WAC 480-62-130
Application of this chapter.

The rules in this chapter apply within certain cities and to any railroad company subject to the jurisdiction of the commission under RCW 81.04.010 and chapters 81.04, 81.24, 81.28, 81.36, 81.40, 81.44, 81.48, 81.52, 81.53, 81.54, 81.60, and 81.61 RCW, as set forth below:

(1) To all Class I, II, and III railroad companies operating within the state of Washington, with the exceptions noted in subsections (2), (3), and (4) of this section.

(2) To and within first class cities except for WAC 480-62-145, 480-62-150, ~~480-62-155~~, and 480-62-225.

(3) To and within cities with a population of more than 400,000 except for WAC 480-62-145, 480-62-150, ~~480-62-155,~~ 480-62-225, 480-62-230, and 480-62-235.

(4) To logging and industrial railroads except for WAC 480-62-200, 480-62-205, 480-62-215, 480-62-240, 480-62-245, 480-62-250, 480-62-300, the portions of WAC 480-62-310 that do not involve grade crossing accidents, WAC 480-62-315 (2), (4) and (5), and WAC 480-62-325.

WAC 480-62-XXX
First class cities opt-in.

(1) Participation in the commission's rail safety program. RCW 81.53.240 allows a first-class city to request participation in the commission's crossing safety inspection program. For the purposes of this section, the commission's crossing safety inspection program shall mean the inspection of grade crossings to ensure proper design and maintenance, as set forth in WAC 480-62-225.

(2) Process for opt-in. A first-class city must notify the commission of its intent to opt-in to the commission's rail safety program at least 60 days prior to the effective date requested by the city. A first-class city's request to opt-in must be accompanied by documentation demonstrating that the city's governing body has approved the terms and conditions set forth in a memorandum of understanding between the city and the commission governing the commission's assumption of rail crossing safety inspection authority within the city limits. A first-class city's request to opt-in will become effective on the date requested by the city or the first day of the month following commission approval of the memorandum of understanding referenced in this section, whichever occurs later.

(3) Technical assistance to first-class cities. For first-class cities that opt-in to the commission's crossing safety inspection program, the commission will provide technical assistance on grade crossing safety, maintenance, and modifications as agreed between the city and the commission.

(4) Process to opt-out. First-class cities that opt-in to the commission's crossing safety inspection program may opt-out of the program by submitting to the commission documentation that the city's governing body has approved the withdrawal of the city from the commission's crossing safety inspection program. A city's notice of withdrawal must be submitted to the commission at least 90 days prior to the date upon which the city intends to assume all rail crossing safety inspections within its jurisdiction.

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WAC 480-62-

Safety standards at private crossings.

(1) For the purposes of this section, the term "private crossings" has the same meaning as in RCW 81.53.010(8).

(2) At every private crossing through which any amount of crude oil is transported, the railroad must ensure, within 90 days of the adoption of this rule, that the following are installed on each side of the crossing:

(a) A 24-inch (60 centimeters) or larger R1-1 stop sign, defined as a standard R1-1 in the Manual on Uniform Traffic Control Devices;

(b) An Emergency Notification System (ENS) sign shall display the necessary information for the dispatching railroad to receive reports of unsafe conditions at the crossing. This information, at a minimum, includes the toll-free telephone number of the railroad company established to receive reports; an explanation of the purpose of the sign (*e.g.,* "Report emergency or problem to __"); and the U.S. DOT National Crossing Inventory number assigned to that crossing.

(i) *Sign size and other physical features.* Each ENS sign shall measure at least 12 inches wide by 9 inches high; be retroreflective; have legible text (*i.e.*, letters and numerals) with a minimum character height of 1 inch; and have white text set on a blue background with a white border, except that the U.S. DOT National Crossing Inventory number may be black text set on a white rectangular background.

(c) A rectangular sign, at least 300 square inches (20,000 square centimeters) in size, with the legend "Private Crossing" and the crossbuck symbol.

(3) All signs must have retroreflective tape applied to the sign posts.

(4) If the commission finds, after investigation, a restricted sight distance or unfavorable roadway or crossing configuration exists on an approach to a private crossing, the commission will notify the landowner and the railroad, and the railroad must ensure, within 90 days of the adoption of this rule, that an additional crossbuck sign is installed on the left side of the roadway or at another location so that two crossbuck signs are clearly visible from the approach.

(5) The commission will give priority to private crossings with a high frequency of oil trains, in industrial areas, and high population centers.

(6) Nothing in this section modifies existing agreements between the railroad company and the landowner governing liability or cost allocation at the private crossing.

DRAFT

WAC 480-62-125

Definitions.

The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

"Class I railroad company" means a railroad company having annual operating revenues of $250 million or more;

"Class II railroad company" means a railroad company having annual operating revenue of less than $250 million, but more than $20 million; and

"Class III railroad company" means a railroad company having annual operating revenues of $20 million or less.

"Commission" means the Washington utilities and transportation commission.

"Department of labor and industries" means the Washington state department of labor and industries.

"Department of transportation" means the Washington state department of transportation.

"On track equipment" means self-propelled equipment, other than locomotives, that can be operated on railroad tracks.

"Passenger carrying vehicle" means those buses and trucks owned, operated, and maintained by a railroad company which transports railroad employees in other than the cab of such vehicles and are designed primarily for operation on roads which may or may not be equipped with retractable flanged wheels for operation on railroad tracks.

"Railroad" means every permanent road with a line of rails fixed to ties providing a track for cars or equipment drawn by locomotives or operated by any type of power, including interurban and suburban electric railroads, for the public use of conveying persons or property for hire, with all bridges, ferries, tunnels, equipment, switches, spurs, sidings, tracks, stations, and terminal facilities of every kind, used, operated, controlled, managed, or owned by or in connection therewith. Unless otherwise provided by rule, the term "railroad" does not include logging and industrial railroads, or street railways operating within the limits of any incorporated city or town.

"Railroad company" means every corporation, company, partnership, association, joint stock association, or person, their lessees, trustees, or receivers appointed by any court, and any common carrier owning, operating, controlling or managing any railroad or any cars or other equipment used on, or in connection with the railroad within this state.

DRAFT

"Railroad police officer" means a peace officer who is commissioned in his or her state of legal residence or state of employment by a railroad company to enforce state laws for the protection of railroad property, personnel, passengers and/or cargo.

"Reasonable worst case spill" from a railroad company means fifty percent of the largest train load of crude oil, as measured in barrels, moved by that company in the previous calendar year.

"Remote-control area" means any place remote-control operations are conducted on a railroad.

"Remote-control operations" means controlling the movement of locomotives through the use of radio transmitter and receiver systems by persons not physically located at the controls within the confines of a locomotive cab.

"Remote-control zone" means a designated area where access is restricted in which remote-control operations may occur under alternative point protection procedures.

"State" means the state of Washington.

WAC 480-62-300

Annual reports—Regulatory fees.

(1) The surface transportation board annual report form R1 must be used by Class I railroad companies as the annual report form for submission to the commission. Class II and Class III railroad companies must use report forms periodically published by the commission.

(2) Any railroad company that transports crude oil in Washington must submit to the commission in its annual report a statement that contains:

(a) All insurance carried by the railroad company that covers any losses resulting from a reasonable worst case spill.

(b) Coverage amounts, limitations, and other conditions of the insurance identified in subsection (2)(a).

(c) Average and largest crude oil train, as measured in barrels, operated in Washington by the railroad company in the previous calendar year.

(d) Information sufficient to demonstrate the railroad company's ability to pay the costs to clean up a reasonable worst case spill of oil as defined in WAC 480-62-125, including but not necessarily limited to insurance, reserve accounts, letters of credit, or other financial instruments or resources on which the company can rely to pay all such costs. For the purposes of this section, the railroad company must calculate the total cleanup costs for a reasonable worst case spill based on a minimum cost of $400 per gallon.

(2) Each year every railroad company is responsible for obtaining the proper report form from the commission. Reports must be completed for the preceding calendar year's operations. One

DRAFT

copy of the completed annual report, along with the regulatory fee, must be submitted to the commission no later than May 1 of each year.

(3) **Regulatory fees.** The railroad company regulatory fee for class one railroads and companies that haul crude oil is set by statute at two and one-half percent of gross intrastate operating revenue and one and one-half percent of gross intrastate operating revenue for all other railroad companies.

(a) The maximum regulatory fee is assessed each year, unless the commission issues an order establishing the regulatory fee at an amount less than the statutory maximum.

(b) The minimum regulatory fee that a railroad company must pay is twenty dollars.

(c) The twenty dollar minimum regulatory fee is waived for any railroad company with less than one thousand three hundred dollars in gross intrastate operating revenue.

(d) The commission does not grant extensions for payment of regulatory fees.

(e) If a company does not pay its regulatory fee by May 1, the commission will assess an automatic late fee of two percent of the amount due, plus one percent interest for each month the fee remains unpaid.

*Note:

Justification of the assumption of 50% for a reasonable worst case spill. In the United States, historical evidence of derailments show an average of 9 cars.[1] The largest derailment of crude and ethanol in the U.S. is 31 cars.[2] However, the threshold of "reasonable" worst case discharge should look at the largest accident in North America, given the relative similar regulations pertaining to railroads between Canada and the U.S. The worst case example that can be used, when looking at North America, is Lac-Megantic, Quebec. Using Lac-Megantic as the worst case scenario, the PHMSA scale down approach[3] can be applied to deduce a "reasonable" worst case scenario.

Given that kinetic energy varies directly with the square of speed, the new federally regulated speed rules and industry practices on loaded bulk trains will be factored into the PHMSA Lac-Megantic damage calculation. In Lac-Megantic, the train in question was travelling at a rate of 65mph[4] and resulted in the loss of approximately 78% of its crude oil cargo or 1.59 million gallons. PHMSA calculations on average train derailments in the U.S. use an average speed of 41 mph in determining a "scale down" calculation of Lac-Megantic. While this is used to illustrate monetary assumptions, an assumption on damage should be calculated using the operating speeds in the state. The recently adopted Enhanced Tank Car regulation sets a maximum speed for High Hazard Flammable Trains (HHFT) at 50 mph. However, the Washington Oil Transportation Study (page 177) states that loaded unit bulk trains operate at lower

[1] Journal of Hazardous Materials 276 (2014) 442-451, http://railtec.illinois.edu/articles/Files/Journal%20Articles/2014/Liu%20et%20al%202014%20JHM%20Multiple%20Car%20Release.pdf.
[2] Final Regulatory Impact Analysis, Docket No. PHMSA-2012-0082, at 98.
[3] Final Regulatory Impact Analysis, Docket No. PHMSA-2012-0082, at 333.
[4] Railway Investigation Report R13D0054, http://www.tsb.gc.ca/eng/rapports-reports/rail/2013/R13D0054/R13D0054.pdf.

DRAFT

maximum thresholds and states that the maximum speed in Washington is 45 mph. Using 45 mph in determining a reasonable worst case spill, the kinetic force scale down (PHMSA formula) would be as follows:

Kinetic energy = ½ Mass x (Velocity)^2 PHMSA assumes loaded HHFT's are of equal mass

(45mph/65mph)^2 = 0.4792846153846154

1 – 0.4792846153846154 = 52% (approximately 50%, which is the factor used in the "reasonable" worst case spill definition).

The $400 calculation is based on the PHMSA Final Regulatory Impact Analysis for Enhanced Tank Car rule which stated on page 86 that costs for crude oil for rail carriers was estimated at $200 per gallon but "the review found that damages could be as high as twice that amount for crude oil spills." Further, the 1999 Etkin[5] crude oil study had a cost of $326 per gallon for cleanup and the 2012 Marruffo study[6] showed a cleanup cost of $378.34 for crude oil by rail.

Table C1: Dollar Per Gallon Estimates by Study

Study	Per Gallon Estimate	Oil Type
Marruffo (2012)[1]	$378.34	Crude
Cohen (2010)[2]	$892.29	Crude
Cohen (1986)[3]	$6.59	Crude / Fuel Oil
Helton and Penn (1999)[4]	$262.26	Crude / Fuel Oil
U.S. Coast Guard (2011)	$271.00	Crude / Fuel Oil
U.S. Coast Guard (2003)	$385.00	Crude / Fuel Oil
U.S. Coast Guard (2013)	$453.33	Crude / Fuel Oil
Etkin (2003)	$633.71	Crude / Fuel Oil
NTSB Tiskilwa, IL (2013)	$6.38	Ethanol
Marruffo (2012)1	$8.22	Ethanol
NTSB New Brighton, PA (2008)	$9.88	Ethanol
NTSB Columbus, OH (2014)	$13.48	Ethanol
NTSB Cherry Valley, IL (2012)	$19.53	Ethanol
NTSB Casselton, ND (2013) – preliminary	$15.25	Crude
Saat et al. (2014)	$144.00	Ethanol

1 Value represents only the labor cleanup cost; other cost factors are not included.
2 Value is an average from the study's estimated range of $543.27 to $1,241.30.
3 Weighted by percent of spill that directly impacted fishing industry, water supply, birds, and recreational activities.
4 Value is an average per gallon estimate from 29 specific spill incidents.

[5] Etkin, D.S. "Estimating Clean-up Costs for Oil Spills." Proceedings, International Oil Spill Conference, 1999

[6] Marruffo, Amanda, Hongkyu Yoon, David J. Schaeffer, Christopher P. L. Barkan, Mohd Rapik Saat, and Charles J. Werth. "NAPL Source Zone Depletion Model and Its Application to Railroad-Tank-Car Spills." Groundwater 50, no. 4 (2012): 627–632