Bay Area to Chicago (for example), BNSF is using the Line to generate earnings for the entirety of the movement, not just the portion from Kern to Mojave.¹¹³ BNSF’s ability to earn revenues for traffic moving from Bay Area to Chicago should provide plenty of incentive “to market[] its transportation services, coordinat[e]

¹⁰⁹ *Id.*

¹¹⁰ *See* Mathur RVS at 33–34.

¹¹¹ *SSW Compensation IV*, 8 I.C.C.2d at 95 (emphasis added).

¹¹² *See* Baranowski/Zebrowski VS at 12 n.15.

¹¹³ *See also* Mathur RVS at 37 (“Thus, BNSF’s trackage rights on the Mojave-Kern Line provide BNSF far more value than the earnings attributable to the line for purposes of developing the interest rental base.”).

train operations, invest[] in and maintain[] locomotives and cars, and provid[e] fuel and crews to move its trains over the Line.”¹¹⁴ If BNSF’s earnings on the through movement are insufficient to provide BNSF an appropriate return on its investments while also providing Union Pacific an appropriate return on the Line’s fair market value, BNSF should look to its pricing and non-rental costs, not seek a rent subsidy from Union Pacific. *SSW Compensation*’s anti-subsidy principle is especially critical in a case like this, where Union Pacific and BNSF compete head-to-head for traffic moving over the Line.¹¹⁵ BNSF “has no right to expect [the Board] to establish compensation on a basis that is less than reasonable.”¹¹⁶

C. BNSF’s CE calculations improperly reduce BNSF earnings through inconsistent treatment of costs.

Although Union Pacific and BNSF generally agreed on the mechanics of how to develop line-specific revenues and costs in applying the CE method, BNSF’s calculations incorporate certain inconsistencies that reduce BNSF’s line-specific earnings, and thus BNSF’s valuation of the Line. Dr. Mathur addresses those inconsistencies in her Reply Verified Statement.

¹¹⁴ See Baranowski/Zebrowski VS at 12. BNSF appears to suggest that ATSF originally agreed to use the Line because it was paying less than an appropriate return on the Line’s fair market value. See *id.* Even if true, that would not justify requiring Union Pacific to continue subsidizing BNSF.

¹¹⁵ BNSF’s “equitable” argument implicitly and erroneously assumes Union Pacific is better off with BNSF using the Line and paying some amount of rent. As Union Pacific explained on opening, times have changed since the 1912 agreement between SP and ATSF. The Line is consistently operating near or at fluid capacity. See Hughes VS at 3. In these circumstances, BNSF’s presence subtracts from the value Union Pacific can obtain from the Line.

¹¹⁶ *SSW IV*, 8 I.C.C.2d at 85; *cf. id.* at 87 (“We never expressed an intent that the trackage rights compensation formula in general, or the interest rental component thereof in particular, would forever be kept low enough to guarantee that SP would choose to conduct trackage rights operations on the Kansas City-St. Louis lines.”).

The most significant inconsistency involves BNSF's treatment of fixed costs. As Dr. Mathur explains, when calculating revenue attributable to the Tehachapis Line, BNSF uses ATC to properly account for density in calculating the fixed portion of operating expenses. However, when calculating operating expenses attributable to the Tehachapis Line, BNSF uses its URCS system-wide constant cost markup to develop fixed costs. Because the Tehachapis Line has significantly above-average density, this inconsistency means BNSF understates the Line's revenues as compared to the Line's costs and thus understates the earnings attributable to the Line.¹¹⁷ BNSF further understates the Line's earnings by assuming there are no below-the-wheel fixed costs associated with BNSF movements over the Line when allocating revenue but assumes there are below-the-wheel fixed costs associated with those movements when allocating operating expenses.¹¹⁸ Dr. Mathur's initial calculations treated fixed costs consistently and thus developed an accurate measure of earnings attributed to the Line.

¹¹⁷ See Mathur RVS at 39–41.

¹¹⁸ See *id.* at 42–43.

As Dr. Mathur explains, BNSF attempts to justify assuming no below-the-wheel fixed costs for BNSF movements over the Tehachapis Line by referring to evidence submitted in *Consumers Energy Co. v. CSX Transp., Inc.*, NOR 42142 (STB served Jan. 11, 2018), but the issue in that case arose in a different context. See Mathur RVS at 43 n.119. Further, the Board's decision does not address the issue. Also, as Dr. Mathur explains, BNSF's justification for its inconsistent treatment of below-the-wheel fixed costs for purposes of developing revenues and expenses is unavailing because the issue is related to fixed costs and does not require the type of movement-specific adjustment to variable costs addressed in the Board's decision in *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1) (STB served Oct. 30, 2006). See *id.* at 46 n.124.

D. BNSF's CE calculations improperly use the railroad industry cost of capital rather than Union Pacific's market-based multiplier as the earnings multiplier.

Under the CE method, a line's interest rental base is developed by "multiplying the specific earnings assigned to the line by an earnings multiplier."¹¹⁹ On opening, Dr. Mathur calculated a multiplier using market data regarding Union Pacific's enterprise value in relation to its earnings.¹²⁰ Dr. Mathur's market-based approach was consistent with Board precedent establishing that the "earnings multiplier ordinarily is the ratio of the landlord railroad's total system market value to its total system earnings."¹²¹ BNSF agrees: "Typically, the earnings multiplier is derived by dividing the market value of the landlord's total railroad property by the landlord's total railroad earnings. The same result can be achieved by multiplying the value of the landlord's total system by the ratio of the landlord's line-specific earnings to the landlord's total railroad earnings."¹²² Despite BNSF's recognition that the earnings multiplier should reflect the line owner's market value and earnings, BNSF's CE analysis uses the rail industry pre-tax cost of capital as a multiplier.¹²³ BNSF does not explain its decision to use the rail industry pre-tax cost of capital rather than a market-based multiplier. As Dr. Mathur explained on opening and

¹¹⁹ *1992 Order*, 8 I.C.C.2d at 304.

¹²⁰ *See* Union Pacific Railroad Company's Opening Statement and Evidence, Verified Statement of Dr. Divya Mathur (Mathur VS) at 61–62.

¹²¹ *Toledo, Peoria & W. Ry.—Trackage Rights Compensation—Peoria & Pekin Union Ry.*, FD 26476 (Sub-No. 1), slip op. at 5 n.10 (ICC served Sept. 20, 1994); *see also, e.g., CSX Corp.*, 4 S.T.B. at 79; *1992 Order*, 8 I.C.C.2d at 304; *SSW II*, 4 I.C.C.2d at 680–81.

¹²² BNSF Op. at 14 (citations omitted).

¹²³ *See* Baranowski/Zebrowski VS at 20.

reiterates in her Reply Verified Statement, use of a market-based multiplier is particularly appropriate here to reflect the market's expectations of future growth.¹²⁴

E. BNSF's CE calculations fail to account for inflation in calculating an interest rental base using 2019-2022 data to propose an interest rental payment for 2023.

Finally, BNSF's CE calculations incorporate a basic financial flaw: they do not account for inflation. As Dr. Mathur explains, BNSF calculates a proposed interest rental payment by developing CE-based valuations of the Line for the years 2019 through 2022 and then averaging those valuations.¹²⁵ However, BNSF calculates the valuation for each year in nominal dollars and therefore does not account for inflation.¹²⁶ Because the proposed interest rental payment developed in this proceeding is meant to reflect appropriate payments for 2023 and onwards, CE-based valuations for years prior to 2023 must be adjusted for inflation to convert them into 2023 dollars, and payments in future years should be further adjusted for inflation each year, consistent with Board precedent.¹²⁷

IV. BNSF'S RCNLD Valuation Incorporates A Fabricated "Economic Obsolescence Adjustment."

BNSF and Union Pacific agree the Board should use *SSW Compensation's* CE method to determine the Tehachapis Line's interest rental base. BNSF's opening evidence

¹²⁴ See Mathur VS at 26–28, 58–60; Mathur RVS at 49–52.

¹²⁵ See Mathur RVS at 52; see also Baranowski/Zebrowski VS at 21, Table 8.

¹²⁶ See Mathur RVS at 52–53.

¹²⁷ See *New England Cent. R.R.*, slip op. at 19 (“The trackage rights payments will be adjusted annually for both inflation and changes in the Board’s annual railroad industry cost-of-capital determination” (footnote omitted)); see also *CSX Corp.*, 3 S.T.B. at 965 (“In keeping with the procedure used in *SSW Compensation*, we have adjusted Conrail’s 1995 earnings upward to account for inflation between 1995 and 1997.”); *SSW I*, 1 I.C.C.2d at 787 (“Thus, we have converted the 1979 earnings dollars to 1982 dollars”).

nonetheless includes an RCNLD valuation of the Line. BNSF claims its RCNLD valuation supports its CE valuation. However, BNSF's RCNLD valuation incorporates a massive downward adjustment designed to align its two valuations. BNSF's unmanipulated RCNLD valuation supports Union Pacific's CE valuation.

BNSF conducted a detailed RCNLD valuation of the Tehachapis Line and concluded the Line's RCNLD was {{ }}¹²⁸ very close to Union Pacific's CE valuation of \$692.8 million and Union Pacific's RCNLD valuation of \$728.6 million.¹²⁹ As Mr. Crouch notes in his Reply Verified Statement, BNSF's RCNLD valuation would have been even closer to Union Pacific's—perhaps even higher, given Union Pacific's extremely conservative approach—but for BNSF's inappropriate depreciation of earthworks costs and tunnels and BNSF's failure to include a corridor factor in valuing land used for the Line.¹³⁰

In its opening evidence, BNSF rejects its own RCNLD valuation. BNSF simply reduces its RCNLD valuation by approximately 70%, or {{ }} As explained by Dr. Mathur (and as admitted by BNSF), BNSF developed the revised RCNLD valuation simply by reducing its initial RCNLD valuation to match its CE valuation.¹³¹

¹²⁸ Baranowski/Zebrowski VS at 25, Table 11.

¹²⁹ See Mathur RVS at 56.

¹³⁰ See Crouch RVS at 1.

¹³¹ See Mathur RVS at 57–58; Baranowski/Zebrowski VS at 27 & Table 12. BNSF's "economic obsolescence adjustment" uses a CE valuation that excludes earnings from double-stack traffic but does not incorporate the 50% reduction in BNSF's non-double-stack earnings that BNSF makes in its original CE valuation. See Baranowski/Zebrowski VS at 27 & Table 12. BNSF does not explain why it uses a different approach in the two analyses.

BNSF's revised RCNLD valuation thus does not provide any independent support for its CE valuation—BNSF simply casts aside its RCNLD valuation in favor of its CE valuation.

BNSF justifies the impeachment of its own RCNLD valuation by claiming the adjustment accounts for “economic obsolescence,” but offers no evidence that the CE valuation it uses to reduce its RCNLD valuation accounts for “economic obsolescence.” As discussed above, BNSF's CE valuation does not accurately reflect the fair market value of the Tehachapis Line: it excludes double-stack earnings, excludes 50% of BNSF earnings from non-double-stack traffic, reduces earnings further still through inconsistent treatment of fixed costs, and applies an inappropriately low earnings multiplier. None of those exclusions has any bearing on economic obsolescence.

BNSF argues the Tehachapis Line must be economically obsolete because the Line's RCNLD exceeds its CE valuation and the difference means “no rational market participant” would pay to replace the Line.¹³² However, as discussed above and in Dr. Mathur's Reply Verified Statement, BNSF's CE analysis severely understates the Line's value. Union Pacific's CE valuation shows the Line's value is higher than BNSF's unmanipulated RCNLD valuation. Further, BNSF's claim mistakenly assumes the Line's value to rational market participants is measured solely by the earnings attributed to the Line using ATC. As Mr. Hughes and Dr. Mathur explain, the Line's real-world value depends on all the earnings the Line makes possible, not just the share of earnings attributed to the Line using ATC.¹³³ In other words, if the Line had to be replaced, Union Pacific and BNSF would have to weigh the costs of reconstructing the Line against the

¹³² Baranowski/Zebrowski VS at 26.

¹³³ See Mathur RVS at 59–60; Hughes RVS at 14–15.

loss of all earnings from traffic using the Line—no rational market participant would employ the constricted, ATC-based analysis suggested by BNSF.¹³⁴

BNSF's own statements in this proceeding refute any suggestion the Tehachapis Line is economically obsolete and instead confirm its continued, vital importance. BNSF witness Olivia Power testifies the Line is "a critical link [that] forms the spine of BNSF's north-south route through the State of California," and that "[a]ny freight moving between the Pacific Northwest and Central/Southern California, including traffic that moves beyond Southern California and travels across BNSF's southern transcontinental route must traverse the Kern-Mojave Line."¹³⁵ BNSF's actions outside this proceeding also refute any suggestion the Line is economically obsolete. As Mr. Hughes observes, BNSF recently announced plans to invest \$1.5 billion in an intermodal facility used to move traffic over the Line. BNSF would not be making such an investment unless it expected traffic to move over the Line and the Line's value to grow.¹³⁶

Finally, BNSF tries to support its economic obsolescence claim using a simplistic cost-per-route-mile comparison between its unadjusted RCNLD valuation of the Tehachapis Line and Norfolk Southern's cost to acquire the Cincinnati Southern Railway (CSR Line) from the City of Cincinnati. As Mr. Hughes explains, publicly available documents show Norfolk Southern paid substantially less for the CSR Line than the Tehachapis Line's RCNLD valuation because the CSR Line is worth substantially less, and because the City of Cincinnati obtained value through a sale that it could not have

¹³⁴ See Hughes RVS at 15.

¹³⁵ Power VS at 3–4.

¹³⁶ See Hughes RVS at 14.

obtained through a lease. In other words, the differences reflect different circumstances, not a failure to account for the Tehachapis Line's supposed economic obsolescence. Specifically, Mr. Hughes shows multiple valuations of the CSR Line, including an RCNLD valuation performed *without* any adjustment for economic obsolescence and a valuation addressing Norfolk Southern's routing alternatives to the CSR Line, as well as the value of other benefits the City of Cincinnati obtained from selling the CSR Line, explain why the CSR Line would have a lower cost per route-mile than the Tehachapis Line.¹³⁷

In sum, the Board should determine the Tehachapis Line's interest rental base using the CE method rather than the RCNLD method. However, if the Board considers the parties' RCNLD valuations, it should look to Union Pacific's and BNSF's initial valuation, not BNSF's valuation that supposedly accounts for economic obsolescence.

V. Voluntary Trackage Rights Rates Are Irrelevant In This Proceeding Because They Are Not Based on *SSW Compensation* Principles.

BNSF attempts to bolster its misguided CE calculations by comparing its results to trackage rights rates paid under voluntary agreements between BNSF and Union Pacific.¹³⁸ However, as the ICC expressly recognized in *SSW Compensation*, rates paid under agreements "by two parties who are in agreement" are irrelevant when the agency is "faced with adversary parties" and it is "being asked to set trackage rights compensation due to the inability of the parties to achieve a meeting of the minds."¹³⁹

¹³⁷ See *id.* at 14.

¹³⁸ See Baranowski/Zebrowski VS at 37–39.

¹³⁹ *SSW II*, 4 I.C.C.2d 682 n.13.

BNSF's comparisons to voluntary trackage rights rates are nothing like the potentially appropriate comparisons supported under the *SSW Compensation* CLS method.¹⁴⁰ As the ICC explained in the *1992 Order*, application of the CLS method requires (i) another line that was already valued using RCNLD or another acceptable *SSW Compensation* methodology, and (ii) a determination that the line is comparable with the line at issue.¹⁴¹ BNSF's comparisons do not clear the first hurdle: BNSF does not claim any of the trackage rights rates included in its analysis were developed using RCNLD (or CE, or SSW). Mr. Hughes confirms that those rates "reflect a wide variety of situation-specific factors and trade-offs that make them completely unsuitable as benchmarks for rates that should be imposed when parties cannot agree."¹⁴²

BNSF's comparisons also would not clear the second hurdle. BNSF claims its Riverside-Daggett line is similar to the Tehachapis Line, but it does not present an RCNLD or CE analysis of its Riverside-Daggett line or even claim that its trackage rights charge to Union Pacific for using the Riverside-Daggett line is based on RCNLD or CE.¹⁴³ Union Pacific believes an RCNLD-based or CE-analysis would show BNSF could have extracted a substantially higher trackage rights fee for the Riverside-Daggett line, if that had been BNSF's sole objective. As BNSF acknowledges, BNSF and Union Pacific negotiated the Riverside-Daggett agreement as part of a larger exchange of trackage rights.¹⁴⁴ In addition, as Mr. Hughes notes, Union Pacific provided BNSF significant

¹⁴⁰ The CLS method has never actually been used since the ICC described it as a "possible methodological choice." *1992 Order*, 8 I.C.C.2d at 305.

¹⁴¹ *See id.*

¹⁴² Hughes RVS at 1.

¹⁴³ *See Baranowski/Zebrowski VS* at 35–37.

¹⁴⁴ *See Power VS* at 9.

additional value for the Riverside-Daggett negotiations by giving up rights to access BNSF's yard facilities in Barstow, making way for BNSF's planned \$1.5 billion state-of-the-art master-planned intermodal rail facility in Barstow.¹⁴⁵ The Riverside-Daggett line is also physically dissimilar to the Tehachapis Line: it has no tunnels and, despite being 34 miles longer, has nearly the same amount of rise and fall and less than half the track curvature of the Tehachapis Line.¹⁴⁶ In addition, as Mr. Hughes observes, Union Pacific has its own line that shares a route with the Riverside-Daggett line through the San Gabriel Mountains over Cajon Pass known as the Palmdale Cutoff.¹⁴⁷ Curiously, the map provided in BNSF's opening evidence showing the Riverside-Daggett line omits Union Pacific's Palmdale Cutoff.¹⁴⁸

Finally, BNSF claims setting interest rental payments for the Tehachapis Line above the rates in voluntary agreements "would be 'inequitable' and not in the 'public interest.'"¹⁴⁹ However, as discussed above, *SSW Compensation* principles establish trackage rights rates that are equitable and in the public interest when parties cannot agree. BNSF has no right to low rental payments for the Tehachapis Line just because the parties agreed to other rates for other lines in other circumstances. Further, Union Pacific and BNSF compete head-to-head for traffic moving over the Tehachapis Line, so a CE-based rental payment will reflect the competitive environment, while leveling the playing field between Union Pacific and BNSF. Application of *SSW Compensation* principles shows

¹⁴⁵ See Hughes RVS at 5.

¹⁴⁶ See *id.* at 6.

¹⁴⁷ See *id.* at 6–7.

¹⁴⁸ Compare Power VS at 6 with Hughes Reply Workpaper "UP and BNSF Lines Over Cajon Pass.pdf."

¹⁴⁹ BNSF Op. at 3.

Union Pacific is subsidizing BNSF, and maintaining that subsidy is neither equitable nor in the public interest.

VI. Conclusion

BNSF's opening evidence misapplies *SSW Compensation* and the CE method to maintain a subsidized, competitive advantage over Union Pacific for traffic moving over the Tehachapis Line. The Board should reject BNSF's evidence and establish a new interest rental payment based on the evidence presented by Union Pacific.

Respectfully submitted,

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March 14, 2025

CERTIFICATE OF SERVICE

I hereby certify that on this 14th day of March, 2025, I caused a copy of the foregoing document to be served by email on all parties of record.

/s/ Michael L. Rosenthal

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 DAVID W. HUGHES

My name is David Hughes. I am Assistant Vice President of Joint Facilities and Interline Operations for Union Pacific Railroad Company. I submitted a verified statement as part of Union Pacific's Opening Submission and Evidence in this proceeding to explain why Union Pacific was asking the Board to increase the amount of interest rental BNSF Railway Company must pay to use the Tehachapis Line. I am submitting this reply verified statement to address the most significant of the many inaccurate claims in BNSF's opening evidence about the Tehachapis Line and trackage rights agreements between Union Pacific and BNSF.

I. Rates In Negotiated Union Pacific-BNSF "All-In" Trackage Rights Agreements Are Not Appropriate Benchmarks For Interest Rental Payments In This Case, Because They Are Not Based On *SSW Compensation* Principles.

In its opening evidence, BNSF tries to convince the Board to depart from the methods for determining trackage rights compensation established in *SSW Compensation*. As part of that effort, BNSF inaccurately claims that Union Pacific and BNSF seek to "ensure consistency amongst the Parties' trackage rights agreements,"¹ and that the parties' agreed-upon rates provide a "market" or "market range" benchmark for the interest rental BNSF should pay for the Tehachapis Line.² There is no general "market" for trackage rights or "market range" for trackage rights rates. When Union Pacific negotiates trackage rights, our starting point is not rates we have negotiated in other transactions; rather, we seek to achieve the most favorable result possible in each individual case. In many cases, we ultimately agree to rates that are different in form and dollar amount from those that would be established in an actual cost arrangement. The trackage rights rates in our negotiated agreements reflect a wide variety of situation-specific factors and trade-offs that make them completely unsuitable as benchmarks for rates that should be imposed when parties cannot agree.

¹ BNSF Railway Company's Opening Statement and Evidence, Verified Statement of Oliva E. Power ("Power VS) at 12.

² *Id.* at 10–12.

BNSF’s purported “market” analysis relies solely on negotiated “all-in” trackage rights rates, which makes the evidence especially useless in this proceeding. Union Pacific and BNSF use all-in rates when they are not negotiating rates based solely on actual cost recovery. Union Pacific and BNSF have used all-in rates when negotiating agreements involving exchanges of value that go beyond the trackage rights payment, including bundled and reciprocal agreements. In those situations, all-in rates have often been much easier to negotiate because the parties do not need to agree on the specific elements of an actual cost arrangement, such as interest rental costs, or how to adjust those costs to reflect the value of the additional exchanges—they just need to agree on a bottom-line rate.³ Negotiated all-in rates are irrelevant in this case, because the Board must determine the interest rental BNSF should pay to use the Tehachapis Line.

An example should help illustrate the irrelevance of BNSF’s purported market analysis. BNSF’s analysis involves what BNSF says are {{ }} trackage rights rates between Union Pacific and BNSF that use all-in rates stated in terms of mills per gross ton-mile (“GTM rates”).⁴ Of those {{ }} rates, {{ }} are from BNSF’s negotiated settlement with Union Pacific in the UP/SP merger.⁵ As the Board knows, the BNSF settlement rates are not based on *SSW Compensation* methodology. Absent BNSF’s settlement, the UP/SP merger likely would never have been approved. In consideration of the value of BNSF’s settlement, as well as other value BNSF provided as part of the settlement, Union Pacific agreed to one set of all-in rates substantially

³ All-in rates can also be easier to administer, because maintenance and other costs are incorporated in the single, negotiated number, so the owner does not need to separately track and bill the costs. Other things being equal, Union Pacific prefers the accuracy of actual cost agreements despite the higher administrative costs.

⁴ See BNSF Railway Company’s Opening Statement and Evidence, Verified Statement of Michael R. Baranowski and Nathan Zebrowski (“Baranowski/Zebrowski VS”) at 31–32.

⁵ BNSF’s analysis counts each separate agreement implementing the settlement terms, as well as agreements that specifically use rates from the BNSF settlement, as an entirely separate agreement.

below *SSW Compensation*-based rates.⁶ Moreover, the same rates apply to trackage rights covering more than 4,000 miles of lines, through all sorts of territory and involving all sorts of operating conditions—they do not at all reflect line-specific costs and operation conditions of any one line. In sum, contrary to the claim implicit in BNSF’s analysis, the negotiated all-in BNSF settlement rates have no conceivable bearing on the appropriate interest rental for trackage rights on the Tehachapis Line.

The other negotiated all-in rates in BNSF’s analysis are irrelevant for the same or similar reasons: they involve exchanges of other value, generally through bundling and reciprocity, not rates established using *SSW Compensation*. Specifically, BNSF’s analysis includes rates from SP’s settlement agreement with Burlington Northern and Atchison, Topeka & Santa Fe in the BN/ATSF merger. BNSF’s analysis also includes rates from other agreements involving reciprocal exchanges of rights, such the parties’ recent renegotiation of a bundle of agreements with similar expiration dates, including their Riverside-Daggett agreement.⁷ In addition, the Sterling-Union rate, {{

}}⁸ The remainder of the rates in BNSF’s analysis also do not provide suitable benchmarks

⁶ See *Union Pacific/Southern Pacific Merger*, 1 S.T.B. 233, 415 n.168 (1996).

⁷ See also *Power VS* at 9. BNSF’s description of the process leading up to this recent agreement is not entirely accurate. Contrary to BNSF’s claims, the renegotiation process began before the parties signed the renegotiated Kansas City-Paola agreement; the Kansas City-Paola agreement was not used as a model for the Union Pacific-owned lines in the package; and the Sterling-Union agreement that was part of the package {{ as discussed in more detail below.

BNSF’s characterization of Union Pacific’s trackage rights agreement granting BNSF overhead rights between Pacific, MO, and Labadie, MO, as “recently negotiated,” *Power VS* 9 n.2, is misleading. Union Pacific agreed to grant BNSF those rights in the BNSF settlement, but BNSF did not ask for an actual agreement until 2021.

⁸ *Power VS* at 12; see Hughes Reply Workpaper “Sterling-Union Agreement.pdf” § 6.1.

for this proceeding for various reasons identified in my workpapers, including that some of the rates BNSF used are per-car rates not GTM rates.⁹ However, the most problematic point of all is that BNSF offers no evidence that any of the rates is based on *SSW Compensation*.

BNSF tries to justify excluding “actual-cost” rates from its analysis by claiming the parties no longer use them,¹⁰ but that is not true. BNSF recently renewed Union Pacific’s trackage rights over BNSF’s Riverside-West Riverside line as an actual-cost agreement, even though Union Pacific offered to convert it to an all-in rate as part of the Riverside-Daggett bundled negotiations. BNSF’s witness also refers to the South Denver-Bragdon agreement,¹¹ but she neglects to mention that it is an actual-cost agreement whose compensation structure was modified as recently as 2018 or that BNSF also declined Union Pacific’s offer to convert it to an all-in rate as part of the Riverside-Daggett bundled negotiations. BNSF and Union Pacific also have actual-cost agreements governing trackage rights payments on many other lines. BNSF’s reason for excluding actual cost agreements seems obvious: using actual-cost agreements would highlight the need to consider a wide range of line-specific factors before concluding the interest rental payment under any one agreement would be relevant to determining the interest rental for the Tehachapis Line.

BNSF also presents an analysis focused on its Riverside-Daggett line, but its comparison of the Riverside-Daggett trackage rights rate with its proposed interest rental payment in this case actually highlights the dangers of superficial comparisons. *First*, BNSF’s Riverside-Daggett rate reflects an agreement negotiated between BNSF and Union Pacific, not an application of *SSW Compensation*. BNSF does not present an RCNLD or CE analysis of its Riverside-Daggett line,

⁹ See Hughes Reply Workpaper “Trackage Rights Agreements in BNSF Analysis.pdf.”

¹⁰ Power VS at 10.

¹¹ See Power VS at 7.

so the negotiated rate reveals nothing about an appropriate *SSW Compensation*-based rate for that line or the Tehachapis Line. *Second*, Union Pacific gave BNSF significant non-monetary value in exchange for the rate; specifically, Union Pacific gave up its right under the parties' original agreement to equal access to BNSF's yard facilities in Barstow.¹² BNSF apparently assigned substantial value to recapturing those rights. In fact, shortly after the railroads concluded their negotiations, BNSF announced "plans to invest more than \$1.5 billion to construct a state-of-the-art master-planned rail facility" in Barstow¹³ and closed on a significant number of Barstow-area real estate parcels right after the Board exemption period for the new agreement passed.¹⁴ *Third*, as BNSF acknowledges, the Riverside-Daggett rate was negotiated as part of a bundled package of other trackage rights agreements with Union Pacific.¹⁵ BNSF plainly was satisfied with the total value it obtained, despite the low rate it accepted for the Riverside-Daggett rights.

BNSF's own analysis of the Riverside-Daggett rate suggests BNSF placed a high value on gaining exclusive access to the yard in Barstow and obtaining agreement on the other bundled rights (or else it significantly under-valued the Riverside-Daggett line). According to BNSF's analysis in this proceeding, Union Pacific's 2022 interest rental payment for Riverside-Daggett rights was {{ }} per GTM.¹⁶ By comparison, in the same bundled package of agreements that included the Riverside-Daggett rights, BNSF agreed to an interest rental payment of {{ }} per GTM for rights on Union Pacific's line between Sterling and Union, Colorado.¹⁷

¹² See Hughes Reply Workpaper "Riverside-Daggett 1915 Agreement.pdf."

¹³ See Hughes Reply Workpaper "BNSF Barstow Yard Press Release.pdf."

¹⁴ See Hughes Reply Workpaper "Barstow Yard Property.pdf."

¹⁵ See Power VS at 9.

¹⁶ See Baranowski/Zebrowski VS at 37, Table 16.

¹⁷ See Hughes Reply Workpaper "Sterling-Union Agreement.pdf." As discussed above, in the Baranowski/Zebrowski analysis, Messrs. Baranowski and Zebrowski fail to recognize the Sterling- (continued...)

All else being equal, BNSF’s interest rental charge for its Riverside-Daggett line, a critical part of BNSF’s high-density southern transcontinental route, should be vastly higher than the interest rental charge for Union Pacific’s lightly used Sterling-Union line.¹⁸ Further, BNSF’s analysis based on its Riverside-Daggett rate implies that the Riverside-Daggett line is valued at only {{ }}—even less than its grossly-undervalued, manipulated calculation of the Tehachapis Line’s value, despite being having 50% more main line miles, { } more track miles,¹⁹ and { } times the traffic of the Tehachapis Line.²⁰ Whatever the reasons behind BNSF’s approach to negotiating the Riverside-Daggett rate, that rate says nothing about BNSF’s appropriate interest rental payment for using the Tehachapis Line under *SSW Compensation* principles.

Finally, BNSF’s Riverside-Daggett line is not comparable to Union Pacific’s Tehachapis Line. BNSF claims the Riverside-Daggett line is similar to the Tehachapi’s Line because it crosses “mountainous territory where it would not be efficient to construct parallel lines by two separate railroads.”²¹ However, SP in fact constructed such a line in 1968, when it built the “Palmdale Cutoff” which connects to the Riverside-Daggett line at a station known as Silverwood. The two

Union trackage rights fee {{ }}
 {{ }}

¹⁸ {{ }}
 }

¹⁹ See Baranowski/Zebrowski Op. Workpaper “Line_Comparison_Analysis.xlsx.”

²⁰ According to data provided to Union Pacific by BNSF, BNSF and Union Pacific together moved {{ }} gross ton miles of traffic over the Riverside-Daggett line in 2022. See Hughes Reply Workpaper “BNSF Riverside to Daggett GTMs.pdf.” Applying BNSF’s assumed interest rental of {{ }} per gross ton mile (see Baranowski/Zebrowski VS at 37, Table 16) produces a total annual interest rental payment of {{ }} Applying a nominal pre-tax cost of capital in 2022 of 14.39%, see Mathur VS at 56, Table 4, that equates to an interest rental base of {{ }}

²¹ Power VS at 5.

lines share the same route through the San Gabriel Mountains over Cajon Pass.²² The dissimilarity in territory crossed by the two lines is also reflected in differences in their physical characteristics. For example, the Riverside-Daggett line has no tunnels, contrary to BNSF's claims,²³ while the Tehachapis Line has 12 tunnels, and the Riverside-Daggett line has nearly the same amount of rise and fall and less than half the track curvature of the Tehachapis Line despite being 34 miles longer than the Tehachapis Line.²⁴

II. Union Pacific Compensated BNSF For SP's Share Of The Tehachapi Tunnel Clearance Improvements And Would Have Made The Improvements Regardless Of ATSF's Investment.

In its opening evidence, BNSF asks the Board to exclude Union Pacific's and BNSF's earnings from double-stack intermodal traffic when determining the Tehachapis Line's interest rental base using *SSW Compensation's* capitalized earnings (CE) method. BNSF supports its request by making two factually incorrect claims relating to ATSF's investment in tunnel clearance improvements on the Tehachapis Line. First, BNSF claims that "ATSF alone paid for the \$6.3 million tunnel improvements."²⁵ Second, BNSF claims that "[w]ithout [ATSF's] investment, the double-stack intermodal trains that move routinely over the Line would not have been possible, thus no earnings associated with double-stack traffic would have accrued."²⁶ Contrary to BNSF's claims, Union Pacific compensated BNSF for SP's share of the tunnel improvement costs, and Union Pacific would have made the improvements regardless of ATSF's investment. BNSF also

²² The map provided by BNSF's witness showing the Riverside-Daggett line omits Union Pacific's Palmdale Cutoff. *Compare* Power VS at 6 *with* Hughes Reply Workpaper "UP and BNSF Lines Over Cajon Pass.pdf."

²³ See Baranowski/Zebrowski Op. Workpaper "Line_Comparison_Analysis.xlsx," Tab "Infrastructure - D-t-R."

²⁴ See Hughes Reply Workpaper "Tehachapis and Riverside-Daggett Route Comparison.xlsx."

²⁵ BNSF Op. at 15.

²⁶ Baranowski/Zebrowski VS at 12–13.

says excluding double-stack earnings from the Line's interest rental bases is necessary "to avoid BNSF having to pay twice" for the tunnel improvements.²⁷ However, SP and ATSF agreed in a 1993 Joint Settlement and Agreement that the appropriate way to account for ATSF's investment is not to add ATSF's costs to the Lines interest rental base. Union Pacific followed that approach in its opening evidence.

A. Union Pacific compensated BNSF for SP's share of the cost of the tunnel clearance improvements.

Union Pacific uses the Tehachapis Line to move a substantial volume of double-stack traffic that could not have moved in its current double-stack configuration without the tunnel clearance improvements. Union Pacific can move that traffic over the Line because it compensated BNSF for SP's share of the cost of the tunnel improvements when it acquired SP. When ATSF initially proposed the tunnel improvements, SP resisted because it was in dire financial circumstances. SP told the ICC in 1993 that it was "struggling to survive and to overcome severe operating losses."²⁸ Under Condition Nos. 16 and 17 of the ICC's *1967 Order* in this proceeding, SP had to pay the costs of any changes necessary for the safe, efficient, and economical use of the Line, and it could recover ATSF's share of such costs only over time by adding the total costs of the changes to the Line's interest rental base.²⁹ However, in the parties' 1993 Joint Stipulation and Agreement, SP agreed to construct the improvements at ATSF's cost and for ATSF's use, subject to SP's right use the improvements after reimbursing ATSF for one-half of the total costs of the

²⁷ BNSF Op. at 15.

²⁸ See Hughes Reply Workpaper "SP Petition to Reopen.pdf," page 3.

²⁹ See *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Co.*, 331 I.C.C. 367, 392–95 (1967).

improvements.³⁰ As part of BNSF's settlement agreement with Union Pacific in the UP/SP merger, BNSF agreed Union Pacific provided sufficient value through the settlement to compensate it for SP's share of the improvement costs, and it therefore "waive[d] SP's requirement to pay any portion of the Tehachapi tunnels clearance improvements pursuant to the 1993 Agreement between Santa Fe and SP."³¹ In sum, ATSF initially funded the improvements, but Union Pacific fully repaid BNSF in-kind for SP's one-half share.

B. Union Pacific would have made the tunnel clearance improvements regardless of ATSF's investment.

BNSF's claim that double-stack traffic would not be moving over the Tehachapis Line but for ATSF's investment ignores the importance of double-stack traffic to Union Pacific and Union Pacific's history of investing in tunnel clearance improvements. Union Pacific specifically demonstrated its strong interest in using the Tehachapis Line for double-stack traffic by repaying BNSF for SP's one-half share of the costs of the improvements in its UP/SP merger settlement agreement with BNSF.

Union Pacific would have made the Tehachapis Line tunnel clearance improvements on its own, even if it had to pay their full cost. The traffic at issue moves in what are called "domestic," or "high cube," containers, which are 9'6" tall, rather than international containers, which are 8'6" tall. Before the improvements, the tunnels could accommodate domestic containers moving in a single stack, and even double stacks that combined domestic and international containers. ATSF

³⁰ See *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Transp. Co. (July 1993 Order)*, FD 22218 et al. (ICC served July 8, 1993), Appendix ("Joint Stipulation and Agreement") § 2(a).

³¹ See Hughes Reply Workpaper "Restated and Amended BNSF Settlement Agreement.pdf" § 8(e).

was running double stacks in these configurations before the clearance project was undertaken.³² If the clearance improvements had been physically impossible or cost-prohibitive, much of the traffic at issue would still move over the Line, but in a less efficient configuration.³³ However, the actual retrofitting required to clear the tunnels was minimal: it did not require changes to the tunnel bore itself or other costly projects. The improvements merely involved notching the concrete liners installed within the tunnels and/or undercutting the ballast and roadbed to slightly lower the grade. \$6.37 million was a small price to pay to take advantage of double-stack efficiencies for anyone but a severely cash-strapped railroad like SP.

Union Pacific would have made the tunnel clearance improvements on its own because it was and remains focused on expanding double-stack business. Long before it merged with SP, Union Pacific was committed to expanding double-stack business and had invested in that business by improving tunnel clearances. Specifically, Union Pacific cleared Western Pacific's Central Corridor Line from Keddie to Salt Lake City between 1988 and 1990 at a cost of approximately {{ }}³⁴

Union Pacific's merger with SP included plans to spend more than a quarter of a billion dollars in new intermodal facilities, including building new facilities in Los Angeles, Kansas City,

³² For video proof, see <https://www.youtube.com/watch?v=mWtybZm7Aeg&t=2s>. The video at the link shows an ATSF train exiting the north portal of Tunnel 10 on the Tehachapis Line before the tunnel was notched. I provide a more recent picture of the north portal, which shows the notching on the right side of the tunnel, as Hughes Reply Workpaper "Tunnel 10.pdf." The land surrounding the portal looks different in the newer picture because the top and side of the slope were removed when Union Pacific constructed the Marcel Siding, which goes around the tunnel, approximately 10 years ago.

³³ A third possibility, in addition to single-layer or domestic/international layer options, would be the type of "filet and toupee" operation used by Norfolk Southern Railway to move double-stack traffic through the Hoosac Tunnel in western Massachusetts. See <https://www.ourmidland.com/business/article/CSX-to-acquire-Pan-Am-Rail-expanding-Capital-15765687.php>.

³⁴ See Hughes Reply Workpaper "WP Tunnel Clearances.pdf."

and at points in Texas, and expanding SP's Long Beach intermodal facility, Union Pacific's Chicago facilities, and intermodal terminals in Seattle, Portland, Salt Lake City, Denver, and St. Louis.³⁵ As the Board recognized in authorizing the UP/SP merger, Union Pacific's plans specifically involved tunnel clearance improvements: "[T]he merged system will clear tunnel restrictions that block SP from competing for most doublestack traffic in the I-5 and Central Corridors."³⁶

In the years after Union Pacific merged with SP, Union Pacific followed through on its intermodal plans, including its plans for tunnel clearance improvements. As discussed above, Union Pacific gained use of the tunnel improvements on the Tehachapis Line immediately by repaying BNSF for SP's one-half share of the costs incurred by ATSF. In the years that followed, Union Pacific spent approximately {{ }} to increase clearances in tunnels and on bridges to accommodate double-stack intermodal domestic containers on other portions of its I-5 route between Los Angeles and the Pacific Northwest.³⁷ Union Pacific also completed tunnel clearance work on the former-SP Central Corridor route at a cost of nearly {{ }}³⁸

In sum, BNSF is plainly incorrect when it claims double-stack traffic would not be moving over the Tehachapis Line today without ATSF's investment.

C. SP and ATSF agreed to account for ATSF's tunnel clearance investment by not adding ATSF's costs to the Line's interest rental base.

Even if BNSF's factual claims about ATSF's tunnel clearance investment were correct—and they are not, as discussed above—they would not justify excluding double-stack earnings from

³⁵ *Union Pacific/Southern Pacific Merger*, 1 S.T.B. at 382.

³⁶ *Id.* at 382 n.117.

³⁷ See Hughes Reply Workpaper "I-5 Tunnel Clearances.pdf."

³⁸ See Hughes Reply Workpaper "Donner Pass Clearances.pdf."

CE calculations of the Tehachapis Line's interest rental base. ATSF and SP addressed how to account for ATSF's investment in the 1993 Joint Stipulation and Agreement that resolved their dispute over interest rental payments and the tunnel clearance improvements. The Joint Stipulation and Agreement protected ATSF from "having to pay twice" by providing that ATSF's costs of the tunnel expansions would not be added to the Line's interest rental base. BNSF's exclusion of double-stack earnings when developing the interest rental base is very different from excluding ATSF's costs from a correctly developed interest rental base.

ATSF's and SP's Joint Stipulation and Agreement reflects the history I described above. SP initially resisted ATSF's request to construct the tunnel clearance improvements because it did not want to pay for them upfront and collect a return only through interest rental payments, which was the way changes to the Line would typically be handled under Conditions No. 16 and 17 of the *1967 Order*. Condition No. 16 would have allowed ATSF to have SP construct the tunnel improvements at ATSF's cost for ATSF's exclusive use, in which case the cost would not be added to the Line's interest rental base. However, if SP later elected use the improvements, it would have been required to reimburse ATSF for the total cost of construction, in which case the cost would be added to the Line's interest rental base, under Condition No. 17.³⁹ In the Joint Stipulation and Agreement, the parties agreed to an exception to Conditions No. 16 and 17: ATSF would pay initially for the improvements; SP could use improvements by reimbursing ATSF for 50% of the cost, in which case ATSF's cost would not be added to the Line's interest rental base, thus

³⁹ Condition No. 17 provides, in relevant part: "Periodically, as such charges are made or accounted for, there shall be added to that valuation the portion of the cost chargeable to property accounts under the rules of the Commission, and under section 16 hereof, of all changes, additions and betterments to the joint line which became chargeable on or subsequent to January 1, 1962" *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—S. Pac. Co.*, 331 I.C.C. at 394.

preventing ATSF from “paying twice.”⁴⁰ ATSF costs were never added to the interest rental base established in the *1967 Order*, so BNSF has never paid any return on them, consistent with the 1993 Joint Stipulation and Agreement.

In this proceeding, Union Pacific is not asking BNSF to “pay twice” for the tunnel clearance improvements. In developing an RCNLD-based estimate of the Line’s value, Union Pacific’s consultants determined the cost of reproducing the tunnels with the clearance improvements was not meaningfully different than reproducing them without the tunnel improvements, so BNSF’s would not be paying the costs of the improvements through an RCNLD-based rental payment.⁴¹ Further, as Union Pacific’s expert economist explains, Union Pacific’s CE-based analysis determined the Line’s value based on the Line’s earning potential, and that potential exists regardless of ATSF’s past investment, so BNSF would not be paying the cost of the investments through a CE-based rental payment. In short, Union Pacific’s valuation of the Line in this proceeding is consistent with the parties’ Joint Agreement and Stipulation.

III. The Tehachapis Line Is Not “Economically Obsolete.”

In its opening evidence, BNSF reduces its RCNLD valuation of the Tehachapis Line by 70%, or {{ }} to account for what it calls “economic obsolescence.”⁴² BNSF’s RCNLD valuation, as “adjusted” for economic obsolescence, provides no independent support for its CE valuation: BNSF developed the 70% adjustment simply by reducing its RCNLD valuation to match its extensively manipulated CE valuation. In short, BNSF conducted a detailed RCNLD valuation but threw the valuation out the window because it did not like the result.

⁴⁰ See *July 1993 Order*, Joint Stipulation and Agreement § 2(a).

⁴¹ See Crouch RVS at 3.

⁴² See Baranowski/Zebrowski VS at 27, Table 12.

BNSF's claim that the Line is economically obsolete ignores market reality. Union Pacific and BNSF use the Line to compete head-to-head for a substantial volume of traffic that is important to both railroads and their customers. BNSF's own witness says the Line is "a critical link [that] forms the spine of BNSF's north-south route through the State of California," that "[a]ny freight moving between the Pacific Northwest and Central/Southern California, including traffic that moves beyond Southern California and travels across BNSF's southern transcontinental route must traverse the Kern-Mojave Line," and that "BNSF operates approximately 20 trains per day over the Line, including a combination of high priority intermodal traffic, high priority manifest traffic, loaded and empty grain trains, baretable trains (flatcars that support the intermodal network), automotive trains, along with non-grain bulk unit trains."⁴³ Further, as I noted above, BNSF recently announced a \$1.5 billion investment in an intermodal facility used by traffic that moves over the Line. BNSF is not investing \$1.5 billion to support an asset that is economically obsolete. BNSF's investment shows BNSF shares Union Pacific's expectation that traffic moving over the Line, and thus the Line's value, will continue to grow.

BNSF is also wrong when it claims the Line is economically obsolete in that "no rational market participant" would reconstruct the Line for the cost determined by its RCNLD valuation.⁴⁴ First, BNSF's claim relies on the flawed premise that the Line's value to BNSF and Union Pacific is correctly reflected by BNSF's CE analysis in this case. As Union Pacific's expert economist explains in her reply verified statement, BNSF's CE analysis is severely flawed. Second, from a practical standpoint, no rational railroad would decide whether to reconstruct an asset that provides a critical link in its network based solely on the earnings specifically attributed to that asset by

⁴³ Power VS at 3–4.

⁴⁴ See *id.* at 26.

some formula. To take a simple example, if a one-mile segment of a fifty-mile track between two points were washed away in a flood, a railroad's decision whether to reconstruct the segment or abandon the line would depend on the total value of traffic moving between the two points, not the 2 percent share attributed to each mile. BNSF's simplistic analysis does not support its economic obsolescence claim. The Tehachapis Line would be costly to replace, but that makes it valuable, not obsolete.

BNSF also tries to justify its "economic obsolescence" claim by comparing its unadjusted RCNLD valuation of the Tehachapis Line with the price Norfolk Southern paid the City of Cincinnati to acquire the Cincinnati Southern Railway (CSR Line) on a dollar per route-mile basis.⁴⁵ BNSF's rudimentary and simplistic comparison highlights some of the many problems with comparisons of trackage rights fees discussed above. A quick review of publicly available documents shows Norfolk Southern likely paid substantially less for the CSR Line on a per route-mile basis than the Tehachapis Line because the CSR Line is worth substantially less and because the City unlocked value through a sale that it could not have obtained by continuing to lease the line. For example:

- An RCNLD valuation prepared for the Cincinnati Southern Railway's Board of Trustees shows the CSR Line's \$1.6 billion purchase price was within the range produced by the RCNLD valuation (\$1.31 to \$2.05 billion).⁴⁶ In other words, an RCNLD valuation performed without any adjustment for "economic obsolescence" concluded the CSR Line was worth substantially less per route-mile than the Tehachapis Line.
- An Opportunity Cost valuation prepared for the Board of Trustees shows the CSL Line was less critical than the Tehachapis Line: Norfolk Southern had an alternative route it could have used instead of the CSL Line, though at a higher cost, resulting in a

⁴⁵ See Baranowski/Zebrowski VS at 28.

⁴⁶ See Hughes Reply Workpaper "Brattle Updated Preliminary Valuation.pdf" at 3.

valuation of \$1.1 to \$2.41 billion—again, consistent with a substantially lower value per route mile than the Tehachapis Line.⁴⁷

- A cash flow valuation prepared for the Board of Trustees to compare the benefits of selling and leasing the line showed a sale would increase the City’s projected cash flow by approximately 124% as compared with its then-current lease and 62% over a proposed revised lease.⁴⁸

In sum, BNSF effort to compare the Tehachapis Line with the CSL Line does not show the Tehachapis Line is economically obsolete; instead, it highlights the dangers of simplistic comparisons of different transactions involving different rail lines.

IV. Neither Union Pacific Nor SP Ever Agreed Interest Rental Would Be Based On Prevailing Interest Rates.

In its opening evidence, BNSF argues that the Board should prescribe an interest rental based on the yield of 30-year Treasury Bonds, rather than the pre-tax nominal cost of capital.⁴⁹ BNSF justifies this departure from *SSW Compensation* precedent by claiming “the parties have recognized that the interest rental for ATSF’s use of SP excess capacity should align with prevailing interest rates and not the cost of capital.”⁵⁰ BNSF’s claim simply is not true. Union Pacific believes BNSF’s interest rental should align with the railroad industry’s cost of capital, which is the same position SP took in the 1960s and early 1990s in proceedings before the ICC.

I do not know how SP and ATSF established the interest rental in 1899 or 1912, but I have not seen any documentation suggesting the parties agreed to use prevailing interest rates or any other benchmark.⁵¹ SP and ATSF parties apparently were each satisfied that the 4.5% rate reflected

⁴⁷ See *id.*

⁴⁸ See Hughes Reply Workpaper “BMO Valuation Overview.pdf” at 4.

⁴⁹ See Baranowski/Zebrowski VS at 30–31.

⁵⁰ *Id.* at 30.

⁵¹ I have never seen the 1899 Agreement. The 1912 Agreement does not refer to any interest rate benchmark. See Hughes Reply Workpaper “Tehachapis 1912 Agreement.pdf.”

a fair rate of return on SP's investment under conditions existing at the time. However, times changed. SP's first opportunity to seek a new interest rental arose when the 1912 Agreement finally expired in 1961. At that point, ATSF filed an application with the ICC for continued use of the line prompting the ICC to begin the proceedings that resulted in the *1967 Order*. According to the ICC Hearing Examiner's Report in connection with the *1967 Order*, neither party argued for interest rental based on long-term U.S. Treasury Bond yields or similar risk-free rates. SP argued the interest rental should be based on the cost of capital,⁵² and ATSF proposed continuing the 4.5% rate from the 1912 Agreement.⁵³ Furthermore, the ICC did not set the rate using any U.S. Treasury yields as a benchmark; the rate was based primarily on the annual rate of return of railroads in the area.⁵⁴ BNSF tries to compare the prevailing Treasury yields at the time of the *1967 Order* (December 1967) with the rate the *1967 Order* prescribes in an attempt to show a direct link.⁵⁵ However, the 5.5% rate was set in the Hearing Examiner's Report which was served on May 28, 1965, when the yield of the 20-year Treasury Bond was 4.22%.⁵⁶ When the parties next revisited the issue in the 1990s, neither party argued for using yields on long-term U.S. Treasury Bonds yields or similar risk-free rates. As the ICC's *March 1993 Order* reports, SP argued for a return based on the nominal pre-tax cost of capital; ATSF proposed a return based on SP's annual return on investment.⁵⁷ BNSF's entire argument as to why the Board should use an artificially low rate of return is based on their self-serving, demonstrably false, revisionist history.

⁵² See Hughes Reply Workpaper "Hearing Examiner Report.pdf" at 22.

⁵³ *Id.* at 24.

⁵⁴ *Id.* at 27.

⁵⁵ See Baranowski/Zebrowski VS at 30.

⁵⁶ See <https://fred.stlouisfed.org/data/DGS20>.

⁵⁷ *Atchison, Topeka & Santa Fe Ry.—Operating Agreement—Southern Pac. Transp. Co.*, FD 22218, slip op. at 9 (ICC served Mar. 26, 1993).

Using the nominal pre-tax cost of capital is not only consistent with *SSW Compensation* but is also necessary to ensure BNSF and Union Pacific compete on a level playing field. As I said above, BNSF and Union Pacific are head-to-head competitors for traffic moving over the Tehachapis Line. If BNSF is not paying Union Pacific a fair return on Union Pacific's investment in the Tehachapis Line, Union Pacific suffers the double-hit of losing business and not being fairly compensated for the assets it provides BNSF. BNSF should be able to compete while paying a fair return on assets it uses; if it cannot, the answer is not to require a subsidy from Union Pacific.

VERIFICATION

I, David W. Hughes, declare under penalty of perjury that the foregoing is true and correct.

Further, I certify that I am qualified and authorized to file this verified statement.

Executed on March 14, 2025.

/s/ David W. Hughes

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 DR. DIVYA MATHUR

March 14, 2025

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Exhibit 2A. Calculation of Interest Rental Base Attributable to BNSF Investment in Tunnel Upgrade

Exhibit 2B. Mathur Statement Interest Rental Payment with Adjustment for Tunnel Upgrade

I. INTRODUCTION

A. Qualifications

1. My name is Divya Mathur. I submitted a verified statement in this matter on May 3, 2024 (hereafter “Mathur Statement” or “my initial statement”).¹ My qualifications, experiences, and the matters in which I have provided expert testimony are summarized in my curriculum vitae, attached hereto as **Appendix A**.

B. Assignment

2. I have been asked by counsel for Union Pacific Railroad Company (“UP”) to review and evaluate the economic arguments and opinions set forth by Mr. Michael R. Baranowski and Mr. Nathan Zebrowski in their May 3, 2024 Verified Statement (“BZ Statement”) submitted by BNSF Railway Company (“BNSF”).² Specifically, I have been asked to address the BZ Statement’s arguments and opinions pertaining to the development of BNSF’s proposed interest rental payment for the Mojave-Kern Line under the SSW Compensation framework’s Capitalized Earnings (“CE”) method; application of an economic obsolescence adjustment to the valuation of the Mojave-Kern Line developed under SSW Compensation’s Reproduction Cost New Less Depreciation (“RCNLD”) method; and comparisons of proposed BNSF interest rental

¹ Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Dr. Divya Mathur, Finance Docket No. 22218, May 3, 2024 (“Mathur Statement”) (or “my initial statement”). All terms previously defined in my initial statement have the same meaning in this reply statement, but some definitions are repeated.

² Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Michael R. Baranowski & Nathan Zebrowski, Finance Docket No. 22218, May 3, 2024 (“BZ Statement”).

payments for the Mojave-Kern Line developed under the CE method with certain voluntarily negotiated trackage rights rates identified in the BZ Statement.³

C. Materials considered

3. **Appendix B** attached to this statement provides a list of the data, documents, and information that I considered in preparing this statement and its supporting exhibits and appendices. This list includes my initial verified statement, and by extension, all the materials I relied on in its preparation. In addition, I have relied on my skills, knowledge, training, education, and experience as a professional economist. I reserve the right to update my opinions, should additional relevant documents or information be made available to me.

D. Compensation

4. Analysis Group is being compensated for my time at the rate of \$1,200 per hour. I have been assisted in my work in this matter by staff at Analysis Group working under my direction. Analysis Group also receives compensation for time spent by the staff on this engagement at their customary billing rates. No compensation is contingent on the outcome of this matter or the opinions expressed in this statement.

II. SUMMARY OF OPINIONS

5. Based on my review and analysis of the data and information identified herein, and my skills, knowledge, experience, expertise, and training, I have reached the opinions summarized below.

³ My focus on specific arguments and opinions set forth in the BZ Statement does not imply that I accept or agree with the other arguments or opinions expressed in it.

6. The SSW Compensation framework provides an economically sound and procompetitive approach to determining an interest rental payment for the Mojave-Kern Line that appropriately compensates the landlord railroad while ensuring a level playing field between the tenant and landlord. The Mojave-Kern Line is a valuable asset that generates substantial revenue for both UP and BNSF and is essential to their operations. The competition between UP and BNSF on routes that traverse the Mojave-Kern Line underscores the importance of ensuring that interest rental payments are set in an economically appropriate manner within the SSW Compensation framework. *See Section III.*

7. The BZ Statement departs from key principles of the SSW Compensation framework. The BZ Statement improperly applies a U.S. Treasury Bond yield instead of the industry-wide pre-tax cost of capital and arbitrarily assigns a 50 percent usage factor instead of one based on actual usage. These errors generate an artificially low and economically inappropriate interest rental payment. *See Section IV.*

8. The BZ Statement's implementation of the CE method further departs from economic principles and Board precedent in several ways. The BZ Statement's erroneous exclusion of earnings from double-stack traffic, its erroneous (and arbitrary) exclusion of half the earnings from BNSF's non-double-stack traffic, its erroneous treatment of fixed operating expenses, its improper reliance on an earnings multiplier that assumes no future earnings growth, its failure to adjust for inflation, and its reliance on data that does not capture the current economic conditions on the Mojave-Kern Line collectively result in a substantially understated interest rental payment that would be a windfall to BNSF at UP's expense. *See Section V.*

9. The BZ Statement's "economic obsolescence adjustment" is nothing more than an artificial mathematical ratio constructed to narrow the substantial gap between its estimate of the

interest rental base for the Mojave-Kern Line using the RCNLD method and its artificially low estimate based on its improper CE calculation. The BZ Statement's attempt to justify the application of an "economic obsolescence adjustment" based on references to Norfolk Southern's recent acquisition of the Cincinnati Southern Railway is irrelevant and inappropriate. *See Section VI.*

10. The BZ Statement's reliance on rates in other trackage rights agreements as benchmarks for a "commercially reasonable range" of interest rental payments is unavailing and misleading. I understand that the rates in the agreements cited in the BZ Statement were not developed using the SSW Compensation framework and do not involve lines comparable to the Mojave-Kern Line. Accordingly, these agreements do not provide a valid basis for assessing an economically appropriate interest rental payment for the Mojave-Kern Line. *See Section VII.*

11. The evidence presented in this verified statement and my initial verified statement demonstrates that a properly calculated interest rental payment under the CE method, using the correct inputs and following Board precedent, results in a payment of \$1.62 per car mile for 2023. This rate is equivalent to an annual total payment of \$76.3 million per year in 2023 dollars. This interest rental payment appropriately compensates UP for BNSF's use of the Mojave-Kern Line, maintains competitive balance, and ensures that BNSF does not receive an unwarranted economic advantage over UP.

III. THE SSW COMPENSATION FRAMEWORK IS AN ECONOMICALLY SOUND, PROCOMPETITIVE APPROACH TO CALCULATING AN INTEREST RENTAL PAYMENT FOR THE MOJAVE-KERN LINE THAT CREATES A LEVEL PLAYING FIELD BETWEEN LANDLORD AND TENANT

12. In this section, I explain why the SSW Compensation framework, properly applied, produces an economically appropriate interest rental payment for BNSF's use of the Mojave-

Kern Line that enables competition between UP and BNSF. First, I provide an overview of the SSW Compensation framework's goals in **Section III.A**. Then, in **Section III.B**, I explain why access to the Mojave-Kern Line is critical to both UP's and BNSF's businesses and enables competition between them. Finally, in **Section III.C**, I explain why application of the SSW Compensation framework produces an economically appropriate interest rental payment for the Mojave-Kern trackage rights that puts UP and BNSF in the same position and ensures UP is not subsidizing BNSF.

A. The SSW Compensation framework's primary goal is to create a level competitive playing field between landlord and tenant

13. The Board's predecessor, the ICC, developed the SSW Compensation framework as a method to determine an economically appropriate trackage rights payment when the landlord and tenant cannot agree and the issue cannot be left to bargaining between the railroads.⁴ The SSW Compensation framework's primary goal is to put the tenant and landlord in the same position and ensure that the tenant is not subsidized by the landlord—that is, to create a level competitive playing field between landlord and tenant. In SSW I, the ICC expressly stated that the SSW Compensation framework is intended “to set compensation for the trackage rights which will put the tenant in the same position as the owning carrier.”⁵ In SSW II, the ICC further explained that placing the two railroads in the same position “assur[es] a competitive relationship between the

⁴ Mathur Statement, ¶ 32.

⁵ Mathur Statement, ¶ 33; St. Louis Southwestern Railway Company - Trackage Rights Over Missouri Pacific Railroad Company - Kansas City to St. Louis, 1 I.C.C.2d 776 (1984) (“SSW I”), p. 786.

two systems on the line.”⁶ The ICC also made clear that placing the tenant and landlord in the same position means “ensur[ing] that the renting carrier is not subsidized by the owning road.”⁷

14. The SSW Compensation framework is designed to ensure that the tenant pays an economically appropriate share of the costs associated with its use of the landlord’s asset. Under the SSW Compensation framework, trackage rights payments from the tenant to the landlord consist of three components: (1) the incremental variable costs incurred by the landlord due to the tenant’s operations on the line; (2) the tenant’s proportion of track maintenance and operating costs; and (3) interest rental payments representing return on investment designed to compensate the landlord for the tenant’s consumption of the landlord’s asset.⁸ In this matter, only the third component, the interest rental payment, is at issue.⁹ The interest rental payment compensates the landlord for the economic return on its capital that the landlord could generate by moving its own traffic over the line for profit or by selling the asset and putting the capital to another productive use but for the tenant’s use of the line.¹⁰ In order to achieve the SSW Compensation framework’s goal of creating a level playing field between the landlord and the tenant, the interest rental payment must be set at a level that fully compensates the landlord for the tenant’s use of its asset.

⁶ St. Louis Southwestern Railway Company - Trackage Rights Over Missouri Pacific Railroad Company - Kansas City to St. Louis - Trackage Rights Compensation, 4 I.C.C.2d 668 (1987) (“SSW II”), p. 688.

⁷ SSW II, p. 682.

⁸ Mathur Statement, ¶¶ 32-33.

⁹ Mathur Statement, ¶ 6.

¹⁰ Mathur Statement, ¶ 33.

B. Access to the Mojave-Kern Line is critical to UP's and BNSF's businesses, and enables competition between UP and BNSF

15. The Mojave-Kern Line is an asset that is valuable to both UP and BNSF. Each year, over {{ }} intermodal containers and over {{ }} cars traverse the Mojave-Kern Line, generating over {{ }} in revenue for UP and BNSF collectively.¹¹

16. The high volume of traffic that traverses the Mojave-Kern Line and the substantial associated revenue reflect the critical role the line plays in both UP's and BNSF's networks. BNSF's filings in this matter acknowledge the importance of the Mojave-Kern Line to its business. Ms. Olivia E. Power, BNSF's Assistant Vice President of Contracts & Joint Facilities, stated in her May 3, 2024 Verified Statement: "The Kern-Mojave Line ... is a critical link and forms the spine of BNSF's north-south route through the state of California."¹² She further noted: "Any freight moving between the Pacific Northwest and Central/Southern California ... must traverse the Kern-Mojave Line," and "[w]ithout effective access to the Kern-Mojave Line, BNSF would have to take shipments for customers on circuitous routes that are hundreds of miles longer than the route traveled utilizing the [Kern-Mojave Line]."¹³ Similarly, Mr. David Hughes, UP's Assistant Vice President of Joint Facilities and Interline Operations, stated in his

¹¹ "Total Waybill Counts and Revenue on Mojave-Kern Traversing Movements for UP and BNSF.xlsx," Mathur Reply Workpaper 19. The count of intermodal containers and non-intermodal cars each year is based on the number of intermodal and non-intermodal waybills (*i.e.*, movements), respectively, that I identified as Mojave-Kern-traversing and processed through URCS in the analysis in my initial statement. As I explained in my initial statement, the mapping between intermodal containers and waybills is approximately one-to-one. Mathur Statement, ¶ 69.

¹² Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Olivia E. Power, Finance Docket No. 22218, May 3, 2024 ("Power Statement"), pp. 1-2.

¹³ Power Statement, pp. 3-4. *See also* Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of David W. Hughes, Finance Docket No. 22218, May 3, 2024 ("Hughes Statement"), p. 3.

initial Verified Statement that “Union Pacific ... use[s] the Line as a critical piece of [its] network[] to move large volumes of traffic.”¹⁴

17. The ICC’s 1967 decision (“1967 Order”) establishing terms and conditions for BNSF’s use of the Mojave-Kern Line allows both parties to move traffic across this critical piece of their respective networks, and therefore, engenders competition between UP and BNSF.¹⁵ Both UP and BNSF acknowledge this competition. Mr. Hughes stated: “Union Pacific and BNSF use the Line to compete head-to-head for a substantial volume of traffic that is important to both railroads and their customers.”¹⁶ Ms. Power agreed, stating: “BNSF and UP compete vigorously for rail transportation business across the Western half of the United States.”¹⁷

C. Proper application of the SSW Compensation framework will produce an interest rental payment that allows UP and BNSF to compete on a level playing field

18. Because the Mojave-Kern Line plays a critical role in the competition between BNSF and UP, it is important that the interest rental payment for the line be set in an economically appropriate manner that enables the firms to compete with each other on a level playing field—that is, without subsidizing or imposing a penalty on either party—consistent with the SSW Compensation framework. UP directly bears the cost of capital on the full value of the Mojave-Kern Line, including BNSF’s use of the asset—that is, UP incurs a cost from allocating its capital to the line rather than other productive uses. Therefore, an economically appropriate

¹⁴ Hughes Statement, pp. 1-2.

¹⁵ Atchison, Topeka & Santa Fe Railway Co. - Operating Agreement - Southern Pacific Co., 331 I.C.C. 367 (1967) (“1967 Agreement”).

¹⁶ Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Reply Verified Statement of David W. Hughes, Finance Docket No. 22218, March 14, 2025 (“Hughes Reply Statement”), p. 14.

¹⁷ Power Statement, p. 4.

interest rental payment must adequately compensate UP for BNSF's share of the cost. If UP is not appropriately compensated for BNSF's share of the cost, UP will be at a disadvantage relative to BNSF: UP will be forced to either bear the burden of BNSF's share of the cost in the form of reduced profits or pass through the additional costs in the form of higher prices to UP customers.¹⁸ Placing UP at a disadvantage relative to BNSF would distort the competitive positions of UP and BNSF, producing economically undesirable or inefficient outcomes.¹⁹

19. As explained in my initial statement, under the SSW Compensation framework, interest rental payments are calculated by multiplying: (1) the interest rental base, which reflects the value of the underlying asset; (2) the cost of capital, which reflects the rate of return the asset must generate to maintain its value; and (3) the usage factor, which reflects the tenant's relative share of the total usage of the asset.²⁰ The first two terms in the calculation determine the annual interest rental payment—that is, the total return that the landlord must receive in order to cover the cost of capital on the full value of the asset—and the third determines the appropriate division of this amount between the landlord and the tenant. As a whole, this method strives to ensure that the landlord is appropriately compensated for the tenant's use of its asset. Setting an interest rental payment for the Mojave-Kern Line that is too low relative to the amount determined under the SSW Compensation framework would improperly impose a penalty on UP and provide a subsidy to BNSF, giving BNSF an unfair advantage relative to UP and making it harder for UP to compete with BNSF for business.²¹

¹⁸ See Mathur Statement, ¶ 35.

¹⁹ Mathur Statement, ¶ 35.

²⁰ See Mathur Statement, ¶ 36.

²¹ See Mathur Statement, ¶ 116.

20. Using the CE method to calculate the interest rental base for the Mojave-Kern Line also furthers the procompetitive objectives of the SSW Compensation framework because the interest rental base is calculated as a function of the earnings that UP and BNSF are able to generate on the line while competing with each other for traffic. That is, the line earnings that serve as an input to the CE method reflect the current competitive dynamics between UP and BNSF, and thus the interest rental payments I calculate based on the CE method does not reflect the possession or exercise of any monopoly power, but instead reflects an appropriate interest rental payment in a competitive environment.

IV. THE BZ STATEMENT DEPARTS FROM KEY PRINCIPLES OF THE SSW COMPENSATION FRAMEWORK AND CALCULATES A PROPOSED INTEREST RENTAL PAYMENT THAT WOULD PUT BNSF IN A SUBSTANTIALLY BETTER POSITION THAN UP

21. As explained in **Section III**, under the SSW Compensation framework, the interest rental payment is calculated as the product of three terms: the interest rental base, the cost of capital, and the usage factor. In order for the interest rental payment to appropriately compensate UP for BNSF's use of its asset, the interest rental base must reflect the value of the underlying asset; the industry-wide pre-tax cost of capital must be used to reflect the rate of return the asset must generate to maintain its value; and the usage factor must reflect the tenant's relative share of the total usage of the asset.²² Departures from this framework to determine the appropriate interest rental payment for the Mojave Kern Line would result in an economically inappropriate interest rental payment that creates a windfall for—or imposes a penalty on—one of the parties and would be inconsistent with the SSW Compensation framework.

²² Mathur Statement, ¶ 36.

22. The BZ Statement agrees with my initial statement that the SSW Compensation framework should be used to update the value of the interest rental base for the at-issue track.²³ It further agrees with my initial statement in acknowledging that the CE method is the appropriate method to determine the interest rental base.²⁴ The difference between the BZ Statement's interest rental payment calculation and my interest rental payment calculation results solely from the BZ Statement's departures from the SSW Compensation framework and the CE method.

23. In this section, I discuss the BZ Statement's departures from the SSW Compensation framework (other than its departures from the CE method which I address in **Section V**), which include:

- a. the BZ Statement's use of an interest rental rate that does not reflect the industry-wide pre-tax cost of capital (*see* **Section IV.A**); and
- b. the BZ Statement's use of a fixed one-half share usage factor that does not reflect BNSF's actual usage of the Mojave-Kern Line (*see* **Section IV.B**).

24. In **Section V**, I discuss the BZ Statement's departures from the CE method, which include:

- a. the BZ Statement's exclusion of double-stack traffic in its calculation of line earnings (*see* **Section V.A**);
- b. the BZ Statement's exclusion of half of BNSF's line earnings (*see* **Section V.B**);

²³ BZ Statement, p. 3 ("In applying SSW Compensation in connection with this proceeding, we believe that the STB should update the valuation of the Line to reflect its now-current value[.]").

²⁴ BZ Statement, p. 3 ("In order to update the valuation of the Line to now current-levels using the SSW Compensation methodology, we believe that the Board should use the capitalized earnings approach.").

- c. the BZ Statement's erroneous calculation of fixed operating expenses and corresponding erroneous line earnings estimates (*see Section V.C*);
- d. the BZ Statement's use of an inverse cost of capital earnings multiplier that fails to account for future earnings growth (*see Section V.D*); and
- e. the BZ Statement's failure to account for inflation in calculating proposed interest rental payments (*see Section V.E*).

25. In addition, the BZ Statement's interest rental payment is estimated using data that does not best capture the current economic conditions on the Mojave-Kern Line. Specifically, the BZ Statement and I differ in specific years of data we use to calculate interest rental payments under the CE method, which I discuss in **Section V.F**.

26. The BZ Statement's departures from the SSW Compensation framework and the CE method collectively result in a proposed interest rental payment that is inequitable and would create a substantial windfall for BNSF. The Board should adopt the interest rental payment that I developed in my initial statement, which was \$1.62 per car mile for 2023.²⁵ This rate is equivalent to an annual total payment of \$76.3 million per year in 2023 dollars.²⁶ In contrast, the

²⁵ Mathur Statement, ¶¶ 16, 109, Figure 1, Figure 16.

²⁶ In my initial statement, I was asked to calculate an interest rental payment on a per car mile basis. Here, I convert this per car mile payment to an equivalent annual total payment for the purposes of comparing my calculation with the calculation in the BZ Statement, which was on a total annual basis. In my initial statement, I calculated the 2023 interest rental payment of \$1.62 per car mile by: estimating an annual interest rental payment of \$70.57 million in 2021 dollars and \$56.76 million in 2022 dollars; converting both amounts into per car mile payments; adjusting for inflation; and averaging the amounts to ultimately calculate a per car mile rate in 2023 dollars. Mathur Statement, ¶¶ 16, 109, Figure 1, Figure 16. Here, I have calculated the equivalent total annual interest rental payment by adjusting my 2021 and 2022 annual interest rental payments for inflation and averaging the amounts. **Exhibit 1A**. While I propose an annual interest rental payment of \$76.3 million *in 2023 dollars*, the interest rental payment should be adjusted in the years beyond 2023 to account for inflation (*e.g.*, for 2024, the interest rental payment of \$76.3 million should be converted from 2023 dollars to 2024 dollars based on the inflation rate). Mathur Statement, ¶ 109.

BZ Statement proposes an interest rental payment of {{ }} per year.²⁷ In the sections below, I first calculate the impact of each of the BZ Statement's departures from the SSW Compensation framework and the CE method on the magnitude of the proposed interest rental payment, and then show the cumulative impact of correcting these departures to explain the difference between the BZ Statement's proposed interest rental payment of {{ }} per year and my proposed interest rental payment of {{ }} per year in 2023 dollars.²⁸

A. The BZ Statement's proposed use of Treasury Bond yields would not provide an economically appropriate rate of return on UP's investment in the Mojave-Kern Line and would result in an inequitably low interest rental payment and a windfall to BNSF

27. Under Board precedent, the industry-wide railroad pre-tax cost of capital should be used as the rate of return when calculating the interest rental payment.²⁹ This precedent results in an economically appropriate interest rental rate that is consistent with the principle that UP should be compensated at the rate of return that it could have obtained if it put the capital invested in the asset to another productive use.³⁰

28. The BZ Statement departs from the SSW Compensation framework by using the yield on 30-year U.S. Treasury Bonds as the interest rental rate instead of the industry-wide railroad pre-

²⁷ BZ Statement, p. 31, Table 13.

²⁸ **Exhibit 1A.** Due to the multiplicative nature of the interest rental calculation, the magnitude of the correction of a single error in the calculation depends on the values of the other inputs. Therefore, the magnitude of the impact of each of the BZ Statement's departures from the SSW Compensation framework and CE method in isolation do not sum to the cumulative impact of correcting all departures.

²⁹ SSW II, p. 682 ("We now believe that return on investment should not be applied to determine the necessary rate of return. Instead, the pre-tax equivalent of the current cost of capital rate for the railroad industry should be used. [...] Besides the Congressional mandate, we believe there are sound practical and policy reasons for using the current cost of capital. The cost of capital rate represents the average cost to any of the railroads for obtaining capital. Its use favors no carrier over another and places both the incumbent and tenant railroads on an identical footing regarding a required rate of return."); Mathur Statement, ¶ 59.

³⁰ Mathur Statement, ¶ 58.

tax cost of capital.³¹ The BZ Statement justifies this departure by claiming that ATSF (as BNSF’s predecessor) and SP (as UP’s predecessor) established a practice in 1912 of using “prevailing interest rates and not the cost of capital” and “nothing has changed to alter that agreement.”³² Based on this reasoning, the BZ Statement claims that BNSF’s interest rental payment for the Mojave-Kern Line should reflect a 4.0 percent rate of return as of January 1, 2023, since the 30-year U.S. Treasury Bond market yield was 3.97 percent as of January 1, 2023.³³

29. The BZ Statement’s use of 30-year Treasury Bond yields as the rate of return is inconsistent with both the SSW Compensation framework and sound economic reasoning. As the ICC recognized in developing the SSW Compensation framework, the industry-wide pre-tax cost of capital reflects the appropriate rate of return in this setting because it “represents the average cost to any of the railroads for obtaining capital” such that “[i]ts use favors no carrier over another and places both the [landlord] and tenant railroads on an identical footing regarding a required rate of return.”^{34,35} That is, the SSW Compensation framework recognizes that the

³¹ BZ Statement, pp. 30-31 (“Based on the parties’ long and documented precedent of aligning the interest rental rate with prevailing long-term Treasury Bond rates, we determined that the applicable interest rental [rate] as of January 1, 2023 should be 4.0 percent.”). The BZ Statement uses the term “interest rental rate” to describe the “necessary rate of return.”

³² BZ Statement, p. 30.

³³ BZ Statement, pp. 30-31.

³⁴ SSW II, p. 682 (“We now believe that return on investment should not be applied to determine the necessary rate of return. Instead, the pre-tax equivalent of the current cost of capital rate for the railroad industry should be used. [...] Besides the Congressional mandate, we believe there are sound practical and policy reasons for using the current cost of capital. The cost of capital rate represents the average cost to any of the railroads for obtaining capital. Its use favors no carrier over another and places both the incumbent and tenant railroads on an identical footing regarding a required rate of return.”).

³⁵ SSW I used the “pretax rate of return on investment” for purposes of calculating the rate of return. SSW II modified this formula to instead use the pre-tax cost of capital. SSW I, p. 789 (“Both parties advocate the use of a pretax rate of return on investment [...] in developing the rate of return for these lines under the capitalized earnings methodology [...] MP’s after-tax return on investment was 8.37 percent. Backing out taxes at MP’s effective rate yields a pretax return of 10.21 percent. This is the rate of return we utilized in our calculations.”);

interest rental payment should provide the landlord an economically appropriate return on investment in its asset,³⁶ which requires that the landlord railroad be compensated at the rate of return that equity and debt investors would need to receive in order to be properly compensated for the risk of investing, *i.e.*, the cost of capital.³⁷ Both the cost of equity and the cost of debt are needed to properly calculate the cost of capital. The cost of equity (debt) represents the rate of return required by equity (debt) holders to compensate them for the risk of investing in a firm's or asset's equity (debt). The weighted average cost of capital measures the rate of return required by *all* investors in a firm or asset, and is therefore properly calculated as the weighted average of the cost of equity and the cost of debt, weighted by the proportion of equity and debt, respectively.

30. The Board has consistently used the industry-wide pre-tax cost of capital in applying the SSW Compensation framework. In the NECR-PAS Decision—the Board's most recent decision applying the SSW Compensation framework—the Board reaffirmed that the interest rental should be calculated as the product of the interest rental base and “a rate of return equal to the current pre-tax nominal cost of capital.”³⁸ Using a rate lower than the cost of capital (as the BZ

SSW II, p. 674 (“[W]e affirm our finding that the capitalized earnings approach is the proper method of determining the interest rental component. However, we find that each part of the formula should be further modified, including [...] use of pre-tax current cost of capital instead of the railroad's actual rate of return on investment.”).

³⁶ Mathur Statement, ¶ 11.

³⁷ See, e.g., Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, 3rd Ed., John Wiley & Sons, 2012 (“Damodaran (2012)”), p. 182 (“Firms raise money from both equity investors and lenders to fund investments. [...] [T]he expected return for equity investors [] include[s] a premium for the equity risk in the investment. We label this expected return the cost of equity. Similarly, the expected return that lenders hope to make on their investments includes a premium for default risk, and we call that expected return the cost of debt. If we consider all of the financing that the firm takes on, the composite cost of financing will be a weighted average of the costs of equity and debt, and this weighted cost is the cost of capital.”).

³⁸ New England Central Railroad, Inc. - Trackage Rights Order - Pan AM Southern LLC, Finance Docket No. 35842, October 31, 2017 (“NECR-PAS Decision”), p. 3. Other Board decisions have similarly determined that

Statement does) would not adequately compensate UP for its investment in the asset and result in an artificially suppressed interest rental payment that unfairly puts BNSF in a better position than UP.

31. The BZ Statement's use of the yield on 30-year U.S. Treasury Bonds not only departs from the SSW Compensation framework but also erroneously implies that UP's investment in the Mojave-Kern Line is no riskier than an investment in the U.S. Government. Standard valuation methodologies in the finance academic literature and in the real world recognize that the required return for a risky asset must account for the incremental risk of investing in the risky asset *relative* to a risk-free asset. That is, the cost of capital for a company or an asset is typically calculated as the sum of: (i) the expected return on a risk-free asset—typically benchmarked using U.S. Treasury Bonds under the assumption that the default risk of the U.S. government is near zero³⁹—and (ii) an additional expected return that appropriately reflects the risk of investing in that company or asset relative to a risk-free asset.⁴⁰ I am not aware of any reliable valuation method that advocates using U.S. Treasury Bond yields as an estimate of the cost of capital for a private firm or an asset owned by a private firm. Using the yield on 30-year U.S. Treasury Bonds instead of the railroad industry cost of capital as the rate of return for the Mojave-Kern Line does

the pre-tax cost of capital is appropriate for purposes of determining the rate of return. *See, e.g.,* Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company, 6 I.C.C.2d 619 (1990) (“A&M I”), p. 622, footnote 8 (“The interest rental is derived, first, by multiplying (i) the value of the assets by (ii) a rate of return equal to the current pre-tax nominal cost of capital.”); Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, Finance Docket No. 22218, March 26, 1993 (“ATSF II”), p. 9 (“Both SSW and A&M used the pretax railroad industry cost of capital rate. The rationale was detailed in those decisions and is equally applicable here.”).

³⁹ *See, e.g.,* Damodaran (2012), p. 155 (“In most developed markets, [...] the government can be viewed as a default-free entity[...] Thus, the historical risk premium used in the United States should be the excess return earned by stocks over Treasury bonds[.]”).

⁴⁰ *See, e.g.,* Damodaran (2012), p. 154 (“All models of risk and return in finance are built around a rate that investors can make on riskless investments and the risk premium or premiums that investors should charge for investing in the average-risk investment. [...] Most risk and return models in finance start off with an asset that is defined as risk free, and use the expected return on that asset as the risk-free rate.”).

not make economic sense—instead of placing BNSF and UP on a level playing field, it would provide a windfall to BNSF and impose a penalty on the landlord.

32. Additionally, the BZ Statement’s claims that the parties have a “long and documented precedent of aligning the interest rental rate with prevailing long-term Treasury Bond rates” and that “nothing has changed to alter that agreement” are not consistent with my understanding of the facts.⁴¹ In support of its claims, the BZ Statement asserts:

- a. the 1912 agreement between ATSF and SP established a required rate of return of 4.5 percent which “aligned the [necessary rate of return] with the prevailing interest rates of the time;”⁴²
- b. the ICC’s 1967 Order set the required rate of return at 5.5 percent, which the BZ Statement interprets to be based on the yield of the 20-year Treasury Bond of 5.66 percent;⁴³ and
- c. the 1993 Joint Settlement Agreement between UP’s and BNSF’s predecessors SP and ATSF (“1993 JSA”) “established U.S. Treasury long bonds with 30-year terms as the foundation for adjusting interest rental payments prospectively.”⁴⁴

33. The BZ Statement’s claim that nothing has changed since 1912 to alter the method of setting the rate of return in investment ignores regulatory and economic history. Both the 1912 agreement between ATSF and SP and the ICC’s 1967 Order reflect a period before the

⁴¹ BZ Statement, pp. 30-31.

⁴² The BZ Statement states that the prevailing interest rates at the time of the 1912 agreement between ATSF and SP is the “1912 average of the Index of Yields of High Grade Corporate and Municipal Bonds of 4.46 percent.” BZ Statement, p. 30.

⁴³ BZ Statement, p. 30.

⁴⁴ BZ Statement, p. 30. In my initial statement, I refer to the 1993 JSA as “ATSF III.”

development of the SSW Compensation framework and before economists had fully developed the current paradigm underlying use of the cost of capital (*i.e.*, the expected return on an asset being commensurate with the risk associated with it) as the appropriate rate of return.⁴⁵

34. The BZ Statement's claim that the parties have long agreed to align the interest rental rate with prevailing long-term Treasury Bond yields is also unsupported. I have not seen any evidence indicating that ATSF and SP intended the terms of the original agreement—which presumably reflected the market conditions and accepted practice of the time (*i.e.*, more than 100 years ago)—to bind the parties forever. To the contrary, the 1912 agreement was limited to a 50-year term.⁴⁶ In addition, I understand that the 1993 JSA allows the interest rental payment terms to be revisited every 5 years.⁴⁷ I also understand from Mr. Hughes that the BZ Statement is

⁴⁵ The Capital Asset Pricing Model (“CAPM”) is the “first coherent framework” for answering the question of “how the risk of an investment should affect its expected return.” The theory behind CAPM was developed in the early 1960s, but the empirical measurements and implementation required an additional decade or so. Prior to CAPM, the cost of capital calculation relied on an antiquated method that did not directly take risk into account. Andre F. Perold, “The Capital Asset Pricing Model,” *Journal of Economic Perspectives* 18(3), 2004: 3-24, pp. 3 (“A fundamental question in finance is how the risk of an investment should affect its expected return. The Capital Asset Pricing Model (CAPM) provided the first coherent framework for answering this question. The CAPM was developed in the early 1960s by William Sharpe (1964), Jack Treynor (1962), John Lintner (1965a, b) and Jan Mossin (1966). [...] In retrospect, it is striking how little we understood about risk as late as the 1960s—whether in terms of theory or empirical evidence.”), 4 (“Equally noteworthy, the empirical measurement of risk and return was in its infancy until the 1960s, when sufficient computing power became available so that researchers were able to collect, store and process market data for the purposes of scientific investigation. [...] Measured standard deviations of broad stock market returns did not appear in the academic literature until Fisher and Lorie (1968). Carefully constructed estimates of the equity risk premium did not appear until Ibbotson and Sinquefeld (1976) published their findings on long-term rates of return.”), 5 (“In the pre-CAPM paradigm, risk did not enter directly into the computation of the cost of capital. The working assumption was often that a firm that can be financed mostly with debt is probably safe and is thus assumed to have a low cost of capital; while a firm that cannot support much debt is probably risky and is thus assumed to command a high cost of capital. These rules-of-thumb for incorporating risk into discount rates were ad hoc at best.”).

⁴⁶ 1967 Agreement, p. 368 (“Sante Fe, on August 7, 1962, applied under the provisions of section 5(2) of the act for authority to continue operation under trackage rights over Southern Pacific’s line between Mojave and Kern Junction (at Bakersfield), approximately 68 miles, in Kern County, Calif., pursuant to an agreement dated January 1, 1912, which expired on December 31, 1961.”).

⁴⁷ The 1993 JSA states that “either party may, pursuant to the requirements of Condition No. 30 of the trackage rights terms and conditions set forth in the 1967 Order, petition the Commission to make appropriate revisions in the prescribed trackage rights terms provided that such revisions are not inconsistent with, and do not modify, the provisions of this Joint Stipulation and Agreement.” Atchison, Topeka & Santa Fe Railway Company -

factually incorrect in its assertion that the interest rental rate in the 1967 Order and the 1993 JSA was set to align with prevailing U.S. Treasury Bond yields, as neither party argued for interest rental based on long-term U.S. Treasury Bond yields or similar risk-free rates.⁴⁸ Moreover, the BZ Statement misleadingly conflates the use of 30-year Treasury Bond yields in the 1993 JSA as an *adjustment mechanism* for a fixed \$5.5 million annual rental payment—negotiated by SP under extreme financial duress without reliance on the SSW Compensation framework⁴⁹—with the fundamentally different—and incorrect—notion that such yields represent an appropriate rate of return for railroads.

35. The BZ Statement’s use of 30-year Treasury Bond yields—rather than the railroad industry cost of capital—produces an interest rental payment that is inequitable and would provide a substantial windfall to BNSF. The 2021 and 2022 industry-wide railroad pre-tax cost of capital rates of 14.2 percent and 14.4 percent, respectively, are approximately 3.6 times higher

Operating Agreement - Southern Pacific Transportation Company, Finance Docket No. 22218 (Sub-No. 1), July 8, 1993, p. 4. Condition No. 30 of the 1967 Order states “[e]ither or both Santa Fe and Southern Pacific may, on each succeeding fifth anniversary of the effective date of this transaction, petition for revision of such of the terms and conditions imposed on the transaction as may have become inequitable.” 1967 Agreement, pp. 403-404. *See also* Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Petition to Reopen, Finance Docket No. 22218, January 6, 2023, p. 4.

⁴⁸ Hughes Reply Statement, pp. 17-18 (“According to the ICC Hearing Examiner’s Report in connection with the 1967 Order, neither party argued for interest rental based on long-term U.S. Treasury Bond yields or similar risk-free rates. SP argued the interest rental should be based on the cost of capital, and ATSF proposed to continue the 4.5% rate from the 1912 Agreement. When the parties next revisited the issue in the 1990s, neither party argued for using yields on long-term U.S. Treasury Bonds yields or similar risk-free rates. As the ICC’s March 1993 Decision reports, SP argued for a return based on the nominal pre-tax cost of capital; ATSF proposed a return based on SP’s annual return on investment.”); BZ Statement, p. 30 (“Later, in its 1967 Order, the ICC set the interest rental rate at ‘one-half of 5 ½ percent.’ On December 4, 1967, the date of the ICC’s decision, the yield of the 20-year Treasury Bond was 5.66 percent. In its 1993 decision, the ICC expressed its preference, consistent with recent applications of the SSW Compensation formula for a nominal cost of capital. But in the 1993 JSA, the parties established U.S. Treasury long bonds with 30-year terms as the foundation for adjusting interest rental payments prospectively. As such, it is clear that the parties have recognized that the interest rental for ATSF’s use of SP excess capacity should align with prevailing interest rates and not the cost of capital.”).

⁴⁹ Hughes Statement, pp. 1-2.

than the Treasury Bond rate of 4.0 percent proposed in the BZ Statement.⁵⁰ To illustrate the magnitude of this single error, using a rate of return of 4.0 percent in 2021 and 2022 instead of 14.2 percent and 14.4 percent, respectively, decreases the annual interest rental payment I calculate from \$76.3 million to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.⁵¹

B. The BZ Statement’s proposed application of a fixed one-half share of the interest rental payment rather than a usage factor based on actual usage of the Mojave-Kern Line would result in an inequitably low interest rental payment and a windfall to BNSF

36. The BZ Statement also departs from the SSW Compensation framework in determining the share of the interest rental for which BNSF should be responsible. Instead of allocating responsibility based on the actual usage of the line, in accordance with Board precedent, the BZ Statement calculates BNSF’s interest rental payment based on a fixed one-half share.⁵² Similar to its departure from Board precedent regarding the rate of return, the BZ Statement does not justify its approach based on economic principles but instead cites past agreements between the parties as ostensible support.⁵³

37. As explained in my initial statement, BNSF accounted for approximately {{ }} percent of traffic on the Mojave-Kern Line in 2021 and {{ }} percent in 2022.⁵⁴ A fixed

⁵⁰ “Compare Pre-tax Cost of Capital.xlsx,” Mathur Reply Workpaper 6. The 14.2 and 14.4 percent pre-tax industry cost of capital represents the cost of capital in 2021 and 2022, respectively. *See* Mathur Statement, Figure 14. The BZ Statement calculates the 4.0 percent rate based on 30-year Treasury Bonds as of January 1, 2023. *See* BZ Statement, pp. 30-31.

⁵¹ **Exhibit 1B.**

⁵² BZ Statement, p. 3.

⁵³ BZ Statement, p. 29 (“In consideration of the long-standing agreement of the parties, we believe that BNSF should be responsible for one-half of the interest rental and property taxes, special charges and assessments. Nothing could have changed regarding this approach that the ICC found equitable in 1967.”).

⁵⁴ Mathur Statement, Figure 15.

usage factor of one-half is therefore about {{ }} percent lower than BNSF's actual usage of the Mojave-Kern Line, and thus produces an improperly low interest rental payment.⁵⁵

38. The BZ Statement's claim that it would be "equitable" for BNSF to "be responsible for one-half of the interest rental" is economically unsound.⁵⁶ From an economic perspective, and consistent with Board precedent, the appropriate interest rental payment should reflect the actual economic usage of the Mojave-Kern Line. For example, if BNSF were the sole user of the line, it would clearly not be appropriate for BNSF to only pay for half of the cost of capital of the asset.

39. In contrast, Board precedent is consistent with sound economic reasoning and requires that the actual usage factor be used to calculate the interest rental payment. In SSW I, the Board rejected the use of 50 percent as the tenant's share, and instead required that "rental from [the tenant be] computed on the basis of its expected usage in each segment of the line."⁵⁷ That usage factor was based on the proportionate usage of the line segment as measured by GTMs.⁵⁸

However, more recent trackage rights cases have used car miles as the basis for calculating the usage share. For example, the A&M Decision determined that the interest rental base be "apportioned to the tenant carrier according to its percentage of cars traversing the line."⁵⁹ In

⁵⁵ The BZ Statement's usage factor of 50 percent is approximately {{ }} percent lower than BNSF's actual usage factor of {{ }} percent in 2021 ({{ }}). The BZ Statement's usage factor of 50 percent is approximately {{ }} percent lower than BNSF's actual usage factor of {{ }} percent in 2022 ({{ }}). Mathur Statement, Exhibit 20.

⁵⁶ BZ Statement, p. 29.

⁵⁷ SSW I, p. 790.

⁵⁸ SSW I, p. 803 ("Usage share is calculated as the ratio of tenants' gross-ton-miles to total gross-ton-miles of all users."). *See also* SSW II, p. 687 ("[U]sage should be based on a three-year moving average to avoid extreme fluctuations in rental based on sharp increases or decreases in usage. Ideally, the usage percentage should be determined by the railroads themselves, preferably using gross-ton-miles.").

⁵⁹ A&M I, p. 622, footnote 8. Other recent Board decisions calculate usage similarly. *See, e.g.*, CSX Corporation and CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company - Control and Operating Leases/Agreements - Conrail Inc. and Consolidated Rail Corporation, 3 S.T.B. 955 (1998) ("Conrail I"), p. 966 ("Actual trackage rights compensation per car-mile should be adjusted periodically to

NECR-PAS, Mr. Baranowski himself followed this precedent, explaining that he “divid[ed] annual segment earnings, which equals annual interest rental, by the total car-miles on the segment to calculate an interest rental per car mile.”⁶⁰ My initial statement follows the most recent precedent and uses car miles to calculate the appropriate usage factor.⁶¹

40. The BZ Statement’s inappropriate use of a 50 percent usage factor results in an inequitable interest rental payment and creates a windfall for BNSF. To illustrate the magnitude of this single error, using a usage factor of 50 percent in 2021 and 2022 instead of the actual car mile-based usage factors of {{ }} percent and {{ }} percent in 2021 and 2022, respectively, decreases the annual interest rental payment I calculate from \$76.3 million to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.⁶²

V. THE BZ STATEMENT DEPARTS FROM KEY PRINCIPLES OF THE CE METHOD IN CALCULATING THE INTEREST RENTAL BASE

41. As I explained in **Section IV**, the BZ Statement’s calculations of the cost of capital and the usage factor depart from the SSW Compensation framework and result in an inequitable interest rental payment for the Mojave-Kern Line that amounts to a windfall for BNSF and distorts the competitive balance between UP and BNSF. In **Section V**, I address the fundamental flaws in the BZ Statement’s application of the CE method when calculating the interest rental

reflect [...] [the] number of car-miles for the tenant and owning carriers for the specific time period[.]”); NECR-PAS Decision, p. 41 (“PAS shall pay to NECR \$1.06 per car mile (whether loaded or empty including locomotives, cabooses and work equipment) of traffic actually operated by PAS (or its assignee) over the Line.”).

⁶⁰ New England Central Railroad, Inc. - Trackage Rights Order - Pan Am Southern LLC - Verified Statement of Michael R. Baranowski, Finance Docket No. 35842, February 22, 2017, p. 40.

⁶¹ Mathur Statement, ¶ 107.

⁶² **Exhibit 1C.**

base for the Mojave-Kern Line and explain that its departures from the CE method contribute to the BZ Statement's artificially low valuation that unjustly benefits BNSF at UP's expense. Specifically, in **Section V.A**, I describe how the BZ Statement improperly excludes double-stack traffic from the line earnings, thereby significantly understating the economic value of the Mojave-Kern Line. In **Section V.B**, I address the BZ Statement's unsupported exclusion of half of BNSF's line earnings associated with the remaining non-double-stack traffic, which lacks economic justification and further distorts the valuation. In **Section V.C**, I analyze the BZ Statement's erroneous calculation of fixed operating expenses, and show that its approach systematically understates BNSF's line earnings. In **Section V.D**, I address the BZ Statement's use of an inverse cost of capital earnings multiplier, which fails to account for expected earnings growth. In **Section V.E**, I address the BZ Statement's failure to adjust the proposed interest rental payment for inflation. Finally, in **Section V.F**, I address the fact that the BZ Statement and I differ in the number of years of data used to calculate interest rental payments under the CE method. Collectively and individually, these flaws lead to a proposed interest rental payment that is inequitable and amounts to a substantial windfall for BNSF. The Board should instead adopt the interest rental payment developed in my initial statement, which properly applies the CE method, to ensure that UP is fully and fairly compensated for BNSF's use of the Mojave-Kern Line.

A. The BZ Statement's exclusion of double-stack traffic in calculating the earnings attributable to the Mojave-Kern Line lacks economic basis and understates the economic value of the line

42. The BZ Statement departs from the CE method by excluding all of UP's and BNSF's line earnings from double-stack intermodal traffic when calculating line-specific earnings for

purposes of developing the interest rental base.⁶³ The BZ Statement tries to justify excluding all earnings from double-stack traffic by claiming that BNSF’s predecessor paid for a \$6.3 million tunnel clearance project and that “[w]ithout this investment, the double-stack intermodal trains that move routinely over the Line would not have been possible, and thus no earnings associated with those double-stack trains would have accrued.”⁶⁴ The BZ Statement’s exclusion of earnings from double-stack traffic is inconsistent with the CE method, and its factual premises are incorrect.

1. Excluding double-stack traffic from line earnings is inconsistent with the CE method

43. The CE method is based on the principle that a rail line’s value can be measured by the line’s earnings potential.⁶⁵ Thus, under the CE method, the Mojave-Kern Line must be valued as a going concern, *i.e.*, its valuation must reflect the line’s full economic value.⁶⁶ Double-stack intermodal traffic is a major source of the line’s economic value, accounting for {{ }} percent of BNSF’s line earnings and {{ }} percent of UP’s line earnings from 2019 to 2022, according to the BZ Statement’s calculations.⁶⁷ Excluding earnings from double-stack traffic when valuing the Mojave-Kern Line disregards completely a major source of economic value of the line and produces an inaccurate valuation. Under the CE method and its underlying economic

⁶³ BZ Statement, p. 14 (“[W]e eliminate the UP and BNSF earnings attributable to intermodal containers moving in double-stack service that are attributable to the Kern-Mojave Line.”).

⁶⁴ BZ Statement, pp. 12-13. The BZ Statement states that BNSF’s predecessor ATSF paid \$6.3 million for the tunnel investments. My calculations in this section assume that ATSF’s tunnel investment cost was \$6.37 million, based on the document “SP Tunnel Work.pdf,” Mathur Reply Workpaper 14.

⁶⁵ SSW II, p. 674 (“market value of a piece of investment property usually is based on the earnings potential of that property[.]”).

⁶⁶ SSW I, p. 786; SSW II, p. 674 (“[V]aluation should be based on fair market value[.]”).

⁶⁷ “Double Stack Earnings.xlsx,” Mathur Reply Workpaper 7.

principles, UP, as the owner of the Mojave-Kern Line, is entitled to receive interest rental compensation from the tenant based on the full economic value of the line, including the value derived from moving double-stack traffic over the line.⁶⁸

44. The BZ Statement's exclusion of double-stack intermodal traffic from its calculation is primarily based on the assertion that double-stack traffic would not be able to traverse over the Mojave-Kern Line today but for ATSF's payments to upgrade the tunnels.⁶⁹ As an economic matter, this argument is irrelevant. As discussed above, the CE method requires determining the going concern value of the Mojave-Kern Line, and the *actual* use of the line to move double-stack traffic reveals the line's going concern value. Further, the BZ Statement's factual premises are unsupported and incorrect. Mr. Hughes testifies that had ATSF not paid for the tunnel upgrades in 1993, UP would have had both the incentive and the ability to make the necessary upgrades itself in order to obtain the economic value associated with moving double-stack traffic over the line.⁷⁰ Thus, even without ATSF's investment, double-stack intermodal traffic would be running on the Mojave-Kern Line as it presently does. Mr. Hughes also testifies that UP reimbursed BNSF in-kind for one-half of ATSF's payment for the tunnel clearances.⁷¹

45. The BZ Statement also tries to justify excluding earnings from double-stack traffic when calculating line-specific earnings for the interest rental base by arguing that BNSF should be able

⁶⁸ As I explain in my initial statement, an economically appropriate interest rental payment compensates the landlord for the economic return on its capital that the landlord would generate by moving its own traffic over the line for profit, or by selling the asset and putting the capital to another productive use but for the tenant's use of the line. Mathur Statement, ¶ 33.

⁶⁹ BZ Statement, pp. 12-13 ("Without this investment, the double-stack intermodal trains that move routinely over the Line would not have been possible, and thus no earnings associated with those double-stack trains would have accrued.").

⁷⁰ Hughes Reply Statement, p. 9 ("Union Pacific would have made the Tehachapis Line tunnel clearance improvements on its own, even if it had to pay their full cost.").

⁷¹ Hughes Reply Statement, p. 9 ("In sum, ATSF initially funded the improvements, but Union Pacific fully repaid BNSF in-kind for SP's one-half share.").

to “realize its full earnings” from ATSF’s payment for tunnel clearances “without any offsetting payments to UP.”⁷² This argument is also fundamentally inconsistent with the CE method, which values a line based on its full earnings potential, regardless of how past infrastructure investments were funded.

46. According to the BZ Statement’s “full earnings” argument, UP should receive no compensation for the value of its asset—the 67.2 mile Mojave-Kern Line—in moving double-stack traffic because ATSF (partially) funded certain tunnel clearance improvements in 1993. However, even assuming no double-stack traffic would be moving over the line today but for ATSF’s payment—an assumption the BZ Statement fails to support and Mr. Hughes’s statement refutes—the BZ Statement’s approach still fails to provide UP any return on UP’s investments (both for the tunnels and everywhere else on the 67.2-mile line) that have been necessary to move double-stack traffic over the line today. Indeed, by the same flawed logic, UP could just as easily argue that *all* earnings from BNSF traffic moving over the Mojave-Kern Line—including both line-specific earnings and earnings allocated outside the line—should be included in the interest rental base, because none of the BNSF traffic would have moved over the line but for UP’s investment in the line. The BZ Statement’s arguments regarding entitlement to earnings from double-stack traffic based on ATSF’s past contribution to investments in the line simply have no place under the CE method.

47. Similarly, BNSF tries to justify excluding earnings from double-stack traffic as necessary to “avoid BNSF having to pay twice” for ATSF’s tunnel clearance investments.⁷³ The BZ

⁷² BZ Statement, p. 13.

⁷³ Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company’s Opening Statement and Evidence, Finance Docket No. 22218, May 3, 2024 (“BNSF Opening Statement”), BNSF Opening Statement, p. 15.

Statement suggests the exclusion is justified because the 1993 JSA says that “neither party shall be entitled at any time to receive or assess interest rental payments with respect to such tunnel clearance improvements.”⁷⁴ However, not “paying twice” for ATSF’s investments is very different from not paying rent based on the Mojave-Kern Line’s earnings. To date, BNSF has not been “paying twice” for ATSF’s investment because the interest rental base established in the 1967 Order to calculate the rent payment was not increased to reflect ATSF’s investment. Going forward, BNSF will not “pay twice” for ATSF’s investment unless ATSF’s investment is included in the interest rental base.

48. If the Board establishes a new rental base using the CE method, there will never be any concern about BNSF “paying twice” for ATSF’s investment. Unlike the RCNLD method, the CE method does not consider construction costs in developing the interest rental base. The CE method will establish the line’s value based on its earning potential, which as a theoretical and practical matter would be the same regardless of ATSF’s investment. Thus, no adjustment to line earnings or the interest rental base is needed to ensure BNSF does not pay an interest rental payment based on the value of the tunnel clearance improvements.

2. *The BZ Statement’s exclusion of all double-stack intermodal traffic from line earnings overstates the value of ATSF’s tunnel investment*

49. Even assuming that it were appropriate to adjust the interest rental payment to reflect the (partial) tunnel investment by BNSF’s predecessor, the BZ Statement’s exclusion of all line earnings from UP’s and BNSF’s double-stack traffic in calculating the interest rental base

⁷⁴ BZ Statement, pp. 13-14.

drastically overstates any adjustment that could possibly be economically appropriate, and thereby significantly understates BNSF's proposed interest rental payment.

50. *First*, the BZ Statement excludes double-stack line earnings not just from BNSF's traffic, but also from UP's traffic. The BZ Statement justifies excluding UP traffic by claiming that SP did not contribute to the tunnel clearance project.⁷⁵ However, I understand that UP effectively paid BNSF for SP's share of the tunnel upgrade investment and its right to move its own double-stack traffic through the tunnels and over the Mojave-Kern Line. The 1993 JSA between the parties stated that "[i]n the event that [SP] makes use of the tunnel clearance improvements [...] [SP] shall upon commencement of such use reimburse ATSF for one-half of the total costs of such [tunnel clearance] improvements."⁷⁶ I understand that in a separate later agreement, BNSF agreed to "waive SP's requirement to pay any portion of the Tehachapi tunnels clearance improvements," and thus UP in effect compensated BNSF for half of the \$6.37 million investment cost and obtained the right to run its own double-stack intermodal traffic over the line.⁷⁷ Therefore, the BZ Statement's exclusion of any of UP's line earnings from double-stack traffic is unwarranted even by the BZ Statement's fundamentally flawed economic logic.

⁷⁵ BZ Statement, p. 12.

⁷⁶ Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, Finance Docket No. 22218 (Sub-No. 1), July 8, 1993, Appendix ("1993 JSA"), p. 3.

⁷⁷ Restated and Amended Agreement between UP and BNSF, March 1, 2002, p. 29. *See also* Hughes Reply Statement, p. 9 ("As part of BNSF's settlement agreement with Union Pacific in the UP/SP merger, BNSF agreed Union Pacific provided sufficient value through the settlement to compensate it for SP's share of the improvement costs, and it therefore 'waive[d] SP's requirement to pay any portion of the Tehachapi tunnels clearance improvements pursuant to the 1993 Agreement between Santa Fe and SP.' In sum, ATSF initially funded the improvements, but Union Pacific fully repaid BNSF in-kind for SP's one-half share."). I note that UP's effective 50 percent contribution to the tunnel improvement project contradicts the BZ Statement's claims that "SP did not contribute to the project" and that the investment was made "unilaterally" by ATSF. BZ Statement, pp. 12-13.

51. *Second*, the BZ Statement excludes earnings from all traffic that moved on “S-type” cars without considering how much of that traffic would have moved over the line even without the tunnel upgrade.⁷⁸ Even without the tunnel upgrade, single-stacked intermodal traffic could run over the line.⁷⁹ The BZ Statement does not attempt to account for the actual configuration of traffic that moved over the line—that is, whether cars were carrying only a single level of containers—but instead excludes all traffic moving on “S-type” cars. Furthermore, the BZ Statement does not make any attempt to account for the fact that even traffic that did travel in double-stack configuration could have been loaded to move in single-stack configuration through the tunnel had the tunnels not been upgraded. Even under its fundamentally flawed economic logic, by eliminating *all* containers on “S-type” cars from the line earnings, the BZ Statement erroneously excludes earnings from traffic that could have still been realized without the tunnel upgrades. Finally, Mr. Hughes testifies that certain types of double-stack cars were able to move over the line prior to the tunnel upgrade—another scenario the BZ Statement also does not account for.⁸⁰

⁷⁸ The BZ Statement identifies double-stack traffic in UP’s and BNSF’s waybill and event data as traffic moving on cars with an Association of American Railroads (“AAR”) car type equal to “S.” “UP_ATC_Kern_Mojave_Workbook.xlsx,” BZ Statement Workpaper (“BZ UP ATC Workpaper”), tab “1. LH & CE Structuring.sql,” rows 355-360; BNSF_ATC_Kern_Mojave_Workbook.xlsx,” BZ Statement Workpaper, (“BZ BNSF ATC Workpaper”), tab “10. Double Stack Flag.sql,” row 35. According to BNSF’s website, “S-type” cars are “Stack” cars. “Car Type Codes,” BNSF Railway, available at <https://www.bnsf.com/EquipmentCharacteristics/js/ec/ECCarTypePage.html>, accessed on March 4, 2025. “Stack” cars are also known as well cars, which are cars specifically designed to carry intermodal containers and allow for one container to be stacked on top of the other, to carry up to two containers per car. “What Are All of the Different Rail Car Types?,” Union Pacific, available at https://www.up.com/customers/track-record/tr181121_rail_car_types.htm, accessed on March 4, 2025.

⁷⁹ The BZ Statement claims that the purpose of the tunnel upgrade was “to accommodate double-stack intermodal traffic.” See BZ Statement, p. 12.

⁸⁰ Hughes Reply Statement, pp. 9-10 (“The [double-stack] traffic at issue moves in what are called ‘domestic,’ or ‘high cube,’ containers, which are 9’6” tall, rather than international containers, which are 8’6” tall. Before the improvements, the tunnels could accommodate domestic containers moving in a single stack, and even double stacks that combined domestic and international containers. ATSF was running double stacks in these configurations before the clearance project was undertaken. If the clearance improvements had been physically

52. *Third*, the BZ Statement’s exclusion of all double-stack line earnings provides UP no compensation at all for the substantial value of its asset—the 67.2 mile Mojave-Kern Line—in moving double-stack traffic. ATSF’s investment was limited to a one-time upgrade of tunnels that cover a combined distance of approximately one mile—a small portion of the overall infrastructure of the Mojave-Kern Line.⁸¹ Nonetheless, the BZ Statement eliminates *all* line earnings associated with double-stack intermodal traffic. Even if some earnings-related adjustment to address ATSF’s tunnel investment were appropriate—and it is not—attributing 100 percent of the line earnings associated with double-stack traffic to a small portion of the line where the tunnel upgrade was implemented would not be appropriate because it would not account for the UP’s substantial investment infrastructure along the remainder of the line, or UP’s investment in the tunnels prior to ATSF’s upgrade.

53. Excluding all of UP’s and BNSF’s double-stack traffic from the line earnings calculations has a large impact on the interest rental payment calculated in the BZ Statement and leads to a rate that is inequitable and amounts to a windfall for BNSF. To illustrate the magnitude of this single error, reducing the UP and BNSF line earnings I calculated in my initial statement by the percentage of line earnings attributed to double-stack traffic by the BZ Statement for UP and BNSF in 2021 and 2022, respectively,⁸² decreases the annual interest rental payment I calculate

impossible or cost-prohibitive, much of the traffic at issue would still move over the Line, but in a less efficient configuration.”).

⁸¹ “SP Tunnel Work.pdf,” Mathur Reply Workpaper 14 (showing an exact total tunnel length of 5,426 feet).

⁸² Based on the BZ Statement’s calculations, {{ }} and {{ }} of UP’s line earnings were attributable to double-stack traffic in 2021 and 2022, respectively, and {{ }} and {{ }} of BNSF’s line earnings were attributable to double-stack traffic in 2021 and 2022, respectively. “Double Stack Earnings.xlsx,” Mathur Reply Workpaper 7. Because I did not erroneously exclude double-stack traffic from my calculated line earnings in my initial statement, to illustrate the impact of the BZ Statement’s error on my proposed interest rental payment from my initial statement, I use the BZ Statement’s respective percentages of line earnings attributable to double-stack traffic for UP and BNSF each year, and reduce my line earnings from my initial statement by those percentages.

from {{ }} to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.⁸³ The BZ Statement's erroneous exclusion of all of UP's and BNSF's double-stack traffic decreases the average interest rental base I calculate in my initial statement by {{ }}.⁸⁴

3. *Any adjustment to the interest rental base should reflect the relative value of ATSF's investment in the tunnel infrastructure and UP's investment in the Mojave-Kern Line*

54. Although no adjustment is needed under the CE method to account for ATSF's tunnel investment, if the Board were to consider an adjustment, the BZ Statement's complete exclusion of all line earnings from double-stack traffic would overstate the value of ATSF's tunnel investment, leading to an interest rental payment that would be economically inappropriate and inconsistent with the principles of the CE method. To the extent an adjustment to account for ATSF's tunnel investment is required by the Board, I describe a potential method that would "avoid BNSF having to pay twice for the double-stack-enabling tunnel clearance project," consistent with the objective stated in BNSF's Opening Statement, while recognizing the relative value of ATSF's investment in the tunnel infrastructure and UP's investment in the Mojave-Kern Line.⁸⁵ Consistent with the Board's treatment of ATSF's tunnel investment under the RCNLD methodology in a previous decision, the method I describe develops an offset that could be

⁸³ **Exhibit 1D.**

⁸⁴ In my initial statement, I calculate an inflation-adjusted interest rental base of {{ }} in 2021 and {{ }} in 2022. The BZ Statement's erroneous exclusion of all of UP's and BNSF's double-stack traffic decreases the inflation-adjusted interest rental base to {{ }} in 2021 and {{ }} in 2022. *See Exhibit 1D.* Therefore, the impact of this error on the interest rental base of the Mojave Kern Line is {{ }} in 2021 {{ }} - {{ }} = {{ }} and {{ }} in 2022 ({{ }} - {{ }} = {{ }}). The average impact is {{ }} ({{ }} + {{ }})/2 = {{ }}.

⁸⁵ BNSF Opening Statement, p. 15.

subtracted directly from the interest rental base calculated under the CE method, rather than distorting the line earnings used to develop the interest rental base under the CE method, as improperly proposed by the BZ Statement.⁸⁶

55. A potential method to determine the value of ATSF's tunnel investment could assess how much a similar investment would cost today. The tunnel investment was projected to cost ATSF \$6.37 million as of 1993.⁸⁷ As Mr. Hughes testifies, UP in effect compensated BNSF for half of the \$6.37 million investment cost and obtained the right to run its own double-stack intermodal traffic over the line.⁸⁸ On net, ATSF's investment in 1993 was therefore \$3.19 million (half of \$6.37 million). Based on the Association of American Railroads' "Materials and Supplies" and "Wage Rates and Supplements" cost indexes, I estimate that ATSF's \$3.19 million investment in 1993 would cost \$7.7 million in 2023. Again, from an economic perspective, no adjustment to account for ATSF's tunnel investment is needed or justified when calculating the interest rental base under the CE method, but if the Board were to require an adjustment, this value could serve as a potential offset should the Board decide that the interest rental base must be directly adjusted

⁸⁶ Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, 8 I.C.C.2d 297 (1992) ("ATSF I"), p. 305 ("[I]t would seem that the appraised value should be adjusted to exclude improvements made by ATSF; otherwise, ATSF would be paying twice for these—once by constructing them and then by paying rent on their value.").

⁸⁷ "SP Tunnel Work.pdf," Mathur Reply Workpaper 14.

⁸⁸ Hughes Reply Statement, p. 9 ("As part of BNSF's settlement agreement with Union Pacific in the UP/SP merger, BNSF agreed Union Pacific provided sufficient value through the settlement to compensate it for SP's share of the improvement costs, and it therefore 'waive[d] SP's requirement to pay any portion of the Tehachapi tunnels clearance improvements pursuant to the 1993 Agreement between Santa Fe and SP.' In sum, ATSF initially funded the improvements, but Union Pacific fully repaid BNSF in-kind for SP's one-half share."); *see also* Restated and Amended Agreement between UP and BNSF, March 1, 2002, p. 29. As discussed in footnote 77, UP's effective 50 percent contribution to the tunnel improvement project contradicts the BZ Statement's claims that "SP did not contribute to the project" and that the investment was made "unilaterally" by ATSF. BZ Statement, pp. 12-13.

to reflect the value of ATSF's investment.⁸⁹ Calculating BNSF's annual interest rental payment using an investment base that has been adjusted to exclude the cost of ATSF's investment today would address any potential concern that BNSF would "pay twice" for ATSF's investment.

B. The BZ Statement's exclusion of half of BNSF's line earnings is unsupported and does not make economic sense

56. The BZ Statement arbitrarily eliminated half of BNSF's line earnings from non-double-stack traffic and therefore does not calculate an interest rental base that reflects the complete economic value of the Mojave-Kern Line.⁹⁰ The BZ Statement provides two justifications for this exclusion, first suggesting that this adjustment addresses concerns of "circularity," and then claiming that such an adjustment leads to an interest rental payment that is more "equitable" to BNSF.⁹¹ Neither circularity nor equity is a valid rationale for excluding any of the tenant's line earnings when calculating the interest rental base under the CE method.

57. With respect to circularity, the BZ Statement first claims that circularity arises if the CE calculations "use the current interest rental payment UP receives to determine UP's earnings" or "us[e] the [...] current BNSF interest rental payment to determine the new interest rental amount that BNSF should pay UP."⁹² However, the BZ Statement subsequently concedes that CE calculations that include the full amount of BNSF's line earnings would not create any circularity issue as long as the interest rental payment is excluded from UP's income and BNSF's expenses.

⁸⁹ Alternatively, ATSF's 1993 investment would have cost \$6.6 million in 2021 and \$8.2 million in 2022. *See Exhibit 2A*. Applying these \$6.6 million and \$8.2 million offsets to the 2021 and 2022 interest rental bases I calculated in my initial statement, the proposed interest rental payment per car mile I calculate would decrease from \$1.62 to {{ }}, a {{ }} decrease. *See Exhibit 2B*.

⁹⁰ BZ Statement, p. 12 ("[W]e find it equitable to include one-half of BNSF's attributable earnings in the capitalized earnings valuation we perform.").

⁹¹ BZ Statement, pp. 11-12.

⁹² BZ Statement, pp. 10-11.

For example, the BZ Statement acknowledges that in a hypothetical scenario where BNSF has \$1 million in line earnings (measured as revenue less expenses not including BNSF's interest rental payment), "we may consider as part of a capitalized earnings valuation, without encountering a circularity issue, the \$1 million in total BNSF earnings."⁹³

58. The BZ Statement and I agree on this point: my calculations in my initial statement are based on UP's and BNSF's earnings from traffic moving over the Mojave-Kern Line and do not incorporate BNSF's current interest rental payments to UP. Similarly, the line earnings calculations shown in Table 6 of the BZ Statement (*i.e.*, prior to its arbitrary removal of 50 percent of BNSF's non-double-stack line earnings) do not depend on interest rental payments paid by BNSF to UP.⁹⁴ Therefore, no justification exists for any adjustment to my or the BZ Statement's line earnings calculations to account for circularity.⁹⁵

59. The BZ Statement then claims that not all of its line earnings should be included in the CE method calculations because "BNSF would then have no benefit from the activities it undertakes."⁹⁶ This claim has nothing to do with circularity and instead relies solely on the assertion that it would be "inequitable" to BNSF if the interest rental payment to UP equaled or exceeded BNSF's line-specific earnings. The BZ Statement claims that "if we included in the capitalized earnings valuation all \$1 million of BNSF's attributable earnings in the above

⁹³ BZ Statement, p. 11.

⁹⁴ The line earnings in Table 6 of the BZ Statement are shown prior to the removal of double-stack intermodal traffic (*see* **Section V.A**) and the arbitrary removal of 50 percent of BNSF's non-double-stack line earnings. Even if the double-stack intermodal traffic is excluded, the line earnings would still not be dependent on interest rental payments paid by BNSF to UP. BZ Statement, p. 19, Table 6.

⁹⁵ A&M I, p. 625; ATSF II, p. 4.

⁹⁶ Specifically, the BZ Statement claims that half of BNSF's line earnings should be excluded from the CE method calculations. BZ Statement, p. 12. I note that the BZ Statement provides no quantitative analysis or explanation to support why it is appropriate to remove 50 percent of BNSF's line earnings (as opposed to some other percentage).

hypothetical example, UP would receive a rental payment covering the entirety of BNSF's \$1 million attributable earnings[,]" and concludes that "we find it equitable to include one-half of BNSF's attributable earnings in the capitalized earnings valuation we perform."⁹⁷

60. The BZ Statement's "equity" rationale for excluding a portion of BNSF's line earnings is flawed in three critical ways. *First*, excluding a portion of the tenant's line earnings from the calculation of the interest rental base misunderstands and misapplies the economic principles underlying the CE method. The line earnings are used as an *input* into the CE method, because they measure the economic value of the line as a going concern. The amount that BNSF pays in interest rental payments relative to the line earnings is an *outcome* or output of the CE method and the SSW Compensation framework, not an input into the valuation of the line. The BZ Statement arbitrarily and improperly reduces the value of the input (*i.e.*, BNSF's line earnings), which generates a much smaller output (*i.e.*, the interest rental payment) based on the CE method.⁹⁸ This purported adjustment is inconsistent with the application of the SSW Compensation framework, under which the line is first valued as a going concern based on its

⁹⁷ BZ Statement, p. 12, footnote 15.

⁹⁸ I note that the BZ Statement's claim that "if we included in the capitalized earnings valuation all \$1 million of BNSF's attributable earnings in the above hypothetical example, UP would receive a rental payment covering the entirety of BNSF's \$1 million attributable earnings" is incorrect using the BZ Statement's own calculations. Conducting the exact same CE method calculations as performed in the BZ Statement without arbitrarily removing half of BNSF's line earnings yields a proposed interest rental payment of {{ }}, which is substantially lower than the {{ }} of annual BNSF line earnings calculated by the BZ Statement (after the exclusion of double-stack traffic) in 2019-2022. "BNSF 50 Percent Earnings Exclusion.xlsx," Mathur Reply Workpaper 4. Put differently, it is not necessarily true that the proposed interest rental payment outputted by the CE method will be greater than or equal to the BNSF line earnings inputted into the CE method, as the proposed interest rental payment is dependent on several other inputs, such as UP's line earnings, the interest rental rate, the multipliers, and the usage factor. *See* BZ Statement, p. 12, footnote 15; Mathur Statement, Exhibit 17, Exhibit 18, Exhibit 19, Exhibit 20.

total earnings in calculating the interest rental base, and only then is the amount that the tenant pays determined when calculating the rate of return and usage share.⁹⁹

61. *Second*, simply comparing BNSF's line-specific earnings to the proposed interest rental payment is incorrect and misleading, because such a comparison fails to recognize that the economic value of the line should be independent of the current landlord and tenant arrangement and whether the value is being generated by UP or BNSF. The CE method reflects the overall economic value of the line as an asset that generates earnings by facilitating the movement of traffic. The value of the line, therefore, should be based on the total line earnings earned by both railroads on the line, and should not account for the tenant's line earnings differentially.¹⁰⁰

62. If BNSF did not have access to the line, UP would likely generate additional earnings from traffic currently moved by BNSF, as BNSF would no longer be able to serve customers whose traffic depends on BNSF's access to the Mojave-Kern Line.¹⁰¹ UP thus incurs an opportunity cost in granting trackage rights to BNSF, and it is entitled to compensation for this opportunity cost, regardless of the level of BNSF's line earnings. As a hypothetical example, if BNSF's line earnings were zero (*i.e.*, its revenue and operating expenses allocated to the Mojave-Kern Line were equal), under the flawed reasoning presented in the BZ Statement, it

⁹⁹ I note that under the RCNLD method, as in the CE method, there is no adjustment that is made after the fact to account for whether the interest rental payment is "equitable" to the tenant.

¹⁰⁰ For example, if hypothetically, UP's line earnings were \$20 million, BNSF's line earnings were \$20 million, and the earnings multiplier was 5, under the BZ Statement's approach, the interest rental base would be equal to \$150 million, because it would exclude \$10 million of BNSF's line earnings (\$150 million = (\$20 million + \$20 million/2) x 5). If instead, UP's line earnings were \$30 million and BNSF's line earnings were \$10 million, the BZ Statement would exclude \$5 million of BNSF's line earnings and calculate an interest rental base of \$175 million (\$175 million = (\$30 million + \$10 million/2) x 5). In both scenarios, the Mojave-Kern Line generates \$40 million in total line earnings across the landlord and tenant, so it does not make sense that the interest rental base (*i.e.*, the economic value of the line) would be different under the BZ Statement's approach across these scenarios.

¹⁰¹ See Mathur Statement, ¶ 113.

would apparently be equitable for UP to receive *zero* interest rental payment from BNSF. Such an outcome would not make economic sense, as UP should still be compensated for its opportunity cost of granting trackage rights to BNSF, and for BNSF’s use of the economically productive asset UP owns, regardless of BNSF’s profitability on the line.¹⁰²

63. *Third*, the BZ Statement’s claim that BNSF would have “no benefit” from using the Mojave-Kern Line if the interest rental payment exceeded its ATC-allocated line earnings ignores the true—and substantial—economic value of the Mojave-Kern Line to BNSF.¹⁰³ The ATC methodology allocates line earnings on entire movements to specific portions of the movement (*e.g.*, the Mojave-Kern Line). However, the benefits to BNSF from access to the line far exceed the ATC-allocated line earnings. As I explain in my initial statement, having access to the line enabled BNSF to generate over {{ }} in total earnings in 2021 and 2022 on movements that traversed the line, which far exceeds the ATC-allocated line earnings I estimated of {{ }} and {{ }} for BNSF in 2021 and 2022, respectively.¹⁰⁴ Thus, BNSF’s trackage rights on the Mojave-Kern Line provide BNSF far more value than the earnings attributed to the line for purposes of developing the interest rental base.¹⁰⁵

64. Excluding half of BNSF’s line earnings from the calculation of the interest rental payment has a large impact and leads to an inequitable interest rental payment and a windfall to BNSF. To illustrate the magnitude of this single error, removing half of BNSF’s line earnings from the line earnings I calculated in my initial statement decreases the annual interest rental

¹⁰² See Mathur Statement, ¶ 114.

¹⁰³ BZ Statement, p. 12.

¹⁰⁴ Mathur Statement, Exhibit 10B, Exhibit 21.

¹⁰⁵ See Mathur Statement, ¶ 114.

payment I calculate from \$76.3 million to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.¹⁰⁶

C. The BZ Statement’s line earnings are erroneous because the BZ Statement incorrectly calculates the fixed portion of line operating expenses

65. Even prior to its inappropriate exclusion of double-stack traffic¹⁰⁷ and half of BNSF’s line earnings¹⁰⁸ (*i.e.*, the BZ Statement’s “pre-exclusions line earnings”), the BZ Statement’s estimates of line earnings are erroneous due to an error in its calculation of the fixed portion of line operating expenses. As shown in **Figure 1**, the BZ Statement’s pre-exclusions line earnings for BNSF are approximately {{ }} than the amounts I calculated in my initial statement.¹⁰⁹

¹⁰⁶ **Exhibit 1E.**

¹⁰⁷ *See Section V.A.*

¹⁰⁸ *See Section V.B.*

¹⁰⁹ The error in the BZ Statement’s calculation of the fixed portion of line operating expenses is present in its calculation of line earnings for both BNSF and UP, but does not lead to a substantial difference between the UP line earnings calculated in the BZ Statement and the UP line earnings I calculated in my initial statement. Therefore, my discussion in this section focuses on the BZ Statement’s estimate of BNSF’s line earnings.

Figure 1. Comparison of Mathur Statement Line Earnings and BZ Statement Pre-Exclusions Line Earnings¹¹⁰

<u>Year</u>	<u>Mathur Statement</u>	<u>BZ Statement</u>	<u>\$ Difference</u>	<u>% Difference</u>
	<u>BNSF Line Earnings (\$M)</u>			
2021	{{			
				}}

66. The BZ Statement and I both calculate line earnings under the ATC method in two steps. In Step 1, we both calculate line revenue by allocating a portion of each movement’s revenue to the line based on the proportion of the movement’s total costs that are “on-segment.” In Step 2, we both calculate line operating expenses and deduct this amount from the line revenue calculated in Step 1. Notably, the higher the costs allocated to the Mojave-Kern Line in Step 1, the higher the revenue allocated to the line, and the higher the line earnings. The opposite is true for Step 2: the higher the operating expenses allocated to the Mojave-Kern Line, the lower the line earnings.

67. The line earnings calculations in my initial statement are based on a consistent application of both variable and fixed costs in Step 1 and Step 2.¹¹¹ However, the BZ Statement’s

¹¹⁰ “Figure 1.xlsx,” Mathur Reply Workpaper 10; Mathur Statement, Exhibit 10A, Exhibit 10B; BZ Statement, Table 6.

¹¹¹ The only difference between the fixed and variable costs I use in Step 1 and Step 2 is that the costs in Step 2 are scaled down relative to Step 1 to remove Return on Investment (“ROI”) expenses. Both the BZ Statement and I agree that ROI expenses should be removed from the costs used in Step 1 when calculating line operating expenses in Step 2. *See* BZ Statement, pp. 18-19 (“We also needed to estimate the operating expenses (OE) attributable to the Line in order to determine the Line’s earnings. We used the fully allocated URCS variable

calculations are inconsistent; specifically, while the BZ Statement calculates *variables costs* using movement-specific costs from URCS consistently in Step 1 and Step 2, its calculation of *fixed costs* is inconsistent in Step 1 and Step 2, an error that leads to a significant understatement of BNSF line earnings.

68. Specifically, to account for the fixed portion of operating expenses in Step 2, the BZ Statement multiplies its estimates of movement-specific Mojave-Kern Line variable costs by a system-wide constant cost markup ratio.¹¹² While this calculation yields the *total* operating expenses the BZ Statement uses in Step 2, it also determines the *fixed* operating expenses in Step 2 because fixed costs are equal to the difference between total costs and variable costs.

69. Importantly, the system-wide constant cost markup ratio the BZ Statement uses to estimate total costs in Step 2 reflects the ratio of total costs to variable costs across BNSF's *entire system*.¹¹³ Therefore, the BZ Statement's calculation of Step 2 fixed costs assumes that the ratio of fixed costs to variable costs on BNSF's entire system is applicable to BNSF's traffic on the Mojave-Kern Line. This assumption is critically flawed, as I explain below, and importantly,

cost less Return on Investment (ROI) cost categories to estimate total operating expenses for each shipment.”). My line earnings calculations from my initial statement remove ROI expenses in Step 2 by taking the exact fixed and variable costs I calculated in Step 1 and scaling these costs down by the relevant railroad's ratio of system-wide operating expenses (which exclude ROI expenses) to system-wide URCS total costs (which include ROI expenses). See Mathur Statement, Exhibit 10A, Exhibit 10B. Thus, aside from the removal of ROI expenses from Step 1 to Step 2, my calculation of both fixed and variable costs across each step is consistent.

¹¹² See BZ BNSF ATC Workpaper, tab “6. IM_VC_Allocation.sql,” row 180, and tab “7. CL_VC_Allocation.sql,” row 10 and row 83. The BZ Statement excludes loss & damage (“L&D”) costs from the variable costs it multiplies by the constant cost markup ratio in its calculation of Step 2 operating expenses. However, L&D costs are relatively small, making up {{ of Step 1 variable costs based on the BNSF waybills the BZ Statement processed through URCS. See “BZ Loss and Damages Claim Costs.xlsx,” Mathur Reply Workpaper 5. Therefore, the BZ Statement's formula for Step 2 operating expenses can be approximated as the on-segment variable costs from Step 1 (excluding ROI expenses) multiplied by the system-wide constant cost markup ratio.

¹¹³ See BZ BNSF ATC Workpaper, tabs “2019 - D8P6,” “2020 - D8P6,” “2021 - D8P6,” “2022 - D8P6,” cell E26.

is inconsistent with the BZ Statement’s own calculation of BNSF’s fixed costs on the Mojave-Kern Line in Step 1.

70. **Figure 2** illustrates this inconsistency in the BZ Statement—the ratio of total costs to variable costs used in Step 1 (column [C]) is far lower than the ratio in Step 2 (column [D]). Because higher total Mojave-Kern allocated costs in Step 1 increase line earnings, while higher total Mojave-Kern allocated costs in Step 2 decrease line earnings, the discrepancy in Mojave-Kern total costs between Step 1 and Step 2 leads to an understatement of BNSF line earnings in the BZ Statement.

Figure 2. Ratio of BZ Statement ATC Total Costs to Variable Costs in Step 1 Versus System-Wide Constant Cost Ratio from Step 2 for BNSF Traffic¹¹⁴

<u>Year</u>	<u>[A]</u> <u>BZ Statement</u> <u>Step 1 - ATC On-</u> <u>Segment Fixed</u> <u>Costs (\$M)</u>	<u>[B]</u> <u>BZ Statement</u> <u>Step 1 - ATC On-</u> <u>Segment Variable</u> <u>Costs (\$M)</u>	<u>[C]</u> <u>BZ Statement</u> <u>Step 1 - ATC</u> <u>Total Costs to</u> <u>Variable Costs</u> <u>Ratio</u> <u>(= 1 + [A] / [B])</u>	<u>[D]</u> <u>BZ Statement</u> <u>Step 2 - URCS</u> <u>System-Wide</u> <u>Constant Cost</u> <u>Markup Ratio</u>
2019	{{			
2020				
2021				
2022				}}

71. The large difference between the ratios in column [C] and column [D] in **Figure 2** is driven by two factors:

¹¹⁴ “Figure 2.xlsx,” Mathur Reply Workpaper 11; BZ Statement, Table 2, Table 3; BZ BNSF ATC Workpaper, tabs “2019 - D8P6,” “2020 - D8P6,” “2021 - D8P6,” “2022 - D8P6,” cell E26.

- a. *First*, while the BZ Statement properly accounts for density in calculating fixed costs to allocate line revenue under the ATC method in Step 1 (as do my calculations from my initial statement), its calculation of the fixed portion of operating expenses in Step 2 does *not* account for the fact that the Mojave-Kern Line is a high-density line. Specifically, by using the system-wide constant cost markup ratio in Step 2 of its calculations, the BZ Statement overstates the ratio of total costs to variable costs on the Mojave-Kern Line because it implicitly assumes that the Mojave-Kern Line has a density equal to BNSF's system average density. As I explain in my initial statement, the Mojave-Kern Line has significantly above-average density and therefore has relatively low fixed costs on a per-GTM basis.¹¹⁵ Thus, the ratio of total costs to variable costs used by the BZ Statement in Step 2 is erroneously high relative to the corresponding ratio in Step 1, leading to an erroneous understatement of BNSF line earnings in the BZ Statement.
- b. *Second*, the BZ Statement assumes that there are no below-the-wheel fixed costs associated with BNSF movements over the Mojave-Kern Line when allocating revenue under the ATC method in Step 1, but assumes that there are below-the-wheel fixed costs when allocating operating expenses to the line in Step 2.¹¹⁶ Specifically, the BZ Statement claims that all below-the-wheel fixed costs on the Mojave-Kern Line should be allocated to UP's traffic (and none should be allocated to BNSF's)

¹¹⁵ Mathur Statement, ¶ 24, Exhibit 1. Denser lines have relatively low fixed costs on a per-GTM basis because the fixed costs are spread over more traffic. *See* Mathur Statement, ¶ 46.

¹¹⁶ I understand that "below-the-wheel" fixed costs are fixed costs associated with railroad infrastructure that is fixed to the ground and does not move with traffic, such as the fixed portion of the costs of maintaining the physical rail, whereas "above-the-wheel" fixed costs are fixed costs associated with equipment that moves across the system, such as the fixed portion of the cost of maintaining cars and locomotives.

because “operating over owned track incurs ‘below the wheel’ costs that are not incurred when operating over track via trackage rights[.]”¹¹⁷ However, by applying the system-wide constant cost markup ratio in Step 2 of its calculations, the BZ Statement implicitly assumes that the Mojave-Kern Line has the same ratio of fixed costs to variable costs as BNSF’s entire system, which *does* include below-the-wheel fixed costs as BNSF’s system has fixed costs associated with BNSF’s “owned track.” Although I disagree with the BZ Statement’s allocation of all below-the-wheel fixed costs to UP and believe that below-the-wheel fixed costs *should* be allocated to BNSF movements under the ATC method,^{118,119} the BZ Statement’s critical error is in its

¹¹⁷ BZ Statement, p. 16, footnote 24. According to the BZ Statement’s workpapers, “below the wheel” fixed costs accounted for {{ }} percent of BNSF’s system-wide total fixed costs from 2019 to 2022; they accounted for {{ }} percent of UP’s system-wide total fixed costs over the same period. “Below the Wheel Fixed Costs.xlsx,” Mathur Reply Workpaper 3; BZ BNSF ATC Workpaper, tab “Fixed_Cost_per_Route_Mile,” rows 49 and 54; BZ UP ATC Workpaper, tab “Fixed_Cost_per_Route_Mile,” rows 49 and 54. The BZ Statement defines “below the wheel” fixed costs as the sum of the fixed components of “Running Track Ownership & Maintenance” costs and “Switching Track Ownership & Maintenance” costs from URCS, and defines “above the wheel” fixed costs as all other system fixed costs. BZ BNSF ATC Workpaper, tab “Fixed_Cost_per_Route_Mile”; BZ UP ATC Workpaper, tab “Fixed_Cost_per_Route_Mile.”

¹¹⁸ Specifically, when the BZ Statement calculates fixed costs under the ATC method, it applies a “fixed-cost-per-owned-route-mile” for UP’s on-segment traffic that includes both above-the-wheel and below-the-wheel fixed costs, and a separate “fixed-cost-per-operated-route-mile” for BNSF’s on-segment traffic that includes only above-the-wheel fixed costs. By contrast, I use UP’s fixed costs per route mile (which includes both above-the-wheel and below-the-wheel costs) and allocate these costs on a per-GTM basis to both BNSF’s and UP’s Mojave-Kern traffic. *See* BZ Statement, p. 16, footnote 24; Mathur Statement, ¶¶ 77-78, 93. The BZ Statement’s inconsistent treatment of fixed cost per mile between UP’s and BNSF’s traffic is incorrect and misunderstands the purpose of using the ATC method in a case such as this one, which is to allocate revenue according to the cost of each movement accounting for density. In reality, neither UP nor BNSF “incurs” fixed costs for any given movement, as the costs are by definition fixed. However, the ATC method seeks to account for density in the allocation of revenue between different segments of a movement, and importantly, the need to allocate revenue applies *equally* to both the landlord’s and the tenant’s traffic.

¹¹⁹ The BZ Statement cites to the *Consumers* case to justify its treatment of above-the-wheel and below-the-wheel fixed costs in Step 1. BZ Statement, footnote 24; *Consumers Energy Company v. CSX Transportation, Inc.* - Opening Evidence of Complainant, Docket No. NOR 42142, November 2, 2015, pp. III-A-20 – III-A-22. However, the issue involving assignment of below-the-wheel fixed costs is different here than it was in *Consumers*. Specifically, in *Consumers*, the ATC method was used to calculate the portion of CSXT’s revenues that should be allocated to a hypothetical stand-alone railroad that would replace CSXT for a portion of the route to determine whether the stand-alone railroad operating on the route could charge the shipper a lower rate than CSXT and still earn a competitive return. On one portion of the route, CSXT operated using trackage rights over another carrier. In the context of that case, in allocating CSXT’s revenue to the stand-alone railroad for that portion of the route, it was reasonable to consider the costs actually *incurred* by CSXT, which may have only

inconsistency, *i.e.*, in *excluding* these costs when allocating line revenue in Step 1 but *including* these costs when deducting operating expenses in Step 2. Because of this inconsistency, the ratio of total costs to variable costs used by the BZ Statement in Step 2 (column [D] of **Figure 2**) is higher than the corresponding ratio from Step 1 (column [C] of **Figure 2**), leading to an erroneous understatement of BNSF line earnings in the BZ Statement.¹²⁰

72. The difference in ratios in Step 1 and Step 2 (*i.e.*, column [C] versus column [D] of **Figure 2**) of the BZ Statement's calculations has a significant impact on line earnings. As an illustrative example, consider a movement that traversed the Mojave-Kern Line and generated {{ }} in total revenue for BNSF in 2020. Assume that the total costs associated with this movement calculated using the ATC method were {{ }} (where the variable costs for the movement are estimated using URCS, and the fixed costs are estimated based on the density of the entire movement's route). *See* column [A] of **Figure 3**. Furthermore, assume that the BZ Statement calculates {{ }} in variable costs and {{ }} in fixed costs attributable to the part of the movement that took place over the Mojave-Kern Line (again, where the variable costs for the line are estimated using URCS, and the fixed costs are estimated based on the density of the Mojave-Kern Line). Therefore, of the {{ }} in the movement's total costs, {{ }} in total costs are allocated to the Mojave-Kern Line. *See* column [B] of **Figure 3**. Using the ATC

included "above the wheel" fixed costs, as CSXT would not incur any below-the-wheel fixed costs associated with that track as part of its fixed expenses. Instead, it would only pay a trackage rights fee, which is variable, and therefore would be included in the variable expenses portion of the stand-alone cost analysis.

¹²⁰ Note that the BZ Statement's allocation of *all* below-the-wheel fixed costs to UP is a factor that contributes to its estimates of UP pre-exclusions line earnings being closer to my estimate of UP line earnings. Though the failure to account for the density of the Mojave-Kern Line by using the constant cost markup ratio depresses line earnings for *both* UP and BNSF, shifting below the wheel fixed costs from BNSF to UP *depresses* BNSF line earnings and *increases* UP line earnings, resulting in a lower discrepancy for UP line earnings than BNSF line earnings between my estimates and the BZ Statement's estimates.

method, $\{\{ \quad \}\}$ of this movement's total revenue, *i.e.*, $\{\{ \quad \}\}$, should be allocated to the Mojave-Kern Line, because $\{\{ \quad \}\}$ of total costs ($\{\{ \quad \}\}$) are attributable to the line.

73. In this example, in Step 1, the ratio of total costs ($\{\{ \quad \}\}$) to variable costs ($\{\{ \quad \}\}$) is $\{\{ \quad \}\}$, consistent with column [C] of **Figure 2** (for 2020). However, in Step 2, the BZ Statement would calculate the line operating expenses by multiplying the $\{\{ \quad \}\}$ in on-segment variable costs by the $\{\{ \quad \}\}$ system-wide constant cost markup ratio (in column [D] of **Figure 2**), yielding significantly higher total line operating expenses of $\{\{ \quad \}\}$.¹²¹ Under the BZ Statement's critically flawed approach, the higher total line operating expenses depresses the line earnings for this movement, resulting in a line earnings estimate of $\{\{ \quad \}\}$. *See* column [C] of **Figure 3**. Note that the correct line earnings calculated using the $\{\{ \quad \}\}$ in total operating expenses in Step 1 are $\{\{ \quad \}\}$ higher than those calculated under the BZ Statement's incorrect method.

¹²¹ For simplicity, this illustrative example does not account for ROI expenses associated with this movement, which—as I explain in footnote 111—the BZ Statement and I both remove from fixed expenses in Step 2.

Figure 3. Illustrative Example of Constant Cost Markup Ratio Error¹²²

	<u>[A] Entire Movement Estimates</u>	<u>[B] Mojave- Kern Estimates</u>	<u>[C] BZ Statement Erroneous Line Earnings Estimates</u>
Revenue	{{		
Total costs			
Fixed costs			
Variable costs			
Earnings			}}

74. My initial statement does not contain the error in the BZ Statement described above because it treats fixed costs consistently across both steps.¹²³ To demonstrate the magnitude of this error, I re-calculate line earnings from the BZ Statement by changing its calculations in Step 2 to correctly use the ratio of ATC total costs to variable costs from Step 1 for each movement, rather than erroneously use the system-wide constant cost markup ratio.¹²⁴ The

¹²² The breakdown of fixed versus variable costs out of the entire movement's total costs of {{ }} is not shown because this breakdown is not relevant to the calculation of the line earnings attributable to the Mojave-Kern Line (column [B] or column [C] of **Figure 3**). This breakdown would depend on the variable costs calculated from URCS for the given movement and the fixed costs based on the density of the route along which the movement travelled.

¹²³ The ratios of total costs to variable costs in Step 1 of my calculations from my initial statement are {{ }} in 2021 and {{ }} in 2022. These ratios are higher than the BZ Statement's ratios in Step 1 (column [C] of **Figure 2**), because, as explained above, I allocated below-the-wheel fixed costs to BNSF's traffic in Step 1, while the BZ Statement did not. The ratios of total costs to variable costs in Step 2 of my calculations are {{ }} in 2021 and {{ }} in 2022, which are almost identical to the ratios in Step 1 of my calculations. There is a *de minimis* difference in the ratios across the two steps in my calculation due to the method I use to remove ROI expenses in Step 2. Nonetheless, unlike the BZ Statement, whose ratios are substantially different across Step 1 and Step 2, my treatment of fixed costs is consistent across both steps. "Total Cost to Variable Cost Ratios.xlsx," Mathur Reply Workpaper 15.

¹²⁴ In response to a discovery request to BNSF asking about the BZ Statement's inconsistent exclusion of below-the-wheel fixed costs in Step 1 and inclusion of those costs in Step 2, BNSF stated that "operating expenses for traffic moving over the Kern-Mojave Line were estimated using fully allocated URCS costs less ROI," and that "the STB's procedures do not allow for movement-specific adjustments to URCS." Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company's Responses and Objections to Union Pacific's Written Discovery on Opening Statement & Evidence, Finance Docket No. 22218, June 7, 2024 ("BNSF Responses and Objections"), p. 18. The latter statement is a reference to the Board's decision in the rate reasonableness case *Major Issues*, where it proposed to "no longer

results of this correction to the BZ Statement’s calculation of BNSF line earnings are shown in **Figure 4** below.

Figure 4. BZ Statement BNSF Pre-Exclusions Line Earnings Corrected for Inconsistency in Step 1 and Step 2 Fixed Cost Calculations¹²⁵

<u>Year</u>	<u>BZ Statement BNSF Line Earnings (\$M)</u>	<u>BZ Statement BNSF Line Earnings Corrected for Fixed Cost Inconsistency (\$M)</u>	<u>\$M Change From Correction</u>	<u>% Change From Correction</u>
2019	{{			
2020				
2021				
2022				}}

75. As shown in **Figure 1**, the overall discrepancy between my calculation and the BZ Statement’s calculation of BNSF line earnings is {{ }} in 2021 and {{ }} in 2022. **Figure 4** shows that correcting this single error (*i.e.*, the erroneous calculation of the fixed portion of line operating expenses due to the BZ Statement’s use of the URCS system-wide constant cost markup ratio) increases the BZ statement’s line earnings by {{ }} in 2021 and {{ }} in 2022 (and by approximately {{ }} percent each

permit movement-specific adjustments to [URCS] when calculating the 180% revenue-to-variable cost (R/VC) jurisdictional floor for rate relief, as such adjustments appear inconsistent with URCS, may distort the variable cost calculation, and contribute inordinately to the complexity and expense of rail rate cases.” The Board’s decision in *Major Issues* was related to specific adjustments to the variable cost calculations in the context of rate reasonableness cases. However, the error in the BZ Statement’s calculations of operating expenses is related to fixed costs, not variable costs. In fact, the Board’s ATC method requires movement-specific adjustments to fixed costs to account for line-specific densities, and both the calculations in my initial statement and the BZ Statement’s calculations in Step 1 adjust the fixed costs to account for density. *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No.1), October 30, 2006 (“Major Issues”), p. 4.

¹²⁵ “Figure 4.xlsx,” Mathur Reply Workpaper 12.

year). Therefore, correcting this single error accounts for {{ }} of the difference in our calculations of BNSF line earnings.

76. The remaining difference in BNSF line earnings between the BZ Statement and my calculations (as well as the relatively small difference in our UP line earnings as shown in **Figure 1**) is due to several factors, including the BZ Statement's erroneous treatment of on-segment below-the-wheel costs described above, which, in addition to contributing to the discrepancy between the ratio of total costs to variable costs in column [C] and column [D] of **Figure 2**, also shifts revenue (and the corresponding line earnings) from BNSF to UP in Step 1 of the ATC method.¹²⁶ There are several other methodological differences between my calculation of line earnings and the BZ Statement's which account for the remainder of the difference between our estimates. None of these differences require any modifications to the calculations in my initial statement.¹²⁷ Therefore, the Board should use the line earnings I calculated in my initial statement in the determination of the interest rental base, rather than the BZ Statement's pre-exclusions line earnings which contain the critical error related to fixed operating expenses described above.

77. In summary, the BZ Statement's erroneous calculation of its pre-exclusions line earnings results in an inequitable interest rental payment and amounts to a windfall for BNSF. To

¹²⁶ This shift occurs because under the BZ Statement's approach, all below-the-wheel fixed costs of the Mojave-Kern Line are attributed to UP's traffic, thus relatively more revenue is allocated to UP under the ATC method and relatively less revenue is allocated to BNSF.

¹²⁷ These methodological differences include: (1) removing ROI expenses by applying the system-wide ratio between operating expenses from the railroads' financial statements and URCS total costs (as I do in my initial statement), instead of removing ROI expenses at a movement-level from URCS (as the BZ Statement does); (2) including movements with negative line earnings (*i.e.*, movements with allocated revenue that is less than allocated operating expenses) as I do in my initial statement, rather than excluding them (*i.e.*, treating them as having zero line earnings as the BZ Statement does); (3) differences in our calculations of off-segment fixed costs due to differing approaches to calculating off-segment density; (4) differences in the definition of switching costs used to allocate revenue under the ATC method; and (5) differences in approaches for identifying Mojave-Kern-traversing movements in BNSF's and UP's waybill data.

illustrate the magnitude of this error, using the BZ Statement's erroneous pre-exclusions line earnings for UP and BNSF from **Figure 1** instead of the line earnings I calculated in my initial statement decreases the annual interest rental payment I calculate from \$76.3 million to {{ }}, an impact of {{ } per year (*i.e.*, an impact of {{ } percent) on the interest rental payment BNSF would pay UP.¹²⁸

D. The earnings multiplier in the BZ Statement fails to account for future earnings growth

78. Under the CE method, line earnings are multiplied by an earnings multiplier to calculate the interest rental base.¹²⁹ The multiplier converts the line earnings into a present-day value based on a ratio that measures the valuation of each dollar of line earnings.¹³⁰ There are several ways to calculate the earnings multiplier. In my initial report, I used a market-based multiplier, which is calculated based on market data and as such accounts for the market's future expectations of growth, risk, macroeconomic conditions, competition, and other factors.¹³¹ Specifically, I used UP's company-level EV/EBIT multiplier as it measures the value of one dollar of earnings on UP's system and is thus a reasonable multiplier for the UP-owned Mojave-Kern Line.¹³²

¹²⁸ **Exhibit 1F.**

¹²⁹ Mathur Statement, ¶¶ 39, 50; SSW I, p. 787 ("The capitalized earnings approach requires the generation of a number, the earnings multiple, which relates corporate earnings to corporate value.").

¹³⁰ Mathur Statement, ¶ 50.

¹³¹ Mathur Statement, ¶¶ 50-52, 100-102.

¹³² Mathur Statement, ¶¶ 102-103.

79. The BZ Statement uses an inverse cost of capital multiplier without sufficient explanation or justification.¹³³ As explained in my initial statement, the inverse cost of capital multiplier does not account for growth in line earnings over time.¹³⁴ In contrast, real world evidence indicates that railroad earnings *do* grow over time. For example, UP’s and BNSF’s system-wide profits grew at average compound annual rates of approximately 3 percent between 2013 and 2022.¹³⁵ In addition, BNSF’s plan to invest more than \$1.5 billion “to construct a state-of-the-art master-planned rail facility in Southern California” designed to “improve fluidity throughout BNSF’s rail network” and “facilitating improved efficiency in operations” is consistent with BNSF’s expectation that line earnings will grow over time.¹³⁶ Therefore, it is more appropriate to use a market-based multiplier such as the EV/EBIT multiple I used in my initial statement, because it captures the present day market-based valuation of the asset’s current earnings, accounting for future growth (and other economic factors as noted above).¹³⁷ Moreover, as noted in my initial statement, Board precedent supports the use of market-based EV/EBIT multipliers.¹³⁸ **Figure 5** below compares UP’s company-level EV/EBIT multipliers to the inverse cost of capital multipliers used in the BZ Statement for 2021 and 2022. As expected, the inverse cost of capital multipliers used in the BZ Statement are much smaller than the EV/EBIT multipliers, because the inverse cost of capital multipliers assume the line earnings will be constant in all future years.

¹³³ BZ Statement, pp. 20-21, Table 8. The BZ Statement refers to the inverse cost of capital multiplier as the “Capitalization Factor” in Table 8.

¹³⁴ See Mathur Statement, ¶¶ 50-52, 100-102.

¹³⁵ Mathur Statement, ¶ 100.

¹³⁶ “Barstow International Gateway Project,” BNSF Railway, available at <https://bnsfbig.com/>, accessed on March 5, 2025.

¹³⁷ Mathur Statement, ¶¶ 100-102.

¹³⁸ See, e.g., SSW II, pp. 680-681; Conrail I, p. 965.

Figure 5. Comparison of 2021-2022 EV/EBIT and Inverse Cost of Capital Multipliers¹³⁹

<u>Year</u>	<u>EV/EBIT Multiplier</u>	<u>Inverse Cost of Capital Multiplier</u>
2021	15.7	7.7
2022	12.6	7.6

80. The BZ Statement’s use of the lower inverse cost of capital multiplier leads to a lower interest rental payment that is inequitable and amounts to a windfall to BNSF. To illustrate the magnitude of this single error, using the inverse cost of multipliers instead of the EV/EBIT multipliers from **Figure 5** above decreases the annual interest rental payment I calculate from \$76.3 million to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.¹⁴⁰

81. Finally, in my initial statement, I followed Board precedent by applying a roadway apportionment factor—calculated as the percentage of value of road assets relative to the value of road assets and equipment as reported in UP’s financials—when calculating the market-based multiplier.¹⁴¹ After I submitted my initial statement, BNSF requested that UP produce “any appraisals or valuations of intangible assets that UP has conducted or commissioned from 2019 to present,”¹⁴² suggesting that BNSF’s view might be that the roadway apportionment factor I used should be adjusted to account for UP’s intangible assets.¹⁴³ As I discuss in my initial

¹³⁹ Mathur Statement, Exhibit 15; BZ Statement, Table 8.

¹⁴⁰ **Exhibit 1G.**

¹⁴¹ Mathur Statement, ¶ 103, footnote 156.

¹⁴² Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company’s Third Set of Discovery Requests to Union Pacific, Finance Docket No. 22218, May 23, 2024, p. 5.

¹⁴³ Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company’s First Motion to Compel and Request for Expedited Relief, Finance Docket No. 22218, July 13, 2023, p. 10 (“Dr. Mathur’s analysis is premised on the concept that UP’s valuation

statement, from a valuation perspective, the multiplier is a unitless factor that converts earnings into value, regardless of whether those earnings are derived from road assets, equipment, or other assets, and therefore does not require a roadway apportionment factor. Nonetheless, my initial statement applied the roadway apportionment factor to be consistent with Board precedent.¹⁴⁴

E. The proposed interest rental payment in the BZ Statement does not account for inflation

82. In my initial statement, I calculated the proposed interest rental payment by first estimating interest rental bases and interest rental payments for 2021 and 2022 separately.¹⁴⁵ The interest rental bases were calculated using my estimates of the 2021 and 2022 UP and BNSF line earnings based on each railroad's 2021 and 2022 waybill data and were therefore denominated in nominal 2021 and 2022 dollars. I then adjusted the annual 2021 and 2022 interest rental payments for inflation and converted the payments into 2023 dollars, then averaged the two estimates to calculate the 2023 proposed interest rental payment.¹⁴⁶ Indeed, adjusting for inflation is consistent with previous Board decisions on trackage rights cases.¹⁴⁷

83. In contrast, the BZ Statement fails to account for inflation in its proposed interest rental payment. The BZ Statement calculates its proposed 2023 interest rental payment as a four-year average of the interest rental base from 2019 to 2022 in nominal dollars, without adjusting for

of the Line is comprised of a valuation of road assets and a valuation of equipment. But that analysis assumes there are no other classes of assets—such as intangible assets—contributing to UP's market-based valuation. Intangible assets typically include intellectual property, computer software, brand, patent trademark, and copyright.”).

¹⁴⁴ Mathur Statement, footnote 156.

¹⁴⁵ Mathur Statement, Figure 13, Figure 16, Exhibit 17, Exhibit 20.

¹⁴⁶ Mathur Statement, ¶¶ 69, 85, 109, Figure 16, Exhibit 17, Exhibit 20.

¹⁴⁷ See, e.g., NECR-PAS Decision, pp. 19, 41; ATSF II, pp. 8-9.

inflation.¹⁴⁸ That is, the BZ Statement does not adjust the 2019 to 2022 line earnings (or alternatively, the year-specific interest rental bases) for inflation to convert them into 2023 dollars. Moreover, the BZ Statement does not propose a methodology for further adjustments to the interest rental payments beyond 2023 to account for inflation going forward, despite acknowledging that the proposed interest rental payment is meant to reflect payments for 2023 and onwards (or as stated in the BZ Statement, “on a [g]oing [f]orward [b]asis”).¹⁴⁹

84. In **Figure 6** below, I summarize the cumulative inflation from 2019 to 2022, *i.e.*, each year for which the BZ Statement calculates an interest rental base, through 2023, based on the inflation index I used in my initial statement.¹⁵⁰ The percentages in **Figure 6** reflect the magnitude by which the BZ Statement’s interest rental base calculations for each year should be adjusted upwards (*i.e.*, increased) in order to convert from 2019, 2020, 2021, and 2022 dollars to 2023 dollars.

¹⁴⁸ BZ Statement, Table 8, Table 13.

¹⁴⁹ BZ Statement, Table 13.

¹⁵⁰ Specifically, I use the Annual Index of Charegout Prices and Wage Rates – “Material prices, wage rates, and supplements combined (excluding fuel)” published by the Association of American Railroads to measure inflation. Mathur Statement, ¶ 109.

Figure 6. Cumulative Inflation from 2019-2022 to 2023¹⁵¹

<u>Year</u>	<u>Inflation Adjustment to Convert to 2023 Dollars</u>
2019	29.4%
2020	26.3%
2021	23.8%
2022	14.9%

85. The BZ Statement’s failure to account for inflation leads to a lower interest rental payment that is inequitable and amounts to a windfall for BNSF. To illustrate the magnitude of this single error, removing the inflation adjustment from my calculations from my initial statement decreases the annual interest rental payment I calculate from \$76.3 million to {{ }}, an impact of {{ }} per year (*i.e.*, an impact of {{ }} percent) on the interest rental payment BNSF would pay UP.¹⁵²

F. The BZ Statement’s interest rental payment is estimated using data using data that does not best capture the current economic conditions on the Mojave-Kern Line

86. The BZ Statement calculates its interest rental payment using line earnings estimates from 2019 through 2022.¹⁵³ In my initial statement, I calculated the proposed interest rental payment using data from 2021 and 2022, the two most recent years for which movement data were available from UP and BNSF.¹⁵⁴ Further, as I explain in my initial statement, I understand that in NECR-PAS, the Board accepted a CE method estimate that relied on a single year of

¹⁵¹ “Figure 6.xlsx,” Mathur Reply Workpaper 13; “AAR Railroad Cost Indexes,” Association of American Railroads, March 2024, p. 8.

¹⁵² **Exhibit 1H.**

¹⁵³ BZ Statement, p. 14, footnote 18 (“2019-2022 is a reasonable period to use for measuring earnings attributable to the Line because it includes enough years to control for fluctuations in traffic patterns while not relying on data that is too far outdated for purposes of determining the current value of the Line.”).

¹⁵⁴ Mathur Statement, ¶ 64.

data.¹⁵⁵ I performed my calculations based on an average of the two most recent years of data in order to smooth any potential year-specific idiosyncratic factors that may impact the calculations.¹⁵⁶ Relying on data from 2021 and 2022 also avoids any idiosyncrasies caused by the COVID-19 pandemic in 2020 that are not representative of the valuation of the line going forward.¹⁵⁷ By contrast, the data the BZ Statement relies on includes less recent data from 2019 and 2020 that does not best capture the current economic conditions on the Mojave-Kern Line.

87. I do not quantify the magnitude of the impact of the BZ Statement's use of less recent 2019 and 2020 data on the interest rental payment I calculate, because doing so would require inputs that are not calculated in my initial statement (*i.e.*, line earnings, market-based multipliers, cost of capital, and usage factors for 2019 and 2020). Nonetheless, the BZ Statement's reliance on less recent data is another factor that drives the difference between my calculated interest rental payment of \$76.3 million per year and the BZ Statement's erroneously calculated proposed interest rental payment of {{ }} per year.

VI. THE BZ STATEMENT'S RCNLD CALCULATION INCORPORATES AN ARBITRARY ECONOMIC OBSOLESCENCE ADJUSTMENT

88. In addition to calculating the Mojave-Kern Line's interest rental base based on its erroneous implementation of the CE method (as discussed in **Section V**), the BZ Statement also calculates the interest rental base using the RCNLD method. However, it does so by applying an arbitrary downward adjustment to replacement cost estimates provided by AECOM Technical

¹⁵⁵ NECR-PAS Decision, p. 15.

¹⁵⁶ Mathur Statement, ¶ 64.

¹⁵⁷ Mathur Statement, ¶ 64.

Services and Cushman & Wakefield.¹⁵⁸ **Figure 7** shows that the BZ Statement’s RCNLD calculation *before* applying its arbitrary “economic obsolescence adjustment” produces an estimate of the interest rental base that is very similar in magnitude to both my estimate based on the CE method and Mr. Crouch’s estimate based on the RCNLD method.¹⁵⁹ In fact, the BZ Statement’s estimate (based on its erroneous implementation of the CE method) is the significant outlier relative to the other three estimates of interest rental base.

Figure 7. Comparison of Interest Rental Base Estimates¹⁶⁰

<u>Approach</u>	<u>Interest Rental Base (\$Millions)</u>
Mathur CE Method	{{
Crouch RCNLD Method	
BZ RCNLD Method (Before Economic Obsolescence)	
BZ CE Method	}}

89. The BZ Statement’s “economic obsolescence adjustment” lacks economic rationale and support. It is simply a mathematical ratio that narrows the substantial gap between the BZ Statement’s unadjusted RCNLD calculation and its (erroneous) CE calculation. The BZ Statement claims an “economic obsolescence adjustment” is necessary “because the level of earnings attributed to the Line from both carriers in [its] capitalized earnings estimate are not enough to justify the cost of replacing the Line.”¹⁶¹ In **Section VI.A**, I explain why the BZ Statement’s “economic obsolescence adjustment” is unsupported and inconsistent with the value

¹⁵⁸ BZ Statement, pp. 22-25.

¹⁵⁹ BZ Statement, p. 27.

¹⁶⁰ BZ Statement, Table 8, Table 12; Mathur Statement, Figure 13; Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Harvey A. Crouch, PE, Finance Docket No. 22218, May 3, 2024 (“Crouch Statement”), Table 3.

¹⁶¹ BZ Statement, pp. 26-27.

of the Mojave-Kern Line. In **Section VI.B**, I explain why the BZ Statement’s attempt to justify the application of its “economic obsolescence adjustment” by referencing the recent acquisition of the Cincinnati Southern Railway (“CSR”) Line by Norfolk Southern (“NS”) is unsupported.

A. The BZ Statement’s economic obsolescence adjustment is unsupported and inconsistent with the value of the Mojave-Kern Line

90. The BZ Statement’s “economic obsolescence adjustment” is simply a mathematical ratio that narrows the large gap between the BZ Statement’s estimate of the interest rental base using the RCNLD method ($\{\{ \quad \}\}$) and its estimate based on its (erroneous) CE calculation ($\{\{ \quad \}\}$). The BZ Statement calculates the “economic obsolescence adjustment” as one minus the ratio of: (i) its calculation of the interest rental base using the CE method, excluding its “circularity adjustment” (*i.e.*, erroneous exclusion of 50% of BNSF’s non-double-stack line earnings I discussed in **Section V.B** above) ($\{\{ \quad \}\}$)¹⁶² to (ii) its calculation of the interest rental base using the RCNLD method ($\{\{ \quad \}\}$).¹⁶³ The BZ Statement then calculates a “RCNLD Less Economic Obsolescence Depreciation” value by multiplying the “economic obsolescence adjustment” ratio (*i.e.*, $\{\{ \quad \}\}$ percent) by its original calculation of the interest rental base under the RCNLD method (*i.e.*, $\{\{ \quad \}\}$).¹⁶⁴ In simple terms, the BZ Statement calculates its RCNLD less economic obsolescence as:

¹⁶² As discussed above in **Section V.B**, the BZ Statement’s interest rental base estimate of $\{\{ \quad \}\}$ —based on its erroneous CE calculation—arbitrarily excludes 50 percent of BNSF’s non-double-stack line earnings to address a purported “circularity issue.” However, its economic obsolescence adjustment calculation is based on an interest rental base of $\{\{ \quad \}\}$, which does not apply this 50 percent reduction. The BZ Statement provides no explanation for this discrepancy. BZ Statement, p. 19, Table 8, Table 12.

¹⁶³ BZ Statement, Table 12 (“Obsolescence Depreciation Adjustment”).

¹⁶⁴ BZ Statement, Table 12.

$$RCNLD \text{ Less Economic Obsolescence} = \frac{CE \text{ IR Base}^{165}}{RCNLD \text{ IR Base}} \times RCNLD \text{ IR Base}$$

91. By construction, this ratio ensures that the “RCNLD Less Economic Obsolescence Depreciation” value will always be identical to the value of the CE interest rental base (excluding the “circularity adjustment”). As such, the BZ Statement’s “RCNLD Less Economic Obsolescence Depreciation” calculation is not an independent alternative method of valuing the Mojave-Kern Line; it is a mathematical construction that attempts to mask the substantial difference between the interest rental base calculated using the RCNLD method and the interest rental base from the BZ Statement’s erroneous CE calculation.

92. The BZ Statement’s CE-based interest rental calculation is inappropriately low—and as such, is significantly lower than its RCNLD-based calculation—because of its significant departures from the CE method, such as its unjustified exclusion of all earnings from double-stack traffic and other errors discussed in **Section V**, that have no plausible connection to economic obsolescence. In fact, the BZ Statement neither claims that its CE calculation incorporates the concept of “economic obsolescence” nor provides a valid justification for applying an “economic obsolescence adjustment” to its RCNLD calculation—it offers no evidence that the Mojave-Kern Line is economically obsolete or would not be replaced in its current configuration.

93. In fact, the BZ Statement’s claim that the line is economically obsolete is inconsistent with statements made by Ms. Power that the Mojave-Kern Line “is a critical link and forms the spine of BNSF’s north-south route through the state of California” and that it “is not some

¹⁶⁵ As noted above, the CE Interest Rental (“IR”) Base used in the BZ Statement’s economic obsolescence adjustment excludes the BZ Statement’s purported “circularity adjustment.”

relatively inconsequential branch line that allows BNSF to access a few shippers.”¹⁶⁶ Moreover, as Mr. Hughes notes, BNSF recently announced plans to invest more than \$1.5 billion in a new intermodal facility that would be used in connection with traffic moving over the Mojave-Kern Line.¹⁶⁷ Such investment is inconsistent with claims that the line is economically obsolete.

94. The BZ Statement’s own CE calculation does not support its economic obsolescence claim. The BZ Statement points to its CE calculation of {{ }} and its RCNLD calculation of {{ }} and asserts that “no rational market participant would pay more than three times as much for an asset as the earnings that the asset is expected to generate.”¹⁶⁸ However, as discussed above, the BZ Statement’s CE calculation substantially understates the earnings attributable to the Mojave-Kern Line. Moreover, as I explain in my initial statement, the Mojave-Kern Line’s capitalized earnings calculated using the CE method do not represent the full amount of “earnings the asset is expected to generate” because they only reflect the portion of BNSF’s earnings that are attributable to the line under the ATC method. BNSF’s total annual earnings on traffic that traverses the Mojave-Kern Line were over {{ }} in both 2021 and 2022.¹⁶⁹ UP’s annual earnings on traffic that traverses the Mojave-Kern Line were over {{ }} in both 2021 and 2022.¹⁷⁰ Thus, if the Mojave-Kern Line had to be replaced, UP and BNSF would have to decide whether it was worthwhile to spend {{ }}—according to the BZ Statement’s unadjusted RCNLD estimate—to preserve a

¹⁶⁶ Power Statement, pp. 2, 4.

¹⁶⁷ Hughes Reply Statement, p. 5.

¹⁶⁸ BZ Statement, p. 26.

¹⁶⁹ Mathur Statement, ¶ 112.

¹⁷⁰ “UP Earnings on MK Movement,” Mathur Reply Workpaper 16.

stream of earnings worth over {{ }} annually.¹⁷¹ In that context, all else equal, a decision to spend {{ }} to replace the line would be rational from an economic perspective.

95. Finally, prior ICC decisions that used the RCNLD method to estimate the interest rental base reject the BZ Statement’s rationale for applying an economic obsolescence adjustment. Specifically, in the A&M decisions, the ICC used the RCNLD method to calculate the interest rental base even though it yielded a valuation that exceeded the value at which the whole A&M system was acquired.^{172, 173} That is, contrary to the BZ Statement’s rationale for applying an economic obsolescence adjustment, the ICC found that it would not be appropriate to reduce an RCNLD valuation due to differences between an RCNLD-based valuation and valuations performed using other methods.¹⁷⁴

¹⁷¹ {{ }} = {{ }} + {{ }}.

¹⁷² A&M I, p. 624; *Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company* 7 I.C.C.2d 164 (1990) (“A&M II”), p. 174; *Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company*, 8 I.C.C.2d 567 (1992) (“A&M III”), p. 568.

¹⁷³ A&M II, p. 168 (“MP attacks the replacement cost rationale by arguing that the entire A & M system was sold to A & M by its prior owner, BN, at a discount from RCNLD value because it was not sustaining itself. Regardless of whether the remainder of the A&M system was or is sustaining itself, however, A & M cannot reasonably be expected to keep this bridge operational, primarily for the benefit of MP, without receiving rental payments that recover the replacement cost of capital.”).

¹⁷⁴ I understand that economic obsolescence was included in an RCNLD valuation in the A&M III decision. In that decision, the ICC used an RCNLD approach that applied an “actuarial” depreciation method, which includes economic obsolescence. The ICC explained that the actuarial method “statistically determines the life expectancy” based on comparable assets. While that decision may have accounted for economic obsolescence, the ICC’s method for calculating economic obsolescence in that decision is unrelated to the method employed in the BZ Statement. The BZ Statement performs no statistical analysis to determine life expectancy as was done in A&M III; instead, it simply sets economic obsolescence to a value such that the RCNLD valuation equals the CE valuation. A&M III, pp. 571-572.

B. The BZ Statement's comparison of the Mojave-Kern Line and the CSR Line does not support its economic obsolescence claim

96. The BZ Statement also attempts to justify the application of an economic obsolescence adjustment by referencing NS's recent acquisition of the CSR Line. Specifically, the BZ Statement notes that the value per route mile of the CSR Line based on NS's acquisition (about \$4.7 million per route mile) was lower than the value per route mile of the Mojave-Kern Line calculated under the RCNLD method (about {{ }} per route mile).¹⁷⁵

97. The difference in value per route mile between the CSR Line and the Mojave-Kern Line does not justify the BZ Statement's application of an economic obsolescence adjustment. The BZ Statement does not assess or establish that the CSR Line is sufficiently similar to the Mojave-Kern Line to provide a meaningful comparison of the two lines' values, much less draw any conclusions about economic obsolescence. Although the BZ Statement points to general statements about the CSR Line's importance, terrain, and traffic density, the BZ Statement does not perform any comparison of the lines' economic value, based on, for example, the revenue they generate.¹⁷⁶

98. In fact, the revenue generated by the Mojave-Kern Line and the CSR Line is very different. The BZ Statement's estimate of the Mojave-Kern Line's 2019 revenue of {{ }} is much larger than an estimate of the CSR Line's 2019 revenue of \$0.58 million to \$0.66 million per route mile based on publicly available documents.¹⁷⁷ If, as

¹⁷⁵ BZ Statement, pp. 27-28.

¹⁷⁶ BZ Statement, p. 28.

¹⁷⁷ I calculate {{ }} per route mile by adding {{ }} in revenue that the BZ Statement allocates to the Mojave-Kern Line for 2019, and then dividing by 67.8 miles. BZ Statement, p. 7, Table 5. I understand that CSR's 2019 revenue was between \$197 million and \$223 million. "CSR Proposal Review: Confidential," Norfolk Southern, available at <https://cincinnati.southernrailway.org/documents/csr-sale/NS%20-%20Final%20CSR%20Briefing%20-%20April%2020%202022.pdf>, accessed on July 4, 2024, p.

these estimates suggest, the Mojave-Kern Line generates significantly more revenue per route mile relative to the CSR Line, it would not be surprising that it has a significantly higher value per route mile than the CSR Line.

99. Furthermore, the BZ Statement does not assess whether the CSR Line is as critical to NS's rail network as the Mojave-Kern Line is to BNSF's and UP's rail networks. As explained in my initial statement and as Ms. Power confirmed, the Mojave-Kern Line is an essential link for UP's and BNSF's rail networks.¹⁷⁸ Aside from referencing a statement from NS that the CSR Line is a "core" line,¹⁷⁹ the BZ Statement does not analyze whether the two lines are truly comparable with respect to the importance of these lines to their respective networks.

VII. THE BZ STATEMENT'S ANALYSIS OF OTHER TRACKAGE RIGHTS RATES IS IRRELEVANT AND INAPPROPRIATE

100. In an effort to bolster its erroneous CE calculations, the BZ Statement claims that its proposed interest rental payment "is aligned with market-based trackage rights compensation levels."¹⁸⁰ In financial valuation, certain valuation methods are "intrinsic" valuations, in which the value of the asset is determined based on fundamentals (*i.e.*, the underlying economic and financial characteristics of the at-issue asset), while other methods are based on "relative" valuations, in which an asset's value is assessed based on comparisons to comparable assets.¹⁸¹

5. I understand that the CSR line is 338 miles in length. BZ Statement, pp. 27-28. Therefore, I calculate the range between \$0.58 million and \$0.66 million in 2019 revenue per route mile for CSR line by dividing \$197 million and \$223 million, respectively, by 338 miles.

¹⁷⁸ Mathur Statement, ¶ 113; Power Statement, pp. 2, 4.

¹⁷⁹ BZ Statement, p. 28.

¹⁸⁰ BZ Statement, p. 31.

¹⁸¹ Damodaran (2012), pp. 12 ("In discounted cash flow valuation, we try to estimate the intrinsic value of an asset based on its fundamentals. What is intrinsic value? For lack of a better definition, consider it the value that would be attached to the firm by an unbiased analyst, who not only estimates the expected cash flows for the

“Relative” valuations, such as the BZ Statement’s consideration of “market-based trackage rights compensation levels,” first require establishing that the assets in the comparison set are appropriate benchmarks for the at-issue asset before those assets and their associated valuations can be used as a reference.¹⁸² Board precedent has established that a key criterion for determining whether one trackage rights rate is a valid benchmark for another is the framework under which the rate was set. Specifically, the ICC in SSW II explicitly rejected the use of trackage rights rates resulting from negotiations as a benchmark for trackage right compensation rates determined by the Board on the basis that the negotiated rates “have been freely entered into by two parties who are in agreement” and “derived from hard bargaining on both sides[,]” whereas rates determined by the Board, in contrast, involve “adversary parties who are entering into trackage rights agreements not because of a mutual agreement, but as the result of the Commission’s order.”¹⁸³ In other trackage rights matters, the Board has also recognized that even valuations of other lines established under the SSW Compensation framework are difficult to

firm correctly, given the information available at the time, but also attaches the right discount rate to value these cash flows.”), 19 (“In relative valuation, the value of an asset is derived from the pricing of comparable assets, standardized using a common variable such as earnings, cash flows, book value, or revenues. [...] Unlike discounted cash flow valuation, which is a search for intrinsic value, relative valuation relies much more on the market being right. In other words, we assume that the market is correct in the way it prices stocks on average, but that it makes errors on the pricing of individual stocks.”), 306 (“[A] discounted cash flow valuation should provide you with an estimate of intrinsic value, not relative value.”), 453 (“Finally, a relative valuation is much more likely to reflect the current mood of the market, since it is an attempt to measure relative and not intrinsic value.”), 778 (“On the first question, here is our definition of intrinsic value. It is the value that you would attach to an asset, based upon its fundamentals: cash flows, expected growth, and risk. The essence of intrinsic value is that you can estimate it in a vacuum for a specific asset, without any information on how the market is pricing other assets, though it does certainly help to have that information[.]”).

¹⁸² Damodaran (2012), p. 19 (“In relative valuation, the value of an asset is derived from the pricing of comparable assets, standardized using a common variable such as earnings, cash flows, book value, or revenues.”).

¹⁸³ SSW II, footnote 13.

apply to trackage right compensation rates determined by the Board because “the determination of what is comparable has proven to be difficult or impossible in the past.”¹⁸⁴

101. The BZ Statement’s analysis of “commercially viable trackage rights rates” relies on what it claims are “all-in GTM rates” from {{ }} trackage rights agreements between BNSF and UP,¹⁸⁵ along with {{ }} additional trackage rights agreements between UP and railroads other than BNSF.¹⁸⁶ The BZ Statement compares these “rates per GTM contained in the other trackage rights agreements” against its implied “rate per GTM” for the Mojave-Kern Line, and concludes that its “Kern-Mojave compensation proposal is aligned with a commercially viable range of trackage rights rates.”¹⁸⁷ However, the BZ Statement fails to establish that any of the referenced trackage rights rates were determined using the SSW Compensation framework, much less that the other lines are sufficiently comparable to the Mojave-Kern Line such that even SSW Compensation-based rates would provide a suitable benchmark.

102. Of all the trackage rights agreements referenced in the BZ Statement’s list of “commercially viable trackage rights rates,” there is only one that the BZ Statement explicitly references—and extensively discusses—as “comparable” to the Mojave-Kern Line: the Riverside-Daggett line.¹⁸⁸ However, according to Mr. Hughes’s statement, the Riverside-Daggett

¹⁸⁴ Toledo, Peoria & Western Railway Corporation - Trackage Rights Compensation - Peoria and Pekin Union Railway Company, Finance Docket No. 26476 (Sub-No. 1), September 8, 1994 (“TPW Compensation”), p. 12. *See also* ATSF I, p. 305 (“[CLS’s] major drawback is the determination of comparability.”).

¹⁸⁵ BZ Statement, pp. 31-33.

¹⁸⁶ The BZ Statement claims it lacked the necessary data to calculate all-in GTM rates for {{ }} trackage rights agreements it identifies between UP and railroads other than BNSF, so it only uses {{ }} agreements in its analysis of the all-in GTM rates. BZ Statement, pp. 33-35.

¹⁸⁷ BZ Statement, pp. 37-38.

¹⁸⁸ *See* BZ Statement, pp. 35-37. The BZ Statement discusses the CSR Line in the context of “economic obsolescence adjustment” but does not claim that the “rate per GTM” is comparable between the CSR Line and the Mojave-Kern Line. I analyze the CSR Line and conclude that it is not comparable to the Mojave-Kern Line because the revenue per route mile of the Mojave-Kern Line is much higher than that of the CSR Line. *See* **Section VI.B** for additional discussion.

rate was not established using the SSW Compensation framework, so the comparison is inappropriate.¹⁸⁹ Mr. Hughes also noted in his statement that the Riverside-Daggett rate reflects additional considerations beyond trackage rights value. Specifically, “Union Pacific gave BNSF significant non-monetary value in exchange for the rate,” by “g[iving] up its right under the parties’ original agreement to equal access to BNSF’s yard facilities in Barstow.”¹⁹⁰ I further understand that according to Mr. Hughes, “shortly after the railroads concluded their negotiations, BNSF announced ‘plans to invest more than \$1.5 billion to construct a state-of-the-art master-planned rail facility’ in Barstow,” demonstrating that “BNSF apparently assigned substantial value to recapturing [the yard facilities] rights.”¹⁹¹ As such, the agreed upon rate in the Riverside-Daggett agreement reflects other considerations and broader business negotiations outside of the SSW Compensation framework, and therefore, is not a relevant or appropriate benchmark for Mojave-Kern Line.¹⁹²

103. The BZ Statement also does not establish that the remaining agreements are relevant or appropriate benchmarks, nor does it offer any evidence that any of the rates were based on the SSW Compensation framework. Of the {{ }} trackage rights agreements included in the BZ Statement analysis, I understand that {{ }} were negotiated as part of the merger between UP and SP and were not established under the SSW Compensation framework but were instead

¹⁸⁹ Hughes Reply Statement, p. 4. (“BNSF’s Riverside-Daggett rate reflects an agreement between BNSF and Union Pacific, not an application of SSW Compensation.”).

¹⁹⁰ Hughes Reply Statement, p. 5.

¹⁹¹ Hughes Reply Statement, p. 5.

¹⁹² Mr. Hughes also discusses differences between the Riverside-Daggett line and the Mojave-Kern Line that suggest the Riverside-Daggett line would be a poor choice of a benchmark, even if the trackage rights rates for that line had been determined using the SSW Compensation framework. *See* Hughes Reply Statement, p. 6 (“Further, BNSF’s analysis based on its Riverside-Daggett rate implies that the Riverside-Daggett line is valued at only {{ }}—even less than its grossly-undervalued, manipulated calculation of the Tehachapis Line’s value, despite being having 50% more main line miles, {{ }} more track miles, and {{ }} times the traffic of the Tehachapis Line.”).

influenced by broader merger approval considerations.¹⁹³ As Mr. Hughes explains, for these {{ }} agreements, “[i]n consideration of the value of BNSF’s settlement, as well as other value BNSF provided as part of the settlement, Union Pacific agreed to one set of all-in rates substantially below SSW Compensation-based rates.”¹⁹⁴ I also understand that most of the remaining {{ }} agreements unrelated to the UP/SP merger similarly “involve exchanges of other value, generally through bundling and reciprocity”—particularly during the merger between Burlington Northern and ATSF¹⁹⁵—or reciprocal exchanges of rights, in which multiple trackage rights were negotiated simultaneously.¹⁹⁶ Furthermore, the BZ Statement offered no evidence that any of the rates in these other agreements were based on the SSW Compensation framework or that the lines in those agreements are sufficiently comparable to the Mojave-Kern Line.¹⁹⁷

104. In sum, the BZ Statement’s analysis of non-SSW Compensation-based trackage rights rates from negotiated agreements involving lines that it has not demonstrated are comparable to the Mojave-Kern Line is irrelevant and inappropriate in determining appropriate trackage rights rates for the Mojave-Kern Line. In fact, the BZ Statement’s analysis ignores the fundamental purpose of the SSW Compensation framework. The framework is explicitly designed to apply when parties are unable to reach a negotiated agreement to establish fair, economically justified

¹⁹³ Hughes Reply Statement, pp. 2-3 (“Of those {{ }} rates, {{ }} are from BNSF’s negotiated settlement with Union Pacific in the UP/SP merger. [...] [T]he BNSF settlement rates are not based on SSW Compensation methodology. [...] Union Pacific agreed to one set of all-in rates substantially below SSW Compensation-based rates.”).

¹⁹⁴ Hughes Reply Statement, pp. 2-3.

¹⁹⁵ Hughes Reply Statement, p. 3 (“Specifically, BNSF’s analysis includes rates from SP’s settlement agreement with Burlington Northern and Atchison, Topeka & Santa Fe in the BN/ATSF merger.”).

¹⁹⁶ Hughes Reply Statement, p. 3.

¹⁹⁷ *See also* Hughes Reply Statement, pp. 3-4 (“The other negotiated all-in rates in BNSF’s analysis are irrelevant for the same or similar reasons: they involve exchanges of other value, generally through bundling and reciprocity. [...] BNSF offers no evidence any of these rates is based on SSW Compensation.”).

compensation that prevents either party from subsidizing the other while maintaining competitive balance. The Board should reject BNSF's reliance on negotiated agreements as a benchmark and instead use the SSW Compensation framework to determine a proper interest rental payment for the Mojave-Kern Line.

VERIFICATION

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

Executed on March 14, 2025.

A handwritten signature in dark ink, appearing to read "D Mathur". The signature is written in a cursive, flowing style.

Divya Mathur, Ph.D.
March 14, 2025

Exhibit 1A
Comparison of Mathur Statement and BZ Statement Proposed Interest Rental Payments

	Mathur Statement Proposed Interest Rental Payment		BZ Statement Proposed Interest Rental Payment			
	2021	2022	2019	2020	2021	2022

Calculation of Line Earnings (\$M)

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Exhibit 1A
Comparison of Mathur Statement and BZ Statement Proposed Interest Rental Payments

Notes and Sources:

- [A] The “Mathur Statement Proposed Interest Rental Payment” calculation reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). The “BZ Statement Proposed Interest Rental Payment” calculation reflects the UP line earnings calculated by the BZ Statement prior to its exclusion of double-stack traffic as shown in Table 6 of the BZ Statement (“Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells I57-I60). *See* Section V.C of my reply verified statement.
- [B] The “Mathur Statement Proposed Interest Rental Payment” calculation reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). The “BZ Statement Proposed Interest Rental Payment” calculation reflects the BNSF line earnings calculated by the BZ Statement prior to its exclusion of double-stack traffic and 50% of BNSF line earnings as shown in Table 6 of the BZ Statement (BZ Statement, Table 6; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells F57-F60). The BZ Statement inconsistently treats fixed costs when allocating revenue and deducting operating expenses, leading to a significant overstatement of the fixed portion of BNSF operating expenses and understatement of BNSF line earnings. *See* Section V.C of my reply verified statement.
- [C] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I include all double-stack intermodal traffic attributable to UP on the line, resulting in no change to UP line earnings from [A]. The “BZ Statement Proposed Interest Rental Payment” calculation excludes all double-stack intermodal traffic attributable to UP on the line (BZ Statement, Table 7; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells I68-I71). *See* Section V.A of my reply verified statement.
- [D] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I include all double-stack intermodal traffic attributable to BNSF on the line, resulting in no change to BNSF line earnings from [B]. The “BZ Statement Proposed Interest Rental Payment” calculation excludes all double-stack intermodal traffic attributable to BNSF on the line (“BNSF_ATC_Kern_Mojave_Workbook.xlsx,” BZ Statement Workpaper, tab “Summary,” cells O17-O24). *See* Section V.A of my reply verified statement.
- [E] = [C]. The BZ Statement does not exclude any additional UP line earnings after excluding earnings from double-stack traffic.
- [F] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I include all of BNSF’s line earnings (including double-stack traffic as explained in note [D]), resulting in no change to BNSF line earnings from [D] or [B]. The “BZ Statement Proposed Interest Rental Payment” calculation arbitrarily excludes 50% of BNSF’s line earnings (BZ Statement, Table 7; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells F68-F71). *See* Section V.B of my reply verified statement.
- [G] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I use the EV/EBIT multipliers from Exhibit 15 of my initial statement for 2021 and 2022. The “BZ Statement Proposed Interest Rental Payment” calculation uses an inverse cost of capital multiplier (BZ Statement, Table 8; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells D80-I83). *See* Section V.D of my reply verified statement.
- [H] = ([E] + [F]) × [G].

Exhibit 1A
Comparison of Mathur Statement and BZ Statement Proposed Interest Rental Payments

Notes and Sources (Continued):

[I] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I apply the inflation adjustment from Exhibit 20 of my initial statement. The “BZ Statement Proposed Interest Rental Payment” calculation does not adjust the nominal annual interest rental base in [H] to account for inflation when calculating the 2023 interest rental base. *See* Section V.E of my reply verified statement.

$[J] = [H] \times (1 + [I])$.

[K] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I use the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. The “BZ Statement Proposed Interest Rental Payment” calculation uses a 30-year Treasury Bond rate (BZ Statement, Table 13; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cell C94). *See* Section IV.A of my reply verified statement.

[L] In the “Mathur Statement Proposed Interest Rental Payment” calculation, I use the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. The “BZ Statement Proposed Interest Rental Payment” calculation uses a one-half share (BZ Statement, Table 13; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cell C95). *See* Section IV.B of my reply verified statement.

$[M] = [J] \times [K] \times [L]$.

[N] = simple average of [M]. The “BZ Statement Proposed Interest Rental Payment” calculation uses four years of data from 2019-2022, whereas in the “Mathur Statement Proposed Interest Rental Payment,” I use two years of data (2021-2022). *See* Section V.F of my reply verified statement.

[O] = [N] for “BZ Statement Proposed Interest Rental Payment,” less [N] for “Mathur Statement Proposed Interest Rental Payment.”

[P] = [N] for “BZ Statement Proposed Interest Rental Payment,” divided by [N] for “Mathur Statement Proposed Interest Rental Payment,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 1B
Impact of BZ Statement Rate of Return Error
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] Reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [A], [C], and [E] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [B] Reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [B], [D], and [F] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = ([A] + [B]) × [C].
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = [D] × (1 + [E]).
- [G] In the “Mathur Statement” calculation, I use the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. The “Mathur Statement with BZ Statement Rate of Return” calculation uses the 30-year Treasury Bond rate used by the BZ Statement (BZ Statement, Table 13; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cell C94). *See* Section IV.A of my reply verified statement.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = [F] × [G] × [H].
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement Rate of Return,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement Rate of Return,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

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Exhibit 1C
Impact of BZ Statement BNSF Usage Factor Error
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] Reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [A], [C], and [E] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [B] Reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [B], [D], and [F] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = $([A] + [B]) \times [C]$.
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = $[D] \times (1 + [E])$.
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor in the “Mathur Statement” reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. The “Mathur Statement with BZ Statement BNSF Usage Factor” calculation reflects that the BZ Statement uses a one-half share (BZ Statement Table 13; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cell C95). *See* Section IV.B of my reply verified statement.
- [I] = $[F] \times [G] \times [H]$.
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement BNSF Usage Factor,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement BNSF Usage Factor,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 1D
Impact of BZ Statement Double-Stack Earnings Exclusion Error
Relative to Mathur Statement Proposed Interest Rental Payment

	<u>Mathur Statement</u>		<u>Mathur Statement with BZ Statement Double-Stack Earnings Exclusion</u>	
	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>

Line Earnings (\$M)

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Exhibit 1D
Impact of BZ Statement Double-Stack Earnings Exclusion Error
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] The “Mathur Statement” calculation reflects the UP line earnings I calculated in my initial statement, in which I include all line earnings attributable to UP’s double-stack traffic (*see* Exhibit 17 of my initial statement). In the “Mathur Statement with BZ Statement Double-Stack Earnings Exclusion” calculation, I calculate the percentage of total UP line earnings attributable to double-stack traffic based on the BZ Statement’s calculations each year (BZ Statement, Table 7; “UP_ATC_Kern_Mojave_Workbook.xlsx,” BZ Statement Workpaper, tab “Summary,” cells M4-M30), and reduce my UP line earnings by that percentage. *See* Section V.A of my reply verified statement.
- [B] The “Mathur Statement” calculation reflects the BNSF line earnings I calculated in my initial statement, in which I include all line earnings attributable to BNSF’s double-stack traffic (*see* Exhibit 17 of my initial statement). In the “Mathur Statement with BZ Statement Double-Stack Earnings Exclusion” calculation, I calculate the percentage of total BNSF line earnings attributable to double-stack traffic based on the BZ Statement’s calculations each year (BZ Statement, Table 7; “BNSF_ATC_Kern_Mojave_Workbook.xlsx,” BZ Statement Workpaper, tab “Summary,” cells O5-O24), and reduce my BNSF line earnings by that percentage. *See* Section V.A of my reply verified statement.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = ([A] + [B]) × [C].
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = [D] × (1 + [E]).
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = [F] × [G] × [H].
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement Double-Stack Earnings Exclusion,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement Double-Stack Earnings Exclusion,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

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Exhibit 1E
Impact of BZ Statement BNSF Line Earnings 50% Exclusion Error
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] Reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [A], [C], and [E] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [B] The “Mathur Statement” calculation reflects the BNSF line earnings I calculated in my initial statement, in which I include all of BNSF’s line earnings (*see* Exhibit 17 of my initial statement). The “Mathur Statement with BZ Statement 50% Line Earnings Exclusion” calculation reflects my initial statement’s calculated BNSF line earnings, but with 50% of the line earnings excluded to reflect the BZ Statement’s arbitrary exclusion of half of BNSF line earnings. *See* Section V.B of my reply verified statement.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = ([A] + [B]) × [C].
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = [D] × (1 + [E]).
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = [F] × [G] × [H].
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement 50% Line Earnings Exclusion,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement 50% Line Earnings Exclusion,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 1F
Impact of BZ Statement's Erroneous Pre-Exclusions Line Earnings
Relative to Mathur Statement Proposed Interest Rental Payment

	<u>Mathur Statement</u>		<u>Mathur Statement with BZ Statement's Pre-Exclusions Line Earnings</u>	
	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>
Line Earnings (\$M)				

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Exhibit 1F
Impact of BZ Statement's Erroneous Pre-Exclusions Line Earnings
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] The “Mathur Statement” calculation reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). The “Mathur Statement with BZ Statement’s Pre-Exclusions Line Earnings” calculation reflects the UP line earnings calculated by the BZ Statement prior to its exclusion of double-stack traffic as shown in Table 6 of the BZ Statement (“Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells I57-I60). *See* Section V.C of my reply verified statement.
- [B] The “Mathur Statement” calculation reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). The “Mathur Statement with BZ Statement’s Pre-Exclusions Line Earnings” calculation reflects the BNSF line earnings calculated by the BZ Statement prior to its exclusion of double-stack traffic and 50% of BNSF line earnings as shown in Table 6 of the BZ Statement (BZ Statement, Table 6; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells F57-F60). The BZ Statement inconsistently treats fixed costs when allocating revenue and deducting operating expenses, leading to a significant overstatement of the fixed portion of BNSF operating expenses and understatement of BNSF line earnings. *See* Section V.C of my reply verified statement.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = ([A] + [B]) × [C].
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = [D] × (1 + [E]).
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = [F] × [G] × [H].
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement’s Pre-Exclusions Line Earnings,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement’s Pre-Exclusions Line Earnings,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 1G
Impact of BZ Statement Multiplier Error
Relative to Mathur Statement Proposed Interest Rental Payment

	<u>Mathur Statement</u>		<u>Mathur Statement with BZ Statement Multiplier</u>	
	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>
Line Earnings (\$M)				

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Exhibit 1G
Impact of BZ Statement Multiplier Error
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] Reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [A], [C], and [E] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [B] Reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [B], [D], and [F] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [C] In the “Mathur Statement” calculation, I use the EV/EBIT multipliers from Exhibit 15 of my initial statement for 2021 and 2022. The “Mathur Statement with BZ Statement Multiplier” calculation reflects that the BZ Statement uses an inverse cost of capital multiplier (BZ Statement, Table 8; “Capitalized Earnings Summary Workpaper.xlsx,” BZ Statement Workpaper, cells D80-I83). *See* Section V.D of my reply verified statement.
- [D] = $([A] + [B]) \times [C]$.
- [E] The inflation adjustment factors reflect the same inflation adjustment from Exhibit 20 of my initial statement. *See* row [I] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [F] = $[D] \times (1 + [E])$.
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = $[F] \times [G] \times [H]$.
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement with BZ Statement Multiplier,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement with BZ Statement Multiplier,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 1H
Impact of BZ Statement's Erroneous Lack of Inflation Adjustment
Relative to Mathur Statement Proposed Interest Rental Payment

	<u>Mathur Statement</u>		<u>Mathur Statement without Inflation Adjustment</u>	
	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>
Line Earnings (\$M)				

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Exhibit 1H
Impact of BZ Statement's Erroneous Lack of Inflation Adjustment
Relative to Mathur Statement Proposed Interest Rental Payment

Notes and Sources:

- [A] Reflects the UP line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [A], [C], and [E] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [B] Reflects the BNSF line earnings I calculated in my initial statement (*see* Exhibit 17 of my initial statement). *See* rows [B], [D], and [F] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [C] The multipliers for 2021 and 2022 reflect the EV/EBIT multipliers from Exhibit 15 of my initial statement. *See* row [G] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [D] = ([A] + [B]) × [C].
- [E] In the “Mathur Statement” calculation, I apply the inflation adjustment from Exhibit 20 of my initial statement. The “Mathur Statement without Inflation Adjustment” calculation does not adjust the nominal annual interest rental base in [H] to account for inflation when calculating the 2023 interest rental base to reflect the BZ Statement’s lack of adjustment for inflation in its interest rental payment calculation. *See* Section V.E of my reply verified statement.
- [F] = [D] × (1 + [E]).
- [G] The rate of return reflects the 2021 and 2022 pre-tax cost of capital from Exhibit 18 of my initial statement. *See* row [K] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [H] The BNSF usage factor reflects the 2021 and 2022 usage factors from Exhibit 19 of my initial statement, which are based on UP’s and BNSF’s actual car miles on the Mojave-Kern Line in 2021 and 2022. *See* row [L] of Exhibit 1A, in the “Mathur Statement Proposed Interest Rental Payment” panel.
- [I] = [F] × [G] × [H].
- [J] = simple average of [I].
- [K] = [J] for “Mathur Statement without Inflation Adjustment,” less [J] for “Mathur Statement.”
- [L] = [J] for “Mathur Statement without Inflation Adjustment,” divided by [J] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 1.xlsx,” Mathur Reply Workpaper 8.

Exhibit 2A
Calculation of Interest Rental Base Attributable to BNSF Investment in Tunnel Upgrade

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Exhibit 2A
Calculation of Interest Rental Base Attributable to BNSF Investment in Tunnel Upgrade

Notes and Sources:

- [A] See “SP Tunnel Work.pdf,” Mathur Reply Workpaper 14. The total material and supplies costs were scaled up by 10% relative to the amount shown in “SP Tunnel Work.pdf” to account for the 10% contingency costs included in the \$6.37 million total tunnel upgrade cost.
- [B] See “SP Tunnel Work.pdf,” Mathur Reply Workpaper 14. The total labor and equipment costs were scaled up by 10% relative to the amount shown in “SP Tunnel Work.pdf” to account for the 10% contingency costs included in the \$6.37 million total tunnel upgrade cost.}}
- [C] = [A] + [B].
- [D] I understand that BNSF agreed to waive UP’s requirement under the 1993 JSA to pay for one-half of the total costs of the tunnel clearance improvements. Therefore, I understand that UP effectively paid for one half of the tunnel investment cost.
- [E] Reflects the amount that \$1 spent as of year-end 1993 on materials and supplies in the railroad industry would cost as of year-end 2021, 2022, and 2023 assuming an inflation rate equal to the AAR’s Materials and Supplies Index between 1993 - 2021, 1993 - 2022, and 1993 - 2023, respectively. See “Exhibit 2.xlsx,” Mathur Reply Workpaper 9, tab “Inflation Adjustment.”
- [F] Reflects the amount that \$1 spent as of year-end 1993 on labor and equipment in the railroad industry would cost as of year-end 2021, 2022, and 2023 assuming an inflation rate equal to the AAR’s Wage Rates and Supplements Index between 1993 - 2021, 1993 - 2022, and 1993 - 2023, respectively. See “Exhibit 2.xlsx,” Mathur Reply Workpaper 9, tab “Inflation Adjustment.”
- [G] = [A] x [E] x (1 - [D]).
- [H] = [B] x [F] x (1 - [D]).
- [I] = [G] + [H].

Underlying Workpaper: “Exhibit 2.xlsx,” Mathur Reply Workpaper 9.

Exhibit 2B
Mathur Statement Interest Rental Payment with Adjustment for Tunnel Upgrade

	Mathur Statement		Mathur Statement with Adjustment for Tunnel Upgrade	
	2021	2022	2021	2022

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Exhibit 2B
Mathur Statement Interest Rental Payment with Adjustment for Tunnel Upgrade

Notes and Sources:

- [A] From Exhibit 20 of my initial statement.
- [B] In the “Mathur Statement with Adjustment for Tunnel Upgrade” calculation, I use the interest rental base attributable to BNSF’s 1993 investment in the tunnel upgrade based on my estimate of what the upgrade would cost in 2021-2022, as calculated in Exhibit 2A. *See* Section V.A of my reply verified statement.
- [C] = [A] - [B].
- [D] From Exhibit 20 of my initial statement.
- [E] From Exhibit 20 of my initial statement.
- [F] = [C] × [D] × [E].
- [G] From Exhibit 20 of my initial statement.
- [H] = [F] / [G].
- [I] From Exhibit 20 of my initial statement.
- [J] = [H] × (1 + I).
- [K] = average of [J].
- [L] = [K] for “Mathur Statement with Adjustment for Tunnel Upgrade,” less [K] for “Mathur Statement.”
- [M] = [K] for “Mathur Statement with Adjustment for Tunnel Upgrade,” divided by [K] for “Mathur Statement,” minus one.

Underlying Workpaper: “Exhibit 2.xlsx,” Mathur Reply Workpaper 9.

APPENDIX A CURRICULUM VITAE

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Managing Principal, Analysis Group, Inc.

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Dr. Mathur specializes in the application of microeconomics, statistics, and econometrics to complex litigation matters, regulatory investigations, and consulting engagements in the areas of antitrust and competition, class certification, intellectual property, and commercial damages. She has provided expert economic testimony on antitrust, class certification, and damages issues at depositions and trial. She regularly collaborates with academic and industry experts, leads consulting teams, and supports attorneys and other stakeholders in all phases of litigation. She has worked on behalf of the US Department of Justice (DOJ) and the Federal Trade Commission (FTC), and consulted to firms in numerous industries, including technology, media, telecommunications, pharmaceuticals, consumer products, financial services, manufacturing, and chemicals.

PROFESSIONAL EXPERIENCE

2008–Present, Analysis Group, Inc.

EDUCATION

Ph.D. Economics, The University of Chicago

Areas of Specialization: Industrial Organization, Labor Economics

M.A. Economics, The University of Chicago

A.B. Economics and Mathematics, *summa cum laude*, Mount Holyoke College

EXPERT WITNESS ENGAGEMENTS

- ***G.I. Industries dba Waste Management v. Arakelian Enterprises dba Athens Services***
Superior Court of the State of California, County of Ventura
Testified at deposition on antitrust issues pertaining to allegations of below-cost pricing on behalf of Athens (2025)
- ***In Re: LIBOR-Based Financial Instruments Antitrust Litigation***
United States District Court, Southern District of New York
Testified at deposition on antitrust merits issues in an alleged price-fixing conspiracy on behalf of Credit Suisse (2024)
- ***Regeneron Pharmaceuticals, Inc. v. Amgen Inc.***
United States District Court, District of Delaware
Testified at deposition on antitrust damages pertaining to allegations of exclusionary conduct in pharmaceutical drugs pricing on behalf of Regeneron (2024)

- ***Atchison, Topeka & Santa Fe Railway Company – Operating Rights – Southern Pacific Transportation Co.***
Surface Transportation Board
Submitted expert statement on compensation for trackage rights on behalf of Union Pacific Railroad Company (2024)
- ***Carlisle Construction Materials, LLC et al. v. Graco Inc. et al.***
United States District Court, District of Delaware
Testified at deposition and trial on antitrust issues and damages in the spray foam insulation industry on behalf of Carlisle (2024)
- ***Misty Snow, et al. v. Align Technology***
United States District Court, Northern District of California
Testified at deposition on class certification and damages pertaining to antitrust claims on behalf of Align (2024)
- ***In re: EpiPen Direct Purchaser Litigation***
United States District Court, District of Minnesota
Testified at deposition on class certification on behalf of CVS Caremark, Express Scripts, and OptumRx pertaining to rebating practices (2023)
- ***Erica Frasco, et al. v. Flo Health, Inc., Google, LLC, Meta Platforms, Inc., and Flurry, LLC***
United States District Court, Northern District of California
Testified at deposition on class certification on behalf of Google on privacy and data collection practices on a mobile app (2023)
- ***Brainchild Surgical Devices, et al. v. CPA Global Limited***
United States District Court, Eastern District of Virginia
Testified at deposition on class certification and damages on behalf of Defendant regarding disclosure of fees (2023)
- ***In re: Foreign Exchange Benchmark Rates Antitrust Litigation***
United States District Court, Southern District of New York
Testified at deposition and trial on antitrust issues in an alleged price-fixing conspiracy on behalf of Credit Suisse (2022)
- ***Global Tubing, LLC v. Tenaris Coiled Tubes, LLC***
United States District Court, Southern District of Texas
Testified at deposition on antitrust merits and damages pertaining to monopolization allegations in the oil and gas industry on behalf of Tenaris (2022)
- ***Marriott International Customer Data Security Breach Litigation***
United States District Court, District of Maryland
Testified at deposition on damages related to a data security incident on behalf of Marriott (2021)

- ***Ingevity Corporation, et al. v. BASF Corporation***
United States District Court, District of Delaware
Testified at deposition and trial on antitrust merits and damages from alleged exclusive dealing and tying arrangements in the automotive parts industry on behalf of BASF (2020–2021)
- ***Tillage, et al. v. Comcast Corporation, et al.***
United States District Court, Northern District of California
Testified at deposition on class certification and damages from alleged false advertising in the cable television industry on behalf of Comcast (2021)
- ***Payment Logistics Limited v. Lighthouse Network, LLC, et al.***
United States District Court, Southern District of California
Submitted an expert report on the economic impact of a vertical merger on competition in the payment card processing industry on behalf of Lighthouse Network (2019)

SELECTED CONSULTING ENGAGEMENTS

Antitrust, Competition, and Regulation

- Analysis of services provided and fees charged by online e-commerce marketplaces
- Analysis of competition issues related to a mobile app store on behalf of a major technology firm
- Analysis of competition issues related to a proposed merger in the book publishing industry
- Analysis of competition issues pertaining to an early-stage acquisition in the pharmaceutical industry
- Analysis of antitrust liability and damages pertaining to the ticket sale practices of a major league sports team
- Analysis of competition issues related to a proposed merger in the telecommunications industry on behalf of the DOJ
- Analysis of competition issues related to a proposed merger in the sewage and waste management industry
- Analysis of the impact of alleged price fixing and bid rigging on behalf of a major automotive parts manufacturer
- Analysis of economic issues related to interchange rates and network rules and fees in the credit card industry
- Analysis of antitrust liability and damages related to allegations of price-fixing in the issuance of government-sponsored enterprise (GSE) bonds on behalf of a major financial institution
- Assessment of the economic impact of an import ban on certain smartphones and tablets on behalf of a major mobile device manufacturer in a US International Trade Commission proceeding
- Assessment of the economic impact of an import ban on certain microprocessors, servers, and personal computers on behalf of a major microprocessor manufacturer and original equipment manufacturers in a US International Trade Commission proceeding

- Assessment of competition in the marketplace for business data services including enterprise-level broadband internet services on behalf of a service provider in a US Federal Communications Commission proceeding
- Analysis of competition issues related to steering and tiering contractual provisions between health care providers and payers in a major health care system on behalf of the DOJ
- Analysis of antitrust liability and damages from refusal to deal and tying claims in the sale of demand deposit account debt portfolios
- Analysis of antitrust liability and damages from monopolization and tying claims involving applications on e-book viewers
- Analysis of antitrust liability and damages issues related to a consummated merger pertaining to drugs prescribed for pediatric heart defects on behalf of the FTC

Class Certification

- Assessment of class certification and damages claims by direct purchasers and end-payors of a brand name immunosuppressant drug
- Assessment of class certification and damages claims by direct purchasers and end-payors of a brand-name beta-blocker drug
- Assessment of class certification and damages claims by direct purchasers of a pharmaceutical therapy for Alzheimer's disease
- Assessment of class certification claims related to payment cards involved in an electronic data security breach
- Analysis of class certification claims related to alleged Real Estate Settlement Procedures Act (RESPA) violations associated with mortgage reinsurance
- Design and analysis of a survey on washing machines in connection with class action damages analyses

Intellectual Property

- Assessment of damages from alleged breach of contract and trademark misuse in the medical device industry
- Assessment of damages from the alleged infringement of a design patent in a retail merchandising and store display system
- Assessment of damages arising from the misappropriation of trade secrets related to product classification and data management systems.
- Analysis of appropriate licensing fees for performing rights for musical compositions in a major performing right organization's repertory
- Analysis of the economic value of patents donated to academic institutions using bibliometric and citation analyses using US Patent and Trademark Office (USPTO) patent data
- Analysis of economic issues related to the scanning and digitizing of books undertaken by a major technology company

Complex Commercial Litigation

- Estimation of damages and valuation of assets in a breach of contract dispute in the chemicals industry
- Valuation of insurance claims and related statistical analyses arising from wildfires
- Estimation of damages pertaining to a manufacturing and supply agreement in the pharmaceutical industry on behalf of a drug manufacturer
- Estimation of damages pertaining to pricing and rebates of pharmaceuticals in a breach of contract dispute on behalf of a major drug wholesaler
- Analysis of liability and damages from allegations of misrepresentation and defamation in the information technology research industry
- Assessment of damages from alleged false advertising and Lanham Act claims in the ride-sharing industry
- Statistical analysis of traffic stops on behalf of a major city police department
- Analysis of statistical sampling issues related to the purchase and securitization of residential mortgage loans
- Estimation of damages in a breach of contract dispute in the sub-prime credit card industry, including claims relating to contractual changes in credit card accounts and credit debt waiver products.
- Estimation of damages arising from an alleged breach of contract to provide logistics and distribution services for the US Army in overseas military engagements
- Estimation of damages resulting from an alleged breach of a market development agreement in the activated carbon industry
- Estimation of economic damages arising from a contract dispute related to military equipment

SELECTED PRESENTATIONS

- “Recent Developments in Cartels,” Global Antitrust/Competition Law Conference, Center for Transnational Law and Business, USC, May 2023
- Spring Meeting Mock Trial, American Bar Association Antitrust Law Section Spring Meeting, April 2023
- “The Ongoing Tale of Two-Sided Markets,” American Bar Association Antitrust Law Section Spring Meeting, April 2022
- “Mobile Payments in the Antitrust Spotlight,” Antitrust, Internet and Media Sections, American Bar Association, April 2021
- “Antitrust, IP, and Privacy | Intersections in Trends, Policies, and Strategies,” UIC John Marshall Law School Center for Intellectual Property, Information & Privacy Law, March 2021
- “Predicting the Future: U.S. M&A Consideration of Future Competitiveness of Merging Parties,” New York State Bar Association, Antitrust Section Mergers Committee, July 2020
- “Digital Platforms: Innovation, Antitrust, and Privacy,” UIC John Marshall Law School Center for Intellectual Property, Information & Privacy Law, March 2020

- “Tech in the Global Enforcement Spotlight,” Antitrust, Internet and Media Sections, American Bar Association, March 2020
- “Next Generation of Antitrust, Data Privacy and Data Protection Scholars,” NYU School of Law, American Bar Association, January 2020
- “Who Owns My Data,” Antitrust and Consumer Protection Sections, American Bar Association, November 2019
- “Pill Power: The Economics of Monopolization Claims in Pharmaceutical Markets,” Law and Economics Symposium: Current Topics in Life Sciences, May 2019
- “Introduction to Regression Analysis in Antitrust Litigation,” American Bar Association, November 2017
- “Competitive Strategy and Industrial Structure,” Kellogg School of Management at Northwestern University, 2016 and 2017
- “Competitive Strategy,” Kellogg School of Management at Northwestern University, 2016

SELECTED PUBLICATIONS

- “The Ongoing Tale of Two-Sided Markets,” with Ankur Kapoor, *Antitrust*, Volume 36, Number 3, Summer 2022
- “The Challenges of Using Return on Capital as an Indicator of Monopoly Power,” with Jakab Laszlo, Lau Christensen, and Aaron Yeater, *6th National Conference on Economics of Competition Law*, Competition Commission of India, March 2021
- “Remember Stacker? Another Look at Killer Acquisitions in the Digital Economy,” with Benoit D’Udekem and Marc Van Audenrode, *CPI Antitrust Chronicle*, May 2020
- “The Economic Impact of Open Source Software: How Open Source Platforms Drive Competition and Innovation in India,” with Anindya Ghose and Lau Christensen, *5th National Conference on Economics of Competition Law*, Competition Commission of India, March 2020
- “Economic and Financial Concepts,” with Jeff Cohen and David Smith, chapter in *Proving Antitrust Damages: Legal and Economic Issues*, Third Edition, American Bar Association, 2017

PROFESSIONAL MEMBERSHIPS

- American Economic Association
- American Bar Association (Antitrust Section)
 - ABA Antitrust Section Joint Conduct Committee, Vice Chair (2021–)

APPENDIX B

MATERIALS CONSIDERED

Surface Transportation Board Documents

AAR Railroad Cost Indexes, March 2024

Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company, 6 I.C.C.2d 619 (1990)

Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company 7 I.C.C.2d 164 (1990)

Arkansas and Missouri Railroad Company v. Missouri Pacific Railroad Company, 8 I.C.C.2d 567 (1992)

Atchison, Topeka & Santa Fe Railway Co. - Operating Agreement - Southern Pacific Co., 331 I.C.C. 367 (1967)

Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, 8 I.C.C.2d 297 (1992)

Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, Finance Docket No. 22218, March 26, 1993

Atchison, Topeka & Santa Fe Railway Company - Operating Agreement - Southern Pacific Transportation Company, Finance Docket No. 22218 (Sub-No. 1), July 8, 1993

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company's First Motion to Compel and Request for Expedited Relief, Finance Docket No. 22218, July 13, 2023

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company's Opening Statement and Evidence, Finance Docket No. 22218, May 3, 2024

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company's Responses and Objections to Union Pacific's Written Discovery on Opening Statement & Evidence, Finance Docket No. 22218, June 7, 2024

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - BNSF Railway Company's Third Set of Discovery Requests to Union Pacific, Finance Docket No. 22218, May 23, 2024

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Petition to Reopen, Finance Docket No. 22218, January 6, 2023

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Reply Verified Statement of David W. Hughes, Finance Docket No. 22218, March 14, 2025

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of David W. Hughes, Finance Docket No. 22218, May 3, 2024

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Dr. Divya Mathur, Finance Docket No. 22218, May 3, 2024 (and associated workpapers)

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Harvey A. Crouch, PE, Finance Docket No. 22218, May 3, 2024

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Michael R. Baranowski & Nathan Zebrowski, Finance Docket No. 22218, May 3, 2024 (and associated workpapers)

Atchison, Topeka & Santa Fe Railway Company - Operating Rights - Southern Pacific Transportation Company - Verified Statement of Olivia E. Power, Finance Docket No. 22218, May 3, 2024

Consumers Energy Company v. CSX Transportation, Inc. - Opening Evidence of Complainant, Docket No. NOR 42142, November 2, 2015

CSX Corporation and CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company - Control and Operating Leases/Agreements - Conrail Inc. and Consolidated Rail Corporation, 3 S.T.B. 955 (1998)

Major Issues in Rail Rate Cases, STB Ex Parte No. 657 (Sub-No.1), October 30, 2006

New England Central Railroad, Inc. - Trackage Rights Order - Pan AM Southern LLC, Finance Docket No. 35842, October 31, 2017

New England Central Railroad, Inc. - Trackage Rights Order - Pan Am Southern LLC - Verified Statement of Michael R. Baranowski Finance Docket No. 35842, February 22, 2017

Restated and Amended Agreement between UP and BNSF, March 1, 2002

St. Louis Southwestern Railway Company - Trackage Rights Over Missouri Pacific Railroad Company - Kansas City to St. Louis, 1 I.C.C.2d 776 (1984)

St. Louis Southwestern Railway Company - Trackage Rights Over Missouri Pacific Railroad Company - Kansas City to St. Louis - Trackage Rights Compensation, 4 I.C.C.2d 668 (1987)

Toledo, Peoria & Western Railway Corporation - Trackage Rights Compensation - Peoria and Pekin Union Railway Company, Finance Docket No. 26476 (Sub-No. 1), September 8, 1994

Public Documents

“Barstow International Gateway Project,” BNSF Railway, available at <https://bnsfbig.com/>, accessed on March 5, 2025

“Car Type Codes,” BNSF Railway, available at <https://www.bnsf.com/EquipmentCharacteristics/js/ec/ECCarTypePage.html>, accessed on March 4, 2025

“CSR Proposal Review: Confidential,” Norfolk Southern, available at <https://cincinnatisouthernrailway.org/documents/csr-sale/NS%20-%20Final%20CSR%20Briefing%20-%20April%2020%202022.pdf>, accessed on July 4, 2024

“What Are All of the Different Rail Car Types?,” Union Pacific, available at https://www.up.com/customers/track-record/tr181121_rail_car_types.htm, accessed on March 4, 2025

A. Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, 3rd Ed., John Wiley & Sons, 2012

A. F. Perold, “The Capital Asset Pricing Model,” *Journal of Economic Perspectives* 18(3), 2004: 3-24

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 HARVEY A. CROUCH, PE

My name is Harvey A. Crouch, PE. I have worked for 33 years as President of Crouch Engineering. I submitted a verified statement as part of Union Pacific's Opening Submission and Evidence in this proceeding that developed the Reproduction Cost New Less Depreciation ("RCNLD") value for certain railroad assets owned by Union Pacific Railroad ("UP") between Mojave and Kern Junction, California (the "Mojave-Kern Line").

I understand the parties in this proceeding, UP and BNSF Railway Company ("BNSF"), have agreed the Mojave-Kern Line should be valued using a capitalized earnings methodology, rather than RCNLD. However, BNSF also submitted an RCNLD value of the Mojave-Kern Line. In this statement, I briefly address BNSF's RCNLD valuation, including BNSF's treatment of clearance improvements made to several tunnels on the Mojave-Kern Line in the early 1990s.

BNSF's RCNLD valuation shows how conservative I was in my initial valuation. BNSF estimates the reproduction cost of the Mojave-Kern Line, excluding real estate, would be {{ }} as compared to my estimate of \$833,153,735.¹ Because the parties agree on using a capitalized earnings methodology rather than RCNLD, I have not tried to reconcile all the differences between my estimate and BNSF's. However, in reviewing BNSF's valuation, I recognize that one reason my valuation was below BNSF's was because developed grading/earthworks costs using excavation and borrow quantities from the original 1916 version of the Interstate Commerce Commission Grading Report for the Mojave-Kern Line, rather than the revised version produced in 1935. Use of the different versions largely explains why my grading and site costs are approximately {{ }} below BNSF's.

¹ Compare BNSF Op., Verified Statement of Michael R. Baranowski and Nathan Zebrowski (Baranowski/Zebrowski VS) at 24, Table 9, with UP Op., Verified Statement of Harvey A. Crouch, PE (Crouch VS) at 57, Table 2.

Although BNSF's reproduction cost estimate was higher than mine, its RCNLD valuation was lower than mine because of its assumptions about depreciation. Again, I have not tried to reconcile all the differences between my approach and BNSF's. However, two issues stand out. *First*, BNSF applies a depreciation percentage of $\{\{ \quad \}\}$ to earthworks/grading,² apparently based on accounting information derived from Union Pacific's Form R-1.³ I strongly disagree with BNSF's approach. As I explained in my initial verified statement, based on my personal observation of the Mojave-Kern Line and my long experience in the railroad industry, I believe no depreciation should be applied to the Mojave-Kern Line's grading assets. The roadbed of a properly maintained railroad has a useful life measured in centuries: excavation and grading activities should never be required after the initial construction, as long as the track is properly maintained, which has been the case for the Mojave-Kern Line.⁴

Second, BNSF applies a depreciation percentage of $\{\{ \quad \}\}$ to tunnels,⁵ meaning it thinks tunnel assets have between $\frac{1}{4}$ and $\frac{1}{2}$ of their life remaining.⁶ This assessment is apparently based on BNSF witnesses' admittedly "cursory" inspection of the site and "engineering judgment."⁷ Again, I strongly disagree with BNSF's assessment. The vast majority of investment in tunnels on the Tehachapis Line involves construction of the tunnel bores—*i.e.*, holes drilled and blasted through rocks.⁸ The tunnel bores have not deteriorated since they were created and will not

² See Baranowski/Zebrowski VS at 25, Table 10.

³ See BNSF Op. Workpapers, FTI Workpaper "RCNLD Calculation Workpapers.xlsx," Tab "Condition Assessments."

⁴ See Crouch VS at 13.

⁵ See Baranowski/Zebrowski VS at 25, Table 10.

⁶ See BNSF Op. Evidence, Verified Statement of AECOM at 5, Table 3.

⁷ See BNSF Op. Evidence, Verified Statement of AECOM at 5.

⁸ See Union Pacific Op. Workpapers, Crouch Workpaper "Tunnel Quantity Calculations.xlsx," Tab "Quantity Per Tunnel."

deteriorate in the foreseeable future. A smaller part of the tunnel investment involves installation of concrete liners. The tunnel liners have deteriorated somewhat over time and will eventually require replacement, as reflected in my depreciation calculations. However, depreciation of the liners does not reduce the condition of the bores.⁹ My analysis shows liners account for approximately { } of the total construction costs and are { } depreciated,¹⁰ which equates to a far lower total depreciation percentage for the tunnels than is developed by BNSF.

In reviewing BNSF's opening evidence, I observed that BNSF's RCNLD valuation did not include the costs of tunnel clearance improvements made in the early 1990s to accommodate domestic double-stack intermodal trains.¹¹ As I explained in my initial verified statement, my valuation also excluded the costs of the tunnel clearance improvements because I used the original construction plans to develop information about the quantity of materials needed to construct the tunnels. However, as I also explained, based on my observation and experience, the cost difference between constructing the tunnels with and without the addition clearance would be negligible. The modification merely involved "notching" the concrete tunnel linings to remove 2 to 8 inches of concrete in some locations and slightly lowering the track running through the tunnels. These changes readily could have been incorporated into the original design for little or no additional cost because the changes were so minor, and the necessary equipment and labor already would have been at the construction site.¹²

⁹ BNSF apparently did not separately calculate the costs of boring and lining tunnels. Instead, they appear to have applied a cost per-linear foot for tunnel construction based on a recent project in the Los Angeles area. *See* BNSF Op. Workpapers, AECOM Workpaper "Mojave – Quantities and Costs (2024.05.02).xlsx," Tab "Tunnels qty," Cell B28.

¹⁰ *See* Union Pacific Op. Workpapers, Crouch Workpaper "Tunnel Quantity Calculations.xlsx," Tab "Quantity Per Tunnel."

¹¹ *See* BNSF Op. Evidence, Verified Statement of AECOM at 20.

¹² *See* Crouch VS at 48.

VERIFICATION

I, Harvey A. Crouch, PE, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

Executed on March 14, 2025.

/s/ Harvey A. Crouch