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January 25, 2012

BY HAND

Ms. Cynthia T. Brown
Chief, Section of Administration
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Surface Transportation Board
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Office of Proceedings

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Re: Finance Docket No. 35504, *Union Pacific Railroad Company – Petition for Declaratory Order*

Dear Ms. Brown:

Enclosed for filing in the above-reference matter are an original and ten copies of the Opening Argument and Evidence of Union Pacific Railroad Company. Also enclosed is an electronic copy of the filing on a compact disc.

An additional copy of the filing is enclosed. Please date stamp the additional copy and return it to our messenger.

Thank you for your attention to this matter.

Sincerely,



Michael L. Rosenthal

Enclosures

BEFORE THE
SURFACE TRANSPORTATION BOARD

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STB Finance Docket No. 35504

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PETITION OF UNION PACIFIC RAILROAD COMPANY
FOR A DECLARATORY ORDER

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CERTIFICATE OF SERVICE

Pursuant to the Board's decision served on January 23, 2012, in the captioned docket, the undersigned counsel hereby certifies that a copy of all prior filings made by Union Pacific Railroad Company has been served on all parties of record in this proceeding by first-class mail, postage prepaid, or by a more expeditious manner of delivery.

Respectfully submitted,



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OPENING ARGUMENT AND EVIDENCE OF
UNION PACIFIC RAILROAD COMPANY

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January 25, 2012

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Exhibit A: Items 50 and 60 of UP Tariff 6607, “General Rules for Movement of Toxic or Poison Inhalation Commodity Shipments over Lines of the Union Pacific Railroad”

Verified Statement of Diane K. Duren

Verified Statement of Timothy J. O’Brien

Verified Statement of Steven Shavell

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Finance Docket No. 35504

PETITION OF UNION PACIFIC RAILROAD COMPANY
FOR A DECLARATORY ORDER

**OPENING ARGUMENT AND EVIDENCE OF
UNION PACIFIC RAILROAD COMPANY**

Union Pacific Railroad Company (“UP”) hereby submits its opening argument and evidence regarding the reasonableness of the liability-sharing arrangement contained in its rules tariff that applies to transportation of toxic by inhalation hazardous commodities (“TIH”). Items 50 and 60 of UP Tariff 6607, “General Rules for Movement of Toxic or Poison Inhalation Commodity Shipments over Lines of the Union Pacific Railroad” (the “tariff provisions”), require TIH shippers to indemnify UP against all liabilities arising from this transportation except those caused by the sole, contributory, or concurring negligence or fault of UP.¹

The Board should find that UP can reasonably require, as a condition of providing common carrier service for TIH, that the TIH shipper accept responsibility for liabilities as set forth in the tariff provisions. As shown below and in UP’s evidence, the tariff provisions allocate the risks associated with transporting TIH in a sensible way that accommodates the

¹ Items 50 and 60 are attached hereto as Exhibit A. A full copy of Tariff 6607 is available at <http://c02.my.uprr.com/wtp/pricedocs/UP6607BOOK.pdf>.

In UP tariffs, if an item within a tariff publication is revised, the new version is assigned an alphabetical designation to distinguish it from earlier versions. The current versions of these provisions are Items 50-D and 60-D. For ease of reference, however, we refer to the items at issue in this proceeding simply as Items 50 and 60.

legitimate interests of both UP and TIH shippers. The tariff provisions create appropriate incentives for safety, promote socially desirable levels of TIH shipping activity, and protect UP from unfair exposure to liability resulting from its carriage of materials that are inherently dangerous – and they do this without diminishing TIH shippers’ access to common carrier service. In addition, the consequences of the liability-sharing arrangement under the tariff are consistent with the national rail policy.

UP transports TIH safely and efficiently every day, and the probability of an accident is very low. Nevertheless, if a major incident were to occur, either accidentally or through an act of terrorism, UP would face potentially staggering liability because of the inherently dangerous nature of TIH. Even a relatively small TIH release can cause serious injuries and death, disruption to railroad operations, as well as substantial environmental response and remediation costs. UP believes it is reasonable to require TIH shippers – the parties that control whether, when, and where TIH is shipped – to indemnify UP against liabilities associated with TIH shipments that are not caused by UP’s own negligence.

In support of its argument, UP is submitting verified statements from Diane K. Duren, UP’s Vice President & General Manager - Chemicals; Timothy J. O’Brien, UP’s Director Environmental Operations - Hazardous Materials; and Steven Shavell, the Samuel R. Rosenthal, Professor of Law and Economics at Harvard Law School and Director of the John M. Olin Center for Law, Economics, and Business at Harvard University.

I. BACKGROUND

A. History of the Tariff Provisions

The liability-allocation arrangement set forth in Items 50 and 60 of Tariff 6607 is the product of an agreement that resolved a complaint filed by the Chlorine Institute (“CI”) and

American Chemistry Council (“ACC”) against UP in a Utah federal court in June 2009.²

Historically, most TIH shipments on UP have moved under contract. In 2008, UP began to consider including a risk allocation provision in its TIH contracts, to shift some of the burden of TIH liability to shippers. At that time, all customers were shipping TIH under contract; no customer shipped TIH under a tariff. However, one of our TIH customers, U.S. Magnesium, subsequently requested common carrier service for some of its TIH shipments. In response to this request, UP formalized the new risk allocation provisions it had been developing through contract negotiations with its customers and published the language as part of an earlier version of Tariff 6607.

The complaint filed by CI and ACC alleged that, through its new tariff language, UP was improperly attempting to demand indemnification for its own negligence. In fact, that was not UP’s intent. However, UP recognized that the tariff’s indemnification provisions were unclear on this point. UP therefore worked with CI and ACC to develop mutually agreeable language. After negotiations, the CI/ACC lawyer approved the language UP developed for the indemnity provisions. UP then issued a revised version of Tariff 6607 on August 13, 2009, to be effective August 26, 2009. Following this joint effort to develop acceptable risk allocation provisions, CI and ACC dismissed their lawsuit.

Thereafter, as TIH contracts came up for renewal, UP negotiated language that was substantially similar to the revised tariff language approved by CI and ACC. During these negotiations, UP received additional feedback from customers, and UP subsequently added to the

² *The Chlorine Institute, Inc. v. Union Pacific R.R. Co.*, Case 2:09-cv-00574-CW (D. Utah). The history of the tariff provisions is described in Ms. Duren’s verified statement.

tariff provisions some clarifications that customers had suggested. UP reissued the tariff sections governing indemnification on December 20, 2010, to be effective January 15, 2011.

As UP has continued to negotiate contract renewals, most TIH customers have accepted the risk allocation approach embodied in current Tariff 6607. While some customers initially resisted these provisions, many appear to have concluded that the provisions are commercially reasonable. Approximately 56% of UP's TIH carloads currently move under contracts with indemnification terms that are the same as, or reflect negotiated tailored terms based on, the indemnification terms in Tariff 6607.³ UP is currently engaged in contract negotiations with several other customers that account for approximately 13% of its TIH carloads. UP's remaining TIH carloads are moving under legacy contracts that have not come up for renegotiation since UP adopted the indemnification terms in Tariff 6607.

B. Terms of the Tariff Provisions

Items 50 and 60 of the current version of Tariff 6607 set out indemnification terms for TIH shipments. UP and the shipper each retain liability for their own negligence. Thus, Item 50 provides that UP shall indemnify the shipper for liabilities⁴ "arising from [UP's] sole negligence or fault in the performance of transportation services pursuant to this tariff." Ex. A, Item 50.1. This means that UP remains liable for any damages caused by its own negligence associated with, for example:

³ In addition, three UP customers are currently shipping TIH under common carrier rates and the indemnification terms in Tariff 6607.

⁴ Item 50.1 defines "liabilities" to include "any and all claims, liens, causes of action, suits, demands, losses, damages (including without limitation special and consequential damages), costs, fines, penalties, judgments, expenses (including without limitation attorneys' fees, costs of court and other legal or investigative expenses, consulting fees, costs of remediation, costs of emergency responses and evacuations, and government oversight costs), suits, claims of environmental exposure and natural resources damages."

- failure to maintain tracks to Federal Railroad Administration standards;
- operation of trains at excessive speeds;
- failure to maintain signals and crew error in missing a signal; and
- failure to follow rules for TIH transportation established by the Federal Railroad Administration, Transportation Security Administration, or Pipeline and Hazardous Materials Safety Administration.

Item 50 further provides that the shipper shall indemnify UP against all liabilities except those caused by UP's "sole or concurring negligence or fault." *Id.*, Item 50.2.⁵ This provision specifies that the shipper's indemnity shall include (but is not limited to) liabilities arising from:

- any failure of, release from, or defect in equipment tendered by customer for the transportation of commodity;
- loading, sealing, and securing commodity in such equipment;
- release, unloading, transfer, delivery, treatment, dumping, storage, or disposal of commodity not caused by the sole or concurring negligence or fault of railroad;
- any fines, penalties, or suits resulting from alleged or actual violation of federal, state or local environmental or other law, statute, ordinance, code, or regulation that was not attributable to railroad; and
- any loss caused by the sole negligence or fault of customer.

Id. Item 60 provides that, if liabilities arise as a result of the joint, contributory or concurring negligence of UP and the shipper or another party, UP shall be liable only for its allocated percentage of responsibility. *Id.*, Item 60.

⁵ Item 50.2 also states that when the shipper fails to provide a proper designation of chemicals or contaminants in the commodity shipping document the shipper will be solely responsible for any liabilities due to the presence of these chemicals or contaminants. *Id.* Where a shipper fails to properly label the contents of a tank car, UP will lack the necessary information about how to handle the car and how to respond to and mitigate damage from any release of the chemical.

The tariff makes the TIH shipper responsible for all liabilities arising out of the transportation of its TIH materials that are *not* caused, either in whole or in part, by UP. Thus, under the tariff, the shipper must indemnify UP for both liabilities caused by the fault of the shipper and any liabilities that are not caused by the fault of either the railroad or the shipper – that is, liabilities that do not result from anyone’s negligence (strict liability) or those caused by the negligence of a third party. For example, the tariff would require a TIH shipper to indemnify UP for any liability UP incurred as a result of a release of TIH and evacuation of a nearby community (or worse) because the shipper or its contractor improperly sealed a valve on the car.⁶ Other examples of situations that would be addressed by the tariff provisions include:

- *Situations in which shipper settlements would otherwise shift liability to UP.* In a TIH release case where UP is found to be 51% at fault and the shipper is found to be 49% at fault, the plaintiff chooses to settle with the shipper for a minimal amount in favor of pursuing UP for the remaining damages. Under the law in Texas, where substantial movements of TIH occur, UP’s 51% share of fault would make it responsible for 100% of the damages. UP could not pursue contribution from the settling shipper, Tex. Civ. Prac. & Rem. Code 33.015(d), except that the modest settlement amount would be subtracted from the total damages UP would owe. *Id.* 33.012(b). The tariff’s indemnity provision would augment the Texas liability and contribution scheme and would alleviate the harsh consequences on UP of the plaintiff’s choice to settle with the shipper for a *de minimis* sum by allowing UP to recover from the shipper the balance of the shipper’s unpaid 49% share of damages.
- *Situations in which UP would otherwise be responsible for paying damages for harm caused by a judgment-proof third party.* In a case where UP is found to be 25% at fault, a judgment-proof third party is 55% at fault, and a shipper is 20% at fault. Under Illinois law, UP would be responsible for 100% of the damages under joint and several liability, and could seek contribution from the shipper for just 20% of the damages. *See* 735 ILCS 5/2-1117. The indemnity provision would allow UP to recover from the shipper all excess above UP’s 25% share.

⁶ UP’s tariff provisions would not prevent the shipper from seeking indemnification from its contractor, or contribution from any other responsible third party.

- *Situations in which UP would otherwise be responsible for paying damages for harm caused by terrorists.* In a case involving a terrorist attack that results in a release subject to CERCLA. Under CERCLA, UP could be held responsible for 100% of the environmental damages from the release. *See* 42 U.S.C. § 9607. The indemnity provision would allow UP to recover the costs from the shipper.
- *Situations in which UP would otherwise be responsible for paying damages for harm even though no party was negligent.* In a case in which UP is not at fault (for example, a tornado causes tank cars carrying TIH to fall from a bridge) but is held strictly liable under the Clean Water Act for harm due to discharge of TIH material into a waterway, UP pays 100% of the damages and may be assessed civil penalties. *See* 33 U.S.C. §§ 1311(a), 1319(d); *United States v. Earth Sciences, Inc.*, 599 F.2d 368, 374 (10th Cir. 1979). The indemnity provision would allow UP to recover all of these damages and penalties from the shipper.
- *Situations in which UP would be responsible for paying damages when it was not negligent because another party's negligence cannot be proven.* In a case where there is insufficient evidence to determine that either party was negligent (for example, a leaky valve causes a discharge on UP property and the shipper denies that it was responsible), UP incurs substantial cleanup costs. The indemnity provision would allow UP to recover 100% of these costs from the shipper.

Significantly, the indemnification provisions in Tariff 6607 do not absolve UP from any liability it may have to injured third parties, injured employees, or for government-imposed fines and penalties in these types of situations. Instead, the tariff allocates liabilities only as between UP and the shipper.

C. UP's Rationale for the Liability Allocation Provisions

In developing the tariff provisions at issue here, UP created a reasonable allocation of the liabilities that might arise from TIH shipments.⁷ UP did not seek to shift any liabilities that might result from its own negligence. UP determined, however, that TIH shippers, rather than UP, should be allocated liability for any consequences of transporting TIH other than

⁷ UP's rationale for establishing the tariff provisions is described in Ms. Duren's verified statement.

liability resulting from UP's own negligence. TIH shipments present unique risks for UP, its employees, and the communities it serves, including a greater threat of personal injury, death, and environmental liability than other commodities. But it is TIH shippers and their customers – not UP – that make the decisions whether to ship TIH on UP, the amount of TIH that UP must carry, and where TIH will be shipped. Those decisions largely determine UP's level of exposure to risk. Because UP has a common carrier obligation, it has no choice: it must carry TIH if a shipper requests carriage, and it must transport the TIH between the origin and destination specified by the shipper.

UP has concluded that shippers – which choose whether to ship TIH, what TIH products to ship, and when and where (and therefore how far) to ship TIH – are in the best position to weigh and distribute the risks of transporting TIH. Likewise, shippers and their customers (the end users) are in the best position to decide whether to substitute less hazardous products for TIH, thereby reducing the transportation risks.

Shippers also make important decisions that affect safety conditions of traffic while it is moving over the railroad through their tank car purchasing decisions, their tank car inspection and maintenance processes, and their care in loading and sealing their shipments for transportation. They can also reduce the harm if an accident does occur by properly placarding each shipment, providing accurate commodity codes in the bill of lading, providing emergency response information, and participating actively with UP in responding to any release of their TIH products.

Before UP introduced the current liability-sharing provisions, shippers bore very little of the risk involved in TIH transportation, even though their shipping decisions largely determined the railroad's risk exposure. By allocating to shippers the liabilities that arise in

connection with TIH shipments other than those that result from UP's own negligence, the tariff provisions should cause shippers to focus more on the risks inherent in TIH transportation. In addition, the provisions should help ensure that the costs associated with TIH shipments are more fully reflected in the prices end users pay. As a result, shippers and receivers will make decisions that more accurately reflect the true costs of TIH transportation costs, rather than relying on UP and non-TIH shippers to subsidize those costs.

The tariff provisions are not a complete answer to the risks UP faces when it transports TIH. Even with the tariff provisions, UP still carries most of the risk associated with transporting TIH because it is the operator of the trains, and in the event of an accident, UP and its employees are more likely to be found negligent and held liable for damages than any other party. Moreover, it is no answer to say that UP can obtain its own insurance against those risks. UP's general commercial liability insurance does not cover losses of \$25 million or less, so even a relatively small TIH incident could have a direct and substantial financial impact on the railroad in the absence of an appropriate liability-sharing arrangement.⁸ Conversely, UP has not yet been able to obtain insurance coverage at any reasonable price in amounts that would be necessary to cover the type of losses that could arise from an accident in a major population center.

In addition, for the rare accidents with potentially catastrophic consequences, such as a large chlorine release in a heavily populated area, private indemnity alone may not afford sufficient protection from the potentially devastating financial losses, since the resulting liability could threaten the existence of the shipper. For such accidents, a public policy solution (such as

⁸ As Ms. Duren observes in her verified statement, claims or notices of claims for TIH incidents raise UP's risk profile, potentially reducing the railroad's insurance coverage and increasing its premiums. In the long run, the costs of insurance will reflect the costs of liability covered.

the statutory scheme governing transportation of spent nuclear fuel) may be needed. But the tariff provisions play a role in helping reduce the risk that a catastrophic accident will occur, as well as reducing other serious risks that TIH transportation presents on a regular basis. UP believes it is important that shippers retain a significant stake that will motivate them to engage fully in the effort to reduce TIH transportation risks. Many UP shippers are excellent partners in promoting safe handling of TIH, but even those shippers often seem to disregard the risks created by their overall level of shipping activity – that is, how much TIH they ship and where they ship it.⁹ UP expects the tariff provisions will cause shippers to focus more closely on the overall risks their decisions create and that the result will be a more appropriate level of TIH shipments and an overall reduction in TIH transportation risks.

II. THE BOARD SHOULD EXERCISE ITS JURISDICTION TO DECIDE THE REASONABLENESS OF THE TARIFF PROVISIONS.

The Board has jurisdiction to determine whether the tariff provisions are reasonable. As the Board has noted previously, it “has jurisdiction to determine whether the terms and conditions under which railroads transport TIH material are reasonable.” *Union Pacific R.R. – Petition for Declaratory Order*, STB Finance Docket No. 35219 (STB served June 11, 2009) at 3 n.12 (citations omitted). The courts of appeals have agreed. *See Consol. Rail Corp. v. ICC*, 646 F.2d 642 (D.C. Cir. 1981); *Akron, Canton & Youngstown R.R. v. ICC*, 611 F.2d 1162, 1170 (6th Cir. 1979) (“A question of possible liability for damage resulting from

⁹ *See, e.g.*, Supplemental Comments of Agricultural Retailers Ass’n, *et al.*, at 23, *Common Carrier Obligation of Railroads – Transportation of Hazardous Materials*, STB Ex Parte No. 677 (Sub-No. 1) (Aug. 21, 2008) (arguing that shipper responsibility for TIH transportation is limited to “ensur[ing] that proper tank cars have been selected for their products, [complying] with other regulatory requirements such as placarding and labeling requirements, and [placing] their products in the care of the railroads”) (footnote omitted).

carriage of a commodity is . . . within the Commission’s jurisdiction as the regulator of the economics of interstate rail transports.”).

In its order commencing these proceedings, the Board stated that it had “broad discretion to determine whether to issue a declaratory order.” *Union Pacific R.R. – Petition for Declaratory Order*, STB Finance Docket No. 35504, slip op. at 3 (STB served Dec. 12, 2011) (citing *Bos. & Me. Corp. v. Town of Ayer*, 330 F.3d 12, 14 n.2 (1st Cir. 2003); *Intercity Transp. Co. v. United States*, 737 F.2d 103 (D.C. Cir. 1984); *Delegation of Auth. – Declaratory Order Proceedings*, 5 I.C.C.2d 675 (1989)). The Board should exercise that discretion here. As the Board noted in the December 12 order, exercise of its discretion is appropriate here “to remove the uncertainty raised in UP’s petition regarding the reasonableness of its tariff provisions under 49 U.S.C. § 10702 and 49 U.S.C. § 11101(a).” *Id.*

Both UP and TIH shippers will benefit from removal of this uncertainty. This proceeding involves a concrete question. UP has developed specific tariff language regarding indemnity for TIH liabilities, and the tariff provisions currently apply to the TIH shipments of three shippers. UP intends to incorporate the provisions in any tariff it provides to a TIH shipper that requests common carrier rates. UP originally sought a declaratory order to resolve a dispute with such a shipper, which had objected to the indemnity provisions. Even if that dispute is resolved privately, other shippers have questioned the tariff provisions, and there may be additional instances in which UP and a TIH shipper cannot agree on contract terms and the shipper requests a common carrier rate.

The stakes are high for UP and TIH shippers. TIH transportation is inherently risky and potential liability for both accidents and non-accident related releases is great. UP and TIH shippers will benefit from knowing in advance which party will ultimately bear what portion

of the substantial costs of liability that may arise from TIH transportation. The certainty provided by the tariff provisions will reduce the need for litigation over loss distribution and promote settlement of disputes.

III. THE TARIFF PROVISIONS ARE REASONABLE.

A. The Board's Standards for Determining Reasonableness of Tariff Provisions

The question before the Board in this proceeding is whether UP's establishment of the indemnification provisions constitutes a reasonable practice under 49 U.S.C. § 10702. Section 10702 requires rail carriers providing transportation subject to the Board's jurisdiction to "establish reasonable ... rules and practices on matters related to that transportation." Congress did not define what constitutes a reasonable rule or practice; instead, it gave the Board "broad discretion to conduct case-by-case fact-specific inquiries to give meaning to those terms, which are not self-defining, in the wide variety of factual circumstances encountered." *Granite State Concrete Co. v. STB*, 417 F.3d 85, 92 (1st Cir. 2005).

The question is "whether the practice ... is *reasonable* when viewed from the *public* perspective of the [Board]," which must reconcile a variety of rail polices that can sometimes involve conflicting considerations. *Consol. Rail Corp.*, 646 F.2d at 647 (emphasis in original); *N. Am. Freight Car Ass'n v. STB*, 529 F.3d 1166, 1171 (D.C. Cir. 2008). If a railroad is pursuing a "reasonable objective," the Board's role is not to second-guess its approach or micromanage the railroad's decision-making, but rather to make sure it has chosen a "reasonable solution[]." *Ark. Elec. Coop. Corp. – Petition for Declaratory Order*, STB Docket No. FD 35305 (STB served Mar. 3, 2011) at 14; *see also Nat'l Grain & Feed Ass'n v. Burlington N.R.R.*, 8 I.C.C.2d 421, 434 (1992) (challenged practice was "a reasonable response to a real problem"); *Allied Corp. v. Union Pacific R.R.*, 1 I.C.C.2d 480, 490 (1985) (railroad's policy of sharing the

costs of surplus equipment between the shipper and the carrier was “clearly not unfair to [the shipper] under the circumstances”); *Granite State Concrete*, 417 F.3d at 93 (railroad’s actions represented a “reasonable accommodation between [railroad’s] safety concerns and [shipper’s] service needs”). In addition, railroads are not bound to do what they have always done in the past; they are allowed to change their practices “in response to changing circumstances.” *Ark. Elec. Coop. Corp.* at 11.

B. The Need for the Tariff Provisions

It is appropriate for UP to address the allocation of risk and liability for TIH transportation through tariff provisions. Board precedent establishes that rail carriers may use tariff provisions to establish liability-sharing arrangements, especially in the context of highly toxic chemicals. In *Classification Ratings of Chemicals, Conrail*, 3 I.C.C.2d 331 (1986), the Interstate Commerce Commission, the Board’s predecessor, ruled that Conrail could not refuse to ship certain highly toxic chemicals under common carrier rates because Conrail had not shown that it could not address its concerns through tariff rules, including rules about liability-sharing. *See id.* at 337 (“[Conrail] has not shown that it could not use [a] tariff (through publication of various governing rules) to limit liability or to gain greater control over when commodities are tendered and how they are handled.”).¹⁰

Even apart from the *Conrail* precedent, addressing the allocation of risk and liability for TIH shipments in a tariff makes perfect sense. As discussed above, TIH shipments present special risks. Accidents will occur despite UP’s best efforts, and the consequences can include death and serious injury to responders and members of the general public, as well as UP

¹⁰ UP and other railroads frequently include indemnification provisions in their general tariffs. *See e.g.*, Union Pacific Railroad Tariff 6007-B, Item 139, *available at* <http://c02.my.uprr.com/wtp/pricedocs/UP6007BOOK.pdf>.

employees, and harm to the environment. Even minor incidents can be highly disruptive to efficient rail transportation and can result in significant loss. Thus, liability for accidents or incidents involving TIH can be very substantial due to the nature of these materials. As Timothy O'Brien, UP's Director Environmental Operations - Hazardous Materials, explains in his verified statement, UP has identified TIH incidents as one of its most significant corporate risks.¹¹ It is therefore important to UP to clarify in advance how the risks of TIH shipments will be allocated.

Including risk allocation provisions in a TIH tariff makes sense in view of the difficulty of predicting how liability will be allocated in the absence of such a provision. UP operates in 23 states and thus confronts a range of state laws. State tort law is not uniform, presenting differing allocation and contribution principles. UP also is subject to both federal environmental statutes and numerous parallel state environmental laws, which typically impose strict liability on the railroad for a discharge of hazardous materials. Allocating liability through a tariff is efficient because it will avoid the need for UP and shippers to litigate statutory or common law contribution claims under a variety of federal or state law schemes.

Use of a tariff provision to allocate liability between UP and shippers makes sense in the absence of any uniform law or public policy on this subject. Congress has addressed the potential for catastrophic liability in some areas, such as the transportation of spent nuclear fuel. The Price-Anderson Act¹² limits the liability of railroads in connection with this transportation. But there is no similar scheme to cover TIH transportation, despite the similar gravity of the risk.

Insurance is also not sufficient to protect UP and other railroads. As explained in the verified statement of Warren B. Beach, UP's Assistant Vice President for Finance and

¹¹ See also Union Pacific Corporation, Annual Report (Form 10-K), at 10 (Feb. 4, 2011).

¹² 42 U.S.C. § 2210.

Insurance, in Ex Parte No. 677 (Sub-No. 1), UP cannot acquire coverage high enough to satisfy its potential liability for a truly catastrophic TIH release, and lesser liabilities would likely fall within a self-insured retention level.¹³ In any event, as discussed below, the tariff provisions provide incentives for shippers to reduce risk in connection with TIH shipments. Requiring UP to rely on insurance to cover all TIH liability would not accomplish this goal.

C. The Tariff Provisions Allocate Risk in a Reasonable Manner

The tariff provisions at issue here allocate liability, as between UP and the shipper, for losses that may occur in connection with TIH transportation. As shown below, the allocation is a reasonable one. It provides appropriate incentives for a socially desirable level of TIH shipments. In addition, it provides incentives to shippers to reduce risk associated with TIH shipments without significantly affecting UP's incentives to engage in risk reduction. The result is an appropriate placement of liability on the party that is in the best position to minimize the risks of TIH transportation by making decisions that will achieve a socially desirable level of this activity.

1. Responsibility for UP or Shipper Fault

The basic allocation principle underlying the tariff provisions is that each party will be responsible for liability arising from its own negligence. This standard business principle is noncontroversial – no shipper has ever objected to this principle in contract negotiations with UP. When each party bears the portion of liability attributable to its own negligence, both have an incentive to avoid negligent conduct that may result in accidents or other incidents involving

¹³ Ms. Duren also discusses why the acquisition of liability insurance is not sufficient to address UP's interests in note 5 on page 5 of her verified statement.

TIH shipments and to take steps to reduce risk where the benefits of such actions exceed their costs.

Shippers may argue that there is no need for a provision that requires them to indemnify UP for liability based on the shipper's negligence because UP controls TIH shipments once cars leave the shipper's possession. This argument disregards the important role that shippers play in ensuring that TIH shipments move safely when they are in UP's hands. Shippers are responsible for acquiring and maintaining the tank cars in which TIH materials move. They also are responsible for loading and sealing a tank car before it is released to UP. If a shipper negligently fails to close a valve completely or provides a car with a defective pressure relief device (resulting in a rupture of the car), a release of the car's contents may occur. In addition, a TIH shipper is responsible for providing complete and accurate information on the commodity being shipped and emergency contact information in the event of a release of the tank car's contents. If the shipper provides incorrect information about the contents of a tank car or fails to monitor its emergency response number, UP will lack the information needed to minimize harm to people and the environment if a release occurs.

Thus, it is entirely reasonable to clarify through the tariff that the shipper will compensate UP for any loss resulting from the shipper's negligence. This result is fair, and including such a provision as part of the tariff terms is more efficient than requiring UP to pursue a contribution action or other litigation against the shipper to establish its right to recover from the shipper on a case-by-case basis.

2. Providing Incentives for the Appropriate Level of TIH Transportation

In addition to providing that each party will indemnify the other for the consequences of the party's own negligence, the tariff provides that the shipper will indemnify

UP for any liabilities not attributable to UP's negligence. As described above, this might include, for example, strict liability imposed on UP without fault under an environmental statute, or cases in which a third party tortfeasor was judgment-proof and UP has joint liability for the uncollectible orphan share.

It is reasonable for the shipper to bear the burden of liabilities other than those due to UP's negligence because the shipper creates the risk in the first instance by making the decision to put TIH on the rails. The shipper decides what TIH materials to ship, how much material to ship, and when to ship it. In addition, the shipper dictates the origin and destination for each TIH shipment, which in turn determines how long the TIH movement will be and the geographical area it is likely to cover. Thus, the shipper creates the basic risk inherent in moving TIH and largely determines the length of time that risk will continue. And while TIH products have many beneficial uses, no shipper is forced to undertake the enterprise of producing and selling TIH.

On the other hand, UP has no choice in whether it is subject to a TIH transportation risk and no role in creating that risk. As a common carrier, it must accept any TIH shipment its customer tenders and must transport it between the origin and destination specified by the shipper. Thus, shippers can force UP to take on the risk of transporting TIH, whether or not UP would choose to do so. Indeed, the Board recently ruled that UP was required to establish common carrier rates for a TIH shipper that wanted to ship chlorine thousands of miles through several major cities to destinations that included major chlorine-producing areas. *See Union Pacific R.R. – Petition for Declaratory Order*, STB Finance Docket No. 35219 (STB served June 11, 2009).

Once created by the shipper, the TIH transportation risk forced on UP will then include the unavoidable risk associated with the actions of third parties, as well as the avoidable risk associated with any UP negligence (which UP works extremely hard to avoid). The tariff provisions allocate to UP any liability for the avoidable risk associated with its own negligence during the time TIH is on the rails. However, without the tariff provisions, liability for the unavoidable risk forced on UP is more often than not also borne by the railroad.

Thus, because the shipper controls the most critical decision of whether to ship TIH material by rail at all, and the consequent magnitude of that risk (*i.e.*, how much TIH, what type of TIH material, and how far the TIH will travel), basic fairness dictates that the shipper assume the risks of this transportation that are inherent in the commodity itself and that do not arise from the only risk UP controls – its own negligence. Because the shipper controls these basic decisions and UP by law may not decline to provide the requested service, UP should not be saddled with losses other than those resulting from its own negligence. A shipper should not be in a position to make decisions that increase the risks of injury and loss on UP's property, but bear none of the consequences. Instead, it should bear these risks and factor them into its decisions regarding shipment of its TIH product.

Placing this liability on the shipper is consistent with good public policy. As Professor Steven Shavell explains in his verified statement, it is socially desirable that the level of TIH shipping activity appropriately reflect the risks of moving TIH by rail. If shippers may demand transportation for their TIH products without factoring in the risks and associated costs, there will be excessive shipping activity, and too great a threat to the safety of the public. Professor Shavell, who has written extensively on the subjects of accidents and allocation of risk, states that to produce the socially desirable level of TIH shipping activity, shippers must face

liability-related incentives to take the risks of rail transport into account, and the prices of TIH materials to end users must reflect these risks.¹⁴ In Professor Shavell's judgment, shifting liability to shippers under the indemnity provisions of the tariff will motivate shippers to factor accident risks into their shipping decisions more fully, and the prices they charge to end users will more accurately reflect the accident risks. The result will be a socially beneficial effect on the level of TIH shipping activity.¹⁵

Professor Shavell explains that placing on UP the risks that do not arise from its own negligence would not achieve the same socially beneficial effect on the level of TIH activity. In theory, if these liabilities were absorbed by UP with no indemnification obligation on the shipper, UP could adjust its rates to reflect this increased risk. But it is unlikely that UP could increase its rates sufficiently to fully reflect the increased risk it would face. As Professor Shavell recognizes, the Board's rate regulation standards do not allow for an adjustment of rates by the carrier that is sufficient to account for the specific risk characteristics of particular types of shipments. But if shippers bear more of the risks associated with shipping TIH, they can and

¹⁴ This principle is well accepted in economic literature. *See, e.g.*, Guido Calabresi, *The Costs of Accidents: A Legal and Economic Analysis* 70 (1970) ("Failure to include accident costs in the prices of activities will, according to the [general deterrence] theory, cause people to choose more accident-prone activities than they would if the prices of these activities made them pay for these accident costs, resulting in more accident costs than we want.").

¹⁵ This economic framework has been applied by courts in addressing allocation of liability among defendants:

Each activity produces costs and benefits. An action is appropriate, from this economic point of view, when the benefits outweigh the costs. If the person contemplating an action will reap the benefits but will not pay the costs, we have no assurance that the socially correct decision will be made. The solution to this problem is to force the decisionmaker to absorb the costs as well as the benefits of a given action. This concept is known as "cost internalization."

Dobson v. Camden, 705 F.2d 759, 765 (5th Cir. 1983) (citing Guido Calabresi, *The Cost of Accidents* 68-129 (1970)).

will set a market price to end users taking those risks into account. In turn, the purchasing decisions of end users will also account for those risks. The result of this allocation of risk is to produce a socially desirable level of TIH shipping activity.

3. *Reduction of Risk Associated With a Given Level of TIH Transportation*

The tariff provisions will also provide more incentive for shippers to reduce risks associated with a given level of TIH transportation. As Mr. O'Brien explains in his verified statement, TIH shippers have many opportunities to take extra steps that will improve the safety of their shipments. Shippers are the owners (or lessees) of the tank cars that carry TIH. Thus, the safety of TIH shipments on UP lines depends on the shipper's equipment acquisition decisions. Federal regulations set minimum specifications for tank car construction, but the regulations do not prohibit shippers from acquiring cars that go above and beyond the minimum requirements. Shippers can choose how quickly to adopt new generation equipment with improved safety features, such as improved valve configurations.¹⁶ The shipper is primarily responsible for inspection, maintenance, and repair of its tank cars – functions that are key to the safety of TIH movements on UP's system.

Shippers are also responsible for loading and sealing the tank cars that carry TIH materials as they move over UP. Errors in performing these critical functions can result in TIH releases. The railroad counts on shippers to ensure that, *e.g.*, valves are properly closed and pressure relief devices are properly adjusted. Shippers are also responsible for specifying the commodity accurately on the bill of lading and providing contact information in the event of an

¹⁶ UP cannot require shippers to develop or adopt the best and safest equipment design and technology. Rather, UP must accept any tank car authorized by Federal Railroad Administration regulations that is tendered for movement, even if a safer car is or could be available.

emergency involving release (or potential release) of the tank car's contents.¹⁷ If the shipper lists the wrong commodity code or fails to monitor its emergency phone lines, or ends its subscription to an emergency notification service, the potential for serious injury from a release increases significantly.

Shippers are also partners with UP in responding to accidents and non-accident related releases of TIH materials. If the shipper plays an active role in helping UP personnel determine the best way to respond to a release of the shipper's product, UP is likely to be more successful in minimizing harm from the release. Some shippers play an active role in responding to emergencies involving their products. However, UP wants all shippers to step up as full partners in such response.

Of course, shippers will have incentives to be careful due to the threat of liability for their own negligent acts. By placing on shippers the potential liability for carriage of TIH not due to UP's negligence, however, the tariff provisions should increase their incentives to take extra care in the many ways described above, in addition to affecting their basic decision of whether to create the transportation risk in the first place. UP works hard to reduce its risks associated with TIH transportation, and it wants to see TIH shippers make similar kinds of efforts, at least to the extent the benefits to society of risk reduction measures exceed their cost. Some shippers have expressed the attitude that a shipment is UP's problem once cars are tendered to the railroad. To achieve safer operations, UP must change this mind-set, which can only occur when shippers are fully engaged and partnering with UP in finding ways to reduce the risks associated with transporting their products. A few TIH shipper are working actively with UP to reduce risk, but UP needs all shippers to participate in this effort. Placing more liability on

¹⁷ See 49 C.F.R. §§ 172.204, 172.600, 172.602 & 172.604.

shippers should motivate them to take additional steps that will help avoid accidents as the cars move to their destination.

In theory, placing more liability on UP might be thought to increase UP's incentives to improve the safety of TIH transportation. However, as Mr. O'Brien explains in his verified statement, UP already has powerful incentives to continue to improve safety for TIH shipments, and the tariff provisions will not alter those incentives. Importantly, UP continues to be liable for any negligence of its own under the tariff, and it will always be the most visible potential defendant if an accident occurs on its watch. Thus, UP will continue to face bet-the-company risks every time it transports TIH.

UP also has powerful incentives to maintain good relations with the local communities through which its trains travel (and thus to avoid any accidents, particularly TIH accidents, that might adversely affect a local community). The potential for injury to UP employees and significant damage to UP property resulting from a TIH release also provides a strong incentive for UP to reduce TIH risks. Moreover, UP has a very strong incentive to avoid TIH-related accidents because these accidents disrupt its network operations to a greater extent than accidents involving non-hazardous commodities. Stoppages and delays (or reroutes of trains) due to an accident or non-accident related release require UP to spend more on crews, car hire, locomotives, and fuel. These TIH-related disruptions costs are difficult to quantify, and thus UP would likely bear them regardless of the indemnification terms. In short, there are many reasons why UP's strong safety culture and its heavy focus on TIH risk reduction are unlikely to be adversely affected by the tariff provisions. On balance, the provisions are likely to promote reduction of risk by providing safety incentives to shippers without reducing such incentives for UP.

In addition, as Professor Shavell points out, if the tariff provisions did not strike the socially desirable balance of incentives for risk reduction in a particular instance (or even more broadly), the parties would have a motive to enter into a contract with different risk allocation terms. As discussed above, UP has negotiated contracts with many TIH shippers that include indemnity terms that are essentially the same as those in Tariff 6607, which suggests that the tariff provisions do strike the right balance.

In any event, the most significant factors affecting TIH transportation safety are the amount of TIH that travels on UP and the distance it travels – factors that are within the control of shippers. Accordingly, UP believes the socially desirable effect of the tariff provisions on the amount of TIH activity provides a clear basis for concluding that the tariff provisions are reasonable.

D. UP Is Not Attempting to De-Market TIH

In the past, some shippers have argued that railroads are taking steps to “de-market” TIH because they do not wish to bear the risk of transporting these dangerous materials. In this proceeding, one shipper has already asserted that UP’s TIH tariff provisions are such a “de-marketing” effort.¹⁸ That assertion is incorrect.

As Ms. Duren explains in her verified statement, UP is continuing to negotiate and enter into contracts with TIH shippers, including multi-year contracts. UP recognizes and accepts its common carrier obligation to transport TIH materials. While UP is keenly aware of the risks chlorine and other TIH materials pose to UP employees and property and the

¹⁸ Dyno Nobel Inc. made such a claim in opposing UP’s request that the Board institute this proceeding. *See* Letter from Peter A. Pfohl, Esq., Counsel for Dyno Nobel Inc., to Cynthia T. Brown, Chief, Section of Administration, at 3 (May 17, 2011). (claiming that UP’s petition is a “thinly-veiled effort to attempt to drive anhydrous ammonia off of the railroads”).

communities it serves, UP is committed to working with its customers to control these risks. Rather than making TIH prohibitively expensive to ship, UP is heavily committed to improving its safety and security processes, instituting procedures to ensure that customers comply with those processes, working with customers and other stakeholders to develop and implement new rail tank car designs, and encouraging shippers to eliminate unnecessary movements of TIH. UP remains committed to these important safety measures and will continue to work with shippers to move TIH materials more safely.

The indemnity provisions allocate more liabilities to shippers not to discourage TIH transportation, but because shippers are in the best position to balance the costs and benefits of transporting TIH. The indemnity provisions promote safety objectives by creating incentives for shippers to limit public exposure to these dangerous products. The indemnity provisions do not transfer to shippers any greater burden than UP currently bears. By allocating more of the risk to shippers, the indemnity provisions will give shippers increased incentives to reduce unnecessary transportation of TIH by developing safer forms of current materials, identifying substitutes that can be used for the same purposes, and developing options to produce TIH materials at manufacturing plants located closer to end-user facilities or to engage in product swaps with other producers located closer to the end user.

UP remains committed to carrying TIH materials and is constantly seeking ways to provide ever safer transportation of TIH. But it wants to be sure shippers and end users fully consider the true costs of this transportation before requiring UP to transport their TIH.

E. The Tariff Provisions Are Consistent with the National Rail Policy

The tariff provisions are consistent with several significant elements of the national rail policy. Among other things, the policy emphasizes safety of transportation facilities

and equipment and safe working conditions for employees. *See* 49 U.S.C. § 10101(8) (“operate transportation facilities and equipment without detriment to the public health and safety”); *id.* § 10101(11) (“to encourage . . . safe and suitable working conditions in the railroad industry”). As discussed above, the tariff provisions will have the effect of increasing safety by influencing the amount of TIH transportation that shippers require UP to provide. As Professor Shavell explains in his verified statement, assigning to shippers the liabilities that do not arise out of carrier fault will enhance safety by ensuring that risks associated with TIH shipments are more fully reflected in the price of end products, which will result in more socially desirable levels of TIH transportation activity. In addition, the tariff provisions will give shippers greater incentives to take steps to reduce risk associated with shipment of their products and to partner with UP to improve TIH safety.

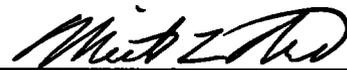
The national rail policy also favors allowing the demand for services to establish rates, fostering sound economic conditions in transportation, and encouraging individualized ratemaking. *See* 49 U.S.C. § 10101(1) (“allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail”); *id.* § 10101(5) (“foster sound economic conditions in transportation”); *id.* § 10101(10) (“require rail carriers, to the maximum extent practicable, to rely on individual rate increases, and to limit the use of increases of general applicability”). These elements of the policy encompass an interest in avoiding cross-subsidies. *See N. Am. Freight Car Ass’n v. BNSF Ry. Co.*, Docket No. 42060 (Sub-No. 1) (STB served Jan. 26, 2007), at 6, *pet. for review denied*, *N. Am. Freight Car Ass’n v. STB*, 529 F.3d 1166, 1171-72 (D.C. Cir. 2008). The tariff provisions help to avoid cross-subsidies by ensuring that TIH shippers bear the costs associated with TIH transportation. If UP were required to pay for TIH liabilities other than those resulting from its own negligence, it

would have difficulty reflecting those costs in individual shipper rates, and it would need to recover those payments through its rates to all shippers. The tariff provisions ensure that TIH shippers, rather than shippers as a whole, bear the costs of transporting TIH.

IV. CONCLUSION

For the reasons described above, the tariff provisions at issue in this proceeding are reasonable. The provisions reflect a fair sharing of the risks associated with transporting TIH, they produce a socially desirable level of TIH shipments, they provide incentives to reduce TIH transportation risks, and they promote the national rail policy in several significant respects. Therefore, the Board should issue a declaration that UP can reasonably require, as a condition of providing common carrier service for TIH, that the TIH shipper accept responsibility for liabilities as set forth in Items 50 and 60 of Tariff 6607.

Respectfully submitted,



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January 25, 2012

CERTIFICATE OF SERVICE

I hereby certify that on this 25th day of January 2012, I caused a copy of the foregoing Opening Argument and Evidence of Union Pacific Railroad Company to be served by first-class mail, postage prepaid, or by a more expeditious manner of delivery on all parties of record in this proceeding.



Michael L. Rosenthal

Exhibit A



UP TARIFF 6607

CONTAINING

**General Rules for Movement of Toxic or Poison Inhalation
Commodity Shipments over the Lines of the Union Pacific
Railroad Company.**

**Issued By:
E. A. HUNTER - MANAGER PRICING SERVICES
B. A. ROMMEL - MANAGER PRICING SERVICES**

**Union Pacific Railroad Company
1400 Douglas Street Omaha, NE 68179**

**Issued: January 26, 2009
Effective March 4, 2009**

UP 6607



UP 6607

Item: 50-D
INDEMNITY

Item 50. Indemnity:

[c]

1. RAILROAD SHALL SAVE, INDEMNIFY, DEFEND, AND HOLD HARMLESS CUSTOMER AND ANY PARENT OR AFFILIATED COMPANIES AND THEIR DIRECTORS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL CLAIMS, LIENS, CAUSES OF ACTION, SUITS, DEMANDS, LOSSES, DAMAGES (INCLUDING WITHOUT LIMITATION SPECIAL AND CONSEQUENTIAL DAMAGES), COSTS, FINES, PENALTIES, JUDGMENTS, EXPENSES (INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES, COSTS OF COURT AND OTHER LEGAL OR INVESTIGATIVE EXPENSES, CONSULTING FEES, COSTS OF REMEDIATION, COSTS OF EMERGENCY RESPONSES AND EVACUATIONS, AND GOVERNMENT OVERSIGHT COSTS), SUITS, CLAIMS OF ENVIRONMENTAL EXPOSURE AND NATURAL RESOURCE DAMAGES (COLLECTIVELY "*LIABILITIES*") ARISING FROM RAILROAD'S SOLE NEGLIGENCE OR FAULT IN THE PERFORMANCE OF TRANSPORTATION SERVICES PURSUANT TO THIS TARIFF. SUCH INDEMNIFICATION, DEFENSE, AND HOLD HARMLESS OBLIGATIONS SHALL NOT APPLY TO ANY *LIABILITIES* CAUSED BY THE SOLE NEGLIGENCE OR FAULT OF CUSTOMER OR THE CONCURRING NEGLIGENCE OR FAULT OF RAILROAD AND CUSTOMER.

2. CUSTOMER SHALL SAVE, INDEMNIFY, DEFEND, AND HOLD HARMLESS RAILROAD AND ANY PARENT OR AFFILIATED COMPANIES AND THEIR DIRECTORS, OFFICERS, AGENTS, AND EMPLOYEES FROM AND AGAINST ANY AND ALL *LIABILITIES* EXCEPT THOSE CAUSED BY THE SOLE OR CONCURRING NEGLIGENCE OR FAULT OF RAILROAD. CUSTOMER'S INDEMNITY SHALL INCLUDE, BUT NOT BE LIMITED TO, ANY *LIABILITIES* ARISING FROM:
 - ANY FAILURE OF, RELEASE FROM, OR DEFECT IN EQUIPMENT TENDERED BY CUSTOMER FOR THE TRANSPORTATION OF COMMODITY;
 - LOADING, SEALING, AND SECURING COMMODITY IN SUCH EQUIPMENT;
 - RELEASE, UNLOADING, TRANSFER, DELIVERY, TREATMENT, DUMPING, STORAGE, OR DISPOSAL OF COMMODITY NOT CAUSED BY THE SOLE OR CONCURRING NEGLIGENCE OR FAULT OF RAILROAD;
 - ANY FINES, PENALTIES, OR SUITS RESULTING FROM ALLEGED OR ACTUAL VIOLATION OF FEDERAL, STATE OR LOCAL ENVIRONMENTAL OR OTHER LAW, STATUTE, ORDINANCE, CODE, OR REGULATION THAT WAS NOT ATTRIBUTABLE TO RAILROAD; AND
 - ANY LOSS CAUSED BY THE SOLE NEGLIGENCE OR FAULT OF

CUSTOMER.

PROVIDED, HOWEVER, THAT CUSTOMER SHALL HAVE NO RESPONSIBIITY TO INDEMNIFY RAILROAD FOR *LIABILITIES* ARISING FROM THE NEGLIGENCE OR FAULT OF ANOTHER RAIL CARRIER THAT PARTICIPATED IN THE MOVEMENT.

CUSTOMER IS SOLELY RESPONSIBLE FOR AND WILL DEFEND, INDEMNIFY, AND HOLD RAILROAD HARMLESS AGAINST ANY *LIABILITIES* DUE TO THE PRESENCE OF CHEMICALS OR CONTAMINANTS IN THE COMMODITY WHICH ARE NOT PROPERLY DESCRIBED IN THE COMMODITY SHIPPING DOCUMENT.

- 3. Any Indemnified Party shall, at the expense of the Indemnifying Party, cooperate with and take all such actions as the Indemnifying party may reasonably request to assist the Indemnifying Party in the investigation and defense of the Indemnified Matter.**



UP 6607

Item: 60-D
JOINT LIABILITY

Item 60. Joint Liability:

[c]
WHEN *LIABILITIES* ARE CAUSED, IN WHOLE OR IN PART, BY THE JOINT, CONTRIBUTORY, OR CONCURRENT NEGLIGENCE OR FAULT OF THE RAILROAD, CUSTOMER, OR ANY OTHER PARTY, RESPONSIBILITY FOR *LIABILITIES* SHALL BE ADJUDICATED UNDER PRINCIPLES OF COMPARATIVE FAULT IN WHICH THE TRIER OF FACT SHALL DETERMINE THE PERCENTAGE OF RESPONSIBILITY FOR RAILROAD, CUSTOMER, AND ANY OTHER PARTY. RAILROAD SHALL BE LIABLE ONLY FOR THE AMOUNT OF SUCH *LIABILITIES* ALLOCATED TO THE RAILROAD IN PROPORTION TO RAILROAD PERCENTAGE OF RESPONSIBILITY. CUSTOMER SHALL BE LIABLE FOR ALL OTHER *LIABILITIES*.

NEITHER RAILROAD NOR CUSTOMER MAY REDUCE ITS PRO RATA SHARE OF NEGLIGENCE OR *LIABILITIES* UNDER THIS TARIFF BY AGREEMENT OR SETTLEMENT WITH ANY OTHER PARTY OR CLAIMANT.

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Finance Docket No. 35504

PETITION OF UNION PACIFIC RAILROAD COMPANY
FOR A DECLARATORY ORDER

VERIFIED STATEMENT OF DIANE K. DUREN

My name is Diane Duren. I am the Vice President & General Manager - Chemicals for Union Pacific Railroad (“UP”). I am responsible for the marketing, sales and customer relationship management activities for the Chemicals Business Group at UP. Chemical products include plastics, fertilizers, soda ash, liquefied petroleum gas and other petroleum products, as well as various liquid and dry chemicals. Most hazardous materials and all commodities classified as toxic inhalation hazards (“TIH”) that move on UP fall within the responsibility of the Chemicals Business Group. The Chemicals Business Group represents approximately 900,000 annual carloads and over \$2.8 billion in annual revenue. In 2011, TIH shipments accounted for approximately 27,600 carloads and approximately \$162 million in annual revenue for UP.

I earned my Bachelor’s degree in Business Administration with a major in Accounting from Creighton University in 1981, and I was licensed as a Certified Public Accountant. I began my career with UP in 1985. During my career at UP, I have held a variety of positions in Finance and Marketing and Sales. Of particular relevance to this proceeding, I was named Director of Logistics for Agricultural Products in 1997, and in this capacity I served as the principle interface between Agricultural Products marketing personnel and the UP

operating department on behalf of our agricultural customers, including customers that receive anhydrous ammonia, a TIH used as a fertilizer. In 1998, I became Vice President & General Manager - Agricultural Products, and performed in that role until appointment to my current position in 2006. As Vice President & General Manager - Chemicals, I have had extensive, direct involvement in determining and implementing UP's strategy for addressing the safety and liability challenges of transporting TIH.

My experience in both Finance and Marketing and Sales at UP has provided me with a broad perspective on UP's role and responsibilities as a participant in the TIH supply chain. As I will explain, the safe and efficient handling of TIH throughout the supply chain is one of UP's highest priorities, and one important way we are addressing that priority is through risk-allocation arrangements with TIH shippers that fairly and properly apportion TIH risk and liability across the supply chain.

UP believes that all participants in the TIH supply chain must share the responsibility for risk and liability associated with transporting TIH. We accept our obligation as a common carrier to transport TIH in the absence of safer, more logical alternatives, but our common carrier obligation does not justify our bearing a disproportionate share of the risk and liability caused by the toxic by inhalation properties of these commodities.

I am submitting this statement to (1) describe the risk that transporting TIH poses to UP, (2) discuss how the liability allocation provisions in Items 50 and 60 of Tariff 6607 were developed, (3) explain how the liability allocation provisions operate, (4) explain why those provisions reflect a fair balance between the interests of UP and TIH shippers and promote the public interest by reducing the risks to public safety of transporting TIH, and (5) confirm that

UP's risk management and safety concerns, not de-marketing, drove the adoption of these provisions.¹

I. Railroads Bear Staggering Risks When They Transport TIH

UP ranks the transportation of TIH as one of its most significant corporate risks.²

A TIH incident in the wrong place under the worst conditions could bankrupt the company, to say nothing of its effects on the public. UP has taken many steps to provide for the safest possible handling of TIH, and we are proactive in continuously refining and improving our operational safety and security practices. However, many of the risks of transporting TIH are beyond our control. Releases of TIH can be caused by natural disasters, activities of third-parties, or non-carrier equipment failures (such as a leaky or improperly sealed valve on a tank car). Moreover, even where railroads bear some responsibility for an accident, it is the toxic by inhalation properties of the commodity that can transform what otherwise would be solely a property damage event into a much more costly incident, or even a catastrophe. UP cannot and should not address these TIH risks on its own. They can be addressed only if the other participants in the TIH supply chain take transportation risks into account when determining how much TIH is shipped, where it is shipped, and the level of precautions they will take to prevent TIH releases and to mitigate the consequences of any releases that occur. The liability allocation

¹ I understand that Items 50 and 60 are attached to UP's Opening Argument and Evidence as Exhibit A.

In UP tariffs, if an item within a tariff publication is revised, the new version is assigned an alphabetical designation to distinguish it from earlier versions. The current versions of these provisions are Items 50-D and 60-D. For ease of reference, however, I will refer to these items simply as Items 50 and 60.

² UP 2010 Annual report 10-K, Item 1A. Risk Factors, p. 11.

provisions of Tariff 6607 are a means of ensuring that TIH producers and end users have the proper incentive to take transportation risks into account in their decision making.

A series of events in the last decade focused UP's attention sharply on how the dangers of transporting TIH present a profound risk to UP's enterprise and our continued ability to serve our customers and the communities that depend on us, and to the livelihood and health of our employees.

First, the attack of September 11, 2001, escalated our awareness of the very real risk of terrorism in this country. Since then, we have received numerous intelligence reports that terrorists consider TIH movements on freight railroads to present an appealing target.

Second, three incidents involving TIH drove home how an accident that might otherwise cause relatively modest damage could have catastrophic consequences due to the toxic by inhalation properties of these commodities if a carload of TIH were in the wrong place at the wrong time.

- In 2002, a Canadian Pacific train derailed near Minot, North Dakota. The accident resulted in the rupture of five tank cars carrying anhydrous ammonia. Ammonia vapor spread five miles downwind to a populated area, resulting in one death and several hundred injuries.
- In 2004, a UP train collided with a Burlington Northern Santa Fe train near Macdona, Texas. This accident led to the derailment and puncture of a tank car carrying chlorine, the formation of a large cloud of chlorine gas, and three deaths and more than thirty injuries.
- In 2005, two Norfolk Southern trains collided in Graniteville, South Carolina, resulting in the derailment and puncture of a tank car holding chlorine, the development of a cloud of chlorine gas, and nine deaths and over 500 injuries.

As one of the world's largest transporters of hazardous materials and TIH, UP has always been active in increasing and promoting awareness about safety, both internally with its employees and externally in the communities and industries we serve. However, these recent

incidents have prompted UP to focus even more critically on reducing the risks associated with transporting TIH. Since the middle of the last decade, we have undertaken many significant actions to enhance TIH safety and security. We have invested hundreds of millions of dollars to upgrade and maintain our routes that carry large amounts of TIH. We were out in front of government requirements in developing and implementing enhanced operational safety and security processes and practices for handling TIH. We adhere strictly to government safety and security regulations, and we continuously evaluate our internal procedures for handling TIH to identify potential process improvements.³ We have also increased our ability to respond effectively when there is an incident, and we continue to train public safety personnel from the communities we operate in so that the effect of any incident that does occur is mitigated.⁴ We communicate extensively with our customers about all facets of TIH transportation safety, process improvement, risk management, and liability exposure and reduction.

UP's development of appropriate liability allocation terms for TIH transportation is another important way in which UP seeks first to reduce the overall risk that a TIH incident will occur, and second, should an accident occur, to protect itself from exposure to the potentially staggering liability that arises because of its common carrier obligation to transport TIH.⁵ UP believes that liability allocation is necessary because it has no control over the

³ Timothy O'Brien, UP's Director Environmental Operations - Hazardous Materials, also sponsors a verified statement in the proceeding. Mr. O'Brien provides a more detailed description of UP's past and on-going efforts to eliminate TIH risks.

⁴ Mr. O'Brien also describes our response preparation measures should a TIH incident occur.

⁵ UP has also purchased a substantial amount of insurance to help cover losses arising out of incidents involving TIH. But while insurance helps limit potential financial losses, it does not prevent accidents from occurring. Moreover, UP continues to bear substantial risk despite its insurance coverage. UP is self-insured to \$25 million. In other words, UP's commercial liability insurance does not cover losses of \$25 million or less, and does not cover the first \$25 million of

quantity of TIH that is produced and consumed, the locations to which TIH is shipped, or the acquisition, loading and unloading of the equipment used to ship TIH. UP's risk allocation terms will place some of the responsibility and control where it belongs by causing TIH shippers and end users to consider more fully the risks they create by the choices they make. TIH shippers and end users are the ones who decide whether to substitute less hazardous products or adopt other means of reducing TIH transportation, such as changing a production process so TIH substances are made and consumed within the same plant, using nearby suppliers or engaging in product swaps to limit the distance that TIH must be transported, or focusing marketing efforts on end users that are closer to production locations. Similarly, TIH shippers are the ones who own or lease the tank cars used for TIH transportation and decide whether to upgrade their tank cars earlier than required, purchase tank cars with superior design features, and review and improve their loading processes to ensure that valves are properly secured.

If TIH shippers and end users do not bear an appropriate share of the liability that arises from the risks they create, they will create too much risk.⁶ This is not just an issue for UP; it is an issue for everyone potentially affected by an incident involving the release of TIH. UP believes that Items 50 and 60 of Tariff 6607 promote the public's – and UP's – interest in reducing TIH risk and reflect a fair allocation of liability between UP and shippers.

a loss that exceeds this amount. Thus, UP must pay the full amount for each accident in which its liability is less than \$25 million. In addition, UP's total commercial liability insurance is \$1.2 billion. Thus, UP's insurance would not be sufficient to cover a truly catastrophic event involving TIH. Moreover, each TIH incident that results in a claim or notice of a claim increases our risk profile and the possibility of reduced coverage with higher premiums.

⁶ Dr. Steven Shavell, the founder and director of the John M. Olin Center for Law, Economics and Business at Harvard Law School and who has a Ph.D. in Economics from M.I.T., discusses socially excessive TIH transportation and reasonable methods to reduce such risks in his separate verified statement.

II. The History Of The Liability-Allocation Provisions

The liability-allocation arrangement contained in Items 50 and 60 of Tariff 6607 is the product of an agreement that resolved a complaint that the Chlorine Institute (“CI”) and American Chemistry Council (“ACC”) filed against UP in a Utah federal court in June 2009. Historically, most TIH shipments on UP have moved under contract. In 2008, UP began to consider the possibility of including a standardized provision on risk allocation in its TIH contracts to ensure shippers were responsible for certain portions of TIH liability. At the time, UP’s TIH shippers were all shipping TIH pursuant to confidential rail transportation contracts, and the contracts did not consistently address liability allocation issues. UP was forced to accelerate its consideration of this issue in early 2009, when we failed to reach agreement on new rates for U.S. Magnesium, a chlorine customer whose contract was expiring. We found ourselves with a need to publish common carrier rates and service terms, but we did not have a tariff that provided for the types of service terms that we typically were including in our contracts for transporting TIH. We quickly compiled such terms, including an early version of the current Items 50 and 60, into a tariff we designated Tariff 6607, General Rules for Movement of Toxic or Poison Inhalation Commodity Shipments Over the Lines of the Union Pacific Railroad Company. That tariff took effect on March 4, 2009.

On June 29, 2009, CI and ACC filed a declaratory action suit against UP in Utah. The complaint alleged that, through the indemnification provisions in Tariff 6607, UP was improperly attempting to demand indemnification for its own negligence and was therefore against public policy. UP never intended to seek indemnification for its own negligence, but we recognized that the tariff language could be misinterpreted and that greater clarity was needed. We asked CI and ACC to extend the time for us to answer their complaint so that we could try to

revise the language to address their concerns. UP then worked with the lawyer representing CI and ACC to develop mutually acceptable changes to the tariff terms. After extensive negotiations, we came to an agreement. On August 13, 2009, UP published the agreed-upon language for Items 50 and 60. On August 17, 2009, CI and ACC voluntarily dismissed their lawsuit. Since that time, as TIH contracts have come up for renewal, UP has negotiated for the inclusion of indemnity terms that are substantially similar to the revised tariff provisions. In the course of these negotiations, UP received feedback from its customers, including suggestions for refining and clarifying the indemnity terms, and it has subsequently modified the tariff provisions to reflect those suggestions. UP reissued the tariff sections governing indemnification on December 20, 2010, to be effective January 15, 2011.

As we have continued to negotiate transportation contracts with customers, the liability allocation approach reflected in Tariff 6607 items has gained broad acceptance. No shipper balked at the prospect of indemnifying UP for the shipper's own negligence, and despite some resistance to other terms, we have been able to come to agreement with most of our customers through commercial negotiations. Specifically, UP has entered into contracts that reflect the basic liability-allocation approach embodied in Tariff 6607 with customers that account for approximately 56% of UP's TIH carloads. Many of those contracts utilize precisely the same indemnification language as Tariff 6607. Others contain liability-allocation principles based on the tariff provisions, but include specifically negotiated language changes. We are currently in negotiations with several TIH shippers that account for approximately 13% of UP's TIH carloads. Currently, three TIH shippers are shipping under UP common carrier tariff rates

directly subject to Tariff 6607, although we are in contract negotiations with two.⁷ Shippers responsible for the remaining TIH carloads are moving traffic under contracts that have not yet come up for renegotiation.

III. Terms Of The Tariff Provisions

Items 50 and 60 of the current version of Tariff 6607 set out UP's indemnification terms for movements of TIH traffic in common carrier service. Under the tariff provisions, UP and the shipper each retain liability for their own negligence. Item 50 provides that UP shall indemnify the shipper for liabilities "arising from [UP's] sole negligence or fault in the performance of transportation services pursuant to this tariff." Ex. A, Item 50.1. Item 50 makes clear that UP is not seeking indemnification for its own negligence by further providing that the shipper shall indemnify UP against all liabilities except those caused by UP's "sole or concurring negligence or fault." Ex. A, Item 50.2. The provision further specifies that the shipper's indemnity shall include, but is not limited to, liabilities arising from:

- any failure of, release from, or defect in equipment tendered by customer for the transportation of commodity;
- loading, sealing, and securing commodity in such equipment;
- release, unloading, transfer, delivery, treatment, dumping, storage, or disposal of commodity not caused by the sole or concurring negligence or fault of railroad;
- any fines, penalties, or suits resulting from alleged or actual violation of federal, state or local environmental or other law, statute, ordinance, code, or regulation that was not attributable to railroad; and
- any loss caused by the sole negligence or fault of customer.

⁷ As other contracts expire, I anticipate that other TIH shippers will ship under the common carrier terms either temporarily or long-term depending on how quickly or whether we can reach agreement on new contract terms. Consequently, we will need to continue to publish Tariff 6607.

Id. Item 60 provides that, if liabilities arise as a result of the concurring negligence of UP and the shipper or another party, UP shall be liable for its allocated percentage of responsibility. Ex. A, Item 60.

Under the tariff, the shipper must indemnify UP for any liabilities that are *not* caused by the fault of the railroad – that is, liabilities that arise from strict liability regimes or that flow from the negligent acts of the shipper and/or a third party. For example, the tariff would require a TIH shipper to indemnify UP for any liability UP incurred as a result of a release of TIH and evacuation of a nearby community (or worse) because the shipper’s consignee improperly sealed a valve on the car.

IV. UP’s Indemnity Provisions Reflect A Fair Allocation of Liability Between UP And TIH Shippers And Will Reduce The Risks To Public Safety Of Transporting TIH

UP developed the tariff provisions at issue to create a reasonable allocation of the liabilities that might arise from TIH shipments. UP has not sought to shift any liabilities that might result from its own negligence. However, UP believes that it is appropriate to allocate liability to TIH shippers for any liabilities arising out of TIH transportation other than liability resulting from UP’s own negligence.

As I described above, TIH shipments present special risks for UP. UP cannot address those risks on its own. Indeed, UP has no control over how much TIH is shipped, where it is shipped, or when it is shipped. It is TIH shippers, not UP, that control UP’s and the public’s exposure to the risks created when TIH is transported by rail. The STB has made it very clear

that if a TIH shipper requests service, UP has a common carrier obligation to transport the TIH between the origin and the destination specified by the shipper – UP has no say in the matter.⁸

UP's liability allocation provisions are directed at the socially desirable goal of ensuring that TIH shippers and end users have the proper incentive to take transportation risks into account in their decision making. This is appropriate for several reasons. First, as discussed above, UP has no say in the amount of TIH that is shipped, or where it is shipped, or when it is shipped. Second, TIH shippers and their customers can weigh the risks and the costs and adjust their behaviors accordingly. They are best positioned to determine whether they can substitute less hazardous products, ship from origin points that are closer to the destination, co-locate their facilities that produce and use TIH, or engage in product swaps to minimize the transportation of TIH. If shippers bear the liabilities associated with their transportation decisions, the costs will be reflected in the prices they charge, and thus both shippers and end users will focus more closely on the actual costs of TIH transportation, including specifically the exposure to risk they create by transporting TIH.

Before UP introduced the current indemnity language into its contracts, the costs associated with the risk and liability exposure that goes with transporting TIH was borne largely by UP and its entire customer base, not the shippers of TIH, even though it is their shipping decisions that largely determine those costs. Not surprisingly, some TIH shippers have expressed the view that once the product leaves their facilities, it becomes the railroad's sole

⁸ For the sake of simplicity, I discuss TIH movements as if they were all local to UP – that is, as if UP serves both origin and destination. In reality, many movements are interline because the origin is on one rail carrier and the destination on another. When interline service is required, UP and its connecting carrier must create a through route between the shipper's origin and the destination the shipper specifies. If the carriers cannot agree on where to interchange, the STB will prescribe a route.

responsibility. This view entirely ignores the risks that shippers create by their very decision to ship TIH. It is that way of thinking, and the behaviors it produces, that we are trying to change. Unless shippers clearly have responsibility for the risks they create through their decisions to ship TIH, shippers and end users will make their production and consumption decisions without accounting for the true TIH supply-chain costs. In short, they will ship too much TIH, creating too much risk for UP and the public at large.

Shippers may say that railroad negligence has been involved in causing every serious TIH release. Even to the extent this assertion may be correct, this does not change the fact that the only reason the TIH materials were moving by rail in the first place is that a shipper chose to ship them. It also does not change the fact that it is the unique toxic by inhalation nature of this commodity that, subsequent to railroad negligence, will injure or kill people who otherwise would not be harmed by the accident itself. This risk of subsequent and remote harm is intrinsic only with TIH. No other commodity we carry, with the possible exception of nuclear waste, creates this kind and degree of risk.

Safe transportation of TIH is a shared responsibility. UP's liability-allocation provisions encourage customers to treat the safe transportation of TIH as a shared endeavor, rather than merely a railroad problem. In addition to ensuring that shippers consider options for reducing the volume of TIH shipments and options for reducing the number of miles that it ships TIH, it encourages active shipper engagement in all facets of TIH transportation. It encourages TIH shippers to take a role in the communication and education efforts of the communities through which the shipper causes the TIH to travel. It also encourages TIH shippers to participate in emergency responses should an incident occur. We recognize that many of our customers already take their responsibilities seriously and promote safety programs. But, as we

have come to realize, the task of ensuring safe movement of TIH is never done. There will always be a risk of serious injury or death, potential evacuation, property or environmental damage any time a shipper chooses to ship a TIH carload.

A quest for continuous improvement is called for. Our risk allocation terms encourage shippers to actively look for ways to make transportation safer or to reduce the amount or length of haul. The decisions that the TIH shippers make directly impact UP and its employees, the communities along the route and our other non-TIH shippers. The TIH shipper's decisions impact the natural events and third party externalities that UP's train will unavoidably encounter and what the consequences will be for all the parties involved. When a shipper chooses to ship a tank car of chlorine a thousand miles without regard for lower-risk alternatives, the shipper imposes higher risk on UP and its employees, interchange railroads, the other non-TIH shippers with shipments on the same train, and all of the communities along the route that the shipment takes by the shipper's choice to put that tank car of chlorine into the stream of commerce. The party making the decisions that are heightening the risk profile should bear the burden of such increased risks.

V. UP Is Managing Risk, Not De-Marketing TIH

Some TIH shippers may claim that UP adopted the indemnity provisions as part of a strategy to "de-market" TIH commodities.⁹ Any claim that UP published Items 50 and 60 to de-market TIH commodities is not true.

⁹ Dyno Nobel Inc. made such a claim in opposing UP's request that the Board institute this proceeding. *See* Letter from Peter A. Pfohl, Esq., Counsel for Dyno Nobel Inc., to Cynthia T. Brown, Chief, Section of Administration, at 3 (May 17, 2011) (claiming that UP's petition is a "thinly-veiled effort to attempt to drive anhydrous ammonia off of the railroads").

Although UP would prefer not to transport TIH commodities because of the risks they pose, UP recognizes and accepts its common carrier obligation to transport TIH commodities. UP continues to enter into multi-year transportation contracts with TIH shippers through arms'-length negotiations. UP's liability allocation provisions do not create any new liability risks associated with transporting TIH – they simply shift some of the existing liability that UP is currently bearing to TIH shippers, the party that is in the best position to control the risk. In other words, the tariff provisions ensure that the costs associated with transporting TIH are borne by TIH shippers.

Indeed, UP is not asking its TIH shippers to do anything more than accept their fair share of a burden that the railroad has disproportionately borne on its own for decades. Items 50 and 60 are simply intended to engage all parties in the TIH supply chain and ensure that they will thoughtfully account for their share of the risk before shipping TIH commodities.

UP believes that the current marketplace provides strong evidence of the reasonableness of UP's liability allocation provisions. As I discussed above, UP has seen broad commercial acceptance of its liability allocation language. UP has successfully negotiated many contracts in which our TIH customers have been willing to accept liability allocation provisions in light of the rates and other terms offered by UP.

VI. Conclusion

UP's Tariff 6607 risk allocation provisions are reasonable. They reflect a fair allocation of responsibility for the risks associated with transporting a commodity having toxic by inhalation properties. Many shippers have agreed to equivalent terms in their contracts with UP. The indemnity provisions in Tariff 6607 are particularly reasonable because UP is not shifting to its customers the liability for its own negligence. UP worked very hard with its

customers to develop mutually acceptable language that allocated risk to the appropriate party. UP performs the basic transportation pursuant to its common carrier obligation, but the railroad is not the only party involved. The safe transportation of TIH commodities is impacted by decisions that are made from the beginning of the supply chain to the end. It does not start at the rail origin and end at the destination. Customers make decisions on how much TIH to ship, where to ship, and when to ship. They also make important decisions that affect safety in transit, as discussed in the verified statement of Timothy O'Brien. The risk allocation provisions create a paradigm where the railroad is not left responsible for the many factors related to safe TIH transportation that are completely out of its control. By placing responsibility for those factors on TIH shippers, they will have the proper incentives to avoid imposing excessive risk on UP and the broader public.

VERIFICATION

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

Executed on January 24, 2012.

Diane K Duren

Diane K. Duren

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Finance Docket No. 35504

PETITION OF UNION PACIFIC RAILROAD COMPANY
FOR A DECLARATORY ORDER

VERIFIED STATEMENT OF TIMOTHY J. O'BRIEN

My name is Timothy J. O'Brien. I am Director Environmental Operations - Hazardous Materials for Union Pacific Railroad Company ("UP"). I have held this position since April 2008. I began working for UP in 2000. Prior to April 2008 I held the position of Regional Manager Chemical Transportation Safety, with responsibility for UP's Southern Region. In my current position I provide leadership for UP's Hazardous Materials Management Group. The Group's mission includes prevention of and preparedness for hazardous material releases, effective response to releases of hazardous material or environmentally sensitive material (stabilizing the incident and making the situation safe for recovery operations), and recovery from such releases (restoring operations and site remediation).

I hold a Bachelor of Science degree in Chemistry from the University of Wisconsin - Madison (1983). Prior to my employment with UP, I worked as a hazardous materials emergency response contractor and environmental consultant for a variety of facilities and transportation companies. I hold HAZWOPER Certification - Incident Command Level (29 C.F.R. § 1910.120).

The Importance of Safety to UP

The safety of transportation operations is UP's highest priority. Our business is to move goods from origin to destination safely and efficiently – this is how we earn our revenue. Rail operations require diligent safety efforts due to the heavy moving equipment railroads must use to transport numerous commodities across a wide geographical area. It is very important to UP to avoid injury to our employees and others, destruction of our property and the property of others, and disruption of rail operations that can result from accidents or non-accident-related incidents on our system. We therefore devote extensive resources to prevention of such accidents and incidents. UP has developed a strong safety culture. Our goal is continuous improvement toward eliminating safety incidents. The company spends millions of dollars annually on a variety of safety measures designed to prevent accidents and to allow UP to respond effectively when an accident occurs, so that we can minimize harm to people and property and disruption to our network operations. These steps include constant inspection, maintenance and repair of our track; inspection, maintenance and repair of locomotives; precision tracking of hazardous shipments while on UP's system; surveillance of UP's rail yards; extensive employee training; and partnering with our customers on safety initiatives, including education programs (such as training for both customers and local responders and hosting Chlorine Institute training days). We also improve safety through ongoing investments in infrastructure, technology and process improvement.

Rail carriage of any commodity presents a risk of accidents and resulting injury, property damage, and operational disruption. Many of our most important safety measures (such as constant track maintenance and employee training) improve safety for all of our traffic. However, transportation of hazardous materials presents special risks, since accidents involving

these materials have a higher potential to result in serious injury, substantial property damage (including environmental damage), and operational delays. Commodities classified as toxic inhalation hazards (“TIH”) present special challenges. TIH materials are particularly dangerous because release of such materials in a populated area can cause significant injury to people, including death, and significant environmental damage. Accidents involving TIH materials can require evacuations and extensive clean-up operations.

The two TIH materials most frequently carried by rail are chlorine and anhydrous ammonia. Chlorine gas, which has a pungent odor, is pressurized into a liquid for shipping by rail. A derailment that causes a rupture to a tank car carrying liquefied chlorine will cause the chlorine to rapidly expand and vaporize into chlorine gas. Because chlorine gas is much denser than air, released vapors will stay close to the ground and spread rapidly, rather than disperse into the air. Such a release can have catastrophic results, sending many people to the hospital, killing others, and requiring evacuation of a broad area.¹ Catastrophic results can occur even without a derailment. A non-accident-related release of chlorine can cause injury or death.

Anhydrous ammonia is a colorless, irritating gas with a sharp odor. It is shipped under pressure in tank cars as a liquid, but in the case of a rupture, the ammonia returns to a

¹ See Centers for Disease Control and Prevention, Emergency Preparedness and Response, Facts About Chlorine, <http://www.bt.c.c.gov/agent/chlorine/basics/facts.asp> (last updated Mar. 25, 2005). According to the Environmental Protection Agency, exposure to chlorine can produce life-threatening health effects or death within 10 minutes at an airborne concentration of just 50 ppm; it can produce other serious, long-lasting adverse health effects at an airborne concentration of a mere 2.8 ppm. See U.S. Environmental Protection Agency, *Acute Exposure Guideline Levels, Chlorine Results*, <http://www.epa.gov/oppt/aegl/pubs/results56.htm> (last updated Jan. 11, 2012).

gaseous state and expands. Exposure to large quantities has severe health effects. The primary toxic effect of anhydrous ammonia is severe burns to the eyes, throat, and lungs.²

There is potential for a TIH release to cause billions of dollars in damages. For example, a significant release of chlorine due to rupture of a car during a derailment in a highly populated area could result in significant injury (including death) to thousands of people (including responders and the public). Substantial environmental impact could also result from a release of chlorine, particularly if railroad personnel were unable to stop the release quickly and if the area could not be evacuated promptly. But there are many other types of less serious incidents that can result in significant disruption and cost, such as a leak of TIH material that requires shutdown of a rail yard and substantial clean-up efforts. Over the past few years, UP has experienced between seven and nine non-accident-related releases of TIH annually. We have already seen two such releases in 2012. A recent incident in Roseville, California involved a car containing chlorine residue returned by a receiver. A small (but dangerous) amount of chlorine leaked due to a valve that had not been secured. It took four hours for firefighters in hazmat gear to apply a chlorine leak repair kit to the car. UP had to keep that part of the yard isolated until UP employees could arrange a special yard move to get the car in question to a remote yard location. In addition, UP had the car monitored around the clock until the leak was more permanently secured. Any incident involving TIH material is likely to entail a far greater

² See U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Ammonia*, September 2004, available at www.atsdr.cdc.gov/toxprofiles/tp126.pdf. Long-lasting adverse health effects can occur within 10 minutes of exposure at an airborne concentration at 220 ppm; Life-threatening health effects or death can occur at 2,700 ppm. See U.S. Environmental Protection Agency, *Acute Exposure Guideline Levels, Ammonia Results*, <http://www.epa.gov/oppt/aegl/pubs/results88.htm> (last updated Jan. 11, 2012).

risk of injury and a more intense response (and thus greater expense to UP) than an incident involving a non-hazardous commodity.

UP has identified TIH incidents as one of our most significant corporate risks. While our most significant safety-related measures improve safety for all types of traffic, we also apply our continuous improvement mindset to TIH risks. In addition, UP complies with a myriad of government regulations in its handling of TIH, including (i) safety and security procedures (including positive hand-off; shipment monitoring and tracking rules); (ii) special handling procedures (such as extra car and track inspections and speed restrictions), (iii) and training railroad personnel about special operating and safety procedures.³

The Role of Shippers in Promoting TIH Safety

Shippers play an essential role in ensuring that TIH materials travel safely on UP's property. On the most fundamental level, shippers make the decisions whether and when to ship TIH materials, the volume shipped, and the origin and destination of such shipments. UP must accept shipments tendered to it due to our common carrier obligation.⁴ Thus, shippers (not UP) are the ones that determine whether UP will carry TIH material, what TIH material UP carries, how many tank cars are shipped, and how far TIH shipments travel. Shippers are the ones in a position to evaluate the risks arising from all of these decisions about the amount of TIH transportation and the materials shipped. Together with their customers, shippers can consider whether there are substitute products that would pose fewer transportation risks than

³ See 49 C.F.R. §§ 171-74, 179-80 (PHMSA); 1580 (TSA).

⁴ Most TIH shipments move under contract, because the parties find contracts advantageous for commercial reasons. However, the shipper is always in a position to demand common carriage if the parties cannot agree on contract terms.

shipment of TIH materials. For example, bleach (which presents lesser safety risks) or ultraviolet light may be an effective substitute for chlorine in some end uses (such as water purification).

In addition to making basic decisions about the amount of TIH transportation that will occur, shippers are in a position to take steps that affect the safety of TIH shipments. Shippers own or lease the tank cars in which TIH materials move. UP does not own or lease any of these cars. Shipper decisions about what cars to acquire or lease can affect the safety of TIH movements. Federal regulations set minimum specifications for tank car construction, but shippers have choices beyond these requirements. Shippers can decide how quickly to replace their tank car fleets with newer, safer models and whether to acquire cars that exceed the minimum regulatory specifications.⁵ For example, prior to the time federal regulations require it, shippers could choose to acquire equipment incorporating technologies that have been introduced in the past several years, such as new valve and protective housing configurations developed through industry initiatives and higher test pressure tanks. Shippers can choose to incorporate certain technological improvements (such as the new valve and protective housing configurations) by retrofitting their existing fleet with the improvement. Furthermore, shippers can also participate in decisions about the design of new generation tank cars, by partnering with manufacturers and railroads to develop specifications for safer designs.

⁵ New tank cars are currently in short supply, and there are production backlogs. However, shippers can still upgrade their fleets more quickly by placing orders and taking deliveries of new tank cars as soon as production capacity allows.

Shippers have the responsibility for inspecting and maintaining their tank cars.⁶

We expect shippers to adhere to federal requirements for frequency of inspections and to be vigilant in their inspection, maintenance, and repair activities. TIH equipment can be more complicated than other rail equipment due to TIH characteristics. Most TIH is pressurized when it moves by rail, requiring special equipment to maintain the pressure. UP has experienced a number of non-accident-related releases of TIH that resulted from equipment problems, such as defective pressure relief devices. Here, too, shippers can choose to go beyond minimum regulatory requirements.

Of particular importance, shippers are responsible for loading and securement (sealing) of tank cars containing TIH materials. These are key steps in the transportation process; if not properly performed, the result can be an accident on UP property. If a tank car is not completely sealed, a derailment or a crossing accident may result in a TIH release when a properly sealed car would have remained intact. Failure to seal the car properly can lead to a release even when a tank car is standing in a rail yard, as in the recent Roseville incident described above. We are keenly aware that the shipper's act or omission during the loading process could lead to a TIH release on UP property, resulting in evacuation, serious injury, and/or death. Shippers can also reduce risks by educating their consignees and taking steps to ensure that the consignee is diligent in securement of the cars it returns to the shipper.

Shippers are also responsible for "placarding" each TIH shipment and for providing the correct commodity code (STCC) in the bill of lading. In other words, shippers

⁶ Where a shipper leases tank cars, it may or may not have responsibility for inspection and maintenance of leased cars, depending on the terms of the lease. However, through the lease terms, the shipper should be in a position to influence and monitor inspection and maintenance practices, even if the lessor (or some third party) is responsible for some or all of these functions.

must provide clear, visible, and accurate information about the commodity carried in the car, steps to be taken in the event of a release of the car contents, and contact information for knowledgeable shipper personnel who have been designated to provide assistance to UP and responders in the event of a release. This information is critical to the safety of a shipment. It helps UP determine how to handle the car while it is in UP's possession and what steps should be taken to minimize harm if a release should occur. If the placard information is incorrect or if the wrong commodity code is provided in the bill of lading, UP will have great difficulty responding appropriately to a release of the car's contents. The shipper's failure to properly identify the TIH material being carried or to provide a knowledgeable contact (or to monitor the emergency numbers it provides) creates substantially greater potential for injury to UP employees, responders, and the general public, as well as property damage (including environmental damage) and clean-up costs. Unfortunately, not all shippers comply with federal requirements and best practices in this area. In one instance, a chlorine shipper designated a third party service for emergency contact, but then failed to pay the fee to maintain the service. As a result, the emergency contact information available to UP was useless.

Shippers can also play an active role in helping UP respond to a TIH release. While UP personnel receive general training in hazardous materials response, it is the shippers' employees who are expert on the special characteristics of their products and the most effective ways to respond to a release involving a particular product. Some of our customers are true partners with us in responding to accidents that involve release (or potential release) of their TIH products. These customers promptly send experts to the scene of an accident to help UP personnel determine the best response in light of the particular TIH material and other circumstances. Not all TIH shippers are this conscientious.

Shippers also have the option of participating in UP or industry-wide safety initiatives, such as American Chemistry Council's Responsible Care or TRANSCAER (Transportation Community Awareness and Emergency Response, an industry group started by UP and Dow Chemical). UP has education programs for shippers, as well as a recognition program for those shippers that prove to be strong partners in enhancing the safety of UP shipments, including TIH shipments. Some shippers are active participants in such initiatives, but not all. UP would like to see more active involvement by more shippers.

In short, UP depends on its shippers to take many safety-related actions to ensure that TIH shipments will travel safely on UP's property. Shippers have numerous opportunities to reduce the risks involved in TIH transportation and to help UP increase the safety of TIH movements. In order to address effectively the considerable risks of transporting TIH, UP needs engagement from its customers. Shippers can help reduce the risks of TIH transportation by making prudent decisions about when and where to ship TIH materials; by acquiring safer equipment sooner and maintaining it vigilantly; by taking extra care in loading TIH materials, particularly in sealing tank cars; by providing accurate commodity information in the bill of lading and monitoring emergency numbers; and by participating actively with UP in responding to any release of their TIH products.

UP's Incentives to Reduce Risks Associated with TIH Transportation

I understand that this proceeding involves a tariff provision under which UP would require the shipper to indemnify it for any liability arising from transportation of the shipper's TIH material other than liability arising from UP's own negligence. I do not believe that such a provision will reduce UP's incentives to promote safety and reduce risks associated

with TIH transportation. Since UP will continue to be liable for any negligence of its own, it will have a significant incentive to operate safely and to take steps to reduce TIH risks. However, UP has other, very substantial incentives to reduce such risks, wholly apart from potential liability for loss associated with TIH shipments.

UP has a natural incentive to protect the people and environment of the communities it serves. We have worked with these communities for over 100 years, developed solid relationships with them, and continue to work with them on a regular basis. UP cares deeply about these local communities and will always take any reasonable steps to avoid harm to them. It is especially important that we avoid accidents that would require evacuation of the local populace and that present a potential for injury or death.

Accidents and non-accident-related releases of hazardous materials (including TIH) endanger UP employees. UP has a strong self-interest in avoiding accidents that will injure its people (as well as the general public). Accidents on UP's system are also likely to cause damage to UP's property, including its track, ballast, and signal system, as well as railroad-owned locomotives and cars. Even if there were a prospect that UP could eventually be indemnified for such losses, UP could not afford to risk its system operations and resources based on the hope of future compensation.

UP also has a strong incentive to avoid accidents (and non-accident-related releases) because they can cause major disruption to train operations. As I noted at the outset, UP earns its revenue by moving trains over its system. A major rail accident can shut down a UP line for hours or even days. This sort of stoppage will produce a ripple effect, slowing or stopping trains on other parts of the UP system or forcing detours around the accident site, resulting in higher costs for crews, car hire, fuel, and locomotive power. Such delays and

stoppages can cost UP many millions of dollars. Accidents or incidents involving TIH releases can be particularly disruptive because they often require time-consuming response and clean-up operations. They also delay shipments for other customers. UP plainly wants to avoid these situations whenever possible.

If shippers bear liability for TIH shipments, they will have greater incentives to take more and better steps to increase the safety of these shipments. An indemnity obligation should cause shippers to give more attention to the risks involved in moving TIH materials and to take all steps available to them to reduce the risks associated with their TIH shipments (including educating their consignees about safe TIH practices). The prospect of having to indemnify UP for liabilities (other than for any UP negligence) will give shippers incentives to more actively partner with us to minimize these risks. At the same time, because of the many other incentives for UP to operate safely, I know that UP will maintain its efforts to increase safety and reduce TIH risks and will continue to look for ways to partner with our customers to increase the safety of TIH transportation.

VERIFICATION

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

Executed on January 24, 2012.



Timothy J. O'Brien

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB Finance Docket No. 35504

PETITION OF UNION PACIFIC RAILROAD COMPANY
FOR A DECLARATORY ORDER

VERIFIED STATEMENT OF STEVEN SHAVELL, PH.D.

I. QUALIFICATIONS

1. I graduated from the University of Michigan with a degree in economics and mathematics in 1968. From 1968 to 1970, I served as an officer in the U. S. Public Health Service at the Centers for Disease Control evaluating disease risks and vaccine benefits. I received a Ph.D. in economics from the Massachusetts Institute of Technology in 1973, joined the faculty of the Department of Economics at Harvard University in 1974, and moved to the faculty of Harvard Law School in 1980, where I am the Samuel R. Rosenthal Professor of Law and Economics. I am also the founder and director of the John M. Olin Center for Law, Economics, and Business at Harvard University. In addition, I have served as the director of the Law and Economics Program at the National Bureau of Economic Research, am a founder and past president of the American Law and Economics Association, and am an elected member of the Econometric Society and of the American Academy of Arts and Sciences.

2. My main professional work applies economic analysis to legal issues. I have authored or co-authored more than one hundred academic articles and four books, including *Foundations of Economic Analysis of Law* (Harvard University Press, 2004). I have consulted on a wide variety of legal and economic issues for both private plaintiffs and private defendants.

I have also consulted for non-profit organizations, such as the World Bank, and for government agencies, including the U.S. Department of Justice and the U.S. Consumer Product Safety Commission. On a number of occasions, I have testified as an expert economist in state and federal courts. I have also given lectures in courses on economic analysis of law for state and federal judges. My academic curriculum vitae is attached as Exhibit 1.

3. A focus of my academic work has been on accidents, tort liability, and insurance. I have published over thirty articles in this area and a book, *Economic Analysis of Accident Law* (Harvard University Press, 1987), much of which addresses issues of public policy. I have also served as an economic expert on many legal matters concerning accidents and product-related harms, including train accidents, airplane accidents, malfunctions of automobiles, all-terrain vehicle accidents, oil spills, explosions, asbestos-caused disease, lead paint-caused disease, the accidental release of pollutants, and adverse outcomes from use of pharmaceuticals.

II. ASSIGNMENT

4. I have been asked by the Union Pacific Railroad Company (“UP”) to apply my economic expertise to issues bearing on this proceeding before the Surface Transportation Board (“Board”) to determine the reasonableness of tariff provisions that require shippers to indemnify UP against certain future liabilities that do *not* result from UP’s fault when UP carries toxic by inhalation hazardous (“TIH”) materials. (Under the tariff provisions at issue, UP continues to bear future liabilities arising from any fault or concurring fault on its part when it transports TIH materials.) In particular, UP seeks a declaratory order from the Board that Items 50 and 60 of UP Tariff 6607, “General Rules for Movement of Toxic or Poison Inhalation Commodity Shipments over the Lines of the Union Pacific Railroad” (hereafter, the “tariff provisions”), attached as Exhibit 2, are reasonable.

III. SUMMARY OF CONCLUSIONS

5. *The tariff provisions are reasonable from the point of view of economics and public policy.* This conclusion is based on an economic analysis showing that the tariff provisions will foster a primary public policy goal relating to the shipment of dangerous substances, such as TIH materials, by rail.¹

6. *Namely, the tariff provisions will promote socially desirable—and discourage socially excessive—levels of shipping activity, given the risks to the public of shipping TIH materials.* Shipping TIH materials over rail lines involves significant risks to the public from accidents and acts of terror. It is therefore socially desirable that levels of shipping activity—principally shippers' and end users' choices about where, when, and what quantity of TIH materials to ship—reflect these risks. Requiring shippers to bear liability risks as described in the tariff provisions will lead shippers and end users to make shipping activity decisions with accident risks more fully in mind. If shippers do not bear the liability risks in question, the risks of shipping will not be properly incorporated into the prices of TIH materials and levels of shipping activity will tend to be socially excessive, exposing the public to greater risks of TIH losses than is desirable.

7. The tariff provisions may also affect the magnitude of risks per unit of TIH shipping activity (such as per ton-mile of materials transported) by shifting certain liabilities to shippers. There are reasons to believe that the effect of this shifting of liability risks will reduce TIH-related risks. But if that were not true, UP and shippers would have a motive to make

¹ The conclusions I reach would not be materially altered if the tariff provisions were somewhat different from those at issue in this proceeding. That is because the analysis depends mainly on the fact that the tariff provisions shift TIH liability risks to shippers from UP, not on the precise manner in which these risks are transferred.

contracts that do not include the indemnity provisions of the tariff in order to better control TIH-related risks.

IV. BACKGROUND

8. TIH materials comprise a category of hazardous materials formally defined by the federal government as “gases or liquids that are known or presumed . . . to be so toxic to humans as to pose a health hazard in the event of a release during transportation.”² The two most common TIH materials are chlorine and anhydrous ammonia.³ Other frequently shipped TIH materials include fuming sulfuric acid, sulfur dioxide, fuming nitric acid, and hydrogen fluoride.⁴ This statement will focus on chlorine and anhydrous ammonia.

9. TIH materials are used in a broad range of commercial applications. Chlorine gas is employed extensively for purifying potable water and waste water at treatment plants and also serves as a chemical intermediary in a wide array of manufacturing processes.⁵ Anhydrous ammonia is the dominant input to fertilizer production and commercial fertilizer and thus is extensively used in agricultural regions.⁶

10. TIH materials are frequently transported by rail. For example, in 2007, rail transportation accounted for about sixty-two percent of TIH shipments, as measured by ton-

² 49 Code of Federal Regulations Part 171.8.

³ Lewis M. Branscomb, Mark Fagan, Philip Auerswald, Ryan N. Ellis, and Raphael Barcham, *Rail Transportation of Toxic Inhalation Hazards: Policy Responses to the Safety and Security Externality*, John F. Kennedy School of Government, Regulatory Policy Program Working Paper RPP-2010-10, 2010, p. 3.

⁴ *Ibid.*

⁵ American Chemistry Council, “The Chlorine Tree,” www.chlorinetree.org.

⁶ *Commercial Fertilizers 2007*, Association of American Plant Food Control Officials and The Fertilizer Institute, p. 6.

miles.⁷ A general reason for the use of rail transport is economic efficiency and practicality relative to the alternatives of truck transport, barge transport, or pipeline: rail tank cars carry much more than trucks; and the rail system covers the whole country, whereas the waterways on which barges can travel do not, and the pipeline network (used for ammonia) is less extensive than the rail network. It is also of significance that production of chlorine and ammonia are geographically concentrated (chlorine in the Southeast and Texas, ammonia in Texas, Louisiana, and Oklahoma),⁸ often resulting in their long-distance shipment since the demand for them is national. Another factor that explains the use of rail transport of TIH materials is that railroads have a common carrier obligation to transport this material, whereas trucks and I presume barges do not.⁹ Additionally, rail transport of TIH materials may be safer than truck transport.¹⁰

11. I understand that when TIH is transported by rail, the movements occur in cars that are generally owned or leased by shippers, and that shippers are responsible for loading and sealing the cars.¹¹

⁷ Hazardous Materials, 2007 Economic Census, Transportation, 2007 Commodity Flow Survey, U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau (July 2010), Table 7, *available at* http://www/bts.gov/publications/commodity_flow_survey/2007/hazardous_materials/pdf.

⁸ Draft Toxicological Profile for Chlorine, U.S. Department of Health and Human Services, September, 2007, pp. 146-147; and Lori Apodaca, Nitrogen [Advance Release], U.S Geological Survey Minerals Yearbook, 2008, January, 2010, Table 4. There is some production capacity in other areas of the country, however, which may limit the need for long-distance shipment. See Branscomb et al., *supra* note 3, p. 12 figure 1 & p. 13 figure 2.

⁹ 49 U.S.C. § 11101 (“A rail carrier providing transportation or service . . . shall provide the transportation or service on reasonable request.”); and Branscomb, et al., *supra* note 3, p. 12.

¹⁰H. Barry Spraggins, *The Case for Rail Transportation of Hazardous Materials*, Journal of Management and Marketing Research (Vol. 3, Jan. 2010), *available at* <http://www.aabri.com/manuscripts/09224.pdf>.

¹¹ Verified Statement of Timothy J. O’Brien, Director Environmental Operations - Hazardous Materials (“O’Brien Statement”); Hazardous Materials: Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials, 74 Fed. Reg. 1770, 1782 (Jan. 13, 2009) (“PIH shippers that submitted comments on the NPRM note that, unlike other railroad freight cars, hazardous materials tank cars are primarily owned or leased by shippers, not the railroads.”).

12. If there is a release of TIH materials, substantial harm can result. Chlorine is shipped as a pressurized liquid, but if discharged into the atmosphere becomes a heavier-than-air gas, which stays at ground level. Chlorine gas (which was used as a weapon in World War I) is very dangerous. In large concentrations it can kill people within minutes; even at modest concentrations it can irritate or damage eyes, skin, and the respiratory tract. It is chemically unstable, however, and breaks down rapidly in sunlight or water.¹² Anhydrous ammonia is also transported as a pressurized liquid, and if released into the atmosphere becomes a lighter-than-air gas. Although it is less toxic than chlorine gas at a given concentration, it is rapidly fatal at high concentrations and can harm the eyes, nose, and throat at lesser concentrations.¹³ The harm from chlorine and ammonia gases will depend, among other factors, on the proximity of individuals to the release of the gas, the terrain, weather conditions, temperature, and the amount of sunlight. The harm will also depend on whether individuals can be warned in time to evacuate and on the ability to flush exposed individuals with large quantities of water.

13. One major way in which a release of TIH materials can come about is by accident. Accidents can happen during loading, transport, and unloading of TIH materials. During transport, the primary causes of accidents are derailment and collision between trains or between a train and a vehicle at a crossing point. Another common cause of a release is a leak from a tank car (for example, due to failure of a shipper to tighten a valve) that is not the result of a derailment or a collision.¹⁴ Three significant accidents involving the release of TIH materials have occurred in recent years. In 2002, a Canadian Pacific train derailed near Minot, North

¹² See generally Draft Toxicological Profile for Chlorine, *supra* note 8, especially pp. 8-12.

¹³ See generally Toxicological Profile for Ammonia, U.S. Department of Health and Human Services, September, 2004, especially pp. 2, 15-17, 23-55, and 118-121.

¹⁴ I am informed that railroads describe such events as non-accident related releases, but I will subsume them here under accident-related releases.

Dakota, resulting in the rupture of five tank cars carrying ammonia. Ammonia vapor spread five miles downwind to a populated area, resulting in one death and several hundred injuries.¹⁵ In 2004, a UP train collided with a Burlington Northern Santa Fe train near Macdona, Texas. This accident led to the derailment and puncture of a tank car carrying chlorine, the formation of a large drifting cloud of chlorine gas, and three deaths and more than thirty injuries.¹⁶ And in 2005, two Norfolk Southern trains collided in Graniteville, South Carolina, resulting in the derailment and puncture of a tank car holding chlorine, the development of a substantial gas cloud, and nine deaths and over 500 injuries.¹⁷ Another accident involving hazardous materials, but not TIH materials, is worth mentioning because, unlike the three just mentioned, it occurred in a major city. In this event, which happened in 2001, a CSX freight train derailed in a tunnel in downtown Baltimore, Maryland, in the middle of the afternoon.¹⁸ One of the derailed tank cars was damaged, resulting in a leak of the hazardous chemical tripropylene, a chemical fire, and the collapse of the tunnel. Had the tank car been carrying chlorine, many deaths could have occurred given the time of day and that the accident occurred in a city center.

14. A second way that a release of TIH materials can arise is through an act of terrorism. TIH tank cars appear to be attractive targets of terrorism because they are numerous

¹⁵ See Derailment of Canadian Pacific Railway Freight Train 292-16 and Subsequent Release of Anhydrous Ammonia Near Minot, North Dakota, January 18, 2002, Railroad Accident Report NTSB/RAR-04/01, National Transportation Safety Board.

¹⁶ See Collision of Union Pacific Railroad Train MHOTU-23 With BNSF Railway Company Train MEAP-TUL-126-D With Subsequent Derailment and Hazardous Materials Release Macdona, Texas, June 28, 2004, Railroad Accident Report NTSB/RAR-06/03, National Transportation Safety Board.

¹⁷ See Collision of Norfolk Southern Freight Train 192 With Standing Norfolk Southern Local Train P22 With Subsequent Hazardous Materials Release at Graniteville, South Carolina, January 6, 2005, Railroad Accident Report NTSB/RAR-05/04, National Transportation Safety Board.

¹⁸ See Railroad Accident Brief NTSB/RAB-04/08 for accident number DCA-01-MR-004, Baltimore, Maryland, July 18, 2001, National Transportation Safety Board.

and hard to protect, can be ruptured—notably through derailment or the use of explosive charges—and can cause great harm when, as would be expected, a release is designed to occur in a densely populated area. The Federal Bureau of Investigation has reported that terrorists are specifically interested in attacks involving hazardous materials moving by rail,¹⁹ and a number of studies suggest that a single release could cause fatalities in the thousands or tens of thousands, thus exceeding the number resulting from the World Trade Center attack on September 11, 2001.²⁰

15. Because of the potential for large numbers of deaths and injuries, the liability threat from TIH material accidents and acts of terror is great. Damages in the hundreds of millions of dollars are not hard to envision, and damages in the multiple billions of dollars could result if a discharge occurred in a metropolitan area, possibly as a result of terrorism. Moreover, the ability to insure against such liability risks is limited, in part because of the reluctance of the reinsurance market to assume the risks.²¹

16. The tariff provisions at issue in this matter require shippers to indemnify UP for liability imposed on it for harms caused by release of TIH materials except to the extent that UP (or other rail carriers participating in a movement) were at fault. In other words, shippers must

¹⁹ See, for example, an FBI National Press Release of October 23, 2002, *available at* <http://www.fbi.gov/news/pressrel/press-releases/fbi-distributed-through-the-nlets-communications-system>.

²⁰ A Naval Research Laboratory investigation concluded that in a worst-case scenario of a release during a celebration or political event, 100,000 people could die in 30 minutes; a Homeland Security Council estimate assuming fewer exposed individuals found that 17,500 fatalities could result from a release; a National Research Council study determined that 1,000 fatalities could occur from a release, but assumed an attack at midnight, when few individuals would be outside, which might be viewed as an unrealistic time for terrorists to cause a release; a thesis on terrorism threats involving releases of TIH materials projected deaths in the range from 4,000 to 30,000. See the discussion of these estimates in Branscomb, et al., *supra* note 3, pp. 23-27.

²¹ Redacted Verified Statement of Warren B. Beach, Ex Parte No. 677 (Sub-No. 1), filed with the Surface Transportation Board, August 21, 2008, pp. 4-6. On the paucity of insurance coverage against catastrophic events, see generally Kenneth A. Froot, 2001, The Market for Catastrophe Risk: A Clinical Examination. *Journal of Financial Economics*, 60(2-3): 529-571.

indemnify UP when UP is liable for a fraction of harm that exceeds its degree of fault or when UP is held strictly liable for harm.²²

17. The operation of the indemnity provisions of the tariff is illustrated by the following examples of liability for TIH-related accidents: (a) UP is found to be 55% at fault and a shipper 45% at fault. UP pays essentially all of the damages under joint and several liability because the shipper settles for a nominal amount.²³ Under the tariff provisions, the shipper indemnifies UP for 45% of damages. (b) UP is found to be 10% at fault and a truck owner 90% at fault. UP pays 99% of damages because of joint and several liability and the limited assets of the truck owner, which enable the truck owner to pay only 1% of damages. Under the tariff provisions, the shipper indemnifies UP for 89% of damages. (c) UP is found to be 2% at fault and terrorists 98% at fault. UP pays 100% of damages due to joint and several liability and the impossibility of collecting from the terrorists. Under the tariff provisions, the shipper indemnifies UP for 98% of damages. (d) UP is found strictly liable for damages due to a discharge into a waterway.²⁴ Under the tariff provisions, the shipper indemnifies UP for 100% of damages.

18. UP and a shipper could agree to a different allocation of liability from that provided by the tariff provisions at issue in this proceeding. Historically, UP has transported

²² In cases of joint, contributory, or concurrent fault, Item 60 of Tariff 6607 provides that "Railroad shall be liable only for the amount of such *liabilities* allocated to the Railroad in proportion to Railroad percentage of responsibility. Customer shall be liable for all other *liabilities*." (emphasis in original). Under this provision, UP would be responsible only for the percentage of harm it caused. The shipper would be responsible for all remaining liabilities, regardless of cause.

²³ See, e.g., Tex. Civ. Prac. & Rem. Code §§ 33.012(b), 33.015(d).

²⁴ Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Clean Water Act (CWA), UP could be held strict liable for harm caused by such a discharge. See 42 U.S.C. § 9607 (CERCLA); 33 U.S.C. §§ 1311(a), 1319(d); *United States v. Earth Sciences, Inc.*, 599 F.2d 368, 374 (10th Cir. 1979) (CWA).

almost all TIH materials under transportation service contracts, and those contracts could include a different allocation of liability, if that would best address the parties' mutual interests.

However, the tariff provisions would provide a default for the parties if they do not otherwise agree on different contract terms.

V. ANALYSIS

19. In considering the tariff provisions in this matter, I apply the general analytical approach toward accidents and the liability system that has been developed since the 1970s by economists and legal academics with a public policy orientation.²⁵ Under this approach, emphasis is given to the effect of tort liability on accident risks.²⁶ There are two principal channels through which liability exerts an influence on accident risks.

20. First, liability may alter the *level of a risky activity*—how many miles a person drives, how much excavation a construction company carries out by blasting, how much oil an oil company transports by supertanker, and so forth. Liability affects the level of activity because, if liability is imposed for harms caused by an activity, the activity will become more expensive and thus will be undertaken less often. This moderating effect of liability on the level of activity is generally socially desirable because participation in activities ought to reflect the

²⁵ This approach is elaborated in many articles and is presented in three books: Guido Calabresi, *Costs of Accidents*, 1970; William Landes and Richard Posner, *The Economic Structure of Tort Law*, 1987; and Steven Shavell, *Economic Analysis of Accident Law*, 1987. For a recent survey of the literature, see Steven Shavell, *Liability for Accidents*, in *Handbook of Law and Economics*, Vol. 1, A. Mitchell Polinsky and Steven Shavell (editors), 2007, pp. 139-182.

²⁶ By "accident risk," I refer usually to both the probability of an accident and the harm in which it might result. In particular, I will generally mean by the accident risk the expected harm—the probability of an accident multiplied by the harm (or average harm) from the accident. Thus, if the probability of an accident is 2% and the harm from it would be \$30 million, the expected harm would be 2% multiplied by \$30 million or \$600,000. This definition of accident risk is a standard one and is employed by the Department of Transportation. See U.S. Department of Transportation, Federal Highway Administration, Office of Highway Safety, "Guidelines for Applying Criteria to Designate Routes for Transporting Hazardous Materials," FHWA-SA-94-083, September 1994.

harms that they generate; the more dangerous an activity, the lower should be its level, all else equal.

21. Second, liability may reduce the *degree of risk each time an activity is undertaken*, that is, the risk per unit of activity—the risk per mile driven, the risk each time blasting is used in excavation, the risk per mile that oil is carried by supertankers. Liability diminishes the degree of risk because, if a party causes an accident, the party might have to pay damages. Therefore, the party will have a motive to take precautions to lessen accident risks (drive at a safe speed, blast only after warning others to stay away, pilot supertankers within shipping lanes) and to reduce the impact of any accident (by taking steps to mitigate harm) when the costs of these precautions are less than their benefits in terms of risk reduction. Such effects of liability on the degree of risk tend to be socially desirable because society wishes precautions to be exercised when they would lower risk but are not very costly.

22. I now consider the assignment of liability for TIH-related accidents under the indemnity provisions of the tariff with reference to the level of shipping activity and to the degree of shipping risk per unit of shipping activity. This will supply us with an understanding of the reasonableness of the tariff provisions using a standard public policy approach to accidents and liability.

A. Level of Shipping Activity

23. By the level of shipping activity of TIH materials, I refer generally to the quantity of TIH materials shipped, as measured by the number of tank car loads, ton-miles of transport of TIH materials, and similar indicia, as well as to the population density on the routes on which TIH materials travel.

24. The total risks due to shipping of TIH materials obviously increase with the level of shipping activity. The greater the number of tank car loads of TIH materials that are shipped and the more miles that each car load travels, the greater will be the total risks of TIH-related accidents, all other things being equal. Also, the greater the population density along rail lines, the greater is the potential harm from an accident.

25. It follows that it is socially desirable that the level of TIH shipping activity appropriately reflects the risks of shipping activity. If that does not occur and there is excessive shipping activity, the safety of the public will be unduly threatened.

26. Railroads have little opportunity to influence the level of shipping activity because, due to their common carrier obligation, they are not in a position to limit the amount and type of TIH traffic that they carry. Nor can they limit the distances that TIH materials travel by insisting that shippers use alternate sources of supply closer to destinations. In addition, as will be discussed, railroads have limited ability to control demand for TIH transportation by raising their rates because of rate regulation.

27. End users play a primary role in the determination of the level of shipping activity because it is the demand for TIH materials by end users that generates the demand by shippers for rail transport. Consequently, it is socially important that *end users pay prices for TIH materials that incorporate rail shipping risks as much as possible*. Otherwise, end users will purchase socially excessive amounts of TIH materials relative to alternative, safer substances or to forgoing the activities that require use of the materials.

28. Suppose, for example, that the price of chlorine to end users does not build in shipping risks. Then an end user, say a municipality, might purchase chlorine for use in water purification even though it would be socially desirable for the municipality to have purchased a

substitute water purification product such as sodium hypochlorite, which it might have done if the chlorine price had better reflected shipping risks.

29. There is a range of substitute non-TIH products for both chlorine and ammonia that are less dangerous to transport and that, depending on circumstances, would become financially more attractive if TIH product prices more accurately incorporated shipping risks. Substitutes for chlorine include, as just mentioned, sodium hypochlorite, as well as bleach, ultra-violet light, and ozone. Substitutes for direct application of anhydrous ammonia include other nitrogen-based fertilizers, phosphorous-based fertilizers and potassium-based fertilizers.²⁷

30. End users may reduce their demand for TIH shipping and shipping risks not only by switching to substitute non-TIH products, but also by obtaining TIH products from nearby suppliers or by relocating. For example, a number of major end users and manufacturers of chlorine are exploring “co-location” of chlorine production facilities and end users’ facilities,²⁸ and other end users have relocated their production facilities to lower risks.²⁹ In some instances end users can make their own chlorine—swimming pools are able to produce chlorine through electrification of salt—eliminating their need to purchase shipped chlorine.³⁰ Such practices will be encouraged to the degree that the price of shipping TIH materials rises because it includes more of the risks of shipping.

²⁷ On possibilities for substitution from chlorine and ammonia, see for example Paul Orum, Preventing Toxic Terrorism: How Some Chemical Facilities are Removing Danger to American Communities, Center for American Progress, April 2006; and see also Branscomb, et al., *supra* note 3, pp. 57-61.

²⁸ See, for example, White’s Handbook of Chlorination and Alternative Disinfectants, 5th ed., 2010, p. 51.

²⁹ See, for example, Orum, *supra* note 27, pp. 18-19.

³⁰ See, for example, Electrified Salt Water Cleaning, http://www.ehow.com/way_5795946_electrified-salt-water-cleaning.html.

31. To summarize to this point, in order to beneficially influence levels of shipping activity, it is socially desirable that the prices of TIH materials to end users reflect the risks of rail transport.

32. When will the prices of TIH materials to end users tend to reflect the risks of rail transport? It might be argued that this outcome would occur in the absence of the tariff provisions. That is, it might be thought that UP would charge shippers prices that reflect TIH-related risks, and that shippers would then charge end users prices that reflect these risks. Yet, due to rail pricing regulation, UP would not be expected to be able to charge shippers appropriately for TIH-related shipping risks.

33. To elaborate, under the rail pricing regulatory regime, if a shipper and a railroad do not agree on a price, the railroad sets a tariff rate; the shipper can challenge that rate; and if the Board finds the rate to be unreasonable, it will prescribe a reasonable rate.³¹ I understand that in determining reasonableness of a rate, the Board relies on tests that reflect past cost experience and that generally do not include mechanisms for adjusting rates to account for the specific risk characteristics of particular shipments. It would be impractically expensive and burdensome for the Board to consider the risks due to each shipment of TIH materials, taking into account the quantity shipped, the beginning point, route, and endpoint of the shipment, the type of tank cars employed, and other variables of relevance to an assessment of risk.

34. Hence, in order that shippers charge end users prices that better recognize TIH-related risks, it is necessary that shippers bear greater liability for these risks, which is what the

³¹ 49 U.S.C. §§ 10701(d), 10704(a), 10707.

tariff provisions help to accomplish, as explained in ¶17.³² Shippers will then be led to increase prices to end users commensurately with TIH-related risks, building into prices all manner of factors that impinge on these risks. The price increases will lead end users to reduce their demand for TIH materials and/or for shipping of TIH materials.³³

35. Finally, if shippers bear greater liability under the tariff provisions, shippers themselves (as distinct from end users) will make certain decisions that reduce levels of shipping activity. Notably, a shipper may be able to fulfill an end user's order for a TIH material in different ways: from one of several producing or storage facilities or from purchase from another manufacturer. If, for instance, a shipper fulfills an order for chlorine from the shipper's supplies at a producing facility 2,000 miles from the end user but the shipper could have purchased chlorine from (or swapped chlorine with) another manufacturer located only 250 miles from the end user, the shipper's decision would increase the level of shipping activity. Clearly, shippers will be motivated to reduce distances of TIH material movements if shippers are liable for more of the harm caused by TIH-related accidents.

B. Risks of Shipping

36. I consider here the risks of shipping TIH materials per unit shipped, such as per ton-mile of chlorine shipped. The total risks associated with shipping activity are determined by

³² Even if rail pricing regulation was such that UP could charge prices that reflected approximate TIH-related shipping risks, the tariff provisions would be valuable. They would serve as an alternative and more accurate means of ensuring that shippers bear TIH-related shipping risks.

³³ Indeed, if UP's tariff provisions are found reasonable, they will beneficially affect the level of TIH shipping activity even when TIH materials move under contracts. That is mainly because, in contract negotiations, a shipper that wished to use indemnity arrangements different from those in the tariff provisions would have to pay UP to do so—for UP could decline to enter into a contract, in effect insisting on a common carriage arrangement. Hence, shippers would either pay UP rates reflecting liability risks that UP agreed to bear or shippers would accept indemnity arrangements similar to those in the tariff provisions. In either case, shippers would charge end users prices better reflecting risks than in the absence of the indemnity provisions of the tariff.

multiplying shipping risks per unit of TIH materials shipped by the level of shipping activity just considered in section A.

37. Shippers affect shipping risks in numerous ways, including these: providing advice to manufacturers on tank car design; purchasing, leasing, or upgrading to safer, higher quality tank cars; maintaining tank cars; labeling materials carried in tank cars and providing emergency contact information; loading, sealing, and securing TIH materials in tank cars; and assisting railroads with mitigation of harm when releases occur. Shippers can also work with their consignees to increase the safety of unloading TIH materials from tank cars.

38. The tariff provisions can improve the incentives of shippers to reduce risks in the ways just mentioned because the provisions require shippers to bear certain types of liability expenses for TIH accidents. It should be noted that this is true—shippers' safety incentives can be beneficially augmented—even though shippers already are motivated to reduce risks by their desire not to be found liable for any fault.³⁴

39. Hence, under the indemnification provisions of the tariff, shippers will be led to spend more than otherwise on tank car safety, for instance, on tank cars with stronger shells and better sealing mechanisms, and on the selection and training of employees responsible for the maintenance and loading of tank cars that carry TIH materials; and shippers will have stronger incentives to cooperate actively with UP in responding to accidents, such as by helping to close off a leak or to neutralize a TIH material.

³⁴ That is because shippers' fault-based incentives are not perfect. Notably, (i) shippers might not have to pay appropriate damages for their fault due to joint and several liability or statutory allocation provisions—as in example (a) in ¶17; (ii) shippers might not be found at fault, even though they are in fact at fault, due to lack of evidence (say about the cause of a leaky valve); (iii) shippers might not be found at fault because their actions (such as about the type or age of tank car to employ) lie outside the ambit of the fault determination.

40. UP also affects the shipping risks of TIH materials because, in the normal course of its operations, UP has opportunities to lower accident risks. UP maintains its track and warning signals, negotiates work rules for its employees, and engages in a multiplicity of other practices and procedures that affect safety.

41. Because the indemnification provisions of the tariff transfer liability risks beyond those due to UP's fault from UP to shippers, the provisions could reduce UP's incentives to lower risks (even though UP is already led to lower risks in order to avoid liability for TIH accidents for which it is solely or partially at fault). However, for two reasons, one would expect the potential diminution of UP's safety incentives to be less important than the creation of safety incentives for shippers.

42. The first is that, even in the absence of TIH-related liability, UP has a significant financial motive to reduce the risk of accidents that can result in TIH material releases because of the losses it could suffer. Specifically, derailments, a chief potential cause of TIH material releases, lead to damage to rail cars and track structure. Moreover, any incident requiring response and remediation can generate costly delays in rail traffic.³⁵ Thus, UP has a considerable monetary interest in preventing TIH material releases regardless of any TIH-related liability it might bear.

43. Shippers, however, would suffer only a limited financial loss from a TIH material release in the absence of TIH-related liability. In the event of a derailment, a shipper's loss would be restricted to damages to its tank cars and the value of discharged TIH materials.

44. The second reason that a diminution in UP's safety incentives due to the shifting of liability under the tariff provisions may be less important than the associated creation of

³⁵ See O'Brien Statement.

shippers' safety incentives relates to the character of UP's precautions. Most of the actions that UP can take to reduce risks seem to be *general* in the sense that they reduce the chance of train accidents of many types. They are not specifically addressed to TIH-related accidents. For instance, if UP better maintains its track, UP will lower the chance of derailments of any of its trains, not just the derailment of trains with TIH tank cars. This is not to say that all of UP's precautions are general in nature—there are some actions that UP can take to reduce risks that are addressed to TIH-related accidents, such as reducing dwell time of TIH tank cars or not pulling TIH tank cars unless complete documentation has been provided by shippers.³⁶ But to the extent that UP's precautions are general in character, UP's incentive to increase safety should not be sharply reduced if only its TIH-related liability is lowered.

45. In contrast, virtually all the actions that shippers can take to reduce risks are *particular* to TIH-related accidents. The supply of TIH tank cars, their maintenance, the selection and training of shipper employees, and so forth, all patently affect TIH risks only, not the risks of train accidents in general. Therefore, the tariff provisions should often result in a greater enhancement in shippers' incentives to improve safety than a reduction in UP's safety incentives.

46. Notwithstanding the preceding discussion in ¶¶41-45, it could be true in some contexts that shipping risks would be lower in the absence of the tariff provisions—say because of additional precautions UP could take that would specifically reduce TIH-related risks.

47. If so, and if the shipping risk disadvantage of the tariff provisions were significant, UP and a shipper would tend to find it mutually desirable not to adopt the tariff

³⁶ See Written Testimony of Union Pacific Railroad, Presented by Diane K. Duren, Ex Parte No. 677 (Sub-No. 1), filed with the Surface Transportation Board July 10, 2008, pp. 12-16.

provisions. In other words, because the tariff provisions constitute default rather than mandatory provisions, they would not be expected to be employed by UP and a shipper if they would seriously compromise risk reduction.

48. To illustrate with a stylized example, suppose that under the tariff provisions, a shipper contemplates paying UP \$10,000 per tank car, would not be led to take extra precautions due to the provisions, and would bear TIH-related liability expenses of \$5,000 per tank car—so that its total shipping cost per tank car would be \$15,000. Suppose also that if the tariff provisions were not employed, UP would be induced to spend an extra \$500 on precautions per tank car and that this would lower TIH-related liability expenses from \$5,000 to \$2,000. Then UP and the shipper would have a joint incentive to enter into a contract without the tariff provisions because that would lead to a \$3,000 reduction in liability expenses. For instance, if the shipper paid UP \$14,000 per tank car for a contract without the tariff provisions, both the shipper and UP would be better off than under the initially considered contract: UP would net \$11,500 per tank car³⁷ (rather than \$10,000) and the shipper would pay \$14,000 (rather than \$15,000).³⁸

VI. CONCLUSION

49. The indemnity provisions of the tariff in this matter are socially desirable in the respect that they will tend to lead shippers to charge higher prices to end users that more accurately reflect the potential risks of transporting TIH materials by rail than would otherwise

³⁷ That is, \$14,000 less its liability expense of \$2,000 less its cost of precautions of \$500.

³⁸ Observe that, even though the parties will decide not to adopt the tariff provisions, the ability of UP to insist on the tariff provisions (which would give it \$10,000 per tank car and relieve it of certain liabilities) can result in UP's obtaining a higher contract price than it otherwise would. That in turn means that the shipper may charge end users higher prices than it otherwise would. Hence, the advantage of the tariff provisions in moderating the level of activity might not be lost if the parties made a contract in which the tariff provisions were not adopted. (Note 33 above makes a closely related point.)

be the case. As a result, end users will have a stronger incentive to moderate their demand for TIH materials and for shipping these materials over long distances, thereby reducing risks of TIH-related accidents to the public.

50. There are reasons to believe that the indemnity provisions of the tariff will also lead to lower shipping risks per unit of TIH shipping activity (such as per ton-mile of transport). If, however, that is not the case for UP and a shipper in some context, the two parties would have a joint motive to make a contract with different indemnity provisions.

51. In sum, on the basis of the analysis developed here, the indemnity provisions of the tariff are desirable from the standpoint of public policy.

VERIFICATION

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

Executed on January 24, 2012.



Steven Shavell

Exhibit 1

December, 2011

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1984-1985 Visiting Professor, University of Chicago Law School
1982-2000 Professor of Law and Economics, Harvard Law School
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1968-1970 Lt., j. g., U. S. Public Health Service, Centers for Disease Control

Editorial and Public Service Positions

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1990-present Associate Editor, *Geneva Risk and Insurance Review*

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1986-1990 Consultant to American Law Institute, Project on Compensation and Liability for Product and Process Injuries

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1985-1988 Member, Board of Editors, *American Economic Review*

1985-1986 Member, National Science Foundation panel awarding grants in law and social sciences

Honors and Fellowships

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Publications

Scholarly Books

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Exhibit 2



UP TARIFF 6607

CONTAINING

**General Rules for Movement of Toxic or Poison Inhalation
Commodity Shipments over the Lines of the Union Pacific
Railroad Company.**

Issued By:

**E. A. HUNTER - MANAGER PRICING SERVICES
B. A. ROMMEL - MANAGER PRICING SERVICES**

Union Pacific Railroad Company
1400 Douglas Street Omaha, NE 68179

Issued: January 26, 2009
Effective: March 4, 2009

UP 6607



UP 6607

Item: 50-D
INDEMNITY

Item 50. Indemnity:

[c]

1. RAILROAD SHALL SAVE, INDEMNIFY, DEFEND, AND HOLD HARMLESS CUSTOMER AND ANY PARENT OR AFFILIATED COMPANIES AND THEIR DIRECTORS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL CLAIMS, LIENS, CAUSES OF ACTION, SUITS, DEMANDS, LOSSES, DAMAGES (INCLUDING WITHOUT LIMITATION SPECIAL AND CONSEQUENTIAL DAMAGES), COSTS, FINES, PENALTIES, JUDGMENTS, EXPENSES (INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES, COSTS OF COURT AND OTHER LEGAL OR INVESTIGATIVE EXPENSES, CONSULTING FEES, COSTS OF REMEDIATION, COSTS OF EMERGENCY RESPONSES AND EVACUATIONS, AND GOVERNMENT OVERSIGHT COSTS), SUITS, CLAIMS OF ENVIRONMENTAL EXPOSURE AND NATURAL RESOURCE DAMAGES (COLLECTIVELY "*LIABILITIES*") ARISING FROM RAILROAD'S SOLE NEGLIGENCE OR FAULT IN THE PERFORMANCE OF TRANSPORTATION SERVICES PURSUANT TO THIS TARIFF. SUCH INDEMNIFICATION, DEFENSE, AND HOLD HARMLESS OBLIGATIONS SHALL NOT APPLY TO ANY *LIABILITIES* CAUSED BY THE SOLE NEGLIGENCE OR FAULT OF CUSTOMER OR THE CONCURRING NEGLIGENCE OR FAULT OF RAILROAD AND CUSTOMER.

2. CUSTOMER SHALL SAVE, INDEMNIFY, DEFEND, AND HOLD HARMLESS RAILROAD AND ANY PARENT OR AFFILIATED COMPANIES AND THEIR DIRECTORS, OFFICERS, AGENTS, AND EMPLOYEES FROM AND AGAINST ANY AND ALL *LIABILITIES* EXCEPT THOSE CAUSED BY THE SOLE OR CONCURRING NEGLIGENCE OR FAULT OF RAILROAD. CUSTOMER'S INDEMNITY SHALL INCLUDE, BUT NOT BE LIMITED TO, ANY *LIABILITIES* ARISING FROM:
 - ANY FAILURE OF, RELEASE FROM, OR DEFECT IN EQUIPMENT TENDERED BY CUSTOMER FOR THE TRANSPORTATION OF COMMODITY;
 - LOADING, SEALING, AND SECURING COMMODITY IN SUCH EQUIPMENT;
 - RELEASE, UNLOADING, TRANSFER, DELIVERY, TREATMENT, DUMPING, STORAGE, OR DISPOSAL OF COMMODITY NOT CAUSED BY THE SOLE OR CONCURRING NEGLIGENCE OR FAULT OF RAILROAD;
 - ANY FINES, PENALTIES, OR SUITS RESULTING FROM ALLEGED OR ACTUAL VIOLATION OF FEDERAL, STATE OR LOCAL ENVIRONMENTAL OR OTHER LAW, STATUTE, ORDINANCE, CODE, OR REGULATION THAT WAS NOT ATTRIBUTABLE TO RAILROAD; AND
 - ANY LOSS CAUSED BY THE SOLE NEGLIGENCE OR FAULT OF

CUSTOMER.

PROVIDED, HOWEVER, THAT CUSTOMER SHALL HAVE NO RESPONSIBIITY TO INDEMNIFY RAILROAD FOR *LIABILITIES* ARISING FROM THE NEGLIGENCE OR FAULT OF ANOTHER RAIL CARRIER THAT PARTICIPATED IN THE MOVEMENT.

CUSTOMER IS SOLELY RESPONSIBLE FOR AND WILL DEFEND, INDEMNIFY, AND HOLD RAILROAD HARMLESS AGAINST ANY *LIABILITIES* DUE TO THE PRESENCE OF CHEMICALS OR CONTAMINANTS IN THE COMMODITY WHICH ARE NOT PROPERLY DESCRIBED IN THE COMMODITY SHIPPING DOCUMENT.

- 3. Any Indemnified Party shall, at the expense of the Indemnifying Party, cooperate with and take all such actions as the Indemnifying party may reasonably request to assist the Indemnifying Party in the investigation and defense of the Indemnified Matter.**



UP 6607

Item: 60-D
JOINT LIABILITY

Item 60. Joint Liability:

[c]
WHEN *LIABILITIES* ARE CAUSED, IN WHOLE OR IN PART, BY THE JOINT, CONTRIBUTORY, OR CONCURRENT NEGLIGENCE OR FAULT OF THE RAILROAD, CUSTOMER, OR ANY OTHER PARTY, RESPONSIBILITY FOR *LIABILITIES* SHALL BE ADJUDICATED UNDER PRINCIPLES OF COMPARATIVE FAULT IN WHICH THE TRIER OF FACT SHALL DETERMINE THE PERCENTAGE OF RESPONSIBILITY FOR RAILROAD, CUSTOMER, AND ANY OTHER PARTY. RAILROAD SHALL BE LIABLE ONLY FOR THE AMOUNT OF SUCH *LIABILITIES* ALLOCATED TO THE RAILROAD IN PROPORTION TO RAILROAD PERCENTAGE OF RESPONSIBILITY. CUSTOMER SHALL BE LIABLE FOR ALL OTHER *LIABILITIES*.

NEITHER RAILROAD NOR CUSTOMER MAY REDUCE ITS PRO RATA SHARE OF NEGLIGENCE OR *LIABILITIES* UNDER THIS TARIFF BY AGREEMENT OR SETTLEMENT WITH ANY OTHER PARTY OR CLAIMANT.