

## 4.5 Environmental Health Risks—Rail Transport

This section addresses the potential environmental health risks (specifically the likelihood of derailments, spills, fires, and explosions of various sizes) associated with offsite rail transport along the Puget Sound & Pacific Railroad (PS&P) rail line. This section first describes the environmental health risks that would exist under the no-action alternative to provide context for how risks would change with the addition of the proposed action. It then describes the potential risks related to oil spills, fires, or explosions associated with rail transport under the proposed action. It then describes the existing planning, preparedness, and response framework in place that is intended to address risks at the terminal and identifies additional applicant mitigation measures. The section concludes with a discussion of potentially unavoidable and significant adverse impacts of the proposed action and an explanation of financial responsibility for emergency response and cleanup activities if an incident occurred during rail transport.

### 4.5.1 What are the existing risks?

Under the no-action alternative, the environmental health and safety risks (frequencies and consequences of different scenarios) during rail transport would include the potential for rail incidents that could harm people or the natural environment, particularly if the incidents resulted in spills of hazardous materials. These risks would be similar to existing conditions because a substantial increase in rail traffic on the PS&P rail line is not likely during the analysis period. Currently, three trains per day on average travel from Centralia to the Port of Grays Harbor carrying grain, autos, and mixed freight. A small number of cars carry hazardous materials. As discussed in Chapter 3, Section 3.15, *Rail Traffic*, train length could increase; however, additional train trips other than those related to the proposed action are not likely.

#### 4.5.1.1 Risk of Spills for Existing Conditions and No-Action Alternative

Under existing conditions, rail traffic consists primarily of grain, auto, and mixed freight trains. Only a few cars on these trains carry oil or hazardous materials. These materials are primarily related to the applicant's existing operations and include methanol and other industrial operations near the project site, such as vegetable oil, sodium methylate, biodiesel, and glycerin.

There have been six derailments on the PS&P rail line since 2014. These derailments did not involve rail cars carrying oil and there was no oil spilled; however, these occurrences provide incident data. Detailed information on the incidents is included in Appendix M, *Risk Assessment Technical Report*. As noted in Section 4.2, *Applicable Regulations*, the National Transportation Safety Board continues to evaluate Federal Railroad Administration (FRA) accident data and work with the FRA and the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) to make recommendations to improve safe transport of flammable liquids by rail.

- On April 29, 2014, two cars derailed at 5 miles per hour (mph) at South Washington Street in Aberdeen due to wide gauge (track separation).
- On May 9, 2014, seven cars derailed at 6 mph at Heron Street in Aberdeen due to wide gauge.
- On May 15, 2014, 10 cars derailed at 10 mph near Montesano due to thermal track misalignment.

- On May 21, 2014, 11 cars derailed at 5 mph at Blakeslee Junction due to a combination of train makeup and track geometry design.
- On December 29, 2015, six empty freight cars derailed in Montesano when an automobile stopped in a grade crossing.
- On May 31, 2016, eight rail cars in a 100-car train carrying grain to the Port of Grays Harbor derailed at 17 mph in the Central Park area. Six of those cars were on their side. There were no injuries. The cause of the derailment was a broken rail (Connell pers. comm.).

In 2014, PS&P installed more than 12,000 new ties, reinstalled more than 7,800 feet of curved rail, and made various repairs at bridges. The 3-year capital plan includes additional new ties, new track surface, bridge upgrades, additional tracks, replacing jointed rails, and other improvements, but these have not been funded or permitted.

Under the no-action alternative, the risks of spills would continue similar to existing conditions. Because it is not possible to predict the timing or exact magnitude of an incident, the following spill scenarios were considered to provide an understanding of the range of risks under the no-action alternative. The likelihood of each spill scenario occurring is presented below. For additional details about the analysis of risks under the no-action alternative, see Appendix M, *Risk Assessment Technical Report*.

- The **partial one rail car rail transport spill scenario** (up to 1,000 gallons [24 barrels]) could occur once in 85 years. This represents what could occur from a partial spill from one or several rail cars.
- The **one rail car spill scenario** (roughly 30,000 gallons [714 barrels]) could occur once in 48 years.
- The **three rail car spill scenario** (roughly 90,000 gallons [2,140 barrels]) could occur once in 3,100 years.

#### 4.5.1.2 Fires or Explosion

While the materials transported currently and under the no-action alternative do not include crude oil, the existing rail transport still involves flammable materials such as methanol and biodiesel, which, if released in an incident, could ignite. The chance of a fire or an explosion is dependent on the material involved and the conditions of the incident. The potential impacts on resources would depend on the location, weather conditions, and other factors. The impacts are described in Section 4.7, *Impacts on Resources*.

#### 4.5.1.3 Response Resources

Closest to the project site, the municipal fire departments described in Section 4.4.1.3, *Response*, and the Grays Harbor Fire Protection Districts 2, 6, 14, and 15 are available to provide personnel and fire apparatus in the event of an emergency in accordance with the countywide mutual aid agreement (Grays Harbor County n.d.).

Further east of Aberdeen, the PS&P rail corridor passes through numerous fire protection districts and some cities within Grays Harbor, Thurston, and Lewis Counties. The fire protection districts represent vast and mostly rural unincorporated areas, and not all stations within the districts will be available to respond immediately to an emergency along the rail corridor if called upon. Table 4.5-1

lists the stations and fire protection districts, number of personnel, and primary fire fighting vehicles in the first two columns.

The third column in Table 4.5-1 shows the latest protection class assigned to the fire protection districts or municipal fire department by the Washington Surveying and Rating Bureau. The bureau assigns each community a protection class of 1 through 10, where 1 indicates exemplary fire protection capabilities, and 10 indicates that the capabilities, if any, are insufficient for insurance credit.

This classification is relevant to fire protection services for citizens and property owners and is based upon an objective evaluation of the fire department equipment and personnel training, water supply, emergency communications systems, and fire prevention activities (fire code enforcement, public education, and building code enforcement). The protection class is not a complete measure of a fire department's and community's preparedness to respond to an emergency along the rail corridor in their area but it does provide one metric for the relevant capabilities required for hazardous material response on the rail line.

Personnel and equipment from Grays Harbor Fire Protection Districts 1 (Oakville), 2, 5 (Elma and Porter), 10, and 14 (Markham) would be first responders in the project site or along the rail line in the event of an incident. The fire department in the City of Oakville is merged with Fire Protection District 1 and has a mutual aid agreement with the City of Oakville and other cities in Fire Protection District 1. A similar arrangement exists in Fire Protection District 5 between the fire protection district and the City of Elma. There are 19 fire stations along the PS&P rail line. For information about emergency service access in the study area, refer to Chapter 3, Section 3.16, *Vehicle Traffic and Safety*.

Capabilities at the local level differ between fire departments. The local fire departments along the PS&P rail line do not have technical hazardous material teams. Air monitoring capabilities vary based on equipment and personnel trained. Supporting resources may be available from surrounding jurisdictions. Under RCW 43.43.961, the Fire Service Resource Mobilization Plan provides personnel, equipment, and other logistical resources from around the state when a fire or other emergency, like a hazardous material release, exceeds the firefighting and hazardous material capacity of local jurisdictions (Washington State Patrol Office of the State Fire Marshal 2014: 5). State agencies that share responsibility as primary agencies for a hazardous material response are Washington State Department of Ecology (Ecology) and the Washington State Patrol (Washington State Emergency Management Division 2011). If a fire or hazardous material response incident escalates beyond the limits of local resources, additional federal and state assets can be requested for an incident.

**Table 4.5-1. Emergency Response Capabilities along the PS&P Rail Line**

<b>Designation<sup>a</sup></b>	<b>Personnel</b>	<b>Equipment<sup>b</sup></b>	<b>Protection Class</b>	<b>PS&amp;P, Project Site, or Both</b>
<b>Grays Harbor County</b>				
City of Hoquiam (2 stations)	21 full time personnel (5 to 7 personnel on staff per shift)	1 main engine (requires replacement), 1 ladder truck, one foam tender	PC 5	Both
City of Aberdeen (2 stations)	37 full time personnel	2 front out engines and 1 reserve engine	PC 5	Both
City of Ocean Shores (2 stations)	12 crew members, 18 volunteers, 1 fire chief	3 main engines, 1 ladder truck	PC 5	Near project site
City of Westport	17 volunteers <sup>c</sup>	2 pumpers, 1 water and air tender, 1 ladder truck	PC 6	Near project site
City of Cosmopolis	17 volunteers <sup>c</sup>	2 main engines with pumpers	Not available	Near project site
Markham/Fire Protection District 14	22 volunteers <sup>c</sup>	1 main engine, 2 pumper tenders, brush truck	PC 8	PS&P
Fire Protection District 10 (Wishkah; 2 stations further north located in the most populated areas of the fire district)	19 volunteers <sup>c</sup>	4 main engines, 2 fire tenders	PC 8	PS&P
Fire Protection District 2 (includes Central Park, Brady, and Wynoochee; 3 stations)	2 full time personnel, 39 volunteers	4 main engines, 2 fire tenders; Central Park station is in Aberdeen	PC 6	PS&P
City of Montesano	3 full time personnel, 27 volunteers	3 main engines, 1 ladder truck	PC 5	PS&P
Fire Protection District 5 (includes Satsop, Porter, and Elma; 4 stations including City of Elma)	16 full time personnel, 40 volunteers	4 main engines, 4 water tenders, 1 wildland unit	PC 7 PC6	PS&P
City of Oakville/Fire Protection District 1	1 part-time paid chief; 21 volunteers	2 pumpers, 2 water tenders	PC 7	PS&P
<b>Thurston County</b>				
Fire Protection District 1 (includes Rochester and Grand Mound; 12 stations nearby)	4 full time personnel, 30 volunteers	13 fire engines, 6 ladder trucks	PC 5	PS&P
<b>Lewis County</b>				
Fords Prairie/Fire Protection District 12 (City of Centralia, Riverside Fire Department; 8 stations)	21 full time personnel, 44 volunteers	9 fire engines, 1 ladder truck, 5 water tenders	PC 5	PS&P
<sup>a</sup> One station unless noted otherwise. <sup>b</sup> Does not include emergency support vehicles such as fire chief's truck or ambulances; may be spread out several stations. <sup>c</sup> No paid personnel. Sources: Campbell pers. comm., Dean pers. comm., Knodel pers. comm.				

## 4.5.2 What are the potential risks of the proposed action?

Under the proposed action, the environmental health and safety risks along the PS&P rail line would include the possibility of rail incidents that could harm people or the natural environment, particularly if larger spills of oil or the other proposed bulk liquids occurred. These risks would be greater than under the no-action alternative because more trains would be operating. Additionally, trains traveling to the project site would consist of unit trains (longer trains carrying a single commodity) of oil. Increasing the number of cars carrying high-hazard commodities increases the chance of environmental harm in the event of a rail incident.

This section describes factors influencing the potential increase in risks along the PS&P rail line, including the change in the likelihood of a spill occurring under the proposed action. Mitigating factors currently in place to reduce the impacts of a spill and describes the potential extent of a spill and the response actions that would occur are described. The risks of fires or explosions related to the proposed action and the response actions that would occur in the event of a fire or explosion along the PS&P rail line are described.

On a national level, the number of rail cars carrying crude oil has increased nearly 44 times in the last 6 years, from 9,500 carloads in 2008. In 2010, 20 million barrels of crude oil were moved by rail. In 2014, 385 million barrels of crude oil were moved by rail, and in 2015, 323 million barrels of crude oil were moved by rail (U.S. Energy Information Administration 2016). Following the national trend, Washington State has experienced dramatic changes in the amount and types of oil transported by rail. The new oil types include heavy crude oils such as bitumen from Canada and Bakken crude from North Dakota.

Rail incidents involving crude oil or other harmful materials typically result in small releases. For example the average petroleum release size of 738 gallons (17.6 barrels), from 2001 to 2012, is based on nationwide spills as reported in the *Rail Transportation Impact Analysis for Imperium* (WorleyParsons 2014:146) using Association of American Railroads data. However, recent incidents in Lac-Mégantic, Québec; Casselton, North Dakota; Aliceville, Alabama; and Lynchburg, Virginia have been more significant.

According to the Rail Transportation and Engineering Center at the University of Illinois (Lui et al. 2012), for rail operations under 10 miles per hour (mph), the main causes of derailments are track and human factors such as improper train handling, braking operations, and improper use of switches. For rail operations above 25 mph, equipment issues were the main cause for derailments. For speeds between 11 and 25 mph, track, miscellaneous, equipment, and human factors all contributed. The PS&P rail line maximum speed is 25 mph and slower for certain areas as described below. A separate study (Anderson and Barkan 2004) identified speed as the critical factor in predicting the severity of a derailment. The length of the train is also an important factor. In general, the greater the mass and speed, the greater the force and potential impacts.

A May 2014 emergency order issued by the U.S. Department of Transportation required railroads to notify Washington State of the frequency and oil volumes for trains carrying 1 million gallons (23,800 barrels) or more of Bakken crude. Ecology report on marine and rail oil transportation identified concerns about oil transportation in the state (Washington State Department of Ecology 2015). PHMSA's final rule (49 CFR 171-180) sets requirements for routing assessments and notifications (Section 4.2.1.2, *Rail*). The revised rule establishes requirements for high-hazard flammable trains including end-of train telemetry devices, distributed power braking systems and electronically controlled pneumatic braking system. For purposes of these braking requirements, a

high-hazard flammable train is defined as a train of 70 or more loaded tank cars containing Class 3 flammable liquids traveling at speeds of more than 30 mph. The PS&P rail line maximum speed is 25 mph so these requirements would not apply. A proposed mitigation measure would have a functioning two-way end-of-train device or distributed power for operations on the PS&P rail line to the local yard.

The PS&P rail line in the study area covers 59 miles of Track Class 2 lines. Per FRA (2007), the track must meet all the requirements for its designated track class. These standards, discussed in Chapter 3, Section 3.15, *Rail Traffic*, apply to the following elements.

- Track surface (the evenness or uniformity of track).
- Track alignment (the variation in curvature of each rail of the track).
- Required number of cross ties.
- Alignment of the rail ends at joints.
- Frequencies of inspections for different components.

Nationwide, historic incident rates are higher on Class 2 track than they are on Class 3 track, primarily because of the different design and maintenance standards for these tracks. All traffic in the study area moves at 25 mile per hour or less, as per Track Class 2 standards (Chapter 3, Section 3.15, *Rail Traffic*). Some bridges have lower speed limits: 10 mph over Devonshire Bridge (Wynoochee River) and 5 miles per hour over the moveable bridges over the Wishkah and Hoquiam Rivers.

Operation of the proposed action at maximum throughput would add approximately one unit train trip<sup>1</sup> per day on average (458 per year maximum) along the PS&P rail line to the existing average of three train trips per day (1,235 per year) under the no-action alternative (Section 3.15, *Rail Traffic*). This would increase the potential for incidental releases of oil and hazardous substances, pollutants, and contaminants during offsite transport.

Crude oil is not currently moved along the PS&P rail line; however, as discussed in Chapter 5, *Extended Rail and Vessel Transport*, crude oil is moved along railroads in Washington State and throughout the United States and Canada. As discussed in Chapter 5, Section 5.4.2.4, *Existing Risks along the Rail Routes*, some of the recent incidents involving crude oil trains have been the result of track infrastructure problems. A proposed mitigation measure states that the applicant will not accept crude oil until PS&P verifies track integrity based on an evaluation of load limits.

#### 4.5.2.1 Oil Spills

##### Oil Spill Risk

The risk of an oil spill from train operations typically relates to the risk of one or more derailed tank cars. A derailment does not mean a spill will happen; a train can derail with no spill resulting. A small leak could also occur during transport of the rail car but the spill quantity at a single point along the rail would likely be small because the leak could occur over several miles of track.

A risk assessment (Appendix M, *Risk Assessment Technical Report*) determined the potential frequency of spills of different sizes based on planning requirements applicable to rail transport. A

---

<sup>1</sup> A trip represents one-way travel; in other words, an inbound trip and an outbound trip are counted as two trips.

rail car can suffer structural damage and a resulting spill of cargo as the result of a derailment that may include collision with another object or with other cars, depending on the specific circumstances of the incident. The evaluation of rail transport risks considers scenarios that would result in the release of part of a single car up to 30 rail cars. The risk assessment applied accident rate data tailored to the PS&P operation, along with information on the types of rail cars used, the distribution of the number of cars expected to derail and release, and the number of rail trips anticipated for the proposed action to derive the frequency estimates for each scenario below. Appendix M provides a discussion of the risk scenarios and the methods used to determine spill frequencies.

Because of the increased number of rail trips to and from the project site, the proposed action would result in the potential for more frequent spills of bulk liquids relative to the no-action alternative, although the orders of magnitude for large spills are very similar. Additionally, the proposed action would introduce bulk handling and storage of crude oil, which is not currently present in the study area. The likelihood of very large releases would remain low.

As noted previously, it is not possible to predict the timing or exact magnitude of an incident; therefore, the following spill scenarios were considered to provide an understanding of the range of risks under the proposed action. The likelihood of each spill scenario occurring related to rail transport associated with the proposed action and associated spill sizes are summarized below.

- The **partial one rail car transport spill scenario** (up to 1,000 gallons [24 barrels]) could occur once in 100 years with current rail cars; with rail car improvements (80 FR 26643) this would extend to once in 105 years. Some amount of the spill would be contained in the ballast under the tracks but some amount could run out onto the ground in the immediate vicinity of the tracks. If the spill occurred over or near a waterway, some amount could spill into water.
- The **one rail car spill scenario** (roughly 30,000 gallons [714 barrels]) could occur once in 36 years with current rail cars; with rail car improvements, this would extend to once in 43 years.
- The **three rail car spill scenario** (roughly 90,000 gallons [2,140 barrels]) could occur once in 250 years with current rail cars; with rail car improvements, this would extend to once in 370 years.
- The **five rail car spill scenario** (roughly 150,000 gallons [3,570 barrels] or the contents of five rail cars) could occur once in 4,800 years with current rail cars; with rail car improvements, this would extend to once in 11,000 years.
- The **30 rail car spill scenario** (roughly 900,000 gallons [21,400 barrels] or the contents of 30 rail cars) could occur once in 10,000 years with current rail cars; with rail car improvements, this would extend to once in 74,000 years.

Along the PS&P rail line in the study area, a spill could affect a sensitive area or habitat of concern. Table 4.5-2 lists sensitive habitat areas and identifies the approximate length of exposure and its relative portion of the total route along the PS&P rail line. This percentage can be applied to the estimated chances of a release to determine the possibility that a specific release might occur in a particular area. This does not consider the extent of the spread, just the chance that a spill occurs in the area. For example, according to the assessment explained in Appendix M, *Risk Assessment Technical Report*, the chance of a spill equal to one rail car (30,000 gallons [714 barrels]) occurring anywhere along the PS&P rail line is once in 36 years. The likelihood of this occurring near the marbled murrelet critical habitat would be predicted based on the percentage of marbled murrelet

critical habitat along the route. Because this habitat occupies approximately 5% of the route, the likelihood of a spill would be 5% of the total chance, or once in 490 years.

**Table 4.5-2. Sensitive Habitats along the PS&P Rail Line**

<b>Sensitive Habitat</b>	<b>Approximate Length of Exposure</b>	<b>Percent of Total Route</b>
Three marbled murrelet critical habitat areas	3 miles	5%
Three crossings of bull trout streams designated as critical habitat areas	2 miles (approximate exposure considering track leading to and from crossings)	3%
Chehalis River Surge Plain Natural Area	6 miles	10%
Stretch of Chehalis River close to the rail line, designated as critical habitat for bull trout Critical habitat for the Oregon spotted frog along Black River Locations of two sensitive plant species (multiple locations between US Route 12 and the Black River crossing)	10 miles (all occur in same general area)	17%

Source: Appendix M, *Risk Assessment Technical Report*

To provide additional information about the risks of a spill and to inform prevention, preparedness, and response planning relevant to the proposed action, oil spill modeling examined the movement of oil in the Chehalis River. The model uses two release points: one near Porter Creek Road near Oakville and the other at the Wynochee Bridge crossing. As presented in Appendix N, *Oil Spill Modeling*, the movement of spilled oil in the Chehalis River can vary dramatically, depending on weather conditions and hydrologic flow conditions. Depending on the size and location of the release, oil could move into the estuary in as few as 7.6 hours (100-year flood conditions) or in 4.5 days (low-flow conditions) if no response efforts contain the oil. Because the potential impacts of exposure to spills on human health and the environment would vary depending on the specific and circumstances of the spill, impacts on the following resources are addressed in Section 4.7, *Impacts on Resources*.

- Water
- Plants
- Animals
- Aesthetics
- Recreation
- Commercial fishing
- Cultural resources
- Tribal resources
- Air
- Human health
- Public services

## Oil Spill Prevention

As discussed in Section 4.2, *Applicable Regulations*, railroad operators that transport oil and hazardous materials are required to meet federal and state standards for locomotives and rail cars. They must also develop contingency and response plans to prevent spills from reaching the environment. Railroads must submit an incident report for derailments to FRA. Lessons learned from these reports can be incorporated into future contingency planning.

### Improved Safety of High-Hazard Flammable Trains

As described in Section 4.2.1.2, *Rail*, PHMSA has issued a final rule that defines and regulates high-hazard flammable trains (49 CFR 171–180). The proposed requirements would improve the safety of crude oil and ethanol shipments by rail (80 FR 26643). The following steps outlined in the rule are intended to improve the safety of high-hazard flammable trains.

- Improve classification and characterization of crude oil to ensure the type of rail car used is appropriate.
- Provide appropriate railroad contact information to state, local, and tribal officials who contact a railroad to seek information about routing hazardous materials through their jurisdictions. This helps secure the exchange of sensitive information.
- Reduce operating speeds to no more than 40 mph. The PS&P rail line is already limited to 25 mph as Class II track and there are slower speed limits in areas.
- Require all high-hazard flammable trains to be equipped with alternative brake signal propagation systems of either electronic controlled pneumatic brakes, a two-way end of train device, or distributed power.
- Require new and existing tank cars to meet specific design requirements or performance criteria (e.g., thermal, top fittings, and bottom outlet protection; tank head and shell puncture resistance).

### Advance Notice of Crude Oil Deliveries

WAC 173-185-070 requires owners and operators of a facility that will receive crude oil from a railroad car to provide Ecology of advance notice of deliveries. The information must be provided weekly. The information must include contact information, region of origin of crude oil, rail route in Washington, gravity of crude oil, and scheduled delivery date and volume. Ecology will share the advance notice information with the state emergency management division and any county, city, tribal, port, or local government emergency response agency upon request. Information will be published quarterly on Ecology's website including the mode of transport, origin of oil, number of reported spills during transport and delivery, and number of railroad cars delivering crude oil. Information on the route, week, and type of crude oil will be aggregated.

## Oil Spill Response

Spill response actions would follow the protocols and procedures set forth in Section 4.2.3, *What framework provides responses to an incident?* As noted in Section 4.2.3, the local emergency service providers described under Section 4.5.1, *What are the existing risks?* would likely be the first responders to an oil spill at the project site.

For first responders from the local jurisdictions or the railroad emergency response team, the posture for an oil or hazardous material spill on the rail is the same—defensive and protective. The

local responders will do what is necessary to evaluate and report on the situation, keep themselves and the public safe, and monitor response and cleanup operations for compliance with local ordinances and permits. The potential impact of the proposed action on local emergency service providers are addressed in Section 4.7, *Impacts on Resources*.

Depending on the severity of the incident, when considering impacts on public health and the environment, agencies with oil spill responsibilities such as Ecology, the U.S. Environmental Protection Agency, and the U.S. Coast Guard may take a more aggressive role in the initial response operations to ensure that the responsible party is taking appropriate and timely action to mitigate damages to the environment.

### **Railroad**

Washington State passed ESHB 1449 in 2015, authorizing Ecology to adopt rules to require PS&P to prepare an oil spill contingency plan. The plan would, among other things, demonstrate that PS&P has the capacity to remove oil and minimize any damage to the environment resulting from a worst-case spill. Prior to adoption of rules, the federal oil spill response plans will be used to meet the state requirement.

WAC 173-186, Oil Spill Contingency Planning—Railroads, is expected to be effective October 2016. The new rule establishes following requirements for railroads, including PS&P:

- Establish notification requirements and call out procedures.
- Define training and personnel resources to fill roles in oil spill management teams.
- Identify resources at risk from rail spills.
- Establish equipment planning standards for responding to railroad oil spills.
- Establish Best Achievable Protection planning requirements for railroads.
- Establish a drill program and drill evaluation criteria for railroad plan holders.
- Establish recordkeeping, noncompliance, and compliance information.

Typical actions for responding to a spill from a crude oil train derailment (if there is no fire) are as follows. Similar actions would be taken for all products proposed to be transported.

- Implement emergency response plan required under federal law. This includes notifications and initial actions for incidents.
- Protect public health and safety.
- Contact railroad emergency contact.
- Contact shipper (owner of the oil) using the shipping papers, railroad emergency contact, or CHEMTREC.
- Conduct hazard assessment and risk evaluation.
- Conduct continuous air monitoring, as appropriate.
- Confine the spill.
- Apply foam for vapor suppression, if available.

- Isolate or evacuate based on recommendations in the product-based emergency response guide (for example, Guide No. 128 for petroleum crude oil recommends initial downwind evacuation for at least 1,000 feet).

The Aberdeen Fire Department stated in its public comment letter on the Draft EIS (Hubbard and Malizia pers. comm.) that the fire department is able to make notifications to initiate the geographic response plan including notification of the appropriate local, county, and state agencies and initiate contact with the railroad. The fire department would also initiate the product identification actions in Guide 128 of the Emergency Response Guidebook and would provide for life safety by following the recommended evacuation distances. The Aberdeen Fire Department does not have the equipment or resources necessary to confine a large spill or apply Class B or alcohol-resistant aqueous film-forming foam (AR-AFFF) for vapor suppression.

The responsible party must respond with the appropriate resources to contain the situation and clean up the spill. The federal basic oil spill response plan (49 CFR 130) currently applicable to rail operators with oil shipments of a capacity of 3,500 to 42,000 gallons per car does not require equipment to be contracted and available for an immediate response to an oil spill incident. In August 2014, PHMSA issued an advanced notice of proposed rulemaking seeking comment on potential revisions to its regulation to require high-hazard flammable trains to prepare comprehensive oil spill response plans (79 FR 45080). The comprehensive plans would require better coordination, identification of personnel, equipment, and training for responses to spills, and submission of the plan to FRA. In July 2016, PHMSA issued notice of the proposed rulemaking for oil spill response planning and information sharing. Final rules are anticipated for September 2016.

### **Geographic Response**

As mentioned previously, the Grays Harbor and the Chehalis River Geographic Response Plans (GRP) contain specific response strategies in the event of an oil spill (from any source) into or threatening waters and related environmental resources along the PS&P rail line. For example, the Grays Harbor GRP contains 16 response strategies relevant to an oil spill that affects the Chehalis River (this number does not include response strategies related to tributaries or wetlands that connect to the river). These strategies encompass boom placement to close off movement of spilled oil into environmentally sensitive sites (such as the Elliot Slough in Aberdeen), to deflect oil moving on the river into a containment area for collection (with vacuum trucks and sorbent materials), or to divert oil away from areas that are sensitive and/or hard to clean. Culvert blocks or underflow dams are also response strategies presented within the GRPs to aid in shoreline protection and oil collection. The GRPs also contain supplemental information related to the response strategies that support their implementation. For example, the Chehalis River GRP includes a table with appropriate boom deflection angles for a range of water speeds and another table with stream flow data (averaged over several years) recorded at various points in the Chehalis River and its tributaries.

The response strategies are prioritized in the GRPs to reflect the sensitivity of threatened environmental resources or potential public health concerns (as in the case of spill proximity to populated areas or water intakes). In some cases, economic considerations may dictate response priorities (for example preventing oil from affecting a dock area near a waterside restaurant or a marina). These priorities are discussed prior to a spill and reflected accordingly in the GRPs to prevent a delay in the allocation of potentially scarce response assets during an active spill response.

Each GRP identifies potential spill origin points. Table 4.5-3 provides the identification labels for the points that could originate from a project-related rail incident and affect sensitive sites due to

proximity of the rail line to the Chehalis River or a tributary (there is no attribution in the GRPs for the cause of the spill at the spill origin points).

**Table 4.5-3. Geographic Response Planning Spill Origin Points along the PS&P Rail Line**

<b>Spill Origin Point Designation</b>	<b>Geographic Designation</b>
<b>Grays Harbor Geographic Response Plan</b>	
GH-A	Chehalis River Upstream of Cosmopolis
GH-B	Aberdeen/Hoquiam/Port of Grays Harbor
<b>Chehalis River Geographic Response Plan (draft)</b>	
CHER-O	Central Park
CHER-N	Wynoochee River
CHER-M	Wenzel Slough
CHER-K	Porter
CHER-J	Oakville
CHER-I	Black River

Each spill origin point has a multitude of associated response strategies within the GRPs due to the inevitable likelihood that spilled oil will spread on and flow with water until it is contained and removed.

In addition to the site-specific information in the GRPs, there is relevant information in other sections of the larger Northwest Area Contingency Plan (Section 4.2.2.2, *Northwest Area Contingency Plan*) that supplements the site-specific strategies that would also address potential risks related to the proposed action (Region 10 Regional Response Team 2016). For example, Chapter 3000 – Operations, contains a section titled *Operational Safety Issues Associated with Bakken Crude Oil* and another section titled *Fast Water Oil Spill Response*, which would inform local responders in the event of a rail incident. Section 9302 of the Northwest Area Contingency Plan is entirely dedicated to responder decision tools for oil spill response in fast water currents.

## 4.5.2.2 Fires or Explosions

### Fire or Explosion Risk

As noted in Section 3.14, *Hazardous Materials*, crude oil is flammable. An incident involving a spill could result in a fire or explosion if there is an ignition source and combustible gases are present in a quantity that could ignite. The incident could cause sparking, which could ignite the spill. Explosions are most likely when a spill is ignited and the resulting fire impinges on another tank or rail car. As the material in these adjacent tanks or rail cars heat up, the pressure builds and may eventually burst the container. The extent of the damage depends on the exact configuration of the release and fire compared to the location of the other tanks or rail cars, any fire suppression capabilities, and the timing and nature of response actions. It also depends on the material: Bakken crude oil is more flammable than other heavier crude oils. The flammability of diluted bitumen varies based on the diluent (diluting agent) used. Chapter 4, Section 4.7.2.1, *Recent Fires and Explosions Involving Crude Oil Trains*, and Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, provide information about recent incidents involving the transport of crude oil.

Although fires or explosions can result from spills resulting from events like collisions and derailments, long-term historical data show that most spills do not result in fires or explosions. A fire or explosion would be less likely to occur than a spill. While there have been multiple recent derailments of trains on main lines that resulted in fires or explosions, the chance of an extreme derailment is very limited in the study area because of the relatively slower speeds on the PS&P rail line compared to typical mainline speeds. In general, large derailments from high-speed trains lead to releases from multiple rail cars. The energy involved in high-speed derailments and the resulting scatter of rail cars yield the greatest chance of a fire that affects other rail cars and possibly result in an explosion. However, a spill of any size poses the potential risk of a fire or explosion depending on the conditions.

Additional information regarding the risks of fire and explosions during rail transport is provided in Appendix M, *Risk Assessment Technical Report*.

Because the potential impacts of exposure to fires and explosions on human health and the environment would vary depending on the specific size and circumstances of the spill, impacts affecting the following resources are addressed in general terms in Section 4.7, *Impacts on Resources*.

- Air
- Human health
- Plants
- Animals
- Aesthetics
- Recreation
- Commercial fishing
- Cultural resources
- Tribal resources
- Public services

## **Fire or Explosion Prevention**

Rail operations are required to meet national and state regulations for safe operation and maintenance, which are intended to prevent fires and explosions related to rail transport.

## **Fire or Explosion Response**

PHMSA provides guidance for a fire or explosion from a train carrying crude oil (Pipeline and Hazardous Materials Safety Administration 2014), which states that,

in the event of an incident that may involve the release of thousands of gallons of product and ignition of tank cars of crude oil in a unit train, most emergency response organizations will not have the available resources, capabilities, or trained personnel to safely and effectively extinguish a fire or contain a spill of this magnitude (e.g., sufficient firefighting foam concentrate, appliances, equipment, water supplies). Response to unit train derailments of crude oil will require specialized outside resources that may not arrive at the scene for hours; therefore it is critical that responders coordinate their activities with the involved railroad and initiate requests for specialized resources as soon as possible.

As with oil spills, first responders from the local jurisdictions or the railroad emergency response team would provide an initial investigation. The first responders are expected to enact defensive operations until appropriate and adequate resources are on scene. The on-scene coordinator would contact the company responsible for the product for technical support related to an emergency with the oil or chemical (49 CFR 172.604). Rail carriers provide emergency response resources. These may include air monitoring and environment management capabilities, technical specialists, and contractors to assist in managing the consequences of a crude oil train derailment (49 CFR 130.31). Final rules updating the requirements are pending.

Capabilities at the local level differ between fire departments. The local fire departments along the PS&P rail line do not have technical hazardous material teams.

The Aberdeen Fire Department's comment letter (Hubbard and Malizia pers. comm.) states,

According to the US Department of Transportation's Commodity Preparedness and Incident Management Reference Sheet (PHMSA Petroleum Crude Oil Reference 09/2014), a single tank car containing 30,000 gallons of crude oil involved in a spill with fire would require a minimum of 216 gallons of 3% Class B foam for the INITIAL 15 minutes of operations. They add that reapplication of foam will be necessary to maintain an adequate foam blanket. That quantity of Class B foam is well beyond the current capability of the Aberdeen Fire Department to carry or apply effectively. ... A mutual aid response agreement with the Hoquiam Fire Department does provide access to a flatbed truck (HFD 7319) that carries four (4) 265 gallon AR-AFFF foam totes and a 300 gallon Purple K dry extinguisher. This apparatus does not have pumping capability and must be paired with a fire engine to pump and provide the foam. This resource is not staffed on a daily basis by the Hoquiam Fire Department and its response and deployment timeframe has not been tested within the City of Aberdeen under emergent conditions.

Air monitoring capabilities vary based on the equipment and personnel trained. Currently, the fire departments do not have sufficient air monitoring capabilities for a fire or explosion. Supporting resources may be available from surrounding jurisdictions. Under RCW 43.43.961, the Fire Service Resource Mobilization Plan provides personnel, equipment, and other logistical resources from around the state when a fire or other emergency, like a hazardous material release, exceeds the firefighting and hazardous material capacity of local jurisdictions (Washington State Patrol Office of the State Fire Marshal 2014:5). State agencies that share responsibility as primary agencies for a hazardous material response are Ecology and the Washington State Patrol (Washington State Emergency Management Division 2011). If a fire or hazardous material response incident escalates beyond the limits of local resources, additional state and federal assets can be requested for an incident.

Typical emergency actions for responding to a crude oil train derailment resulting in an explosion or fire are as described in Section 4.5.2.1, *Oil Spills, Oil Spill Response*. Similar actions would be taken for all products proposed to be transported. Based on Guide #128 of the PHMSA Emergency Response Guide, the initial evacuation distance for fires in railcars from crude oil is 0.5 mile (Hubbard pers. comm.).

Emergency response actions would follow the protocols and procedures set forth in Section 4.2.3, *What framework provides responses to an incident?* The potential impact of the proposed action on local emergency service providers are addressed in Section 4.7, *Impacts on Resources*.

### 4.5.3 What mitigation measures would reduce impacts related to rail transport?

This section describes the voluntary measures and design features, applicant mitigation, and other measures that would reduce impacts on environmental health and safety impacts from rail transport related to the proposed action. These mitigation measures are in addition to regulatory compliance and best practices discussed above.

#### 4.5.3.1 Voluntary Measures and Design Features

The applicant has committed to the following voluntary measures to address risks related to rail transport of crude oil to the project site.

- To reduce potential risk from tank car punctures and spills identified with use of DOT-111 tank cars for transport of Bakken crude oil, the applicant will not accept crude oil by rail unless the following actions occur.
  - The rail cars meet or exceed the new U.S. Department of Transportation specification 117 design or performance criteria.
  - Existing tank cars are retrofitted in accordance with the U.S. Department of Transportation-prescribed retrofit design or performance standard (80 FR 26643).
- Supply three totes of AR-AFFF at the project site for use by local fire departments.

#### 4.5.3.2 Applicant Mitigation

The applicant will implement the following mitigation.

- To improve preparedness for incidents, including oils spills, explosions, and fires, the applicant will ensure an emergency preparedness workshop is conducted prior to beginning project operations. The applicant will coordinate the workshop with Ecology. The workshop will be no more than 1 day in length. It will be held prior to beginning operations and thereafter will become part of the facility drill program. The initial workshop will focus on familiarizing local emergency responders, tribes, and communities with the contents of the Northwest Area Contingency Plan, the Grays Harbor and Chehalis Geographic Response Plans, other local response plans, the facility response plan, and the measures that are in place for a rapid and effective spill response.
- To improve the safe transport of crude oils with different volatilities and sinking tendencies, the applicant will not accept crude oil by rail unless the applicant has received verification that a sample of the oil has been tested and properly classified and characterized.
- To reduce risks of a spill due to a rail incident, the applicant will not accept crude oil unit trains by rail unless the train has in place a functioning two-way end-of-train device or distributed power for operations on the PS&P rail line to the local yard.
- Due to sensitivity of the local environment, tribal resource concerns, and the potential presence of special-status species, to improve coordination and response capabilities in the event of a rail incident, the applicant will not accept crude oil by rail unless PS&P prepares, submits to Ecology for approval, and implements a contingency plan meeting the requirements identified below. This requirement will remain in place until state contingency plan requirements for railroads

are implemented by Ecology pursuant to ESHB 1449, Section 5, or WAC 173-186, and/or amendments to the federal oil spill response plan rule (49 CFR 130) are adopted.

- Disclose full details of the method of response to spills of various sizes.
- Define a worst-case spill planning volume.
- Identify response notification and coordination procedures.
- Identify personnel assigned to implement the plan.
- Reference applicable Washington State geographic response plans.
- Describe a training and exercise program for personnel and equipment.
- Identify prepositioned spill containment and cleanup equipment and trained personnel.
- Identify arrangement for enlisting qualified and trained cleanup personnel to implement the plan.
- Describe how plan relates to other relevant contingency plans, such as facility plans, other rail plans, including federal oil spill response plans, and regional plans.
- Ensure equipment identified that is necessary for determining air quality conditions but not available through local agencies or fire departments will be made available to local fire departments.
- To increase the timeliness of responses to spills and incidents involving trains and to maximize coordination of responses along the PS&P rail line, the applicant will not accept crude oil by rail unless the following measures are completed.
  - PS&P participates with the local fire districts in a public safety drill at least once every 2 years.
  - PS&P tests one geographic response plan strategy annually and invites Ecology to participate. This requirement will remain in place until state contingency plan requirements for railroads are implemented by Ecology pursuant to ESHB 1449, Section 5.
  - PS&P participates in testing the applicant's oil spill contingency plan with a rail scenario at least once every 3 years. This drill will be designed with Ecology and scheduled on the regional drill calendar.
- To improve response capability for spills that may occur on the Chehalis River, the applicant will coordinate with Ecology to advertise and extend registration of Vessels of Opportunity to the Chehalis River and to tribal boat owners prior to beginning operations. Applicants for the Vessel of Opportunity Program should be directed to [www.oilspills101.wa.gov](http://www.oilspills101.wa.gov) for information and registration.
- To improve capability to respond to potential incidents involving trains transporting crude oil to the project site, the applicant will not accept crude oil until a foam truck has been provided to the Elma Fire Department. The foam truck will provide fire-fighting capability along the PS&P rail line. The foam truck must be available and operational prior to beginning operations. The applicant will consult with Ecology and the local fire department to determine the capacity of the foam truck.
- To improve response times to reduce the initial impacts of an oil spill, the applicant will ensure that two trailers containing the spill response equipment listed below are available prior to beginning crude oil operations for use by initial local and emergency responders along the PS&P

rail line. This equipment will be offered to fire departments along the PS&P rail line and the Chehalis Indian Tribe. The trailer and equipment will be maintained by the applicant and inspected annually. The equipment will only be provided to fire departments and Chehalis Tribe if they agree to store the equipment in a secure location and ensure the equipment used by appropriately trained personnel. The applicant will work with Ecology and local emergency officials to update the Western Region Response List website ([www.wrrl.us](http://www.wrrl.us)), any applicable spills response plans to address the emergency equipment caches and to document notification protocols, necessary training, use of personal protective equipment, and equipment deployment procedures.

Mobile trailers of a specific size to hold the below equipment:

- 3,000 feet of river boom
  - 5,000 feet of sausage sorbent boom
  - 30 anchoring systems (anchors, lines, floats)
  - 20 shoreside anchoring systems
  - 1 towing bridle
  - 4 heaving lines
  - 1 machete (or other vegetation cutting tool)
  - 1 pair of bolt cutters
  - 50 sandbags
  - 1 roll plastic sheeting
  - 4 each plywood sheets (4 feet by 8 feet)
  - 500 feet 3/8-inch poly line
  - PPE: coveralls or Tyvek ® disposable suits, gloves, outer (chemical-resistant and disposable) boots, safety glasses or chemical splash goggles, hard hats sufficient for 5 people
- To reduce the risks of derailments and impacts on rail infrastructure due to increased rail traffic and the weight of crude oil trains, the applicant will not accept crude oil by rail until PS&P verifies track integrity based on an evaluation of load limits. The evaluation will be completed prior to beginning operations.
  - To improve local emergency planning and response, the applicant will fund development of a geographic information system (GIS) layer that identifies critical facilities near the facility and along the PS&P line. The facilities will include schools, hospitals, community centers, and parks within 0.5 mile of the rail line. The GIS layer will be provided to the Local Emergency Planning Commission, local fire departments, and Ecology. The study will be submitted prior to beginning operations.
  - To improve response capability and protect human health, the applicant will contract with an experienced air-monitoring consultant to respond with equipment and personnel for incidents. The contract will be incorporated into the facility's contingency plan and will be approved by Ecology. The contract will be in place prior to beginning operations.
  - To reduce risks related to an oil spill, the applicant will not accept crude oil by rail until PS&P meets with local emergency management officials to identify training needs for local responders

who will respond to an emergency on the PS&P rail line. This effort will include development and execution of a training program for these responders to increase level of awareness and understanding of the hazards associated with an oil train incident. The training will include identification of notification protocols, use of personal protective equipment, and equipment deployment procedures. This training will be completed before the applicant begins receiving oil trains and will be offered at least annually.

- To improve response capability on the Confederated Tribes of the Chehalis Reservation lands in the case of an oil spill, the applicant will ensure that an annual 1-day hazard awareness oil spill training for identified Chehalis tribal members is provided, including conducting and inviting tribal members to participate in drills.
- To improve response capability in the Grays Harbor area in the case of an oil spill, the applicant will ensure an annual 1-day hazard awareness oil spill training is provided for identified Quinault Indian Nation tribal members, including conducting and inviting tribal members to participate in drills.
- To increase the timeliness and maximize the coordination of responses to spills and incidents involving crude oil trains along the PS&P rail line, the applicant will ensure the Grays Harbor Local Emergency Planning Committee's emergency response plan is updated to address the applicant's operations. This information must be included prior to beginning operations. To improve oil recovery in the case of a spill, equipment required at hour 6 under WAC 173-182-355 must be resident in Grays Harbor. Additionally, the facility must purchase and stage in Grays Harbor:
  - An additional 200 feet of boom and temporary storage of at least 196 barrels with the ability to collect, contain, and separate collected oil from water. The additional boom should be capable of encountering oil at advancing speed of at least 2 knots in waves. This boom shall be of a type appropriate for the operating environment.
  - An additional 1,000 feet of shore seal boom.
- To improve oil recovery in the case of a spill of crude oil that weathers, sinks, or submerges, the applicant will ensure access through agreements or contracts to provide the following equipment. The equipment will be capable of being on scene within 12 hours of spill notification and the means of access will be documented in the applicant's contingency plan and available prior to beginning operations.
  - Sonar, sampling equipment or other methods to locate the oil on the bottom or suspended in the water column.
  - Containment boom, sorbent boom, silt curtains, or other methods to contain the oil that may remain floating on the surface or to reduce spreading on the bottom.
  - Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline.
  - Equipment necessary to assess the impact of such discharges.
  - Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored, or transported.
- To improve the capability of local emergency responders to respond to spills, fires, or explosions at or near the project site, the applicant will contribute a fair share of the total cost to replace the City Hoquiam Fire Department's fire apparatus to ensure it is able to handle crude oil fires.

Equipment must be available and operational prior to beginning operations. The applicant will consult with the local fire departments to determine specifications for the equipment. The total applicant contribution will be determined by the City and applicant through negotiation at the time of the equipment purchase.

### 4.5.3.3 Other Measures to Be Considered

Potential impacts associated with the proposed action resulting from increased likelihood of a rail incidents occurring could be further reduced by implementing the following measures.

- To verify track safety, PS&P should conduct a walking inspection once a week of all curves to inspect for track, fastener, or bolt issues.
- To verify track safety, PS&P should use a gauge restraint measurement system to check for wide gauge issues quarterly.
- To verify bridge safety, PS&P should implement the following measures.
  - Make inventory and inspection records available to the public process for all 52 bridges.
  - Demonstrate that a qualified inspector has verified that all 52 bridges have the load capacity to safely handle a unit train of 120 loaded tank cars.
  - Describe its bridge inspection program that includes annual inspections by a qualified inspector.
  - Describe in detail which bridges are scheduled for upgrade, the nature of the upgrade, and approximate start date and completion date
- To increase the timeliness of responses to spills and incidents involving trains and maximize coordination of response along the PS&P rail line, PS&P should attend meetings and discuss incidents and near misses with the Grays Harbor Local Emergency Planning Committee at least once annually. PS&P should discuss with the Washington Utilities and Transportation Commission the feasibility of creating a railroad safety committee based on the model of the Grays Harbor Safety Committee.
- To improve response capability on the Chehalis Reservation in the case of an oil spill, the Confederated Tribes of the Chehalis Reservation should identify members who could respond to oil spills and provide this information to PS&P and the Grays Harbor Local Emergency Planning Committee.
- To improve response capability in Grays Harbor in the case of an oil spill, the Quinault Indian Nation should identify members who could respond to oil spills and provide this information to PS&P and the Grays Harbor Local Emergency Planning Committee.
- To improve local response capability in the case of an oil spill, the Grays Harbor, Thurston, and Lewis Local Emergency Planning Committee and Fire Departments along the PS&P rail line should support the attendance of local emergency response personnel at the Security and Emergency Response Training Center in Pueblo, Colorado, to enhance their skills in response to releases from train incidents.
- To reduce the risk of an incident on the PS&P rail line, PS&P should work with local officials to collaborate and initiate a comprehensive community awareness campaign to educate and inform the public of the dangers of trespassing into the railway and trying to beat a train. This campaign will include communication of new train frequency, publishing ads in local

newspapers, and continuing to support the existing Operation Lifesaver program with visits to schools, community centers, civic clubs, and town hall meetings.

- To improve response effectiveness, PS&P should add spill response equipment to the Western Response Resource List (WRRL) online.
- To improve safety and reduce the potential for incidents, the City of Aberdeen should consider opting in to the Washington Utilities and Transportation Commission railroad crossing safety inspection program. The commission can provide technical assistance on grade crossing safety, maintenance, and modifications as agreed between the city and the commission.

#### **4.5.4 Would the proposed action result in unavoidable and significant adverse environmental impacts related to rail transport?**

Regulatory requirements for prevention of, preparedness for, and response to incidents involving the release of crude oil and mitigation measures to reduce impacts are detailed above. However, no mitigation measures would completely eliminate the possibility of a spill, fire, or explosion, nor would they completely eliminate the adverse consequences of a spill, fire, or explosion. Depending on the location of the incident, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, the potential environmental impacts could be significant.

The following resources could experience significant impacts as described in Section 4.7, *Impacts on Resources*.

- Water
- Plants
- Animals
- Aesthetics
- Recreation
- Commercial fishing
- Cultural resources
- Tribal resources
- Public services
- Air
- Human health

#### **4.5.5 Who would pay for the response and cleanup of a rail transport spill?**

The liability for rail transport spills is the same as described for onsite spills (Section 4.4.5, *Who would pay for the response and cleanup of an onsite spill?*) when there is the potential for waters of the United States to be affected. The polluter pays for costs and damages associated with oil spills. Response and cleanup of spills from rail cars that threaten the navigable waters or adjoining

shorelines are the responsibility of the owner or operator (also referred to as the *shipper*) of the rail cars carrying the crude oil (RCW 88.40, Transport of Petroleum Products—Financial Responsibility). The federal government has established high limits on that liability. Washington State places no limits on liability of polluters to third parties, allowing recovery of cleanup costs and natural resource damages beyond the federal limit. To cover removal costs above the federal limits of liability, the U.S. Congress established a 1-billion-dollar Oil Spill Liability Trust Fund to pay for expeditious oil removal and uncompensated damages.

If the spill from a train car does not reach or threaten navigable waters, the federal Resource Conservation and Recovery Act (42 U.S.C. 6901) as well as the Federal Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9607), and the Natural Resource Damage Act (43 CFR Part 11) provide mechanisms for Washington State to obtain compensation from the responsible party for cleanup and environmental restoration, and liability provisions for criminal and civil penalties.

WAC 480-62 requires the railroad company carry insurance that covers any losses resulting from a reasonable worst-case spill. The reasonable worst-case spill for the PS&P rail line is 17.75 cars.