Before the U.S. Surface Transportation Board

STB Ex Parte No. 711

Petition for Rulemaking to Adopt Revised

Competitive Switching Rules

Comments of the

U.S. Department of Agriculture

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Authority and Interest

The Secretary of Agriculture is charged with the responsibility under the Agricultural Adjustment Act of 1938 and the Agricultural Marketing Act of 1946 to represent the interests of agricultural producers and shippers in improving transportation services and facilities by, among other things, initiating and participating in Surface Transportation Board (Board) proceedings involving rates, charges, tariffs, practices, and services.

Introduction

The U.S. Department of Agriculture (USDA) appreciates the opportunity to respond to the Board's request for empirical input on the National Industrial Transportation League's (NITL) petition for a rulemaking to adopt revised competitive switching rules. The NITL proposal has the potential to promote more rail-to-rail competition and reduce the Board's role in regulating the reasonableness of transportation rates. USDA believes there is substantial evidence and testimony in favor of promoting competitive switching by the Board and agrees with NITL that the Board must abandon its current competitive access rules in Ex Parte 445 (Sub-No. 1) and related precedent in order to do so. Existing rules and precedent governing reciprocal switching have made it all but inaccessible despite that it was expressly written into the Staggers Rail Act[1] in order to provide for the "public interest" or where "necessary to provide competitive rail service."

Shippers have filed only four requests for reciprocal switching in the 28 years since Ex Parte 445. Testimony in Ex Parte 705 indicates the lack of requests is not because shippers are satisfied by competitive rates provided through a well-functioning market based system. Rather, it appears that the nearly impossible barrier of proving competitive abuse through an antitrust type inquiry has not only prevented the only four attempts by shippers to obtain reciprocal switching, but stymied any further attempt since 1996.

USDA believes adequate railroad competition has suffered since the last rounds of mega-mergers. Within the agricultural sector, grain producers and shippers in regions with more transportation competition have benefited the most from rail deregulation even as producers with few transportation options, such as wheat farmers who pay among the highest rates, have benefitted to a lesser extent. Agricultural producers and shippers continue to express concern about decreased rail-to-rail competition, which has diminished the benefits of deregulation. Although these mergers cannot be undone, the Staggers Rail Act provides for ways, such as competitive switching, to promote competition and help ensure deregulation works as intended.

Many shipper groups have supported increased rail-to-rail competition as a means to preserve the benefits of railroad economic deregulation in comments prepared for various Board proceedings. Competition requires businesses to become efficient and effective in providing the kinds and quality of goods and services the consumer desires. Competitive markets reduce market distortions and result in the efficient allocation of resources, providing a basis for economic development. Furthermore, Dr. Michael Porter observes

[1] 49 U.S.C. §11103(c).

that industries sheltered from competition are less vigorous and successful than industries subject to competition.[2] As such, USDA commends NITL for submitting this petition.

In the comments presented in this filing USDA provides empirical analysis that estimates the impact of various competitive switching scenarios; and provides recommendations.

Board Request for Empirical Analysis
In this proceeding, the Board asked for information on the following with regard to the NITL proposal:

1. Impact on rates for qualifying captive shippers.
2. Impact on rates for captive shippers who do not qualify.
3. Impact on the railroad industry.
4. Access pricing proposals.
5. Impacts of the above aspects of a modified NITL proposal, such as the Board using a different revenue-to-variable cost ratio (R/VC) threshold or mileage criteria.

In order to provide the requested information related to the agricultural sector, USDA contracted the services of Escalation Consultants, who analyzed the 2010 confidential Waybill Sample consisting of 580,928 records. The analysis was conducted on 245,662 records, excluding 335,266 records classified as either intermodal movements, waybill records with miscellaneous problems, and records with origin and destination stations that were not in the United States. They covered the following types of analysis:

- Determining the status and designation of origin and destination stations.
- Analyzing captive industries served by competitive stations.
- Determining the mileages of competitive junctions within 30 miles of captive stations.
- Analyzing the levels of reduced rates for impacted movements, analyzing the competitive revenue to variable cost ratios, and the captive revenue to variable cost ratios of each railroad by the 5-digit Standard Transportation Commodity Code (STCC) and mileage ranges.
- Determining the revenue distribution for multiple railroad moves, using the Board's breakdown of revenue.
- Analyzing changes in revenue using access fees equal to the average of Canadian inter-switching rates as a proxy.

The detailed assumptions and rules used to conduct the analysis on the expected impact of Ex Parte 711 are outlined in the Appendix (see attached).

[2] Porter, Michael, *The Competitive Advantage of Nations,* 1990, pp. 117-20, 225-238, 416, 708.

The NITL Proposal

Summary of the NITL Competitive Switching Proposal:[3]

A) Elimination of Current Rules and Current Precedent on Reciprocal Switching
The Board should eliminate the agency's current competitive access rules in Ex Parte 445 (Sub No. 1), *Intramodal Rail Competition* (49 C.F.R. Part 1144) insofar as such rules apply to reciprocal switching. The Board should also vacate the agency's existing precedent insofar as such precedent applies to reciprocal switching under the agency's existing rules.

B) Establishment of New Rules on Competitive Switching
The Board should adopt new rules for reciprocal switching, under which the Board "shall require" a Class I rail carrier to enter into a competitive switching agreement if the following four conditions are met for a shipper (or group of shippers) and/or a receiver (or group of receivers):

1) The petitioner shows that the shipper's/receiver's facility(ies) for which competitive switching is/are sought are served by rail only by a single, Class I rail carrier (the "Landlord Class I Carrier").
2) The petitioner shows that there is no effective inter- or intramodal competition for the movements for which competitive switching is sought. There would be no consideration of product or geographic competition. There would be a conclusive presumption that there is no such effective competition where either: (a) a movement for which competitive switching is sought has an R/VC ratio of 240% or more; or (b) the Landlord Class I carrier has handled 75% or more of the freight volume transported for a movement for which competitive switching is sought in the twelve months prior to the petition seeking switching.
3) The petitioner shows that there "is or can be" a "working interchange" between the Landlord Class I Carrier and another carrier within a "reasonable distance" of such facility(ies). There would be a conclusive presumption that there is a "working interchange" within a "reasonable distance" if either one of two circumstances exist:
   a) the shipper's/receiver's facility(ies) for which competitive switching is/are sought are within the boundaries of a "terminal" of the Landlord Class I Carrier existing on July 7, 2011, the date of the Petition for Rulemaking; or are within the boundaries of any new "terminal" established by the Landlord Class I Carrier; or
   b) such facility(ies) are within a radius of 30 miles of an interchange between the Landlord Class I Carrier and another carrier, at which cars are "regularly switched."
4) Competitive switching shall not be imposed if either rail carrier between which competitive switching is to be established shows that the proposed switching is not feasible or is unsafe; or that the presence of reciprocal switching will unduly hamper the ability of that carrier to serve its own shippers.

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[3] Copied verbatim from National Industrial Transportation League, Surface Transportation Board, Ex Parte 711, *Petition for Rulemaking to Adopt Revised Competitive Switching Rules*, pg. 8.

USDA appreciates the time and effort that NITL spent on its proposal. The elimination of current rules and precedent and the development of new reciprocal switching rules are excellent first steps in the development of the NITL proposal. Furthermore, USDA agrees with the NITL that the proposal should apply only to Class I railroads in order to protect the short line industry from losing crucial traffic volume. If short line railroads were subject to competitive switching and lost high volume customers as a result, they may be unable to cover their fixed costs. This would be not be good for the entire rail network given the critically important role short line railroads currently serve.

The NITL proposal for competitive switching has the potential to give some grain and oilseed shippers access to markets that are now closed to them due to the lack of competitive switching. Agricultural shippers have indicated they sometimes face a situation where they do not have access to a desired market because the railroad serving them will not switch with a competing railroad. In instances where railroads will provide switching services, agricultural shippers have said the charge can be more than $500 per carload,[4] which is excessive and often forces shippers to ship only to markets located on the railroad serving them. When railroads are allowed to determine the markets in which a shipper may sell, market inefficiencies are introduced.

USDA Concerns Regarding the NITL Proposal

Agricultural shippers have indicated to USDA they are concerned the NITL proposal would benefit too few grain and oilseed shippers. The two main concerns expressed to USDA are: (1) the high threshold of 240-percent R/VC is so high that it excludes many agricultural shippers, and (2) in the sparsely populated areas of the Rocky Mountain and Plains States, most grain and oilseed shippers would not benefit from competitive switching that is limited to a distance of 30 rail miles to a switching point.

From a philosophical point of view, USDA is not in favor of restricting switching based on an arbitrary threshold because the Staggers Act and Interstate Commerce Commission Termination Act (ICCTA) have provisions for competitive switching, but do not require any threshold for eligibility.[5] Secondly, the Canadian competitive switching system does not involve a threshold, making it available to all shippers within 30 kilometers of a switching point. The Canadian railroads are still profitable and the Canadian system works for both railroads and shippers.

Similarly, USDA is concerned that the Board's suggestion of a Revenue Shortfall Allocation Method (RSAM) benchmark for each railroad would provide even fewer benefits to agricultural shippers than the NITL's suggestion of a 240 R/VC benchmark for establishing the right to competitive switching. The RSAM threshold is unreasonably

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[4] Joint Comments of the Agricultural Retailers Association, National Association of Wheat Growers, National Barley Growers Association, National Chicken Council, National Corn Growers Association, National Cotton Council, National Council of Farmer Cooperatives, National Grain and Feed Association, National Oilseed Processors Association, Renewable Fuels Association, The Fertilizer Institute, USA Rice Federation in Surface Transportation Board Ex Parte 705, *Competition in the Rail Industry*, pg. 4.

[5] The NITL Petition for Rulemaking to Adopt Revised Competitive Switching Rules, Ex Parte No. 711, pg. 10-11, discusses this very clearly.

high because it implies that shippers should only have this right if a rail rate is above what the railroad would need to average for shipments having an R/VC above 180 percent in order to become revenue adequate. Setting the threshold at the RSAM benchmark level would exclude many agricultural shippers and therefore is not acceptable from USDA's perspective. As will be shown later in these comments, such a threshold in USDA's opinion simply would not allow enough agricultural shippers access to competitive shipping in order to reach the objective of meaningfully increasing rail competition.

Nevertheless, USDA understands from a practical standpoint, a threshold may be necessary to provide at least some degree of competitive switching. Therefore, in subsequent sections of these comments, USDA provides analysis of the difference in expected impacts on grain and oilseed shippers among three different R/VC thresholds: 180-percent R/VC, 240-percent R/VC, and a RSAM benchmark. If a threshold is necessary, USDA believes an R/VC of 180 percent may be more appropriate, as it is the level at which the Board gains jurisdiction over rail rates. An added advantage from the agricultural standpoint is that it would allow more agricultural shippers to benefit from competitive switching.

USDA believes special provisions may be needed for grain and oilseed movements because those shippers are often located in sparsely populated regions having fewer rail lines, unlike some shippers, who originate shipments in suburban regions having more rail-to-rail competition. In addition, unlike other high-volume bulk shippers that move from one location to a few destinations, grain and oilseed shippers often ship smaller quantities to many destinations. Furthermore, grain and oilseeds are comparatively lower-value commodities competing in highly competitive world markets. Therefore, the Board should consider establishing the threshold for eligibility at a 180 percent R/VC for grain and oilseed movements.

USDA is also concerned that the NITL proposal places much of the burden of proof on the shipper, which could cost the shipper considerable time and effort. USDA believes the only time the burden of proof should be on the shipper is to show that the railroad has hauled 75 percent or more of the volume transported in the past twelve months for which competitive switching is sought. When the burden of proof is on the shipper, the Class I railroad serving the shipper could create too many hoops for the shipper to go through that would increase the cost and time of what should be a simple determination.

Therefore, USDA believes the entire eligibility process must be simple, well-defined, and transparent. The process should be simplified by a rebuttable presumption that the shipper is eligible for competitive switching and leave it to the railroad to show why not. By establishing a threshold of 180 percent R/VC, the process would be simplified. To prevent competitive switching, railroads would only have to show that the track miles to a switching point exceed 30 miles and/or that the R/VC was below 180 percent.

In determining where cars can be switched, NITL has outlined conclusive presumptions for two areas, terminal facilities and interchanges between Class I carriers. However,

NITL has specified the conclusive presumption be applied to terminals that exist as of July 7, 2011 in order to prevent "backsliding" by the carrier, whereby terminal designations are eliminated to prevent implementing the proposed rule. USDA agrees with this approach, but believes the specification should also be extended to cover interchanges between Class I carriers that existed as of July 7, 2011, in order to prevent backsliding on these interchanges, as well. Furthermore, the closure of terminals and interchanges must be subject to litigation and decision by the STB. This is necessary to prevent railroads from avoiding compliance simply by closing terminals and interchanges in the future. Closures must be viewed from an overall economic standpoint, where the costs and benefits to both railroads and shippers are taken into consideration before the Board.

Finally, the availability of competitive switching should not affect a railroad's market dominance for rate appeals because there is substantial testimony that the Class I railroads do not compete.[6] For a shipper to gain access to competitive switching only to lose the market dominance test when making a rate appeal would be a perverse result. The Board can rule that the market dominance test is met when a shipper can demonstrate the absence of effective transportation competition, even if the rail shipper is physically connected to two railroad systems or has competitive access to another railroad.

Methodology

Given that the Waybill Sample is not a perfect instrument for deriving the information requested by the Board, Escalation Consultants had to develop rules and impose assumptions on the Waybill data in order to undertake the task.[7] Thus, several specific items the Board requested cannot be ascertained from the Waybill, such as the number of shippers who can currently obtain competitive switching or the number of shippers who will qualify under the NITL proposal. Instead, Escalation Consultants was able to determine the stations at which movements were billed and the number of qualifying carloads.

Escalation Consultants determined the R/VC for each movement qualifying under the NITL proposal for eight major agricultural commodities (see Table 1 for full list). USDA limited the analysis to these commodities because they comprise 96 percent of the rail movements of farm products classification. During 2010, Class I railroads moved 171.5 million tons of grain and oilseeds.

In order to determine how rates for qualifying movements would change, Escalation Consultants developed benchmark R/VCs for similar competitive movements to serve as a comparison. Under the assumption that the R/VC for a qualifying movement would fall to the level of a similar competitive movement with the introduction of competition, the change in rates and revenues could be calculated. Competitive benchmark R/VCs were established using the competitive R/VCs on each railroad, stratified by STCC codes at the

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[6] Testimony of Ameren Corporation, STB Ex Parte No. 705, *Competition in the Railroad Industry*, June 23, 2011. Also other testimony in the same proceeding from National Rural Electric Cooperative Association, Highroad Consulting, and Western Coal Traffic League.

[7] See Appendix for complete set of rules and assumptions.

5-digit level. In addition, the R/VCs were summarized according to mileage range. Only R/VCs less than 180 were included in the competitive benchmarks.

Access fees were based upon the average of Canadian inter-switching rates for the access price. In the analysis, the access fee used for moves from 1 to 30 miles is $299/car for single car moves between 1 and 59 cars, and $88/car for unit train moves above 59 cars. A more detailed discussion on these assumptions can be seen in a later section of these comments (see *Methodologies for the Access Price*).

Escalation Consultants' analyses on impacted moves included both single-line haul movements and interline movements. Single-line haul movements were included in the analysis if a movement changed to be competitive at both ends of the haul under the NITL proposal. In calculating the impact of such changes, the reduced rate (using the competitive benchmark based on near perfect competition)—after adding the access fee—had to be lower than the incumbent rate. Interline movements were included in the analysis if the NITL proposal changed a movement to be competitive at only one end of the move.

Through this methodology, Escalation Consultants could determine the impact on rates to qualifying shippers and the resulting change in revenue for Class I railroads. By using filters, they were able to examine different outcomes based upon if movements qualified at different thresholds using 180 R/VC, 240 R/VC, and the 4-year average RSAM benchmark (see Tables 1, 2, and 3).

Accounting for Less Vigorous Rail-to-Rail Competition

In addition to varying the threshold level of qualification, USDA had Escalation Consultants quantify the results for the three scenarios under the assumption rates fell only to a duopolistic benchmark instead of the competitive benchmark discussed above. This changes the more unrealistic assumption embedded in the scenarios above that competitive switching automatically introduces rate changes that approximate near perfect competition. Instead, it assumes Class I railroads will not compete as vigorously for competitive switching traffic as they might at stations subject to either intramodal competition from three or more railroads or stations subject to intermodal competition. This is appropriate and more accurate when railroads lack interest in fully competing based on their competitive status in the market.

Grain and oilseed shippers have told USDA that even if competitive switching is required they do not think railroads will significantly lower rates. Numerous shippers testified during Ex Parte 705, *Competition in the Railroad Industry*, that Class I railroads often do not compete with each other. This type of behavior can be explained by economic and game theory, which indicates duopolies are unlikely to engage in pure competition under certain circumstances. Most economics textbooks discussing the pricing practices of oligopolies show that competition can vary according to the number of competitors in the industry and other characteristics of the industry.

The duopolistic benchmarks were calculated by applying a Lerner Index to the qualifying R/VC ratios and competitive benchmark ratios for each qualifying movement. The

Lerner Index is used in economic theory to show an oligopolist's markup in price above its marginal cost (the competitive price) based upon its market share.[8] By using the average captive benchmark R/VC for qualifying movement's R/VC as the monopoly rate and the competitive benchmark R/VC as the competitive rate, an elasticity of demand[9] for each shipment was calculated using the Lerner Index formula.[10] The duopoly benchmark R/VC was calculated, using the same formula, by holding the elasticity of demand and competitive benchmark R/VC constant but adjusting the market share to account for two firms.

The results in Tables 1A, 2A, and 3A assume the Class I railroads are able to retain market power, as exercised through differential pricing, over shippers subject to competitive switching but must now share it between two railroads.

Impact on Qualifying Captive Rail Shippers

USDA presents three scenarios estimating the impacts of competitive switching in regards to agricultural movements based upon three different thresholds for qualification–180 percent R/VC, the NITL's proposed 240 percent R/VC, and the Board's suggested 4-year average RSAM benchmark. These scenarios are evaluated under two different assumptions on rates—fully competitive (near perfect competition) and duopolistic competition. All scenarios assume a 30-mile "reasonable distance" criterion for the Class I railroads and use the access fees discussed above. The summary results provide estimates on impacted carloads, commodity impacts, and changes in revenue. Also included are expected impacts by State.

Scenario 1: 180 Percent R/VC Threshold for Eligibility (USDA Proposal)

The impacts of competitive switching, under a qualifying threshold of 180 percent R/VC and an assumption of near perfect competition, totaled $105.9 million, resulting in a 28 percent reduction in railroad revenue from grain and oilseed moves for the Class I railroads (see Table 1). This reduction in rates represents 2.2 percent of Class I railroad grain and oilseed revenue and 13.8 percent of Class 1 railroad net income from grain and oilseeds.[11] Wheat accounts for nearly 65 percent of this total, corn accounts for 18 percent, and soybeans account for 12 percent.

Because the assumption of near perfect competition is not a realistic outcome, USDA believes these estimates are substantially inflated. Nevertheless, they are useful to gauge an upper end, highest theoretical level of potential impact on railroad revenue from allowing competitive switching for grain and oilseed movements. The estimates in Table

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[8] Lerner, A.P. "The Concept of Monopoly and the Measurement of Monopoly Power," *The Review of Economic Studies,* 1(3), 157-175, 1934.

[9] The price elasticity of demand measures the responsiveness of consumers to changes in price. It is the percentage change in quantity demanded for a given percentage change in price.

[10] See Appendix for detailed explanation of applying the Lerner Index.

[11] Total 2010 Class I railroad grain revenues were $4.841 billion according to the Association of American Railroads (AAR) *Rail Transportation of Grain.* Class I railroad net income was $9.262 billion during 2010 according to the AAR, *Railroad 10-Year Trends,* which was 15.9 percent of their total revenue. Net income from grain was estimated to be $767,683,834 (Grain Revenue x Net Income as a percent of total operating revenue).

1, however, should not be used as an estimate of the expected impact. In a later section on *Sensitivity Analysis*, we discuss in further detail several other factors that also need to be taken into consideration when considering the expected impact. However, it is important to note that even if these theoretical, top-end estimates are used, it is USDA's opinion that a reduction of railroad revenue from grain and oilseed moves of 2.2 percent is not a huge change, especially in the context of exchanging this for the introduction of a small amount of additional rail competition, as the Staggers Act intended.

Table 1: Estimated Impact for Grain, Near Perfect Competition—30 Miles, 180 R/VC

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	1,496	$2,071,356	$1,410,831	$660,525	31.9%
1132	Corn	44,421	$85,472,793	$65,948,400	$19,524,393	22.8%
1133	Oats	376	$723,000	$527,678	$195,322	27.0%
1134	Rice	400	$1,290,744	$1,075,079	$215,665	16.7%
1136	Sorghum	4,216	$9,066,360	$5,441,045	$3,625,314	40.0%
1137	Wheat	88,058	$199,070,980	$129,802,860	$69,268,120	34.8%
1139	Other grain	40	$186,589	$108,831	$77,758	41.7%
1141	Cottonseeds	144	$498,036	$358,442	$139,594	28.0%
1144	Soybeans	23,345	$79,975,550	$67,725,066	$12,250,484	15.3%
	Totals	162,496	$378,355,408	$272,398,232	$105,957,176	28.0%
Percent of Class I Railroad Grain Revenues					2.2%	
Percent of Class I Railroad Grain Net Income					13.8%	

Under the assumption of duopolistic competition, the impacts of competitive switching totaled $62.5 million, resulting in an 18.7 percent reduction in revenue (see Table 1A). This reduction in rates represents 1.3 percent of Class I railroad grain revenue and 8.1 percent of Class I railroad net income from grain and oilseeds.

Table 1A: Estimated Impact for Grain, Duopoly Competition—30 Miles, 180 R/VC

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	1,280	$1,822,903	$1,445,629	$377,273	20.7%
1132	Corn	33,836	$64,352,531	$54,236,091	$10,116,440	15.7%
1133	Oats	376	$723,000	$592,565	$130,435	18.0%
1134	Rice	400	$1,290,744	$1,246,406	$44,338	3.4%
1136	Sorghum	4,136	$8,960,074	$6,155,857	$2,804,217	31.3%
1137	Wheat	82,402	$186,465,095	$143,646,110	$42,818,985	23.0%
1141	Cottonseeds	144	$498,036	$399,836	$98,200	19.7%
1144	Soybeans	20,531	$69,927,817	$63,825,867	$6,101,949	8.7%
	Totals	143,105	$334,040,200	$271,548,363	$62,491,837	18.7%
Percent of Class I Railroad Grain Revenues					1.3%	
Percent of Class I Railroad Grain Net Income					8.1%	

Scenario 2: 240 Percent R/VC Threshold for Eligibility (NITL Proposal)

The impacts of competitive switching, under a qualifying threshold of 240 percent R/VC and an assumption of near perfect competition, totaled $70.9 million, resulting in a 40.2 percent reduction in revenue (see Table 2). This reduction in rates represents 1.5 percent

of Class I railroad grain revenue and 9.2 percent of Class I railroad net income from grain and oilseeds. Wheat accounts for nearly 73 percent of this total, corn accounts for 16 percent, and soybeans and sorghum account for 5 percent each. As was mentioned in the discussion of Scenario 1, this represents the highest theoretical level of potential impact on railroad revenue from grain and oilseed movements and does not represent a realistic estimate of the expected impact with this threshold level.

Table 2: Estimated Impact for Grain, Near Perfect Competition—30 Miles, 240 R/VC

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	1,052	$1,124,126	$693,761	$430,366	38.3%
1132	Corn	22,642	$30,284,808	$18,873,759	$11,411,049	37.7%
1133	Oats	376	$723,000	$527,678	$195,322	27.0%
1136	Sorghum	3,686	$7,776,394	$4,357,576	$3,418,818	44.0%
1137	Wheat	66,466	$126,261,957	$74,644,520	$51,617,437	40.9%
1139	Other grain	40	$186,589	$108,831	$77,758	41.7%
1141	Cottonseeds	144	$498,036	$358,442	$139,594	28.0%
1144	Soybeans	7,616	$9,317,057	$5,723,008	$3,594,049	38.6%
	Totals	102,022	$176,171,968	$105,287,574	$70,884,394	40.2%
Percent of Class I Railroad Grain Revenues					1.5%	
Percent of Class I Railroad Grain Net Income					9.2%	

Under the assumption of duopolistic competition, the impacts of competitive switching totaled $49.3 million, resulting in a 28.4 percent reduction in revenue (see Table 2A). This reduction in rates represents 1.0 percent of Class I railroad grain revenue and 6.4 percent of Class I railroad net income from grain and oilseeds.

Table 2A: Estimated Impact for Grain, Duopoly Competition—30 Miles, 240 R/VC

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	1,052	$1,124,126	$816,523	$307,604	27.4%
1132	Corn	21,328	$29,281,826	$21,413,280	$7,868,546	26.9%
1133	Oats	376	$723,000	$592,565	$130,435	18.0%
1136	Sorghum	3,686	$7,776,394	$5,046,223	$2,730,171	35.1%
1137	Wheat	65,330	$125,099,410	$89,555,655	$35,543,754	28.4%
1141	Cottonseeds	144	$498,036	$399,836	$98,200	19.7%
1144	Soybeans	7,116	$8,949,890	$6,367,840	$2,582,050	28.9%
Totals		99,032	$173,452,682	$124,191,923	$49,260,759	28.4%
Percent of Class I Railroad Grain Revenues					1.0%	
Percent of Class I Railroad Grain Net Income					6.4%	

Scenario 3: 4-Year Average RSAM Threshold for Eligibility (STB Inquiry)

The impacts of competitive switching, under a qualifying threshold of the 4-year average RSAM for each railroad and an assumption of pure competition, totaled $56.9 million, resulting in a 42.5 percent reduction in revenue (see Table 3). This reduction in rates represents 1.2 percent of Class I railroad grain revenue and 7.4 percent of Class I railroad net income from grain and oilseeds.

Table 3: Estimated Impact for Grain, Near Perfect Competition—30 Miles, RSAM

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	992	$999,026	$605,346	$393,680	39.4%
1132	Corn	16,857	$20,271,120	$11,956,167	$8,314,953	41.0%
1133	Oats	376	$723,000	$527,678	$195,322	27.0%
1136	Sorghum	2,854	$5,460,040	$2,797,523	$2,662,517	48.8%
1137	Wheat	55,781	$100,760,403	$57,693,497	$43,066,906	42.7%
1141	Cottonseeds	72	$247,692	$175,698	$71,994	29.1%
1144	Soybeans	4,752	$5,424,481	$3,188,385	$2,236,096	41.2%
	Totals	81,684	$133,885,763	$76,944,294	$56,941,469	42.5%
Percent of Class I Railroad Grain Revenues					1.2%	
Percent of Class I Railroad Grain Net Income					7.4%	

Under the assumption of duopolistic competition, the impacts of competitive switching totaled $40.8 million, resulting in a 30.7 percent reduction in revenue for affected moves (see Table 3A). This reduction in rates represents 0.8 percent of Class I railroad grain revenue and 5.3 percent of Class I railroad net income from grain and oilseeds.

Table 3A: Estimated Impact for Grain, Duopoly Competition—30 Miles, RSAM

STCC	Commodity	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
1131	Barley	992	$999,026	$710,234	$288,792	28.9%
1132	Corn	16,019	$19,735,160	$13,989,882	$5,745,278	29.1%
1133	Oats	376	$723,000	$592,565	$130,435	18.0%
1136	Sorghum	2,854	$5,460,040	$3,243,214	$2,216,826	40.6%
1137	Wheat	55,245	$100,217,188	$69,651,207	$30,565,981	30.5%
1141	Cottonseeds	72	$247,692	$195,932	$51,760	20.9%
1144	Soybeans	4,536	$5,302,961	$3,544,978	$1,757,983	33.2%
	Totals	80,094	$132,685,067	$91,928,012	$40,757,055	30.7%
Percent of Class I Railroad Grain Revenues					0.8%	
Percent of Class I Railroad Grain Net Income					5.3%	

Comparing the Three Scenarios

Under these three scenarios, the upper end, theoretical ranges of the impacts on railroad revenue and savings to shippers can be compared (see Table 4 below).

Table 4: Summary Table on Estimated Impacts for Grain—30 Miles

Table	Threshold R/VC	Assumption	Impacted Carloads	Change in Revenue	% of Class 1 RR Grain Revenue	% of Class 1 RR Grain Net Income
1	180	Near Perfect Competition	162,496	$105,957,176	2.2%	13.8%
2	240	Near Perfect Competition	102,022	$70,884,394	1.5%	9.2%
3	RSAM	Near Perfect Competition	81,684	$56,941,469	1.2%	7.4%
1A	180	Duopoly Competition	143,105	$62,491,837	1.3%	8.1%
2A	240	Duopoly Competition	99,032	$49,260,759	1.0%	6.4%
3A	RSAM	Duopoly Competition	80,094	$40,757,055	0.8%	5.3%

Interestingly, the financial impact under a 240 percent R/VC threshold assuming near perfect competition is greater than under a 180 percent R/VC threshold assuming duopoly competition. This observation illustrates a concern of USDA. That is, if the merits of a particular proposal are evaluated under invalid assumptions, an unintended consequence could be fewer real savings to shippers and a lost opportunity to introduce more benefits

of increased competition. In the context of rapidly increasing rates and record rail income, introducing some limited levels of rail competition through competitive switching is reasonable, necessary and desirable. This should not be denied on the basis of upper bound, theoretically derived estimates that by assumption are not realistic, but nevertheless designed to show the most extreme scenario.

USDA believes that all of the impacts shown (for both the near perfect competition benchmark and the duopoly benchmark) are overstated in that they do not consider any of the mitigating factors discussed below. Still, none of the unadjusted impacts are greater than 2.2 percent of Class I railroad grain revenue. USDA sees no reason why a threshold level of 180 percent R/VC cannot be used instead of 240 percent R/VC or the RSAM benchmark based on this analysis, especially for agricultural movements. This would allow more agricultural shipments to be included in the associated benefits that could accrue, which is a desirable outcome for the requested change in Board policy.

Impacts for Grain Movements by State

Table 5 shows the impacts of competitive switching on railroad revenue by State. Kansas, Texas, Nebraska, Oklahoma, and Iowa benefit the most from competitive switching. In addition, the four-State grouping of Minnesota, Montana, North Dakota, and South Dakota has a large benefit.

Table 5: Impacts for Grain by State—30 Miles, 180 R/VC

State	Total Stations	Impacted Stations	Percent Impacted	Impacted Carloads	Revenue Before Reduction	Revenue After Reduction	Change in Revenue	Percent Reduction in Revenue
KS	91	27	29.7%	19,386	$55,323,835	$40,403,832	$14,920,004	27.0%
TX	88	26	29.5%	29,377	$48,363,396	$34,189,703	$14,173,693	29.3%
MN, MT, ND, SD	369	39	10.6%	32,732	$115,925,392	$103,212,934	$12,712,459	11.0%
NE	98	33	33.7%	13,064	$40,643,293	$35,343,399	$5,299,894	13.0%
OK	26	6	23.1%	8,502	$14,288,663	$10,309,270	$3,979,393	27.9%
IA	97	13	13.4%	8,381	$15,362,137	$11,823,927	$3,538,210	23.0%
IL	124	14	11.3%	6,404	$10,943,573	$9,743,737	$1,199,836	11.0%
IN	77	18	23.4%	4,956	$5,666,285	$4,572,383	$1,093,902	19.3%
OH	82	7	8.5%	3,144	$3,309,487	$2,526,054	$783,433	23.7%
Other States[1]	546	44	8.1%	17,159	$24,214,139	$19,423,125	$4,791,014	19.8%
Total	1,598	227	14.2%	143,105	$334,040,200	$271,548,363	$62,491,837	18.7%

[1] Grouped to protect confidentiality of railroads and shippers.

[2] Grouped to protect confidentiality. Includes AL, AR, AZ, CA, CO, GA, KY, LA, MI, MO, NC, NJ, NM, NV, OR, PA, UT, WA, WI

Sensitivity Analysis

No matter how accurately mathematical formulas can be applied to the Waybill, there remains a cloud of doubt as to the actual outcomes. Due to unknowns, one cannot analyze the Waybill and expect to predict the actual outcome of competitive switching. At best, it can help narrow the boundaries of the possible universe of outcomes that may arise from competitive switching. The results produced from the Waybill under both the assumptions of near perfect competition and duopolistic competition likely overestimate the true revenue impact of competitive switching due to mitigating factors not accounted for in the Waybill data. This includes the following factors: (1) short line involvement in the move, (2) the effects of contracts, (3) the possibility of traffic creation offsetting revenue reductions, and (4) the possibility that some eligible shippers may not try to obtain competitive switching.

Short Line Involvement in the Move

The estimates of the impacts of competitive switching include Waybill movements that originated or terminated on short line railroads, but were billed as a Class I railroad on the Waybill. These movements are not subject to competitive switching under the NITL proposal and need to be accounted for when estimating the change in railroad revenue. The potential amount of these types of moves is significant.

It is very difficult and time consuming to estimate short line movements from the Waybill Sample and in most cases impossible. Escalation Consultants removed some short line moves from the Waybill Sample where they knew that paper barriers existed, but could not identify many, and certainly not all, movements that had short line railroad participation.

During 2010, short line railroads handled 639,000 carloads of farm products[12] (STCC 1), or about 32 percent of the 2,010,406 carloads of grain[13] handled by U.S. and Canadian Class I railroads within the United States. From the Waybill, it is unknown to USDA how many carloads were originated by short line railroads, how many were terminated, how many were local moves, and how many were bridge movements. However, USDA believes that the impacts shown previously based upon Waybill results could be further reduced by up to 32 percent due to short line involvement in the move. Therefore, a more accurate assessment would require the Board to factor in a reduction for this anomaly. Due to a lack of information, USDA could not provide an accurate reduction factor for short line moves in this analysis.

Contract Moves

Twenty-four percent of grain and oilseed movements were contract shipments in 2008.[14] USDA presumes that contract movements are "locked in" and are not subject to competitive switching during the term of the contract, but do not have access to the terms of such agreements. Some analysts would say that contract moves just delay the impact on railroad revenue, as changes could be made as contracts are renegotiated. At the expiration of a contract there are several outcomes possible: (1) conversion of contract rates to tariff rates, (2) renewal of the contract with provisions for competitive switching, or (3) renewal of the contract without competitive switching provisions. Since we understand from shippers that Class I railroads often present an "all or nothing" contract proposal, some shippers might find themselves in a position where they would need to balance the value of competitive shipping against lower contract rail rates.

Because contract moves are imbedded in the Waybill data in this analysis, the impacts shown previously are too high. In evaluating the proposal, USDA believes it is reasonable to make an adjustment for contract movements, but there was not enough information available to USDA for us to accurately determine how an adjustment should be made. The impacts based upon the Waybill results in this analysis could potentially be reduced up to 24 percent due to contract moves of grain and oilseeds.

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[12] American Short Line and Regional Railroad Association, *2012 Facts and Figures.*

[13] Association of American Railroads, *Freight Commodity Statistics, Annual 2010 Revised.*

[14] Bahizi, Pierre. *Grain Transportation Report*, "Contract vs. Tariff Rate Shipments of Grain and Oilseeds in 2008," U.S. Department of Agriculture, Agricultural Marketing Service, June 17, 2010.

Traffic Creation

Common sense would indicate that as rail rates fall, the quantity demanded for rail service should increase. The elasticity of demand for freight rail transportation for corn and wheat is estimated between -1.2 and -0.5.[15] Economic theory asserts that monopolies operate where the elasticity of demand is less than -1. Given that railroads may act as a monopoly over captive shippers, it is reasonable to assume the elasticity of demand for rail service by captive shippers would be less than -1 whereas it would increase above -1 as shippers gain competitive options.

For purposes of this sensitivity analysis, the elasticity of demand for rail service by qualifying agricultural shippers is assumed to increase from -1.2 to -0.6 with the introduction of a second rail carrier through the option of competitive switching. Using this assumption, the reduction in rail rates would induce a corresponding increase in demand for rail service. Thus, for each of the three scenarios presented, between 30 and 50 percent of the revenue lost due to competitive switching could be recaptured through traffic creation.

Lack of Shipper Interest in Competitive Switching

Some shippers eligible to receive competitive switching, for various reasons, may not apply for competitive switching. These reasons could range from inertia, fear of either the unknown or retribution by the railroad in rates and/or service, bundling of origins-destinations in contracts, lack of awareness of the opportunity to obtain competitive switching, or increased shipping time by using a new carrier. Although a very real factor, it is unknown how many shippers would fall into this category. Therefore, any estimate of the impacts based upon Waybill results must take into account the possibility that some percentage of shippers may choose not to elect competitive switching. This will likely be related to how easily switching may be obtained under a given set of rules and the expected benefits. This factor could range between zero and 100 percent and is not accounted for in this analysis.

Combined Effects

In the sensitivity analysis presented below, USDA has calculated a range of possible impacts based upon the results under the scenarios and taking into account the mitigating factors discussed above. Although the above four factors have very real effects, the most likely combination of their effects is hard to estimate. In each table, the mitigating factors are first manipulated independently and then in combination. We have only calculated results for two possible outcomes for each mitigating factor—zero effect or a 100 percent effect. By seeing each extreme, the universe of possible outcomes can be roughly defined as lying somewhere in between the two. When applied in combination, a particular subset of this universe can be highlighted to show a range of possible outcomes of the impact from competitive switching. In this analysis, USDA does not pick a most likely outcome because we do not have enough information available to us to do so.

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[15] Oum, Tae H., W.G. Waters II, and Jong-Say Yong. (1992). "Concepts of Price Elasticities of Transport Demand and Recent Empirical Estimates: An Interpretative Survey." *Journal of Transport Economics and Policy*, 26(2), 139-69.

Table 6: Sensitivity Analysis at 180 R/VC, 30 Miles, Near Perfect Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 1)	0%	0%	0%	100%	162,496	$378,355,408	$272,398,232	$105,957,176	28%
1. Contract movements excluded[a]	100%	0%	0%	100%	123,497	$287,550,110	$207,022,656	$ 80,527,454	28%
2. Shortline movements excluded[b]	0%	100%	0%	100%	110,497	$257,281,677	$185,230,798	$ 72,050,880	28%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	189,800	$378,355,408	$318,168,764	$ 60,186,644	16%
4. Combination of (1) and (2)	100%	100%	0%	100%	83,978	$195,534,075	$140,775,406	$ 54,758,669	28%
5. Combination of (1) and (3)	100%	0%	100%	100%	144,248	$287,550,110	$241,808,261	$ 45,741,849	16%
6. Combination of (2) and (3)	0%	100%	100%	100%	129,064	$257,281,677	$216,354,760	$ 40,926,918	16%
7. Combination of (1) and (2) and (3)	100%	100%	100%	100%	98,089	$195,534,075	$164,429,617	$ 31,104,457	16%
8. No shippers adopt				0%	0	$378,355,408	$378,355,408	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.

b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.

c.) Based on elasticity of demand of -0.6.

Table 7: Sensitivity Analysis at 180 R/VC, 30 Miles, Duopoly Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 1A)	0%	0%	0%	100%	143,105	$334,040,200	$271,548,363	$62,491,837	19%
1. Contract movements excluded[a]	100%	0%	0%	100%	108,760	$253,870,552	$206,376,756	$47,493,796	19%
2. Shortline movements exelnded[b]	0%	100%	0%	100%	97,311	$227,147,336	$184,652,887	$42,494,449	19%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	159,168	$334,040,200	$302,028,927	$32,011,273	10%
4. Combination of (1) and (2)	100%	100%	0%	100%	73,957	$172,631,975	$140,336,194	$32,295,781	19%
5. Combination of (1) and (3)	100%	0%	100%	100%	120,968	$253,870,552	$229,541,984	$24,328,568	10%
6. Combination of (2) and (3)	0%	100%	100%	100%	108,234	$227,147,336	$205,379,670	$21,767,666	10%
7. Combination of (1) and (2) aud (3)	100%	100%	100%	100%	82,258	$172,631,975	$156,088,549	$16,543,426	10%
8. No shippers adopt				0%	0	$334,040,200	$334,040,200	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.

b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.

c.) Based on elasticity of demand of -0.6.

Table 8: Sensitivity Analysis at 240 R/VC, 30 Miles, Near Perfect Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 2)	0%	0%	0%	100%	102,022	$176,171,968	$105,287,574	$70,884,394	40%
1. Contract movements excluded[a]	100%	0%	0%	100%	77,537	$133,890,696	$ 80,018,556	$53,872,139	40%
2. Shortline movements excluded[b]	0%	100%	0%	100%	69,375	$119,796,938	$ 71,595,550	$48,201,388	40%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	126,652	$176,171,968	$130,705,622	$45,466,346	26%
4. Combination of (1) and (2)	100%	100%	0%	100%	52,725	$ 91,045,673	$ 54,412,618	$36,633,055	40%
5. Combination of (1) and (3)	100%	0%	100%	100%	96,255	$133,890,696	$ 99,336,273	$34,554,423	26%
6. Combination of (2) and (3)	0%	100%	100%	100%	86,123	$119,796,938	$ 88,879,823	$30,917,115	26%
7. Combination of (1) and (2) and (3)	100%	100%	100%	100%	65,454	$ 91,045,673	$ 67,548,665	$23,497,008	26%
8. No shippers adopt				0%	0	$176,171,968	$176,171,968	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.

b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.

c.) Based on elasticity of demand of -0.6.

Table 9: Sensitivity Analysis at 240 R/VC, 30 Miles, Duopoly Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 2A)	0%	0%	0%	100%	99,032	$173,452,682	$124,191,923	$49,260,759	28%
1. Contract movements excluded[a]	100%	0%	0%	100%	75,264	$131,824,038	$ 94,385,861	$37,438,177	28%
2. Shortline movements excluded[b]	0%	100%	0%	100%	67,342	$117,947,824	$ 84,450,508	$33,497,316	28%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	115,907	$173,452,682	$145,354,311	$28,098,371	16%
4. Combination of (1) and (2)	100%	100%	0%	100%	51,180	$ 89,640,346	$ 64,182,386	$25,457,960	28%
5. Combination of (1) and (3)	100%	0%	100%	100%	88,089	$131,824,038	$110,469,277	$21,354,762	16%
6. Combination of (2) and (3)	0%	100%	100%	100%	78,817	$117,947,824	$ 98,840,932	$19,106,892	16%
7. Combination of (1) and (2) and (3)	100%	100%	100%	100%	59,901	$ 89,640,346	$ 75,119,108	$14,521,238	16%
8. No shippers adopt				0%	0	$173,452,682	$173,452,682	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.
b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.
c.) Based on elasticity of demand of -0.6.

Table 10: Sensitivity Analysis at RSAM, 30 Miles, Near Perfect Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 3)	0%	0%	0%	100%	81,684	$133,885,763	$ 76,944,294	$56,941,469	43%
1. Contract movements excluded[a]	100%	0%	0%	100%	62,080	$101,753,180	$ 58,477,663	$43,275,516	43%
2. Shortline movements excluded[b]	0%	100%	0%	100%	55,545	$ 91,042,319	$ 52,322,120	$38,720,199	43%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	102,528	$133,885,763	$ 96,578,889	$37,306,874	28%
4. Combination of (1) and (2)	100%	100%	0%	100%	42,214	$ 69,192,162	$ 39,764,811	$29,427,351	43%
5. Combination of (1) and (3)	100%	0%	100%	100%	77,921	$101,753,180	$ 73,399,955	$28,353,225	28%
6. Combination of (2) and (3)	0%	100%	100%	100%	69,719	$ 91,042,319	$ 65,673,644	$25,368,675	28%
7. Combination of (1) and (2) and (3)	100%	100%	100%	100%	52,987	$ 69,192,162	$ 49,911,970	$19,280,193	28%
8. No shippers adopt				0%	0	$133,885,763	$133,885,763	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.
b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.
c.) Based on elasticity of demand of -0.6.

Table 11: Sensitivity Analysis at RSAM, 30 Miles, Duopoly Competition

Scenarios	Adjustments: Contract	Shortline	Traffic Creation	Adoption	Impacted Carloads	Revenue Before	Revenue After	Change in Revenue	Percent Reduction
Waybill results (Table 3A)	0%	0%	0%	100%	80,094	$132,685,067	$ 91,928,012	$40,757,055	31%
1. Contract movements excluded[a]	100%	0%	0%	100%	60,871	$100,840,651	$ 69,865,289	$30,975,362	31%
2. Shortline movements excluded[b]	0%	100%	0%	100%	54,464	$ 90,225,846	$ 62,511,048	$27,714,797	31%
3. Traffic creation through lower prices[c]	0%	0%	100%	100%	94,856	$132,685,067	$108,870,605	$23,814,462	18%
4. Combination of (1) and (2)	100%	100%	0%	100%	41,393	$ 68,571,643	$ 47,508,397	$21,063,246	31%
5. Combination of (1) and (3)	100%	0%	100%	100%	72,090	$100,840,651	$ 82,741,659	$18,098,991	18%
6. Combination of (2) and (3)	0%	100%	100%	100%	64,502	$ 90,225,846	$ 74,032,011	$16,193,834	18%
7. Combination of (1) and (2) and (3)	100%	100%	100%	100%	49,021	$ 68,571,643	$ 56,264,328	$12,307,314	18%
8. No shippers adopt				0%	0	$132,685,067	$132,685,067	$0	0%

a.) Contract movements represent about 24 percent of agricultural shipments.
b.) Shortlines originate about 32 percent of agricultural movements but are included as Class I movements on Waybill.
c.) Based on elasticity of demand of -0.6.

Impact on Captive Rail Shippers Who Do Not Qualify

The effects of competitive switching on captive shippers that do not qualify will vary. For many shippers, railroads are maximizing profits by charging the highest price they can relative to other transportation modes. Thus, rail rates for many shippers are already capped by competition from other transportation modes.

Captive rail shippers with no practical alternative to rail will have mixed results. Many shippers have portions of their traffic classified as captive while the rest is classified as competitive. These shippers are still likely to have some negotiating power with the railroad over the captive portion of their traffic. By expanding the amount classified as

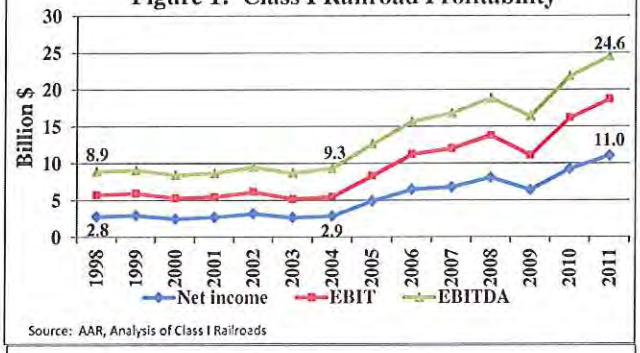
competitive through competitive switching, these shippers are likely to increase their negotiating power and minimize rate increases over the remaining captive portion of their traffic.

For completely captive shippers, their rates are likely to rise by the amount not recaptured by the railroads through increased traffic volumes. This amount would likely be minimal given the maximum reduction in grain and oilseed revenue represents at most 2.2 percent of Class I railroads' grain revenue.

Impact on the Rail Industry

Competitive switching could result in a more integrated rail network in the United States. Shippers would be better able to access parts of the rail network that railroads currently do not allow due to excessive switching fees. Grain and oilseed shippers need access to all the markets in order to be able to get the best price for their products—currently, they are restricted from some nearby rail markets. In addition, network efficiencies could accrue from moving freight by the most direct routes. Finally, some portion of the decrease in railroad revenues will be offset by increased volumes and revenue through traffic creation.

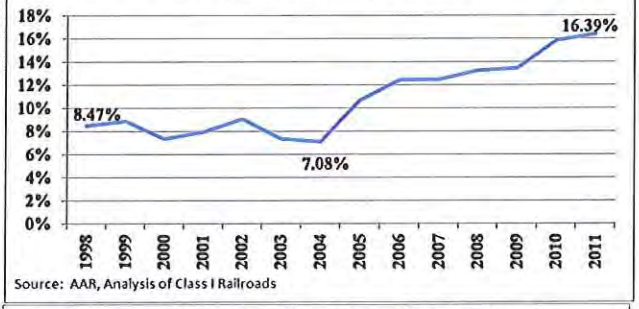
Figure 1: Class I Railroad Profitability



Source: AAR, Analysis of Class I Railroads

When considering the robust financial condition of the railroad industry, now is an ideal time for the Board to change its rules for competitive switching. Since 2004, railroad net income has increased 279 percent to a record level of $11 billion (see Figure 1). Earnings before interest, taxes, depreciation, and amortization (EBITDA) have increased 165 percent to $24.6 billion.

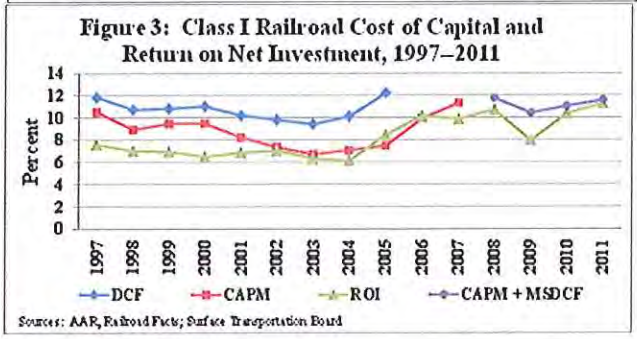
Figure 2: Net Income as a Percent of Total Operating Revenue



Source: AAR, Analysis of Class I Railroads

Similarly, net income as a percent of total operating revenue has risen from 7.08 percent in 2004 to 16.39 percent in 2011 (see Figure 2). This is a 131 percent increase in railroad net markup on it freight rates. As a result of profitability growth, railroad stocks are now in high demand.

Figure 3: Class I Railroad Cost of Capital and Return on Net Investment, 1997–2011



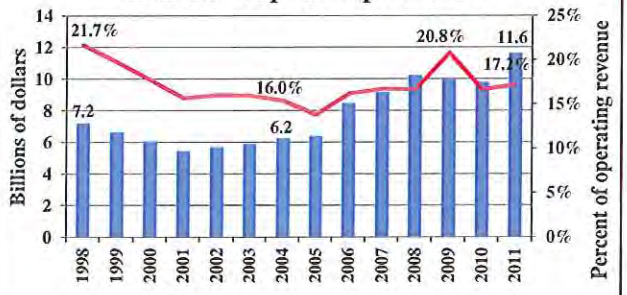
Sources: AAR, Railroad Facts; Surface Transportation Board

When the Board used the Capital Asset Pricing Method (CAPM), the railroad industry was revenue adequate in 2005 and 2006, and nearly revenue adequate in 2002 to 2004 (see Figure 3). Since the Board

switched to the average of CAPM and Multi-Stage Discounted Cash Flow (MSDCF) in 2008, the railroad industry has approached revenue adequacy in 2008, 2010, and 2011. In addition, several Class I railroads have individually been revenue adequate for a number of years. Indeed, some shippers have begun to wonder when and how the revenue adequacy constraint will be applied to those railroads.

As a result of strong profitability, railroads have invested record amounts in capital expenditures, $11.6 billion in 2011 (see Figure 4). Railroads invested even more in 2012, although the numbers are not available yet.

Figure 4: U.S. Class I Railroad Capital Expenditures



Source: AAR, Analysis of Class I Railroads

There is a strong relationship between operating revenue and railroad capital expenditures (Figure 4). With the exception of 2009, a recessionary year, railroad capital expenditures have hovered in the range of 16 to 17 percent of operating revenue. This strong level of investment has improved the rail infrastructure of the United States.

Despite the strong investment in capital expenditures, railroads have also doubled dividend payments to their shareholders and spent billions on repurchasing publicly-traded shares to boost the short-term value of their stocks. The four major railroads spent $13 billion to repurchase shares from 2006 through 2008.[16]

Although the railroads are spending record amounts on capital expenditures, it is likely that competitive switching would reduce these expenditures by the amount not recovered from other captive shippers.

Methodologies for the Access Price

The methodology for determining the access price must be simple, easily calculated, and applied to all switching under the competitive access rules. The access price should be a predictable and fair price that is applied equally to all carriers providing switching services and allows shippers to negotiate, through normal commercial processes, suitable terms and conditions of carriage with competing carriers from the interchange point onward, for the line haul portion of the overall car movement. The inter-switching access fee should be set at a level that benefits shippers by extending their access to the lines of competing rail carriers at a rate that adequately covers the cost of moving the traffic to or from the interchange point.

The Canadian inter-switching rates provide a real-world model where the access fee is set at a level that ensures shippers derive, where available, the benefits of price competition, improved service levels, and varying routing options. Likewise, the rail carrier, under the

[16] United States Senate, Committee on Commerce, Science, and Transportation, *The Current Financial State of the Class I Freight Industry,* Staff Report for Chairman Rockefeller, September 15, 2010.

Canadian system, receives fair compensation for the costs in providing inter-switching services.

USDA recommends using the average of Canadian inter-switching rates for the access price. They are already calculated with a sound methodology and are readily available to be used as a model. Under the Canadian system, adjusted to the 30-mile criteria of the NITL proposal, the average access fee for moves are $279/car for single car moves from 1 to 59 cars, and $84/car for moves above 59 cars.

Table 12: Canadian Inter-switching Rates per Car

	Interswitching Fewer Than 60 Cars		Interswitching More Than 60 Cars	
Interswitching Distance Zones	Current Rates (C$)	Proposed Rates (C$)	Current Rates (C$)	Proposed Rates (C$)
Zone 1	$185	$229	$50	$46
Zone 2	$200	$248	$60	$55
Zone 3	$240	$284	$75	$65
Zone 4	$315	$251	$90	$74
Rate per additional kilometer over 40	$3.75	$3.38	$1.45	$1.20
Rate per additional mile	$6.04	$5.44	$2.33	$1.93
30-mile Rate	$346	$279	$102	$84

In the analysis prepared by Escalation Consultants, the fees were assumed to be $299/car for single car move from 1 to 59 cars, and $88 for moves above 59 cars. These assumptions were derived by calculating the simple average of the rates from Zones 3 and 4 of the Canadian system adjusted for the appropriate additional mileage charges for the 30-mile criteria of the NITL proposal. Due to time constraints and because these assumptions are close to the adjusted averages of the Canadian inter-switching rates for all four zones in Table 12, USDA did not have Escalation Consultants adjust the analysis to match USDA's proposal for access fees.

Recommendations

USDA recommends the Board adopt guidelines for competitive switching that eliminate the market-power standard. Instead, USDA believes competitive switching should be available for all shipments where the R/VC is above 180 percent and not limited to movements with an R/VC above 240 percent as proposed by NITL, or to the 4-year average RSAM benchmark as suggested by the Board. As shown in Table 1A, this would reduce railroad freight revenues for grain and oilseeds by only $30.5 million, which is 0.6 percent of total Class I railroad grain revenues and 4 percent of the net income from those movements. In addition, USDA recommends that the Board use a rebuttable presumption that the shipper is entitled to receive competitive switching, with the burden placed on the railroads to prove otherwise. Finally, USDA recommends using the average of Canadian access fees for the competitive switching.

Respectfully submitted,

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Appendix

Rules for Calculating the Impact of Ex-Parte 711

In order to analyze the impact of EP 711, Escalation Consultants (EC) developed rules and procedures for the study of the Confidential Waybill. These rules were necessary because of the limitations of the Waybill Sample. For example, the Waybill Sample only specifies "stations," i.e., the points at which a movement is billed (e.g., "Chicago, IL"), not industries, i.e., the actual location of the shipper's facility. The Waybill Sample does not provide "local miles," i.e., the distance from the station (usually the location of the switch yard) to the industry, except on an average basis per carrier (i.e., the average local movement on the NS is x miles). Thus, EC developed rules to determine what industries are captive at stations, and what the distances are from the industry to the station. There are other situations that similarly required rules and procedures to be developed for analyzing the Waybill Sample and the impact of EP 711 on Qualifying Shippers and carriers. These rules are explained below.

I. Rule for Determining the 30-Mile Distance to a Competitive Interchange

There are two possibilities for measuring the 30 mile distance: rail miles (miles along the track from the competitive interchange to the shipper's facility) or "radial" miles ("as-the-crow-flies" miles, drawing a 30-mile radius around the competitive interchange).

EC adopted the use of rail miles to measure the 30-mile distance. Radial miles resulted in anomalies, where a shipper's facility was 30 radial miles from the competitive interchange, but sometimes hundreds of miles along the rail line from the competitive interchange to the shipper's station.

II. Rule for Determining Whether a Shipper Served at a Captive Station is Within 30 Miles of a Competitive Station

If a captive station is within 30 rail miles of a competitive station, all movements at the captive station will qualify for competitive switching, since there is no way to tell the actual distance from the shipper's facility to the competitive station.

III. Rules for Determining Whether a Shipper's Facility Served by a Competitive Station is Captive to a Single Carrier

Even though the Waybill Sample might show that movements are located at a competitive station, there are frequently movements served by that station that are in fact located at a shipper's facility that is captive to a single carrier. Thus, for example, "Chicago, IL" is a station served by more than one carrier. But, there are many facilities in the city of Chicago that are captive to a single carrier. Thus, EC needed rules to determine when movements to or from a

shipper's facility were in fact captive to a single carrier, even though they are located at a station that is served by more than one carrier.

EC used the following rules, under which if movements at a competitive station meet any one of the following criteria, the movements are considered captive:

1. If a commodity at a competitive station has at least 300 cars with more than a 240% R/VC (or alternatively 180% R/VC or the RSAM) on any railroad and more than 90% of these high R/VC carloads are on one railroad, then this station will be designated as captive at the industry for all movements of this commodity on that one railroad with an R/VC above 240% (or alternatively 180% R/VC or the RSAM) at that station.

2. If a competitive station has more than 15% percent of its carloads with an R/VC above 180% and more than 75% of the traffic at the station is on one railroad, then this station will be designated as captive at the industry for all movements at that station with an R/VC above 240% (or alternatively 180% R/VC or the RSAM) on that one railroad.

3. If there are more than 3,000 cars at a competitive station with an R/VC more than 240% (or alternatively 180% RVC or the RSAM) (this could be less than 15% of the carloads at a station) and these cars are all served by the same railroad, then this station will be designated as captive at the industry for all movements with an R/VC more than 240% (or alternatively 180% R/VC or the RSAM).

4. If a competitive station has more than 3,000 cars with more than a 300% R/VC, then this station will be designated as captive at the industry for all movements with an R/VC more than 300%.

These rules were adopted on the basis of extensive analysis of the Waybill and on what EC considered reasonable assumptions to indicate captivity.

IV. Rule for Determining Stations at Which Cars Are "Regularly Switched"

Shippers within 30 miles of an interchange at which cars are "regularly switched" are presumed to be eligible for competitive switching, assuming that the shipper meets the other qualifications. The Railroad Station Master List indicates that there are thousands of valid "interchanges" ("Active Junctions"), but the Waybill Sample reveals that there are only about 500 points at which the Waybill Sample shows that cars are actually switched ("Working Junctions").

EC used only the 500 Working Junctions on the Waybill to show the effect of EP 711 on shippers and railroads. This is because the focus is on the existence of "regular" switching, and the use of the more numerous Active Junctions might not be places where "regular" switching occurs.

V. Rules to Determine Movements for which EP 711 Will Have a Revenue Effect

EC used the following rules to determine which movements will be impacted by (i.e., experience a benefit from) EP 711:

Single Line Hauls (including Rule 11 rates)

Existing Move		
Origin	**Destination**	**Needed for a Station to be Impacted**
Captive	Captive	Both origin and destination stations must be impacted to reduce the rate
Captive	Competitive	If origin station is impacted the rate is reduced
Competitive	Captive	If destination station is impacted the rate is reduced

Multiple Railroad Hauls Under Single Factor Joint Line Rates

Existing Move		
Origin	**Destination**	**Needed for a Station to be Impacted**
Captive	Captive	If only the origin station is impacted, the rate for the origin segment is reduced
		If both stations are impacted, the rates at both segments are reduced
		If only the destination station is impacted, the rate for the destination segment is reduced
Competitive	Captive	If the destination station is impacted, the rate for the destination segment is reduced
Captive	Competitive	If the origin station is impacted, the rate for the origin segment is reduced

Note - Movements that are already competitive at both the origin and destination are not considered as they are not impacted by EP 711.

VI. Rules to Determine the Revenue Effect on Shippers and Carriers under Assumption of Nearly Perfect Competition

If a movement qualifies, it will move from captive to competitive status and presumably, the rate will decrease.

To determine reduced revenue, the R/VC for all single-line movements in the Waybill Sample has been calculated for each major railroad. The change in R/VC for each movement is calculated under two different assumptions.

Calculations under assumption of nearly perfect competition

Competitive Benchmark rates were calculated by analyzing the single line hauls on each railroad (since the revenue split in a single-factor joint line movement rate cannot be determined from the Waybill Sample).

Competitive Benchmark R/VCs are calculated using the competitive R/VC's on each railroad, stratified by STCC codes at the 5-digit commodity code (if sufficient movements are available; if not, then 4-, 3- or 2-digit commodity codes were used). In addition, the R/VCs were summarized by mileage range. The mileage ranges determined at the 5-digit STCC level were:

0 to 50 miles
>50 to 150 miles
>150 to 500 miles
>500 to 1000 miles
>1000 to 1800 miles
>1800 miles

If sufficient moves were not available for the specific mileage range for a movement at the 5-digit level, then the mileage range above or below was used. If sufficient data was still not available, the same process was followed at the 4-, 3-, or 2-digit level until sufficient data was available.

If the movement has an R/VC of less than 180%, it will be included in the calculation of the Competitive Benchmark R/VC for that mileage range for that carrier for that commodity.

If a movement qualifies under EP 711, then it will be assumed that a savings will occur to the shipper, with the savings equal to the difference between the Captive and the Competitive R/VC for that commodity at that mileage range.

Calculations under assumption of duopoly competition

The duopolistic R/VCs were calculated by applying a Lerner Index to the Competitive Benchmark R/VCs, as calculated above, and the Captive R/VCs for each qualifying movement. The Lerner Index is used in economic theory to show an oligopolist's markup in price above its marginal cost (the competitive price) based upon its market share.

$$L = \frac{s_d}{E_d} = \frac{P - MC}{P}$$

The Lerner Index (L) is equal to the firm's market share (s_d) divided by the price elasticity of demand (E_d). Market share is equal to 1 for a monopoly and ½ for a duopoly. Alternatively, the Lerner Index is equal to a firm's price (P) minus its marginal cost (MC) divided by its price. This demonstrates a firm's market power by showing its ability to set its price above marginal cost. With perfect competition, price is equal to marginal cost and L=0, demonstrating no price markup. As market power increases, L increases towards 1.

By assuming the Competitive Benchmark R/VC is close to a railroad's marginal cost, MC is set equal to the Competitive Benchmark R/VC. Because railroads price to the market, prices under 180 R/VC (used in calculating the Competitive Benchmark) would be those where railroads face a high level of competition, whether intramodal, intermodal, product, or geographic. Similarly, by assuming the Captive R/VC is a monopoly price, P is set equal to the Captive R/VC. Because railroads are allowed to exercise price discrimination in order to capture their fixed costs, prices for captive shippers should approach the monopoly rate. While these assumptions are not perfect, they do serve the purpose of identifying a scenario that would lie between nearly perfect competition and no competition, which is what may occur under competitive switching.

In places where railroads serve captive shippers, market share (s_d) would be equal to 1. By substituting the Competitive Benchmark R/VC, Captive R/VC, and market share into the rearranged Lerner Index, the estimated elasticity of demand ($\widehat{E_d}$) for each movement can be calculated as:

$$\widehat{E_d} = \frac{s_d * P}{P - MC} = \frac{1 * Captive\ R/VC}{Captive\ R/VC - Competitive\ R/VC}$$

Once the elasticity of demand is known, the duopoly R/VC resulting from competitive switching can be found. Resolving the Lerner Index formula for $\hat{P}$ and adjusting the market share for a duopoly scenario (s_d= ½) gives the following formula:

$$\hat{P} = \frac{MC}{1 - \frac{s_d}{\widehat{E_d}}} = \frac{Competitive\ R/VC}{1 - \frac{1/2}{\widehat{E_d}}} = Duopoly\ R/VC$$

If a movement qualifies under EP 711, then it will be assumed that a savings will occur to the shipper, with the savings equal to the difference between the Captive and the Duopoly R/VC for that commodity at that mileage range.

VII. Access Fee

The access fee used in calculating impacts is the average Canadian access fee for moves of 1 to 30 miles. This is $299 per car for single car moves (1 to 59 cars) and $88 per car for unit train moves (above 59 cars).

VIII. Summary Results

Each movement, both single-line and joint-line, was analyzed to determine the savings under EP 711. For joint-line movements revenue was broken down according to the STB's breakdown of revenue (mileage for each segment was used). For each movement, whether joint line/Rule 11 or single line, the benchmark rate and access fee at the origin and/or destination are totaled and compared to the actual rate for the movement on the Waybill to determine if the rate will be reduced by EP 711, and therefore the effect of EP 711 on the shipper and on the carrier.

IX. Treatment of Paper Barriers

There is no way to distinguish with certainty from the Waybill Sample, or from any other source, whether a station served by a Class II or Class III carrier is impacted by a paper barrier. EC tentatively included all Class II or Class III carriers as competitors, unless: (1) it is known that there is a paper barrier at a particular location that would restrict the ability of a Class II or III carrier to be a competitor; or, (2) it would take more than a single movement on a Class II or Class III carrier to connect to a Class I carrier.

EC excluded a Class II or III carrier as a competitor if known independently that the Class II or III carrier is restricted by a paper barrier at a particular location. Class II or III carriers in this situation are excluded because it is not clear what effect, if any, EP 711 would have on paper barriers, and whether the Board would have to lift a paper barrier through a separate proceeding.

CERTIFICATE OF SERVICE

I, Bruce Blanton, certify that on this 28th day of February, 2013, caused a copy of the foregoing document to be served by first-class mail, postage prepaid, on all parties of record in STB Docket Number EP 711.

Bruce Blanton
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