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REVIEW OF COMMODITY, BOXCAR, AND TOFC/COFC EXEMPTIONS

COMMENTS OF UNION PACIFIC RAILROAD COMPANY

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I. The current dashboard proposal commendably promotes the use of data to analyze markets in exemption proceedings, but relies on metrics that will mislead the Board.

Union Pacific agrees with the Board that “[u]nderstanding market conditions is important when considering commodity exemptions and revocation of commodity exemptions.” Decision at 5.¹ Unfortunately, the current dashboard proposal is far more likely to mislead than enlighten. The dashboard presents a superficially appealing and complex collection of color-coded “initial screens” and “indicators” used to assign a commodity an “Overall Dashboard Signal.” However, if you look under the hood, you discover that most of the screens and indicators are cross-wired to a small number of related metrics. And if you look even more closely, you discover that most of the metrics will create contradictory and even false indications, because they have little or no connection to market conditions or changes in market conditions.

As the Board recognizes, the critical factor when considering commodity exemptions is the presence of competition. *See* Decision at 6. Union Pacific believes the Board should refocus its efforts on developing a less elaborate, more straightforward set of metrics that directly assess the presence of competitive alternatives in rail transportation markets. These metrics should be descriptive, not prescriptive: they should present data, not interpretations of data. They also

¹ “Decision” refers to the Board’s Decision served September 30, 2020, in Docket No. EP 704 (Sub-No. 1), *Review of Commodity, Boxcar, and TOFC/COFC Exemptions*.

should address all sources of competition, including product and geographic competition, to provide relevant information about how markets are actually operating.

In Part II of these comments, Union Pacific explains its support for continued efforts to improve the analysis of market conditions in proceedings involving commodity exemptions. In Part III, Union Pacific describes its general concerns with the dashboard proposal's approach to analyzing market conditions. In Part IV, Union Pacific describes some specific concerns with the current proposed approach and provides suggestions for an alternative approach. In Part V, Union Pacific illustrates its concerns and suggestions by discussing rail transportation market conditions for movements of hydraulic cement, which are described in the accompanying Verified Statement of Jacqueline M. Bendon ("Bendon VS"), Union Pacific's Vice President of Industrial.² In Part VI, Union Pacific asks the Board to withdraw its pending proposal to revoke several specific commodity exemptions.

II. Union Pacific supports the Board's commitment to evidence-based decision-making.

Union Pacific supports the Board's efforts to develop objective and transparent metrics to help the agency evaluate market conditions when considering commodity exemption issues. The Board correctly recognizes that existing commodity exemptions should remain in place unless a need for revocation is demonstrated through a "robust analysis." Decision at 5. Union Pacific agrees there is merit to establishing in advance a basic set of relevant metrics and standardized methods for compiling those metrics as part of that robust analysis. Union Pacific also agrees with the Board's recognition that undue reliance should not be placed on any particular set of metrics in any particular proceeding. *See id.* at 6. An established set of metrics would be an

² Ms. Bendon's statement contains certain Highly Confidential information that is being submitted pursuant to the Protective Order entered in this proceeding on July 29, 2016. The Highly Confidential information has been redacted from the public version of her statement.

extremely useful tool that could facilitate analysis. However, a tool that is general enough to provide some helpful information in every situation will rarely be refined enough to supply a final, conclusive answer in any one specific situation. In evaluating market conditions, the Board’s analysis of qualitative information and exercise of judgement will be required “to answer the ultimate qualitative question.” *Id.*

Fundamentally, evidence-based decision-making requires good evidence. Decision-makers must seek out and use evidence designed to address the issues they must decide, rather than redefine the issues to fit existing evidence. Here, the Board must reach beyond its standard toolbox to develop metrics that directly address the presence of competitive alternatives in transportation markets. The Office of Economics made an encouraging start in this direction by developing the Geographic Modal Influence Model. However, as discussed in Part III, the current dashboard proposal does not follow through on that strong start and places too much reliance on metrics that provide no meaningful information about marketplace competition.

III. The Board should refocus its efforts on developing metrics that provide direct evidence about marketplace competition.

The current dashboard proposal provides a thoughtful starting point for considering what metrics the Board should use and how it should use them in evaluating market conditions. Union Pacific believes the Board should focus on developing metrics that directly assess the existence of competitive alternatives – the existence of intramodal, intermodal, product, and geographic competition. This focus is aligned with the basic principle underlying commodity exemptions: regulation is unnecessary in markets where effective competition exists. A focus on competitive alternatives is also rooted in the congressionally mandated rail transportation policies “to allow, to the maximum extent possible, competition and demand for services to establish reasonable

rates,” and “to minimize the need for Federal regulatory control over the rail transportation system.” 49 U.S.C. §§ 10101(1), (2).

The Board appears to agree the focus should be on competition. It says the dashboard proposal would help it “evaluate market conditions by taking into account a variety of metrics related to or indicative of rail transportation competition.” Decision at 6. But the dashboard actually uses only a few metrics, most of which do not advance the Board’s goal of identifying and understanding the existence of competition. And the information the metrics do provide is not improved by combining and otherwise manipulating them to create “indicators” with simple “signals.” In most cases, the indicators generate signals that are at best irrelevant and at worst misleading.

Under the dashboard proposal, if the “Overall Dashboard Signal” is not determined using the “initial screens,” then it is largely dependent on two metrics: R/VC and length of haul. Each of the eight indicators used to generate the “Overall Dashboard Signal” incorporates R/VC ratios, length-of-haul data, or both. However, neither R/VC ratios nor length-of-haul data used to create the indicators provide reliable, meaningful information about the existence of competition in transportation markets.

There is a clear consensus that R/VC ratios are not reliable indicia of whether rates are constrained by competition. Economists sometimes try to evaluate market power using markups of price over marginal costs. However, the “variable costs” in the Board’s R/VC formula are not marginal costs; rather, they are intended to reflect intermediate-run average variable costs.³ In 2015, the Transportation Research Board found that R/VC ratios lack “a stable or meaningful

³ See *Adoption of the Unif. R.R. Costing Sys. as a Gen. Purpose Costing Sys. for All Regulatory Costing Purposes*, 5 I.C.C.2d 894, 900-01 (1989).

connection to a shipment's rate or to the level of market power possessed by the railroad.”

Transportation Research Board, *Modernizing Freight Rail Regulation* at 4 (2015). In 2009, a Board-commissioned report similarly concluded that R/VC ratios are “not a reliable indicator of market dominance.” Laurits R. Christensen Associates, Inc., *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals That Might Enhance Competition* at ES-5 (2009). The Christensen report provided empirical proof that R/VC ratios do not “perform well as a proxy for conceptually more appropriate market structure measures.” *Id.* at ES-12; *see also id.* at ES-14 (“[T]he R/VC ratio is not very useful as an indicator of the presence of market structure factors that would increase a shipper’s ‘captivity’ to an individual railroad.”). In addition, the Board’s costs calculations are based on historical statistical relationships and special studies that do not necessarily reflect current railroad operations, and many of which have been identified as potentially problematic in proceedings commenced (but never actually completed) by the Board.⁴ The Board apparently recognized the force of these criticisms when they were raised in the prior phase of this proceeding. *See* Decision at 5–6. Unfortunately, the dashboard proposal doubles down on the use of R/VC ratios by incorporating R/VC metrics in four of the eight indicators.

Length of haul also is not a reliable indicator of whether a movement’s rate is constrained by competition for several reasons. The dashboard proposal uses length of haul as a proxy for direct truck competition – whether a truck could economically operate from the rail origin to the

⁴ *See, e.g., Review of the Gen. Purpose Costing Sys.*, EP 431 (Sub-No. 4), slip op. at 3 (STB served June 6, 2019) (discontinuing proceeding instituted in 2013 to refine URCS “[g]iven the need for further study and analysis to arrive at a more optimal revision of the URCS system”); *Review of the Surface Transportation Board’s Gen. Costing Sys.*, EP 431 (Sub-No. 3) (STB served Jan. 19, 2010) (discontinuing proceeding instituted in 2009 to provide “a second, and more comprehensive, review of URCS”).

rail destination. *See id.* at 11. However, the length-of-haul data are derived solely from Waybill Sample records – data regarding traffic moved by rail. The metrics thus do not account for any directly competitive traffic actually captured by trucks, which likely skews the data in a manner that produces misleading results.⁵ Also, direct truck competition is a small fraction of all truck competition. In many cases, competition between rail and truck occurs when producers turn to longer-haul rail movements to penetrate markets dominated by shorter-haul truck movements. This type of competition has become even more common thanks to deregulation.⁶ Yet under the dashboard proposal, those longer-haul but highly competitive rail movements are erroneously treated as movements “without a truck influence.” That treatment not only fails to reflect the movement-specific competitive conditions, but also skews any comparisons between longer-haul and shorter-haul railroad traffic. As a result, indicators incorporating length-of-haul metrics tend to create “false positives” – they will erroneously signal a lack of competition in environments where rail and truck vigorously compete. This tendency to create false positives is especially problematic because length-of-haul metrics are incorporated in four of the eight indicators.

The dashboard proposal is also problematic because seven of the eight indicators reflect differences between metrics for a particular commodity and all carload traffic, changes in metrics over time, or a combination of both, when such comparisons do not elucidate the current competitive conditions for any particular commodity. As an example, take the “All Traffic

⁵ *See, e.g.*, Comments of Union Pacific Railroad Company, Verified Statement of Brad A. Thrasher (“Thrasher VS”) at 19, *Review of Commodity, Boxcar, and TOFC/COFC Exemptions*, EP 704 (Sub-No. 1) (July 26, 2016) (“[M]ost scrap steel movements are well within [the] range in which trucks are highly competitive with rail. If length of haul has increased for rail movements of scrap steel, it is because trucks have been capturing even more of the shorter movements . . .”).

⁶ *See, e.g.*, Thrasher VS at 4 (describing market penetration efforts relating to crushed stone); *id.* at 11 (describing market penetration efforts relating to cement).

Recent RVC” indicator. Even if R/VC ratios did provide some indirect information about market power, the simple fact that R/VC ratios for movements of a particular commodity are higher than, lower than, or similar to R/VC ratios for movements of all carload traffic would not indicate the presence or absence of potential competitive concerns.⁷ A comparison cannot provide a meaningful signal without a meaningful baseline – in this case, reliable information about the state of competition for the universe of all carload traffic – which does not exist.

The problems arising from the dashboard proposal’s reliance on comparisons are compounded by flaws in the metrics used to create the comparisons. For example, as discussed above, R/VC ratios are not reliable indicia of market power. Differences in R/VC ratios often arise because movement-specific variable costs are based on very rough allocations of system-wide costs using simplifying assumptions and estimates derived from old regression analyses. Variable cost calculations often incorporate systematic errors and biases that preclude simple comparisons of movements with different characteristics. As an example, the Board notes that longer haul traffic typically has lower R/VC ratios than shorter-haul traffic. *See* Decision at 12 n.36. Thus, if movements of a particular commodity tend to have higher R/VC ratios than R/VC ratios for movements of all carload traffic, the reason might be that the particular commodity tends to move shorter distances than all carload traffic.

The Board should also reject the approach of reducing the metrics used in any revised dashboard approach to a simplistic set of signals. The proposed dashboard approach is sharply different from the accompanying proposal to use bivariate distribution matrices and violin plots in considering commodity exemptions. The data visualization proposals are consistent with the

⁷ Specifically, the indicator is created by calculating R/VC ratios for the specific commodity at (1) the upper quartile, (2) the lower quartile, (3) the median, and (4) the average, and comparing them to those values for all carload traffic.

concept of Exploratory Data Analysis – promoting open-minded exploration of data by allowing the data itself to reveal its structure and patterns. By contrast, the dashboard approach starts by presuming the relevance of a set of indicators. (If the choice of indicators reflects insights gained from data visualizations, the connections are not apparent.) The dashboard approach then uses a series of seemingly arbitrary percentages and weightings to transform the data underlying each indicator into one of three possible signals and, ultimately, an Overall Dashboard Signal. The dashboard approach would be more informative, and less controversial, if it presented the actual data, not conclusions – like a car dashboard shows the car’s actual speed, not a determination that the car is moving “too fast,” “too slow,” or “just right.” For example, there is no need to debate whether a 7% difference in “Length of Haul Change” should be considered “strong” or “moderate,” or whether “Length of Haul Change” deserves any weight when “Length of Haul Recent” is “weak.” The dashboard should simply present the 7% figure and actual length-of-haul data. Using a dashboard to present data, rather than signals, would also be consistent with the Board’s position that the proposed new approach “does not seek to answer the ultimate qualitative question” in commodity exemption proceedings. Decision at 6.

The current dashboard proposal would also be substantially improved by incorporating metrics designed to address the presence of geographic competition. The proposal includes indicators designed to address the presence of intramodal competition (*i.e.*, whether shippers using one railroad can use other railroads to transport the same commodity between the same points) and intermodal competition (*i.e.*, whether shippers using one railroad can use other transportation modes to transport the same commodity between the same points). However, none of the indicators appears designed to address the presence of geographic competition (*i.e.*, whether shippers using one railroad can avoid using that railroad by obtaining the same product

from a different source, or shipping the same product to a different destination). Many exempt commodities are “true commodities” – commodities for which the consumer generally has no strong preference over the identity of the supplier or the particular origin point from which the commodity is sourced. Geographic competition is typically a significant source of competition in transportation markets for true commodities.⁸ Geographic competition was a significant factor in many exemption decisions,⁹ and it continues to play a major role in transportation markets for many commodities at issue in Ex Parte No. 704.¹⁰ Considering geographic competition in commodity exemption proceedings has become even more important since the Board eliminated geographic competition as a factor in determining market dominance in rate reasonableness cases.¹¹ Unless geographic competition is appropriately factored into exemption decisions, rail shippers with no direct modal alternatives but benefiting from strong geographic competition could try to improve their market position by seeking regulated rates.¹² That result would be contrary to the national policy “to allow, to the maximum extent possible, competition and demand for services to establish reasonable rates.” 49 U.S.C. § 10101(1).

To incorporate geographic competition into the dashboard proposal, the Board would need to look beyond its existing set of tools. In Part IV, Union Pacific describes several possible

⁸ Comments of Union Pacific Railroad Company, Verified Statement of Kevin M. Murphy (“Murphy VS”) at 8, *Review of Commodity, Boxcar, and TOFC/COFC Exemptions*, EP 704 (Sub-No. 1) (July 26, 2016).

⁹ See, e.g., *Rail Gen. Exemption Auth.—Exemption of Hydraulic Cement*, EP 346 (Sub-No. 34), slip op. at 4–5 (ICC served July 26, 1995); *Rail Gen. Exemption Auth.—Exemption of Ferrous Recyclables*, EP 346 (Sub-No. 35), slip op. at 7 (ICC served May 16, 1995).

¹⁰ See, e.g., *Thrasher VS* at 4–7 (crushed stone); *id.* at 10–14 (hydraulic cement); *id.* at 20–23 (primary iron and steel products, and iron and steel scrap).

¹¹ See *Mkt. Dominance Determinations—Prod. & Geographic Competition*, 3 S.T.B. 937 (1998).

¹² Cf. *Ass’n of Am. R.R.s v. STB*, 306 F.3d 1108, 1111 (D.C. Cir. 2002) (“It is certainly plausible that some shippers would consider regulators’ hands to be friendlier than invisible ones.”).

approaches that seem promising but require additional exploration and refinement. Some of the proposals would leverage the investment made in developing the GMIM. One option involves modifying the “railroad influence model” to assess potential competition by eliminating the 30-mile limits on alternative freight stations. Other options involve using sources of commodity flow data other than the Waybill Sample to address transportation alternatives. Incorporating geographic competition concepts into the dashboard would fill a significant gap in the current proposed approach. Metrics directly addressing the presence of geographic competition would provide far more reliable, relevant evidence for evaluating rail transportation competition than inferences and assumptions based on R/VC ratios and length-of-haul data.

IV. Union Pacific’s suggested changes to the current dashboard proposal

The current dashboard proposal represents an important first step in considering what metrics could be used to help evaluate market conditions in commodity exemption proceedings. Unfortunately, few of the proposed metrics provide direct evidence regarding the existence of competition in transportation markets. Instead, the current dashboard relies on metrics that are unreliable, often specious proxies for competitive conditions and makes them appear more authoritative by combining them in multiple indicators that produce superficially definitive signals. The Board should abandon efforts to create artificial indicators and signals. Its efforts should be focused on developing a dashboard that presents direct evidence of competitive conditions, which it can incorporate into a carefully considered qualitative analysis.

The current dashboard also fails to present meaningful information in a format that promotes reasoned decision-making. It paradoxically makes the analysis of market conditions seem both too hard and too easy. The analysis seems difficult because the proposal employs a variety of calculations to transform metrics that convey straightforward information with limited value, namely, R/VC ratios and length-of-haul data, into multiple, low-utility indicators. The

analysis seems simple because the dashboard is designed to minimize the exercise of judgment by decision-makers – each indicator is reduced to a “strong/moderate/weak” signal, and then reduced even further to create one overall signal. By creating unnecessarily complex measures purporting to address market conditions and providing superficial interpretations of those measures, the dashboard proposal discourages careful analysis. The Board should work towards adopting a dashboard that presents simple, reliable evidence that decision-makers can use in their own robust assessments of competitive conditions.

In Part III, Union Pacific described the problems with relying on R/VC ratios and length-of-haul data and relying on comparisons among commodities and across time periods. In the remainder of this Part, we discuss problems with individual indicators used in the current dashboard and alternative metrics that could become part of an improved dashboard. Specifically, we discuss the problems with R/VC-based and length of haul-based metrics in Sections A and B, respectively. In Section C, we discuss potential alternative metrics.

A. R/VC-based and RPC-based indicators cannot be used reliably to assess market conditions.

As discussed above, economists who have studied the issue agree that R/VC ratios are not reliable indicia of market power. Revenue per car (“RPC”) also is not a reliable indicator of market conditions, either by itself or when used to make comparisons among commodities or across time periods. Unlike R/VC ratios, the RPC metric does not even purport to account for differences in costs for handling specific commodities. RPC is likely to differ systematically among commodities and over time for reasons having nothing to do with differences in market conditions – including differences in length of haul, lading weight, and risk of loss or damage – thus precluding simple comparisons. The discussion below focuses on use of R/VC ratios in the proposed indicators, but the same problems and more apply to indicators developed using RPC.

Even if R/VC ratios provided some reliable information about market conditions, which they do not, the R/VC-based indicators used in the dashboard would not provide substantive, well founded information about market conditions for the reasons described below.

1. “All Traffic Recent RVC”

The “All Traffic Recent RVC” indicator compares four R/VC ratios calculated for the commodity at issue (upper and lower quartiles, median, and average) with the same four R/VC ratios for “all carload traffic” using 2018 data. The indicator does not provide any meaningful information about market conditions for the target commodity, because nothing is known about market conditions for “all carload traffic” (if there even is such thing). In other words, knowing the target commodity’s R/VC ratios are higher, lower, or the same as R/VC ratios for “all carload traffic” means nothing when nothing is known about market conditions for “all carload traffic.” Delving into the mechanics used to develop the indicator signal emphasizes the basic problem. For example, even if market conditions for “all carload traffic” are competitive, the indicator light will flash a warning (“moderate”) signal if the target commodity’s R/VC ratios are each five points *below* R/VC ratios for “all carload traffic.” Even a “strong” signal is uninformative in the absence of a meaningful baseline for making comparisons, and none exists here. By definition, some commodities will have above-average R/VC ratios, even in a world where market conditions for all commodities are highly competitive.

If the All Traffic Recent RVC indicator provided useful, reliable information regarding market conditions, one would expect it to generate signals that correspond strongly to signals generated by indicators that purport to more directly, more comprehensively address market conditions, such as “Comp Inf Recent.” However, the signals match for only 7 of the 26 commodities that generated signals, and 4 of the 7 matches involve a “weak” signal. Indeed, the

signals are more likely to be on the opposite ends of the spectrum (*i.e.*, one “weak,” the other “strong”) than they are to agree.

2. “All Traffic RVC Change”

The “All Traffic RVC Change” indicator compares the changes between 1992 and 2018 in each of the four R/VC ratios for the target commodity and “all carload traffic.” This indicator has the same basic flaw as the All Traffic Recent RVC indicator: absent knowledge whether the changes in R/VC ratios for “all carload traffic” raise competitive concerns, a comparison to the changes in R/VC ratios of the target commodity is meaningless. As with the All Traffic Recent RVC indicator, the mechanics used to develop the indicator emphasize the problem: the indicator light will flash a warning (“moderate”) signal even if the target commodity’s changes in R/VC ratios are each five points *below* the changes in R/VC ratios for “all carload traffic.” And, as with the All Traffic Recent RVC indicator, by definition, some commodities will show above-average change in R/VC ratios, even if all markets are highly competitive.

If the All Traffic RVC Change indicator provided useful, reliable information regarding market conditions, one would expect it to generate signals that correspond strongly to signals generated by indicators that purport to more directly, more comprehensively address market conditions, such as “Comp Inf Change.” However, the signals match for only 8 of the 25 commodities that generated signals, and 4 of the 8 matches involve a “weak” signal. Indeed, the signals are more likely to be on the opposite ends of the spectrum (*i.e.*, one “weak,” the other “strong”) than they are to agree.

3. “Comp RVC Recent Diff”

The “Comp RVC Recent Diff” indicator (1) calculates “markups” for movements of the target commodity without water or rail influence by calculating differences in four R/VC ratios for movements without and with water or rail influence using 2018 data, then (2) compares the

target commodity “markups” with “markups” calculated for “all carload traffic” using 2018 data. The dashboard indicator flashes “moderate” warning signals when target commodity markups are within five points of markups for “all carload traffic,” and “strong” warning signals when target commodity markups are more than five points above markups for “all carload traffic.” But there is no apparent significance to the existence of differences in markups when commodities move in the absence of competition. We learn nothing more than logic and math alone would tell us – some commodities will have above-average markups.¹³ If anything, the existence of differences in markups under (supposedly) similar competitive circumstances suggests there might be flaws in the method used to evaluate the presence of competitive influences.¹⁴ Flaws in the methodology are also suggested by the existence of a *negative* markup for the upper quartile R/VC ratio for “all carload traffic,” and *negative* markups for many of the target commodity R/VC ratios. Stated differently, the data imply that R/VC ratios for traffic *without* water or rail influence are often *below* R/VC ratios for traffic with water or rail influence. Such results make no sense.¹⁵ The dashboard hides all of this confusion and inconsistency by reducing the actual data to a single, colorful signal.

¹³ For example, even if R/VC ratios were reliable indicia of market power, a commodity might have a relatively high average markup, but have very low R/VC ratios for movements with no direct water or rail competition, because R/VC ratios for movements with direct water or rail competition are even lower.

¹⁴ As the Board recognizes, the Comp RVC Recent Diff indicator does not attempt to account for direct truck competition. *See* Decision at 12 n.36. The indicator also does not account for product or geographic competition. As a results, calculations are likely being skewed because movements are erroneously categorized as not subject to competition when they are actually subject to competition.

¹⁵ An important reason the results are nonsensical is likely that the dashboard metrics are not correctly identifying which movements are actually subject to competitive influence.

4. “Comp RVC Diff Change”

The “Comp RVC Diff Change” indicator adds an additional layer of complication to the Comp RVC Recent Diff indicator. The indicator (1) calculates “markups” for movements of the target commodity without water or rail influence by calculating differences in four R/VC ratios for movements without and with water or rail influence using both 1992 and 2018 data; then (2) calculates changes in markups between 1992 and 2018; then (3) compares commodity-specific changes to changes in markups for “all carload traffic” between 1992 and 2018. The dashboard indicator flashes “moderate” warning signals when changes in target commodity markups are within five points of changes in markups for “all carload traffic,” and “strong” warning signals when changes in target commodity markups are more than five points above changes in markups for “all carload traffic.” But just as there is no obvious significance to differences in *markups* for traffic moving under supposedly comparable competitive conditions, there is no obvious significance to differences in *changes to those markups*. As a matter of logic and math, results for some commodities will be above average, and others will be below average, but the results reveal nothing about market conditions. And here again, the actual data highlight the artificial and likely flawed nature of the inquiry: for “all carload traffic,” the change in R/VC ratio is positive for the first quartile and the average, but negative for the third quartile and the median. Commodity-specific data show similar directional inconsistency. No theory explains these inconsistent results, or why they have any relevance to an analysis of market conditions. The dashboard provides no answers; it just reduces a series of complex but meaningless calculations to a simple signal.

B. Length of haul-based indicators cannot be used reliably to assess market conditions.

As discussed above, length of haul is not a reliable indicator of whether a movement's rate is constrained by competition. At best, length of haul might serve as a proxy for the likelihood that a movement is subject to direct truck competition – that truck could economically replace rail for the specific movement. However, the length-of-haul data used in the dashboard do not provide complete, reliable information about the existence of direct truck competition. Even if the length-of-haul data used in the dashboard provided some limited, relevant information about market conditions, the dashboard proposal assigns excessive weight to the presence of direct truck competition, as compared with all other forms of effective competition, including rail, water, product, and geographic competition, for the reasons described below.

1. “Length of Haul Recent”

The “Length of Haul Recent” indicator identifies whether the average length of haul for movements of target commodities captured by the Waybill Sample is below 500 miles, 500 to 1000 miles, or above 1000 miles. The availability of a direct truck alternative plainly should mitigate competitive concerns. However, the Length of Haul Recent indicator almost certainly *understates* the availability of direct truck alternatives and misses the mark badly. The indicator reflects only traffic moving by rail, and thus ignores all movements where direct truck prevailed over a rail alternative. Because the indicator does not account for movements actually occurring by truck, it almost certainly overstates the actual average length of haul for movements of target commodities, and thus dramatically understates the availability of direct truck alternatives.

The Length of Haul indicator is highly problematic for a second reason: a short average length of haul provides strong evidence that competitive options exist, but a long average length of haul does not provide comparably strong evidence that competitive options do not exist. There

are many highly effective forms of competition besides direct truck competition, including rail, water, product, and geographic competition. But the Length of Haul indicator incorporates an “either/or” approach that bears no connection to competitive realities. Even worse, longer rail moves often reflect shippers’ use of efficient, low-cost rail service to penetrate new, distant markets, thus enhancing competition.¹⁶ As a result, the dashboard may falsely signal “strong” potential competitive concerns in response to extremely procompetitive railroad behavior.

2. “Comp Inf Recent”

The dashboard compounds the flaws in the Length of Haul Recent indicator by using a variation of that indicator in the “Comp Inf Recent” indicator. The Comp Inf Recent indicator uses 2018 Waybill Sample data to calculate the percentage of target commodity movements (1) longer than 500 miles, (2) not subject to water or rail influence, and (3) both longer than 500 miles and not subject to water or rail influence, then compares those percentages to the same calculations for “all carload traffic.” Because length-of-haul data exclude rail competitive movements that have been captured by direct truck, calculations purporting to show the percentage of “longer haul” movements are necessarily inaccurate. That the length-of-haul data for “all carload traffic” also exclude direct truck movements does not mean the indicator creates an “apples to apples” comparison, because there is no evidence that direct truck captures an identical share of shorter movements for all commodities. Direct truck presumably captures different shares of different commodities, because different commodities have different shipping characteristics. The Comp Inf Recent indicator makes the problem worse by using the same, flawed length-of-haul comparisons twice: first to compare moves longer than 500 miles, and then to compare moves with *both* no water or rail influence *and* longer than 500 miles. Such

¹⁶ See Thrasher VS at 4, 11.

extensive reliance on flawed length-of-haul comparisons undermines any potential value of the other information used in the Comp Inf Recent indicator.

The Comp Inf Recent indicator is also deeply flawed because it does not accurately identify whether movements are subject to competitive influences. As discussed elsewhere, the indicator entirely ignores geographic competition. In addition, it not only understates the extent of direct truck competition for the reason discussed above, it understates the extent of direct rail competition. The indicator understates the extent of direct rail competition because it is designed to detect railroad alternatives only if a shipper actually used the alternative in 2018. In other words, even where genuine alternatives existed and influenced market behavior, they were ignored if they were not used to move traffic in 2018.

3. “Length of Haul Change”

The “Length of Haul Change” indicator compares the changes between 1992 and 2018 in the average length of haul for the target commodity and “all carload traffic.” This indicator is undermined by the same basic flaw that undermines the Length of Haul Recent indicator – the failure to account for traffic already captured by direct truck. This flaw is not mitigated by the use of comparisons rather than actual length-of-haul data, because there is no evidence that the impact of direct truck competition on average length of haul remained unchanged for all target commodities and “all carload traffic” between 1992 and 2018.

The Length of Haul Change indicator is also problematic on a conceptual level. It has a high propensity to signal potential competitive concerns when no reason for concern exists. The indicator flashes “strong” warning signals when the change in a target commodity’s average length of haul is more than five points above the change for “all carload traffic.” However, increases in average length of haul between 1992 and 2018 likely reflect pro-competitive developments in the railroad industry. Specifically, increases likely reflect: (1) mergers that

allowed railroads to offer more efficient, single-line service where merging railroads previously provide interline service, and (2) railroad entry into new markets – likely in competition with direct truck moves – thanks to the increased efficiencies and reduced costs made possible by mergers and deregulation. Both possibilities signal increased competitiveness, not cause for competitive concerns.

4. “Comp Inf Change”

The dashboard compounds the flaws in the Length of Haul Change indicator by using a variation of that indicator in the “Comp Inf Change” indicator. The Comp Inf Change indicator calculates the change between 1992 and 2018 in the percentage of target commodity movements (1) longer than 500 miles, (2) not subject to water or rail influence, and (3) both longer than 500 miles and not subject to water or rail influence, then compares the commodity-specific changes to changes for “all carload traffic” between 1992 and 2018. Like its approach in the Length of Haul Change indicator, the dashboard erroneously treats relative increases in length of haul as competitively problematic, even though increases in average length of haul most likely reflect pro-competitive developments. These complicated, multi-layered comparisons provide no reliable information because they are built on a flawed foundation: as discussed above, Waybill Sample data do not capture the universe of shorter-haul movements for which rail competes with direct truck, the indicator ignores geographic competition, and the indicator understates the extent of direct rail competition.

C. The Board should develop metrics that directly assess the presence of competitive alternatives.

Union Pacific supports the development of an objective set of metrics relating to market conditions and presenting the metrics in a “dashboard.” No single set of metrics can provide all the information needed in every case to perform a robust quantitative and qualitative analysis of

market conditions. However, efforts to develop appropriate metrics will pay dividends by expanding the set of available, relevant, reliable data.

Union Pacific believes much of the current dashboard proposal should be discarded. In particular, Union Pacific believes the eight indicators and their signals add no reliable value to the decision-making process. For the most part, they start with unreliable or incomplete data, then apply problematic assumptions about how those data should be interpreted, to produce misleadingly simple conclusions.

Union Pacific would not remove all the elements from the current dashboard. R/VC ratios play a role in determining the Board's regulatory jurisdiction, so information about a specific commodity's R/VC ratios is relevant when considering commodity exemptions. Also, information about competitive alternatives should play a large role when considering commodity exemptions. The dashboard proposal incorporates information about competitive alternatives. However, the current proposal falls short in three ways. First, it fails to address important forms of competition, most of which are classified under the current law as "geographic" competition. Second, it presents its information as a number of processed "signals," rather than as data that are open to interpretation and analysis. Third, it presents those signals as separate factors entitled to equal weight, rather than information that contributes to answering a single, critical, general question regarding the presence of competitive alternatives.

Union Pacific believes the Board should explore a range of options for addressing these shortcomings. We outline several, *non*-mutually exclusive, possibilities below. We recognize the Board or others may have different, even better ideas. But the presence of competitive alternatives should be the primary focus of any analysis, and the Board should pursue the development of metrics to address all forms of competitive alternatives.

1. Use of commodity data from sources other than the Waybill Sample

The Board cannot fully evaluate competitive alternatives to railroad service unless it uses data from sources other than the Waybill Sample. Most exempt commodities move primarily by truck. The Board plainly recognizes the critical importance of truck competition – in the current dashboard, four of eight indicators use length-of-haul data as a proxy for truck competition. But in the absence of actual data reflecting volumes moved by truck, the Board is forced to rely on simplistic, mileage-based assumptions. And even these assumptions address only direct truck competition; they entirely ignore the significant role played by geographic competition.

There are several possible solutions to the data problem that merit exploration. Other government agencies collect multimodal transportation data. The Board could potentially use data from the Commodity Flow Survey, which is developed through a partnership between the Department of Transportation's Bureau of Transportation Statics and the Census Bureau, as a supplement to, or a substitute for, Waybill Sample data. The Board also could potentially use data from the Freight Analysis Framework, which builds on data from the Commodity Flow Survey. These alternative data sources may not classify commodities using the same STCC codes as the Waybill Sample, but they appear to provide sufficiently detailed information to promote a better understanding of transportation market conditions for similar commodities.

The Board could also explore commercial sources of multimodal transportation data as a supplement to, or a substitute for, Waybill Sample data. For example, the Transearch database reportedly contains detailed information regarding truck, rail, waterborne, and air transportation for hundreds of commodities. The Board uses privately produced material in other contexts,

most notably, its annual cost-of-capital determinations, so potential private sources of transportation data should not be ignored.¹⁷

Even if other sources of transportation data are not as detailed as the Waybill Sample, they could be used to provide a clearer picture of the significance of rail transportation relative to transportation provided by other modes. Straightforward measures of railroads' relative role in transporting commodities would provide direct, relevant information regarding the presence of competitive alternatives. For example, if the data show significant shares of movements of a commodity to or from most major geographic regions occur by truck or water, that would be strong evidence regarding the existence of competitive alternatives to rail transportation. Even in the absence of detailed data regarding geographical flows, basic information about the share of traffic moving by railroad as compared with truck and other modes could be highly relevant. If rail moves only a small share of a commodity, that would be strong evidence that competitive alternatives broadly exist and that unusual circumstances could be addressed through partial revocations in specific cases.

2. Use of Waybill Sample data to identify potential geographic competition using trucks

If the Board cannot find an appropriate source of data for non-rail movements, it could potentially use Waybill Sample data, in combination with the GMIM, to develop new metrics that provide a broader perspective on potential truck competition. As discussed above, the current dashboard evaluates the potential for direct truck competition based on the average

¹⁷ See *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, STB EP No. 664 (Sub-No. 1), slip op. at 4 (STB served Jan. 28, 2009) (adopting the Morningstar/Ibbotson multi-stage DCF model, "a commercially accepted multi-stage DCF model, developed by disinterested, respected third parties, that was created for use by the financial community in evaluating publicly traded equities and in making real-world investment decisions").

length of haul of rail movements in the Waybill Sample. The existing metrics simply do not identify the truck competition that exists where, for example, a shipper could use trucks to move a commodity 25 miles to a destination that is currently served using a 1000-mile rail move. The Waybill Sample does not include truck moves, but the data could be used to identify situations in which shorter truck moves could likely compete with longer rail moves. Those situations could be identified by determining whether the Waybill Sample shows originations of a commodity within trucking distance of a rail movement's destination. If a rail movement of a commodity is destined to a point within trucking distance of a rail origination of the same commodity, the rail movement should be classified as "trucking influenced," under the same logic that the current dashboard proposal uses to classify movements as "railroad influenced" or "water carrier influenced."¹⁸

The Board should not adopt a new, broader trucking influence metric using the Waybill Sample without careful investigation. The metric would almost certainly be under-inclusive, because many origins do not have rail access, and not all origins with rail access will use rail service in any one year. One way to address the second issue would be to use more than one year of Waybill Sample data to identify potential origins. Ultimately, the Board would need to consider whether the metric would miss so much potential truck competition that its inclusion in any set of metrics would be misleading. However, the approach merits consideration, especially in light of the effort the agency has already devoted to the development of the GMIM.

¹⁸ A separate "direct trucking influence" metric would not be necessary. By definition, the origin of any rail movement subject to a "direct trucking influence" would be within trucking distance of the destination, so the movement would be captured by the new metric.

3. Use of Waybill Sample data to identify potential geographic competition using rail and water carriers and to improve identification of direct rail competition

The current dashboard proposal approaches rail and water competitive alternatives like it approaches truck alternatives in that it fails to account for geographic competition. One potential solution seems straightforward. To evaluate whether rail influence exists for movements of a commodity from *A* to *B*, first determine whether the data show movements of the commodity by another railroad from stations within 30 miles of *A* to any destination, then determine whether the data show movements of the commodity by another railroad from any origin to freight stations within 30 miles of *B*.¹⁹ If either type of alternative movement exists, the movement being examined should be considered subject to rail influence. The water influence model could be similarly modified.

If the Board pursues this approach, it should strongly consider (1) using more than one year of data from the Waybill Sample to identify potential competitive railroad routings, and (2) eliminating the requirement that the competitive routing was actually used to transport the commodity at issue. In addition, the Board should consider both points in connection with the current railroad influence model. The current, single-year, commodity-specific approach is highly problematic because it will fail to identify genuine alternative rail routings whenever shippers elect to use a single railroad (or a single railroad and one or more non-rail alternatives) for the single year being analyzed. One possible solution is to use additional years of Waybill Sample data to detect more alternative routings. A second possible solution is to eliminate the commodity requirement, as in the water carrier influence model. Union Pacific believes the

¹⁹ Union Pacific is not endorsing a specific mileage range at this time. We use “30 miles” to illustrate the process because it is the mileage screen used in the current dashboard proposal.

better approach is to eliminate the commodity-specific requirement. Most, if not all, of the commodities at issue can readily be transloaded, so the mere existence of an alternative rail routing constrains the incumbent's market behavior.

Union Pacific strongly encourages the Board and its Office of Economics to consider these and other suggestions for improving the variety of information about market conditions that could be developed and presented in a "dashboard."

V. The example of hydraulic cement

In Appendix B to the Decision, the Board describes the proposed dashboard's signals regarding one sample commodity – hydraulic cement. *See* Decision at 25–27. According to the Board, the dashboard indicates "there is moderate evidence that an exemption revocation could be warranted." *Id.* at 26. The Board adds that its bivariate distribution matrices and violin plots "provide[] additional information on the market conditions that might support or weaken the case for exemption revocation." *Id.* However, by focusing on R/VC ratios and length of haul, and by ignoring geographic competition, the dashboard and the various charts and graphs fundamentally fail to provide any meaningful information about market conditions for rail transportation of hydraulic cement. Ms. Bendon identifies the types of information the current dashboard approach fails to capture in her accompanying verified statement.

As Ms. Bendon shows, competition in the marketplace for transporting cement is as pervasive as when the ICC exempted cement from regulation in 1995. The basic marketplace characteristics remain unchanged: trucks dominate the market, and extensive rail, water, and geographic competition exists. The vast majority of cement moves directly from cement plants to customers by truck. *See* Bendon VS at 1. Railroads become a factor only where they move cement to distribution terminals, from which cement subsequently moves to customers by truck. When railroads move cement to distribution terminals, they are competing with other railroads,

trucks, and water carriers that move cement to distribution terminals, as well as competing with trucks moving cement directly to customers. *See id.*

Union Pacific faces intense competition from trucks. Trucks dominate shorter distance moves because they can deliver cement directly to customers. *See id.* at 2. This direct-service advantage allows trucks to remain competitive with rail for longer-distance movements, and it forces railroads to price services lower than trucks to offset the costs of additional truck moves from the terminal to the customer. *See id.* at 2–3. This direct-service advantage also distorts the dashboard’s length-of-haul metrics and thus significantly understates the extent of direct competition between rail and truck. *See pp. 5–6, supra.*

Union Pacific also faces intense competition from railroads, particularly BNSF. In Texas (Union Pacific’s largest destination state for cement), California (Union Pacific’s second largest destination state), Colorado, and elsewhere, Union Pacific and BNSF can originate cement from many of the same plants and import facilities. *See Bendon VS* at 4. Union Pacific and BNSF also sometimes serve common distribution terminals. *See id.* The dashboard captures this direct, rail-to-rail competition. However, as discussed below, the dashboard misses huge amounts of geographic competition.

Much of the competition for transporting cement is geographic competition. Producers can ship cement to multiple destinations served by different carriers, and receivers can obtain cement from multiple sources served by different carriers. Union Pacific often competes with trucks when a producer it serves wants to compete with another producer moving cement by truck. *See id.* at 3. Producers also take advantage of truck competition through product swaps, where a producer with a plant further from a customer will arrange for a producer with a plant

closer to a customer to provide the customer cement by truck instead of moving the cement to a distribution terminal by rail. *See id.*

Geographic competition also plays a major role in competition between Union Pacific and BNSF. Union Pacific and BNSF frequently compete to move cement from different plants to different distribution terminals located within trucking distance of customers or project sites. *See id.* at 4–5. For example, Union Pacific generally moves cement to Houston from plants in and around San Antonio, while BNSF can move cement to Houston from Ward Spur and Maryneal, Texas. Union Pacific generally moves cement to Dallas from plants in Texas, while BNSF also moves cement to Dallas from Oklahoma, and KCS moves cement to Dallas from Arkansas. *See id.* at 5.

Union Pacific also faces geographic competition from barges and imports. More than 30% of cement moves to distribution terminals by barge or water carriers. *See id.* Imports also effectively constrain rail rates, because most of the U.S. cement industry is now controlled by large, multi-national firms that own large distribution terminals and can import cement they produce in Asia and Europe. *See id.* at 6. The dashboard catches direct barge competition, but misses the larger impact of geographic competition and imports.

In 1995, the ICC found “railroads face pervasive competition in the transportation of hydraulic cement” and specifically noted “evidence of extensive geographic competition, which inhibits the railroads from exercising market power.”²⁰ As Ms. Bendon shows, the same competitive forces continue to protect shippers and receivers of cement from abuse of market power. A properly designed dashboard could reveal these actual market conditions.

²⁰ *Rail Gen. Exemption Auth.—Exemption of Hydraulic Cement*, slip op. at 4–5.

VI. The Board should withdraw its pending proposal to revoke certain commodity exemptions.

Although Union Pacific supports a continuation of the Board's efforts to improve the analysis of market conditions in proceedings involving commodity exemptions, Union Pacific urges the Board to withdraw its pending proposal to revoke certain existing class exemptions. The Board's March 2016 Notice of Proposed Rulemaking in Ex Parte No. 704 (Sub-No. 1) proposed to revoke the existing class exemptions for (1) crushed or broken stone or rip rap; (2) hydraulic cement; and (3) coke produced from coal, primary iron or steel products, and iron or steel scrap, wastes or tailings. At the time, then-Vice Chairman Miller acknowledged that the record supporting the proposal was "less than robust."²¹ Board Member Begeman described the record as "a waybill-based hunch."²² Union Pacific and other railroads submitted extensive evidence showing that revocation was unwarranted because pervasive intramodal, intermodal, product, and geographic competition protects shippers of each of the commodities at issue from abuse of market power.²³ Union Pacific and other railroads also thoroughly rebutted the limited evidentiary submissions from the few shippers and trade associations that supported the proposed revocations.²⁴ The record does not show any "abuse of market power" that can be remedied only

²¹ *Review of Commodity, Boxcar, and TOFC/COFC Exemptions*, EP 704 (Sub-No. 1), slip op. at 15 (STB served Mar. 23, 2016) (Vice Chairman Miller, concurring).

²² *Id.*, slip op. at 15 (Board Member Begeman, dissenting).

²³ See Comments of Union Pacific Railroad Company & Verified Statements of Brad Thrasher & Kevin Murphy (July 26, 2016); Opening Comments of BNSF Railway Company (July 26, 2016); Comments of CSX Transportation, Inc. & Verified Statements of Russ Epting, Louis Muldrow & Michael A. Rutherford (July 26, 2016); Comments of Norfolk Southern Railway Company & Verified Statements of Liesl J. McLemore, James R. Schaaf & Rob N. Zehringer (July 26, 2016); see also Comments of the Association of American Railroads, Verified Statement of Mark Israel and Jonathan Orszag (July 26, 2016).

²⁴ See Reply Comments of Union Pacific Railroad Company & Verified Statement of Brad Thrasher (Aug. 26, 2016); Reply Comments of Norfolk Southern Railway Company (Aug. 26, 2016).

by reimposing regulation, or that revocation of an exemption is “necessary to carry out the transportation policy” of 49 U.S.C. § 10101.²⁵

The Board’s withdrawal of the pending proposal would not preclude shippers from seeking relief to address specific competitive situations. Shippers could still try to show their individual circumstances justify the remedy of partial revocation. Congress contemplated this approach. It directed the Board to exempt rail service from regulation to the “maximum extent consistent with” the law. 49 U.S.C. § 10502(a). “Exemption analysis” therefore “takes a broad-brush approach to analysis of the competitive environment as a whole and looks to the remedy of partial revocation to address specific competitive situations should that become necessary.”

Santa Fe Southern Pacific Corp.—Control—SPT Co., 2 I.C.C.2d 709, 741 (1986).²⁶

The Board’s withdrawal of the pending proposal also would not prevent the agency from revisiting specific exemptions after developing metrics that more directly assess the presence of competitive alternatives in rail transportation markets. However, Union Pacific believes that additional analysis would reinforce the evidence Union Pacific and other railroads previously presented that revocations of commodity exemptions are unwarranted and that the remedy of partial revocations is sufficient to address any future demonstrated abuses of market power.

²⁵ 49 U.S.C. § 10502(a), (d); *see also* H.R. Rep. No. 104-422, at 169 (1995) (“When considering a revocation request, the Board should continue to require demonstrated abuse of market power that can be remedied only by reimposition of regulation or that regulation is needed to carry out the national transportation policy.”).

²⁶ *See also* H.R. Rep. No. 96-1430, at 105 (1980) (“[T]he conferees expect . . . that the Commission will adopt a policy of reviewing carrier actions after the fact to correct abuses of market power.”).

VII. Conclusion

For the reasons discussed above, Union Pacific encourages the Board to continue its efforts to improve the analysis of market conditions in proceedings involving commodity exemptions.

Respectfully submitted,

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January 29, 2021

REDACTED – TO BE PLACED ON PUBLIC FILE

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

Docket No. EP 704 (Sub-No. 1)

REVIEW OF COMMODITY, BOXCAR, AND TOFC/COFC EXEMPTIONS

VERIFIED STATEMENT

OF

JACQUELINE M. BENDON

My name is Jacqueline M. Bendon. I am Vice President for Industrial at Union Pacific Railroad Company, a position I have held since 2019. Before I was promoted to my current position, I served as Assistant Vice President of Industrial. I began my career with Union Pacific in 1998 and have held a number of management positions in Union Pacific's Marketing and Sales Department, in the areas of Chemicals and Industrial Products, and also at Union Pacific Distribution Services, a Union Pacific subsidiary that develops multi-modal transportation solutions for customers.

I manage Union Pacific's Industrial business unit. Industrial business involves moving hundreds of commodities between thousands of shippers and receivers throughout North America, including commodities that may be evaluated for revocation of exemption using the proposed approach as outlined in the September 30, 2020 decision in STB Docket No. EP 704 (Sub-No. 1). I am submitting this statement to describe our marketplace experience with the commodity of hydraulic cement.

I. HYDRAULIC CEMENT

Cement transported by Union Pacific is primarily used as an ingredient in concrete for construction projects. Cement is produced at plants located near population centers across the United States. Most sales are made to ready mixed concrete producers, who mix the cement with aggregates and water to create concrete that is delivered to job sites via trucks commonly called cement mixers. The vast majority of cement moves directly from plants to customers by truck. Rail becomes more competitive with truck for longer-distance, higher-volume movements from plants to distribution terminals. However, rail movements of cement to distribution terminals compete with truck movements directly to customers, and they also compete with cement moving to distribution terminals in trucks, barges, and boats.

Union Pacific faces intense competition for movements of cement. Trucks dominate most markets where we operate. Rail competition is also intense, with geographic competition playing a major role. Where Union Pacific provides exclusive service to plants or distribution facilities, we compete for business moving between other plants and distribution facilities served by BNSF. Geographic competition is also a significant factor in competing with barges and imports. All this competition constrains the rates we charge. According to the U.S. Geological Survey, U.S. cement production and imports totaled 102 million tons in 2019 of which Union Pacific handled a very small portion.¹

Truck vs. Rail, and Truck vs. Rail Geographic Competition. Union Pacific faces intense competition from trucks. Trucks are the dominant force for shorter-distance moves, and they also provide a competitive alternative for longer-distance, higher-volume movements, where railroads are often thought to have an advantage. For example, truck rates are falling, and we are seeing volume loss to truck for movements to distribution terminals in Houston. {{

}}² We are constantly at risk of losing volume to trucks on movements from Portland, Colorado to Denver, Colorado. Similarly, we compete with trucks for cement moving from plants near Los Angeles, California to Las Vegas, Nevada, as well as plants near San Antonio, Texas to Houston, Texas. When a shipper is choosing between moving cement to a customer through a rail-served distribution facility and serving a customer directly by truck,

¹ See <https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-cement.pdf>.

² Material within double brackets is Highly Confidential and has been redacted from the Public version of this Verified Statement.

we must price our service substantially lower than trucks to offset the costs of the additional truck move from the terminal to the customer.

Trucks also provide geographic competition to rail. Union Pacific sometimes competes with truck when a cement producer we serve wants to penetrate a market but cannot economically do so using truck. That is, the efficiencies and value of service we provide creates competition in markets that might otherwise be dominated by a local producer. For example, Union Pacific moves cement from {{

}} Trucks also provide geographic competition by moving cement from plants we do not serve to destinations we serve, such as cement moving from Lyons, Colorado, to Denver, Colorado and Sugar Creek, Missouri to Kansas City, Missouri.

Trucks also provide geographic competition through “product swaps.” That is, one producer will contract to supply cement for a project, then arrange for a competitor within trucking distance of the customer to provide the cement. {{

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Rail vs. Rail, and Rail vs. Rail Geographic Competition. Even when Union Pacific has advantages over trucks, we are subject to intense competition from other railroads, primarily BNSF. In all our major markets, BNSF competes with us through its own access to cement producers and distribution terminals. Whenever we quote rates for movements of cement, we are aware that the customer may be seeking a competing bid from BNSF, or that BNSF may be working with another producer that is competing against our customer for the same business.

In some instances, Union Pacific competes with BNSF by serving the same cement plant and/or the same destination terminal. In California, our second largest destination state for cement,

both railroads can originate cement from Cemex in Victorville, CalPortland in Oro Grande, Lehigh Southwest in Tehachapi, Mitsubishi in Lucerne Valley, and CalPortland in Mojave. Both railroads can move cement to the Bay Area, where we both serve a distribution terminal in Richmond; to Stockton, where we both can access distribution terminals on a short line, the Central California Traction Company; or to Sacramento, where we both can access terminals owned by Cemex. But Union Pacific and BNSF do not need to serve the same distribution terminals to compete. For example, {{

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Similarly, in Texas, our largest destination state for cement, both railroads can originate cement from Martin Marietta in Ward Spur, and Holcim in Midlothian, and move the cement to distribution terminals in Dallas and Houston. In Colorado, both railroads can originate cement from Holcim in Portland and GCC of America in Pueblo. In Washington, both railroads can originate cement from Ash Grove in Seattle. In Oregon, Union Pacific and BNSF annually compete for a movement from a jointly served {{

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More commonly, Union Pacific and BNSF do not serve the same plants or distribution terminals, but we compete to move cement to terminals within trucking distance of customers and/or project sites. For example, Union Pacific generally moves cement to Houston from plants we serve in the San Antonio area, while BNSF can move cement to Houston from Martin Marietta

in Ward Spur, or Buzzi in Maryneal, Texas. This same form of competition occurs throughout the West. In the Dallas area, in addition to the dual-served plants mentioned above, we serve Ash Grove in Midlothian and Lehigh in Waco, BNSF serves Buzzi in Maryneal, and Holcim in Ada, Oklahoma, and KCS moves cement to Dallas from Ash Grove in Foreman, Arkansas. In California, in addition to the dual-served cement plants mentioned above, we serve two plants in Northern California and one plant in Southern California. In Colorado, in addition to the dual-served plants mentioned above, we move cement to Denver from a plant in Laramie, Wyoming, and BNSF moves cement to Denver from Lyons, Colorado.

Rail vs. Water Geographic Competition. A substantial amount of cement moves to distribution terminals by barge or other water carriers. Over 30% of total shipments in the United States, move via water, with 15.6% being imported via vessel according to 2019 data from the U.S. Geological Survey.³ Several large plants have river access, and there are import facilities on the Texas Gulf Coast near Houston and Corpus Christi, and on the West Coast in Seattle, Portland, the Bay Area, and Los Angeles.

Union Pacific competes vigorously against barges. For example, {{

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Union Pacific also competes against imported cement. Most of the U.S. cement industry is now controlled by large multinational firms, such as LafargeHolcim, Cemex, Heidelberg Cement, and Buzzi. These companies have bought up many of the large distribution terminals capable of

³ See <https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-cement.pdf>.

importing cement they produce in Asia and Europe. Union Pacific's pricing on domestic movements is significantly constrained by the ability of these multinationals to import cement by water and move it to customers by truck. For example, {{

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II. SUMMARY

Our experience is that the marketplace for cement is extremely competitive. Trucks dominate the business. They have a cost advantage over rail, which almost always requires a separate truck movement from a distribution terminal to the customer. We also face vigorous competition from BNSF, which serves cement plants and distribution terminals throughout the West. Finally, we compete against barges and water carriers that deliver cement by water to major markets on the Texas Gulf Coast and the West Coast.

VERIFICATION

I, Jacqueline M. Bendon, declare under penalty of perjury that the foregoing statement is true and correct. Further, I certify that I am qualified and authorized to file this statement.

Executed on January 29, 2021.

/s/ Jacqueline M. Bendon