Docket TR-151079).

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Ecology Comments on the Washington Utilities and Transportation Commission Rulemaking to Consider Adoption of Rules Relating to Rail Safety.

The Washington Department of Ecology (Ecology) is responsible for protecting Washington’s environment, public health and safety through a comprehensive oil spill-prevention, preparedness, and response program. Designated as the state on-scene coordinator, Ecology oversees prevention, preparedness, response and restoration efforts for oil spills statewide. Ecology implements the state’s laws and rules for determining compensation for damages to public natural resources caused by oil spills. Historically, oil spills from railroads occurred primarily from locomotives spilling diesel fuel or during locomotive fueling operations, and the volumes of oil spilled were relatively small. That has changed as more crude oil is being extracted from the United States and western Canada, then being moved throughout the states by trains. Unit trains (over 100 rail cars) carrying upwards of 3 million gallons of crude oil now transit rail lines in ever increasing numbers. This is an important issue for the citizens of Washington, ensuring that there is sufficient financial ability to pay for spills: a conservative approach is called for in this instance.

**What is a definition of a reasonably likely worst-case spill of oil?**

The enabling legislation for the Commission’s rulemaking states that “the commission must require a railroad company that transports crude oil in Washington to submit information to the commission relating to the railroad company's ability to pay damages in the event of a spill or accident involving the transport of crude oil by the railroad company in Washington.” The information submitted to the commission is to include a statement of whether the railroad has the ability to pay for damages resulting from a reasonable worst case spill of oil, as calculated by multiplying the reasonable per barrel cleanup and damage cost of spilled oil times the reasonable worst case spill volume. The enabling legislation does to speak to potential consequences should the railroad present information demonstrating that their ability to pay is less than the calculated response costs and damages. This is a shortfall.

According to the online Webster’s dictionary, the word reasonable means “as much as is appropriate or fair; moderate.” The word “reasonable” distinguishes the Commission’s directive to define a worst case spill volume from Ecology’s responsibility to define a worst case spill planning volume for railroad oil spill contingency planning. Under its preparedness laws, Ecology defines a worst case spill volume for industry as the full volume (cargo and fuel) that a vessel is able to carry or the full volume of a largest tank for a facility. If the preparedness worst case spill planning volume for a train were the entire volume the train is transporting, all cars, then *something less than that* could be considered “reasonable” for response costs and damage payment purposes.

There appears to be some inconsistency between the legislative directive and the Commission’s CR 101. The law uses the term “reasonable” to modify the term worst case spill volume, and does not include the term *likely*. Due to the complexity in establishing a worst case spill volume, adding another word qualifier may cause confusion and result in the Commission considering more factors than necessary to reach an answer, for example probability of a spill occurring.

Ecology suggests reviewing recent crude by rail derailment incidents to help define what is reasonable. When derailments occur, varying numbers of cars and/or locomotives may be involved. In the [2014 Marine Rail Oil Transportation Study,](https://fortress.wa.gov/ecy/publications/SummaryPages/1508010.html) data shows that recent incidents have had derailments involving between 2 to over 30 cars, and oil spills ranging from 0 to 748,000 barrels of oil. An excerpt from the report is included in these comments. Several of these spills were compounded by explosion and fire of the crude oil. Loss of life, and extensive property and environmental damages occurred from these incidents. Because the standard is for a 'worst-case' spill, it is certainly reasonable to plan for the higher end of these figures rather than the lower end.

**What is a reasonable per-barrel cleanup and damage cost of spilled oil?**

The damages that occur from oil spills are dependent on the oil type, volume spilled, location, and timing of the spill or seasonality. Crude by rail spills may occur anywhere along the rail lines, which includes all types of inland areas, populated cities and towns, along rivers and streams, into wetlands and even along marine and estuarine waters.

The factors that affect cleanup costs are complex and interrelated. Each spill involves unique circumstances that could affect the eventual cleanup costs: how quickly the response was initiated, how close responders and equipment are staged, how much waste is generated, whether shoreline impacts occur or not. Estimating a universal per-unit cleanup cost is difficult, but these costs certainly have only risen over time. For example, due to its unique location and the properties of the oil, the Enbridge pipeline Kalamazoo River spill is said to have cost 10 times the traditional crude oil clean up costs – about $35,000 per barrel. Oil spills that impact shorelines typically have substantially higher clean-up and damage costs. In Washington State there is no limit to the liability of a spill so it would be reasonable to look at the higher end of the spectrum to establish a cost number.

*Damages to public resources*

Washington State, the process for determining damages for an oil spill is called a Natural Resource Damage Assessment (NRDA). This process in Washington is defined in the “[Oil Spill Natural Resource Damage Assessment](http://www.ecy.wa.gov/programs/spills/restoration/Ch.173-183WAC.PDF)” rule (WAC 173-183). Ecology uses a compensations schedule established in the rule. The compensation schedule allows Ecology to collect damages based on a dollar per gallon charge. For spills less than 1,000 gallons the range is $1 to $100 per gallon range. For spills of 1,000 gallons or more this range is $3 to $300 per gallon spilled. This process is typically only used on smaller spills because of its simple calculation process. For larger spills the federal damage recovery process (a damage assessment study and negotiated settlement process) is more likely to be used and the costs per barrel for damage restoration would most certainly be higher.

*Damages to Private Property*

The above processes do not account for damages to private property which a spiller is liable for, such as loss of income or revenue and damages to private property from oiling. Ecology has conducted studies on the costs of spills for rule making in [2006](https://fortress.wa.gov/ecy/publications/summarypages/0608020.html) and again in [2012](https://fortress.wa.gov/ecy/publications/SummaryPages/1208014.html). These reports may be useful to the Commission when considering how to define costs in this rule making.

**What risk factors should the Commission consider in establishing safety standards on private crossings?**

Given the limitations of staff to address these important issues, the Commission should prioritize improvements and/or make special considerations for safety standards in situations where an accident at a private crossing could potentially result in a blocked roadway that 1) is necessary to reach emergency services (i.e., situations where a single roadway serves as the primary route to get from one side of a town to the other), or 2) used to provide a response defined within a response plan maintained by Ecology.  Special consideration should also be given to areas where an accident due to a private crossing could potentially create damages to special environmental resources, such as the Columbia River Gorge, Puget Sound, Gray's Harbor Estuary, etc.

Excerpt from the 2014 Marine Rail Oil Transportation Study

| Table 9: Recent Accidents Involving Crude-by-Rail Trains | | | | |
| --- | --- | --- | --- | --- |
| Location/Date  Incident Type | Railroad | Fire | Spill (Gallons) | Details of Incident |
| LaSalle, CO[[1]](#footnote-1)  May 9, 2014  Derailment | Union  Pacific | No | 6,500 | 6 cars of a 100-car crude oil train derailed, causing leakage from one car. Leakage was at rate of 20-50 gallons/minute. Spill contained in ditch. No injuries. |
| Lynchburg, VA[[2]](#footnote-2)  April 30, 2014  Derailment | CSX | Yes | <50,000 | 15 cars in crude oil train derailed in downtown area of city. 3 cars caught fire, and some cars derailed into river along tracks. Immediate area surrounding derailment evacuated. No injuries were reported. |
| Vandergrift, PA[[3]](#footnote-3)  Feb 13, 2014  Derailment | Norfolk Southern | No | 4,550 | 21 tank cars of 120-car train derailed outside Pittsburgh. 19 derailed cars carrying crude oil from western Canada; 4 released product. No fire or injuries. |
| Philadelphia, PA  January 20, 2014  Derailment | CSX | No | None | 7 cars of 101-car CSX train, including 6 carrying crude oil, derailed on bridge over Schuylkill River. No injuries and no leakage were reported, but 2 cars, one tanker, leaning over river. |
| Wisconsin/ Minnesota[[4]](#footnote-4)  Feb 3, 2014  Leak | Canadian Pacific | No | 12,000 | Valve or cap mishap caused spill of 12,000 gallons from one tank car while en route between Winona and Red Wing. Train traveling at low speed. |
| Plaster Rock, New Brunswick, Canada[[5]](#footnote-5)  Jan 7, 2014  Derailment | Canadian National | Yes | Unknown | 17 cars of mixed train hauling crude oil, propane, and other goods derailed likely due to sudden wheel/axle failure. 5 tank cars carrying crude oil caught fire and exploded. Train delivering crude from Manitoba and Alberta to Irving Oil refinery in St. John, New Brunswick. 45 homes evacuated; no injuries reported. |
| Casselton, ND[[6]](#footnote-6)  Dec 30, 2013  Derailment | BNSF | Yes | >400,000 | Eastbound train hauling 106 tank cars of crude oil struck westbound train carrying grain that shortly before had derailed onto eastbound track. Some 34 cars from both trains derailed, including 20 cars carrying crude that exploded and burned for over 24 hours. About 1,400 residents of Casselton were evacuated, but no injuries were reported. Cause of derailments and subsequent fire under investigation. |
| Aliceville, AL[[7]](#footnote-7)  Nov 8, 2013  Derailment | Genesee & Wyoming | Yes | <748,400 | Train hauling 90 cars of crude oil from North Dakota to refinery near Mobile, AL, derailed on section of track through wetland near Aliceville, AL. 30 tank cars derailed and some dozen burned. No one was injured or killed. The derailment occurred on a short line railroad’s track that had been inspected a few days earlier. Cause of derailment under investigation. 30 cars derailed, 12 breached. |
| Gainford, Alberta, Canada[[8]](#footnote-8)  Oct 19, 2013  Derailment | Canadian National | Yes | Unknown | 9 tank cars of propane and four tank cars of crude oil from Canada derailed.About 100 residents evacuated. 3 propane cars burned, but tank cars carrying oil were pushed away and did not burn. No one injured or killed. Derailment cause under investigation. 9 propane, 4 crude; 3 propane cars burned. |
| Lac-Mégantic, Quebec, Canada[[9]](#footnote-9)  July 5, 2013  Derailment | Montreal, Main & Atlantic | Yes | >26,500 | Train with 72 loaded tank cars of crude oil from North Dakota moving from Montreal, Quebec, to St. John, New Brunswick, stopped at Nantes, Quebec, at 11:00 pm. Operator and sole railroad employee aboard train secured it and departed, leaving train on short line track with descending grade of 1.2%. At about 1:00 am, train began rolling down descending grade toward own of Lac-Mégantic, about 30 miles from U.S. border. Near center of town, 63 tank cars derailed, resulting in multiple explosions and subsequent fires. 47 fatalities and extensive damage to town. 2,000 people evacuated. . |
| White River, Calgary, Alberta[[10]](#footnote-10) | Canadian Pacific | Yes | 26,866 | A broken wheel and emergency brake application caused a derailment. Two of seven cars carrying crude oil spilled. There was a fire that was put out by local firefighters. |
| Parkers Prairie, MN[[11]](#footnote-11)  Mar 27, 2013  Derailment | Canadian Pacific | No | 30,000 | 14 cars on 94-car crude oil train derailed; up to 3 cars ruptured. |
| Lynchburg, VA  May 2014 | CSX Transportation | Yes | Unknown | 17 car derailment and fire |
| Ontario, Canada  Feb 2015 | Canadian National | Yes | Unknown | 35 cars derailed and 7 caught fire |
| Southwestern Alberta  Feb 2015 | Canadian Pacific | No | None | 12 crude oil cars derailed. |
| West Virginia  Feb 2015 | CSX Transportation | Yes | Under investigation | Train derailment involving 27 cars spilled oil into the Kanawha River, a source of drinking water in Kanawha and Fayette counties. 19 cars were involved in the fire. |

1. <http://www.greeleytribune.com/news/11353788-113/crude-car-cars-davis>. [↑](#footnote-ref-1)
2. <http://www.latimes.com/nation/nationnow/la-na-nn-lynchburg-virginia-train-derailment-20140430-story.html> [↑](#footnote-ref-2)
3. <http://triblive.com/neighborhoods/yourallekiskivalley/yourallekiskivalleymore/5596923-74/railroad-oil-norfolk#axzz37qQHJGGf>. [↑](#footnote-ref-3)
4. <http://www.winonadailynews.com/news/local/gallons-of-crude-oil-spilled-between-winona-and-red-wing/article_850d10d2-a702-5fc8-b97e-f822d0c5c30b.html>. [↑](#footnote-ref-4)
5. <http://dot111.info/category/recent-derailments/>. [↑](#footnote-ref-5)
6. <http://www.ntsb.gov/investigations/AccidentReports/Reports/Casselton_ND_Preliminary.pdf>. [↑](#footnote-ref-6)
7. <http://dot111.info/category/disasters/aliceville-al/>. [↑](#footnote-ref-7)
8. <http://www.edmontonsun.com/2013/10/23/evacuation-lifted-after-train-derailment-in-gainford-alberta>. [↑](#footnote-ref-8)
9. <http://priceofoil.org/content/uploads/2014/05/OCI_Runaway_Train_Single_reduce.pdf>. [↑](#footnote-ref-9)
10. <http://www.saultstar.com/2014/12/15/wheel-caused-white-river-derailment> [↑](#footnote-ref-10)
11. <http://usnews.nbcnews.com/_news/2013/03/28/17501526-train-hauling-oil-derails-spilling-30000-gallons-of-crude-in-minnesota>. [↑](#footnote-ref-11)