VANCOUVER, WA 98668 Tel: (360) 487-8500 Fax: (360) 487-8501

What organizations are you a member of related to insurance/risk management?

TESTIMONY OF ROBERT J. BLACKBURN - 2

Q:

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1		•	Association for Cooperative Operations Research and Development (ACORD) Member, 1985-2001.
2 3		•	Chartered Property and Casualty Underwriters (CPCU) Society Member, 2011-present.
4		•	Diocese of Rochester, NY, Stewardship Council and Risk Management Committee Chairperson, 2010 - present.
5		•	Hillside Children's Center, Insurance Committee Member, 1992-2004.
7		•	Institute of Management Accountants, Member, 1980-2001.
8		•	Insurance Accounting and Systems Association, Member, 1991-2001.
9		•	New York Self Insurers Association, Member, 2012 - present.
10		•	New York State Center for Advanced Technology in Electronic Imaging Systems Member, 1996-2001.
11		•	Risk and Insurance Management Society, Member, 1996-2010.
12		•	Risk and Insurance Management Society, Society Director and Officer, 1988-1996.
13	Q:	Ha	we you written on the topic of insurance?
14	A:	Ye	es. Papers and reports have included:
15		•	Claim and Litigation Management Processes, January 1995.
16		•	Enterprise Risk Management Development, February 1995.
17		•	The Risk Management Program Development Methodology, April 1996.
18 19		•	The Benefits of Establishing a Captive Insurer or Other Alternative Risk Finance Vehicles, June 1996.
20		•	The Limitations of the Traditional Approach to Risk and Insurance Management May 1997.
21		•	The Benefits of N-tier Applications in Managing Risk, February 1998.
22		•	The Need for Reduced Risk Costs and Improved Quality, July 1998.
23	TEST	IMC	ONY OF ROBERT J. BLACKBURN - 3 CITY ATTORNEY'S OFFICE

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TESTIMONY OF ROBERT J. BLACKBURN - 4

CITY ATTORNEY'S OFFICE PO BOX 1995 VANCOUVER, WA 98668 Tel: (360) 487-8500 Fax: (360) 487-8501 O:

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¹ 49 CFR § 171.8.

with loss of life, injury to persons, destruction of property, loss of use of property, first responder costs, and cleanup expenses.

- Did the City of Vancouver ask you to consider: (1) the financial risks; and (2) whether insurance or other financial assurances are available to address those risks, associated with a proposal to transport and handle Bakken crude oil and diluted bitumen, within the City of Vancouver, WA?
- Yes. A:

A:

- In assessing risk levels, what types of considerations are useful? O:
 - Well, first the commodity itself. I am not a petrochemical engineer. However, I look at what is being handled and whether catastrophic accidents have occurred elsewhere for similar risk profiles. For purposes of estimating a maximum foreseeable loss, or MFL, the analyst attempts to measure the worst loss that is likely to occur because of a single event. In this case, I was told that the proposal involved the transport and handling of 15 million gallons of Bakken crude oil and diluted bitumen per day or four HHFTs per day. I have been told that "HHFT" stands for "High-Hazard Flammable Train" and is the term used by the federal government (USDOT-PHMSA) to describe freight trains carrying 20 or more tank cars of crude oil in a block. This is a highly volatile compound which has been involved in a number of catastrophic accidents. Another consideration is where the commodity is located. In this instance, the proposal is within the City of Vancouver, which has a population base of about 170,000, making it the fourth largest city in Washington. Another factor is the presence of environmentally sensitive features. That

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informs estimates of environmental clean-up and infrastructure replacement costs. Here, it is my understanding that the proposal is located proximate to the Columbia River.

- What do you believe is a reasonable MFL to remedy damages flowing from a O: catastrophic accident?
- It is reasonable to estimate an expected MFL for a catastrophic accident in the region at A: approximately \$5-6 billion. That is a rough figure.
- O: What is the basis for a \$5-6 billion rough estimate?
 - This estimate is derived from considering costs associated with other major accidents and insurance reports. As an example, the Lac Megantic incident, involving a small town of roughly 6,000 in Quebec Province, Canada, was a catastrophic accident. It occurred in 2013, killed 47 people, and destroyed the downtown. Damage estimates are now at about \$3 billion according to recent media reports. Compensation has been a major issue with that incident. The short-line railroad hauling the crude oil filed for bankruptcy because it didn't have enough insurance to pay the claims.

That the total risk values are into the billions is not surprising. BNSF has been up front that even available railroad liability insurance (apart from the applicant) tops out at "about \$1.0 Billion" and "[i]nsurance is not commercially available to sufficiently protect us against catastrophic loss." In a U.S. Dept. of Transportation Report, titled "The Transportation of Hazardous Materials: Insurance, Security, and Safety Costs" (December 2009), this level of insurance was documented as:

² Attached is a true and correct copy of excerpts from a BNSF Power Point (Attachment 1).

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well short of the \$5-\$6 billion that Class I railroads estimate would be necessary in a 'nightmare scenario,' e.g., an accidental release of TIH gas in close proximity to a large number of people. Once their primary insurance has been exhausted, carriers would be held liable for the balance, forcing even the largest railroad into bankruptcy.³

The City of Vancouver, with its considerably larger population, has higher risks for loss of human life and physical injury, along with considerably higher infrastructure values.

- Q: Are you aware of other high profile rail accidents involving the release of flammable materials?
- Of course. The City has retained experts to address those incidents, but they have A: garnered considerable media attention. True and correct copies of photos of such incidents pulled from media coverage are at Attachment 3.
- Q: Could the MFL be calculated with greater precision?
 - Yes. The \$5-6 billion figure is, as I have mentioned, a rough estimate. To have greater certainty requires more data on actual investments made within the area, what it would take to reconstruct those investments, along with calculated blast zones and their locations relative to infrastructure and people. To obtain a more precise number is a fact intensive exercise. Of course, even with those factors, insurance risks cannot be quantified with absolute precision for any single event. The costs of any incident would vary, depending on the severity of the incident, number of lives lost, proximity to areas with environmental sensitivity, etc. So, we have to also look at other events which have in fact happened.

³ Attached is a true and correct copy of report excerpts (Attachment 2), p. 21.

1	Q:	Based on what you have reviewed so far, assuming an MFL of \$5-6 billion, can the
2		applicant look to the commercial markets to provide that insurance, whether through
3		traditional or non-traditional insurance instruments, to cover that risk?
4	A:	No. There is no market to cover that entire risk at present. Further, based on what I have
5		been provided from the application, Draft EIS excerpts, and lease requirements, the
6		proposed financial security is minimal in terms of covering worst case scenarios. It
7		certainly would not cover an MFL event. The lease with the property owner requires the
8		tenant to have \$10 million per occurrence and \$15 million aggregate liability insurance,
9		coupled with \$25 million in environmental pollution coverage. Very little is documented
10		at this point confirming what the applicant is assuming and would pay over to injured
11		parties, in the event of a catastrophic accident. That analysis has been postponed.
12	Q:	What insurance could the applicant obtain?
13	A:	It would be expected that the applicant could, in theory, purchase insurance of up to \$1
14		billion. Thus, a shortfall of \$4-5 billion toward the estimated MFL is anticipated. (Of
15		course, how the injured parties would access the funds which may be available is an
16		entirely separate question.)
17	Q:	So, does the proponent have the capability - from a dollars perspective and through the
18		commercial markets - to fully remedy impacts resulting in injury and casualties, natural
19		resource and property damage, emergency responder resource impacts, and infrastructure
20		damage?
21	A:	No. Given how high the MFL is, those products are not commercially available.
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TESTIMONY OF ROBERT J. BLACKBURN - 8

Fax: (360) 487-8501

1	Q:	OK. Let's turn to the application and the types of insurance the applicant states will be
2		provided. Can you read from the application at Section 1.3, Assurances, p. 1-7,
3		subsection 1.3.1 - Commercial General Liability Insurance, last paragraph?
4	A:	Yes. "Tesoro Savage Petroleum Terminal LLC will purchase insurance policies to cover
5		liabilities arising from environmental, casualty, and other major incidents. The insurance
6		industry views facilities such as the Tesoro Savage Vancouver Energy Distribution
7		Terminal as low to moderate risk. Therefore, high coverage limits are available at
8		reasonable cost."
9	Q:	Is that an accurate assessment?
10	A:	Only if one assumes there are caps/exclusions on insurance so there is no MFL pay-out
11		exposure. There are various insurance companies with diverse opinions about current risk
12		taking and transfer. With the above assumption in mind, this statement may be true for
13		certain insurers, but untrue for others. An appropriate way to approach the subject would
14		be to complete applications for insurance to multiple insurers to determine the insurers
15		current underwriting appetite for risk taking and premium quotation.
16	Q:	Ok. What about property insurance? Can you read from Section 1.3, Assurances from
17		the application, subsection 1.3.3 - Property Insurance?
18	A:	"Tesoro Savage Petroleum Terminal LLC will obtain and maintain at all times during the
19		term of construction and operation of the Facility, physical damage insurance on the
20		buildings and improvements that are to be erected on the premises on an "all risk" basis,
21		including coverage against damage or loss caused by earth movement and flood in an
22		amount sufficient to cover any expected loss or damages. Upon completion of project

TESTIMONY OF ROBERT J. BLACKBURN - 9

Fax: (360) 487-8501

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design, insurance underwriters will evaluate the design and estimate maximum potential damage due to failure. In some cases, design changes may be implemented to reduce the damages. Insurance would then be purchased to cover the maximum expected damages."

Q: What does that language mean?

That statement means that insurers will underwrite the facility considering the potential damages. They would take into consideration loss control and safety factors built into the facility. However, there are no "all risk" policies sold for this type of risk at this time. Commercial property insurance in the United States is written in one of two ways: on a "Named Peril" basis or on a "Special Peril" basis. If the risks are covered by a "Named Peril" policy, it will only cover those perils named in the policy. A typical broad form named peril policy would cover fire, windstorm, hail, aircraft, riot, vandalism, explosion and smoke. When coverage is written on a named peril basis, it is up to the insured to prove that one of the named perils caused the loss. Otherwise, if the risks are covered by a "Special Peril" Policy, then the insurance company must prove that the peril causing the damage is not excluded.

Q: Let's turn to Environmental Impairment Liability Insurance, subsection 1.3.5.1 on p. 1-8.

Can you read that section?

A: "Tesoro Savage Petroleum Terminal LLC and its operator(s) will be responsible, as required by law, for acts of environmental impairment related to the ownership and operation of the Tesoro Savage Vancouver Energy Distribution Terminal. Such losses may, in some circumstances, be covered by general liability insurance, which Tesoro Savage Petroleum Terminal LLC and the construction contractor will carry. In addition,

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Tesoro Savage Petroleum Terminal LLC and/or its contracted operator(s) will obtain environmental impairment liability insurance to the extent such coverage is available on a commercially viable basis. This insurance will cover the acts of Tesoro Savage Petroleum Terminal LLC and its operator(s) at the site, consistent with or in excess of then-prevailing industry standards for such insurance in the petroleum transportation industry. Commercial viability will be determined by reference to the norm of the industry."

Are there some caveats here? What does it mean to say that the applicant - a Delaware Q: LLC - will obtain "environmental impairment liability insurance" but only to the extent "such coverage is available on a commercially viable basis?" And, what does it mean to determine such viability "by reference to the norm of the industry?"

At the time of commencement of the project, Tesoro and its contractors will complete several applications for environmental impairment and other commercially available liability insurance. They will access the worldwide insurance markets through brokers to obtain the most advantageous terms, conditions, and premiums for transferring risks to insurers during a specified period of time, most likely for one year. Thereafter, they will assemble all quotations to determine what is available to them for all liability risks. Similar facilities with a responsibility to maintain insurance for their operations would have previously gone through the same process and obtained the most advantageous terms, conditions, and premiums. Their industry-experienced brokers will be able to report the state of the insurance market at that time for reasonableness of the terms, conditions, and premiums.

TESTIMONY OF ROBERT J. BLACKBURN - 11

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Q: Is the applicant in effect admitting it cannot obtain insurance against an MFL event? 1 At the current time, yes. Presumably for a similar operation, they may be able to obtain 2 **A**: \$1 billion of coverage. If the MFL is \$5-6 billion, then there will be a \$4-5 billion 3 insurance shortfall. 4 Q: 5 Let's turn to subsection 1.3.5.2, p. 1-8 of the application. Can you read that paragraph starting with "In accordance....?" 6 7 "In accordance with RCW 88.40.025, the Applicant will demonstrate financial A: responsibility in an amount determined by the Washington State Energy Facility Site 8 9 Evaluation Council (EFSEC) as necessary to compensate the state and affected local governments for damages that might occur during a reasonable worst-case spill of oil 10 from the Facility into the navigable waters of the state. The amount of financial 11 responsibility will consider such matters as the amount of oil that could be spilled into the 12 navigable waters from the Facility, the cost of cleaning up the spilled oil, the frequency 13 of operations at the Facility, the damages that could result from the spill, and the 14 commercial availability and affordability of financial responsibility. In accordance with 15 RCW 88.40.030, the financial responsibility required may be established by any one of, 16 17 or a combination of, the following methods acceptable to EFSEC: (1) evidence of insurance; (2) surety bonds; (3) qualification as a self-insurer; or (4) other evidence of 18 financial responsibility." 19 20 Q: So, what are we looking at here as a dollar amount for clean up and is there an insurance 21 market to cover that? 22

TESTIMONY OF ROBERT J. BLACKBURN - 12

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1	A:	It would appear at this time that perhaps Tesoro could obtain \$1 billion of insurance.
2		Otherwise, surety bonds, self-insurance, or other financial responsibilities would be
3		required to cover the presumed MFL shortfall of \$4-5 billion.
4	Q:	One last question about the application. Can you read the first sentence of subsection
5		1.3.6, Site Closure Bond (Ch. 463-72 WAC)?
6	A:	"No set-aside from operating funds is anticipated for site abandonment, but Tesoro
7		Savage Petroleum Terminal LLC will obtain a site closure bond in an amount to be
8		determined by EFSEC upon approval of an initial site restoration plan."
9	Q:	Do you have a comment on that?
10	A:	It would appear that the applicant does not intend to fund a site abandonment, but instead
11		provide a site closure bond after a site restoration plan is submitted and approved. The
12		two should be clearly linked, meaning whether abandoned or closed, adequate bonding is
13		provided. I would recommend that their engineer submit a "deconstruction" plan so that
14		the measurement of all known risks and compliances is determined for evaluation. That
15		way at least an engineer would have to consider all of the issues to mitigate risks of
16		adverse events and final compliances back to a pre-operations condition. The idea is to
17		secure sufficient funding guarantees at each step the risk profile changes (i.e., from
18		"existing conditions," through "operation," back to "existing conditions").
19	Q:	Turning now to the applicant's lease with the Port, can you summarize insurance levels
20		identified in summary form on pgs. 5-6?
21	A:	Yes. The document provides for: (1) property insurance (\$1 million and five percent of
22		values per location); (2) liability insurance (\$10 million per occurrence/\$15 million

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1		aggregate, with specific requirements for employer liability and automobile liability of \$1
2		million each); and (3) pollution legal liability insurance (\$25 million as an extension of
3		the commercial general liability insurance or a separate policy).
4	Q:	Would these insurance amounts be adequate to cover an MFL event?
5	A:	No, the figures proposed are well short of that. And, as I have explained, such insurance
6		is not available at this time.
7	Q:	Would it be expected, for the type of insurance policies we have been discussing, that
8		there would be exclusions for intentional sabotage or acts of terrorism?
9	A:	Absolutely.
10	Q:	So, for an intentionally caused MFL it is probable that for most, if not all, of the
11		insurance policies the applicant holds there would be no pay-out?
12	A:	Correct.
13	Q:	Turning to Section 1.1, p. 1-3 of the Proponent's Application, can you read: (1) paragraph
14		1, sentence 2; (2) subsection 1.1.2; (3) subsection 1.1.3, first sentence; (4) subsection
15		1.1.3, last sentence; and, (5) subsection 1.1.4, first sentence?
16	A:	Yes.
17		1. The Applicant is Tesoro Savage Petroleum Terminal LLC (Applicant).
18		2. Tesoro Savage Petroleum Terminal LLC is a Delaware limited liability company
19		that is qualified to do business in the state of Washington. Its members are Savage
20		Companies and Tesoro Refining & Marketing Company LLC.
21		3. Tesoro Corporation, a Fortune 150 company, is an independent refiner and
22		marketer of petroleum products.

TESTIMONY OF ROBERT J. BLACKBURN - 14

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4	Q:
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are enumerated in its 10K and other reports found at https://www.sec.gov/Archives/edgar/data/50104/000005010416000055/0000050104-16-000055-index.htm.

- Q: OK. So if an MFL event occurs, is compensation from what one presumes is the parent company a possibility?
 - I did look at the Tesoro Corporation 2015 10K Financial Statement Risk Factors and Capitalization. The Risk Factors section acknowledges insufficient insurance to cover known risks of their operation. They did report maintenance of \$20 million in marine terminal operator's liability coverage, subject to a \$150,000 deductible, and an additional \$650 million in umbrella coverage for a total of \$670 million in coverage for sudden and accidental pollution events and liability arising from marine terminal operations. Copies of insurance policies would verify coverage. As of December 31, 2015, the total equity of the organization is \$7,740,000,000, total debt is \$4,073,000,000, with combined total capitalization of \$11,813,000,000. (This is based on a February 25, 2016 filing, which updated the earlier December 31, 2015 10K Report.)

However, by utilizing the Delaware LLC structure, and without evidence of contractual indemnifications, I do have a question as to whether the applicant can shield the parent company from liability exposure from this project, including an MFL event. I presume they would be required to provide a contractual indemnity for this project, effectively providing their combined capitalization for uninsured obligations.

- Q: Are you familiar with the term "black swan event?"
- A: Yes.

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L	Q.	now do you interpret that phrase?
$2 \mid$	A:	A black swan event is a large-scale occurrence that is difficult to predict; however it has a
3		huge impact on the region or world. It presents itself when seemingly disparate expected
1		events occur in the same place at essentially the same time. The single black swan event
5		is not within the insurance industry's historical loss experience, nor was it anticipated.
5	Q:	While the insurance markets base risks on average daily events, do they also limit their
7		exposure to what some might refer to as black swan events?
3	A:	They attempt to, certainly. But the MFL outlined in this testimony is not representative
,		of a black swan event, as the insurance markets are already aware of this type of risk. As
10		addressed above, oil train accidents have been covered in the media, with video footage
11		widely available. ⁴ As the insurance industry is aware of the risks, it has to account for
12		them.
13	Q:	So is it a fair assessment that given the insurance market has to account for the MFL risk
14		by not insuring against it, and the applicant is using a Delaware LLC to also avoid that
15		same risk, that the applicant is effectively asking local citizens here in Washington to
16		shoulder their MFL risks?
17	A:	Yes.
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21 22	https://s 2013, is	example, footage from the derailment in Casselton, North Dakota on December 30, 2013, is posted at www.youtube.com/watch?v=CxkUhVswF5U ; footage from the derailment in Lac Megantic, Quebec, July 6, so posted at http://youtube.com/watch?v=tVI6r7tQVeo ; and, footage from the derailment in burg, Virginia, April 30, 2014, is posted at http://youtube.com/watch?v=c15d1JSFQPg .

TESTIMONY OF ROBERT J. BLACKBURN - 17

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I declare under penalty of perjury of the laws of the State of Washington that the foregoing is true and correct to the best of my knowledge. DATED this ______ th day of May, 2016 at Pittsford, New York. Managing Principal, Blackburn Group, Inc.

TESTIMONY OF ROBERT J. BLACKBURN - 18

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ATTACHMENT 1

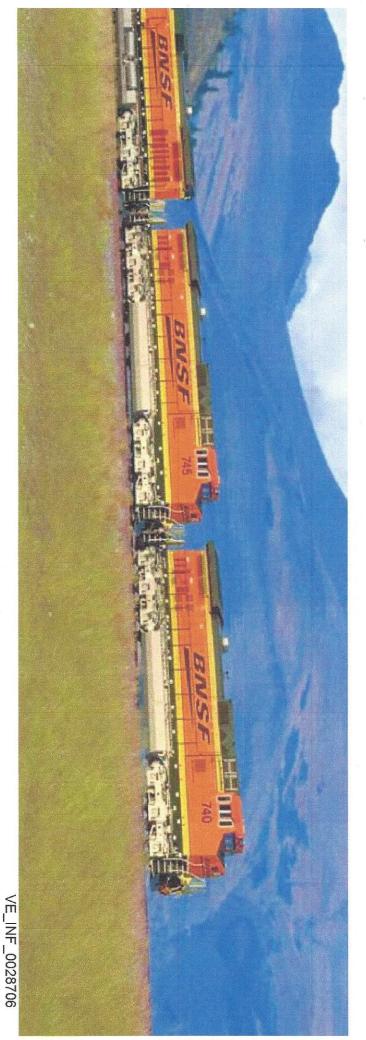
BNSF Power Point Excerpt

BNSF Railway Company

Ex Parte No. 677(Sub-No.1) Common Carrier Obligation of Railroads-Transportation Of Hazardous Materials



July 22, 2008



Policy Issues Raised By Transport of These Commodities

- The risks associated with these commodities we are unquantifiable and uncontrollable. required to assume as common carriers are
- The potential for an accident cannot be fully eliminated.
- Insurance is not commercially available to sufficiently protect us against catastrophic loss.
- substantially after 9/11. There are limits on the availability of insurance, at everincreasing cost. Our insurance costs increased

Insurance Markets

- The market for railroad liability insurance has contracted substantially over the past several years.
- Five years ago, rails were able to purchase in excess of \$1.5 Billion in coverage; today, available coverage is about \$1.0 Billion.
- Number of insurance companies willing to write freight railroad insurance has decreased, while the dramatically price charged for remaining coverage has increased
- Required self retention levels have also increased.



ATTACHMENT 2

US Dept. of Transportation,
The Transportation of Hazardous Materials,
(December 2009), Excerpt

The Transportation of Hazardous Materials: Insurance, Security, and Safety Costs

A report to Congress as required by Section 1555(b) of the Implementing Recommendations of the 9/11 Commission Act of 2007 (Pub. L. 110-53)

Prepared by:

U.S. Department of Transportation December 2009 While \$1 billion is more than sufficient to cover losses from "routine" TIH-related incidents, it is well short of the \$5-\$6 billion that Class I railroads estimate would be necessary in a "nightmare scenario," e.g., an accidental release of TIH gas in close proximity to a large number of people. Once their primary insurance has been exhausted, carriers would be held liable for the balance, forcing even the largest railroad into bankruptcy.

Class II and III railroads that haul TIH commodities claim that their situation is especially precarious, as they cannot acquire, or would have a difficult time acquiring, adequate insurance coverage. According to Keith Borman, Vice President and General Counsel for the ASLRRA, small railroads cannot afford premiums for "meaningful" amounts of insurance coverage, necessary to protect against ruinous liability. Based on a conversation we had with another ASLRRA representative, Class II railroads would likely be content with \$200 million in coverage and Class III carriers would likely be satisfied with \$100 million in coverage. While there is sufficient capacity within the rail insurance market to satisfy this demand, many short line haulers simply do not have the cash-flow to pay for such insurance coverage. As such, Class II and III railroads that haul TIH material only maintain \$10 to \$100 million in coverage.

3.5 Liability Sharing Controversy

Railroads, particularly Class I carriers, assert that they are forced to "bet the farm" with every TIH movement because the liability from a catastrophic incident can potentially be in the billions of dollars – well beyond what carriers can protect against through current means (i.e., commercial insurance). Given that this level of risk is derived primarily from TIH movements, which only account for about 0.3% of total annual carload haulage, rail carriers are attempting to establish a liability sharing arrangement with TIH shippers. They hope to achieve this by either (1) requiring shippers to indemnify liability costs; (2) requiring shippers to maintain a second layer of insurance for "catastrophic coverage;" or (3) establishing a *Price-Anderson*-like arrangement in which shippers would contribute into a secondary liability coverage pool. The Price-Anderson model is derived from the Price-Anderson Nuclear Industries Indemnity Act, which was enacted in 1957 for the nuclear power industry as a means of indemnifying nuclear power producers against excess liability. 47 Under this arrangement, nuclear power reactor licensees are required to carry the maximum amount of insurance available to them in the insurance market to protect against the liability of nuclear-related incidents. Any monetary claims that fall within this insurance coverage would be paid by the insurance company. In the event that an individual power producer's primary insurance has been exhausted, a liability pool, funded by a contribution of \$95.8 million from each of the U.S. nuclear power producers, could be tapped to cover the balance of its liability. Should this liability pool

⁴⁷ See Pub. L. 85-256.

⁴⁵ This figure was derived from testimony by Class I carriers in STB Ex Parte No. 677 (Sub-No. 1).

⁴⁶ Based on the written testimony of the ASLRRA, submitted to the STB in Ex Parte No. 677 (Sub-No. 1).

ATTACHMENT 3

Photographs, Rail Accidents

GOGAMA, ONTARIO

March 7, 2015

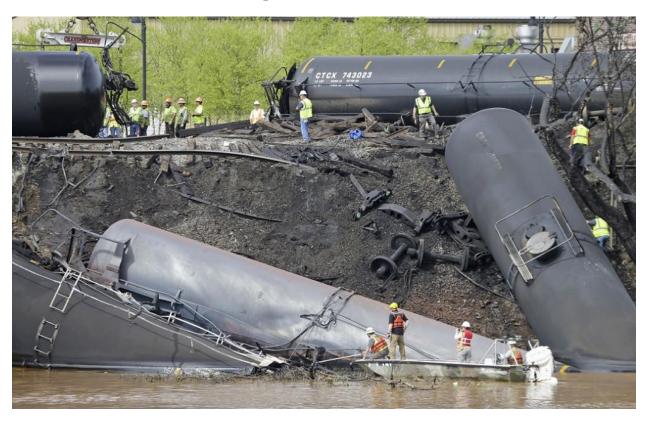


Gogama Photograph 1¹

 $^1\,Gogama\,Photograph\,1\,published\,May\,6,\,2015,\,at\,http://www.sightline.org/2015/05/06/oil-train-explosions-a-timeline-in-pictures/.$

LYNCHBURG, VIRGINA

April 30, 2014



Lynchburg Photograph 1²

² Lynchburg Photograph 1 published February 24, 2015, at http://thinkprogress.org/climate/2015/02/24/3626212/csx-fined-for-lynchburg-virginia-derailment/.



Lynchburg Photograph 2³

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 $^{^3 \,} Lynchburg \, Photograph \, 2 \, published \, May \, 2, \, 2014, \, at \\ http://news.nationalgeographic.com/news/energy/2014/04/140430-oil-train-derails-in-lynchburg-virginia/.$



Lynchburg Photograph 3⁴

⁴ Lynchburg Photograph 3 published April 30, 2014 at http://www.desmogblog.com/2014/04/30/breaking-csxrailroad-bomb-train-carrying-crude-oil-explodes-lynchburg-virginia

CASSELTON, NORTH DAKOTA

December 30, 2013



Casselton Photograph 1⁵

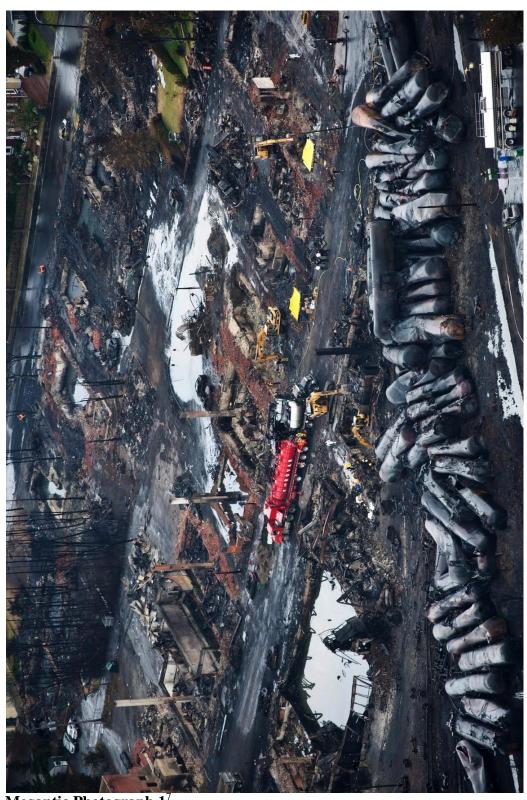
 $^{^5\,}Casselton\,Photograph\,1\,posted\,at\,http://www.ntsb.gov/investigations/pages/casselton_nd.aspx.$



Casselton Photograph 2⁶

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LAC MEGANTIC, QUEBEC July 6, 2013



Lac-Megantic Photograph 1⁷

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⁷ Lac Megantic Photograph 1 published August 19, 2014, at http://www.theguardian.com/world/2014/aug/20/lac-megantic-oil-train-disaster-inquiry-finds-string-of-safety-failings.



Lac-Megantic Photograph 2.8

 $^{^{8} \} Lac-Megantic\ Photograph\ 2\ published\ July\ 13,\ 2015,\ at\ http://globalnews.ca/news/2107803/judge-rejects-canadian-pacifics-challenge-of-lac-megantic-lawsuit/.$



Lac-Megantic Photograph 39

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 $^{^9}$ Lac-Megantic Photograph 3 published May 6, 2015 at http://www.sightline.org/2015/05/06/oil-train-explosions-a-timeline-in-pictures/