

3.14 Hazardous Materials

Hazardous materials are substances that could affect the safety of the human or natural environment. There are risks in using, storing, and transporting hazardous materials. If a hazardous material is released to the environment, it may contaminate the surrounding area and could expose people and the environment to harm.

This section describes hazardous materials in the study area, including past land uses and the associated risks of site contamination. In addition, this section describes the existing and proposed onsite operations with the potential to result in exposure to hazardous materials. It then describes impacts related to hazardous materials that could occur under the no-action alternative or as a result of the construction and routine operation of the proposed action. The analysis of impacts of the proposed action addresses the risks associated with smaller-scale releases of crude oil at the project site in general terms.¹ A detailed analysis of potential impacts from spills and incidents is included in Chapter 4, *Environmental Health and Safety*. Finally, this section presents any measures identified to mitigate impacts of the proposed action and any remaining unavoidable and significant adverse impacts.

3.14.1 What is the study area for hazardous materials?

The study area for hazardous materials includes all hazardous materials on and near the project site that could be affected by construction and routine operation at the project site. Potential hazardous materials impacts along the Puget Sound & Pacific Railroad (PS&P)² and in Grays Harbor and adjacent state waters off the coast are addressed in Chapter 4, *Environmental Health and Safety*.

3.14.2 What laws and regulations apply to hazardous materials?

Laws and regulations for determining potential impacts related to hazardous materials are summarized in Table 3.14-1. More information about these laws and regulations is provided in Appendix B, *Laws and Regulations*.

Table 3.14-1. Laws and Regulations for Hazardous Materials

Laws and Regulations	Description
Federal	
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 103)	Regulates proper site characterization of and site remediation for hazardous materials.
Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)	Regulates hazardous waste through a regulatory framework that includes requirements for entities that generate, store, transport, treat, and dispose of hazardous waste (40 CFR 260 through 299).

¹ Chapter 4, *Environmental Health and Safety*, addresses the potential impacts from increased risk of incidents (e.g., storage tank failures, train derailments, vessel collisions) and related consequences (e.g., release of crude oil).

² The PS&P rail line refers to the rail line between Centralia and the project site.

Laws and Regulations	Description
Clean Water Act (33 U.S.C. 1251 et seq.)	Establishes the structure for regulating discharges of pollutants into navigable waters of the United States by regulating point pollution sources, such as stormwater discharges, and contains specific provisions related to the accidental release of oil and other hazardous substances into U.S. waters.
Oil Pollution Act of 1990 (33 U.S.C. 40)	Requires more stringent planning and spill prevention activities, improved preparedness and response capabilities, and ensures that responsible parties pay for oil spill cleanups.
Occupational Safety and Health Act of 1970 as Amended 2004 (29 U.S.C. 651 et seq.)	Establishes the framework for safe and healthful working conditions by authorizing enforcement of the standards.
National Oil and Hazardous Substances Pollution Contingency Plan 40 CFR 300	Establishes federal on-scene coordinators for oil spills and hazardous material releases within the inland zone and coastal environments. Lays out a system for federal, state, local agencies, tribal nations, private interests, environmental groups, and other stakeholders to jointly respond to spills and releases.
Natural Resource Damage Assessments 43 CFR 11	Supplements the procedures established under the National Contingency Plan and provides a mechanism for natural resource trustees to determine compensation for injuries to natural resources that have not been nor are expected to be addressed by response actions conducted pursuant to the National Contingency Plan.
State	
Hazardous Substances Account Act (RCW 70.105 et seq.)	Regulates proper site characterization and site remediation of hazardous materials (Health and Safety Code Section 25300 et seq.).
Sediment Management Standards (WAC 173-204)	Establishes rules used to manage sediment in Washington through standards that apply to sediment quality and reduced pollutant discharges.
Model Toxics Control Act (RCW 70.105D and WAC 173-340)	Establishes a toxic waste cleanup law.
Dangerous Waste Regulations (WAC 173-303)	Provides authorities and standards for designating, tracking, generator management, and safely disposing of dangerous solid wastes.
Facility Oil Handling Standards (WAC 173-180)	Establishes facility oil handling standards.
Hazardous Waste Operations (WAC 296- 843)	Provides regulations for employees working in operations, investigations, or clean-up operations at sites with hazardous waste.
Water Rights—Oil and Hazardous Substance Spill Prevention and Response “Oil Spill Act” (RCW 90.56)	Establishes programs to reduce the risk and develop an approach to respond to oil and hazardous substance spills; provides a simplified process to calculate damages from an oil spill; holds responsible parties liable for damages resulting from injuries to public resources.
Oil Spill Natural Resources Damage Assessment (WAC 173-183)	Establishes procedures for convening a resource damage assessment committee, preassessment screening of damages, and selecting the damage assessment method.
Local	
No local laws or regulations apply to hazardous materials.	
U.S.C. = United States Code; CFR = Code of Federal Regulations; RCW = Revised Code of Washington; WAC = Washington Administrative Code	

3.14.3 How were hazardous materials impacts evaluated?

This section describes the sources of information and methods used to evaluate impacts.

3.14.3.1 Information Sources

The following regulatory databases provided information to identify potential hazardous materials issues associated with past and present operations at the project site and adjacent properties within 0.25 mile of the project site.

- Federal National Priorities List
- Delisted National Priorities List Database
- Resource Conservation and Recovery Act Information (RCRA)
- RCRA Large-Quantity Generator
- Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- Federal CERCLIS No Further Remedial Action Planned
- Federal Corrective Action Sites
- Federal Emergency Response and Notification System
- Toxic Chemical Release Inventory System
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 103) or Superfund Consent Decrees
- Hazardous Sites List
- Leaking Underground Storage Tank (LUST)
- Spills
- Independent Cleanup Reports
- Facility/Site Identification System Listing (ALLSITES)
- Confirmed and Suspected Contaminated Sites—No Further Action (CSCSL NFA)
- Hazardous Waste Manifest Information (MANIFEST)
- Facility Index System/Facility Registry System (FINDS)
- Voluntary Cleanup Program (VCP)

Information about the physical properties and risks of crude oil that could be used under the proposed action was obtained from the applicant and environmental site assessments recently completed in the study area. Regulatory agency databases reviewed included the U.S. Environmental Protection Agency (EPA) and Washington State Department of Ecology (Ecology) databases and an Environmental Data Resources Radius Map Report for applicable environmental records.

3.14.3.2 Impact Analysis

Impacts related to hazardous materials were determined by reviewing the information sources above for sites within 0.25 mile of the project site, reviewing information about the physical properties and risks of materials that could be handled and used under the proposed action, and considering proposed construction and operation activities under the proposed action.

3.14.4 What hazardous materials are in the study area?

This section describes hazardous materials in the study area that could be affected by construction and routine operation of the proposed action.

3.14.4.1 Past Uses and Risk of Potential Contamination

Prior to the late 1970s, the project site served as a boat slip. By the early 1990s, it was filled with sediment dredged from Grays Harbor (Boersema 2013: 11–12). Based on information obtained from past environmental site assessments relevant to the study area as noted above, no Recognized Environmental Conditions were identified in the project site; however, six Recognized Environmental Conditions were identified in the study area, all outside of the project site (Table 3.14-2).

Table 3.14-2. Recognized Environmental Concerns in the Study Area

Site Name	Address and Distance from Project	Environmental Databases	Status
Grays Harbor Transportation Authority	705 30th Street, Hoquiam. Located approximately 0.25 mile northwest of the project site.	ALLSITES, LUST	Affected soil only. Case opened in 1991 and received NFA status in August of 2012.
Hoquiam School District Transportation Center	3030 Bay Avenue, Hoquiam. Located approximately 0.23 mile northwest of the project site.	ALLSITES, LUST, MANIFEST, RCRA Info, VCP	Affected soil only. Case opened in 1998 and was later granted NFA status in 1999 under Ecology’s VCP. In 2010, two violations were issued to the site under the Ecology Dangerous Waste Regulation (WAC 173-303). Compliance was achieved that same year.
Imperium Grays Harbor	3122 Port Industrial Road, Hoquiam. Located approximately 800 feet northwest of the project site.	ALLSITES, CERCLIS, MANIFEST, EPA Echo, RCRA Info	This facility is a large-quantity generator. Ecology inspection of the facility found seven violations in 2011 and six violation in 2014, respectively. Ecology received confirmation that all violations were corrected.

Site Name	Address and Distance from Project	Environmental Databases	Status
Paneltech Products, Inc.	2999 John Stevens Way, Hoquiam. Located approximately 200 feet northwest of the project site, across John Stevens Way.	ALLSITES, FINDS, MANIFEST, RCRA Info, SPILLS, VCP	Approximately 375 gallons of phenol spilled on site December 2005. Soil and groundwater were affected. Site was granted NFA under the VCP in June 2010. Two violations and one violation were found at the facility during Ecology dangerous waste inspection in 2013 and 2014, respectively. Both violations were corrected.
Pettit Oil (Tosco/Unocal Bulk Plant No. 0291)	640, 700, and 820 Myrtle Street, Hoquiam. Located approximately 0.10 mile north of the project site.	ALLSITES, CSCSL, FINDS, SPILLS	A 100- to 200-gallon gasoline spill occurred in 1993. The site was listed in the CSCSL for the contamination of soil and groundwater. An assessment conducted in 1997 revealed gasoline, diesel, and oil- range hydrocarbons above cleanup levels in soil and groundwater. The site status is listed by Ecology as 'cleanup started'.
Westport Shipyard, Inc.	2850 John Stevens Way, Hoquiam. Located approximately 200 feet northwest of the project site across John Stevens Way.	ALLSITES, FINDS, WAC 173-303, RCRA	Listed as a medium-quantity generator (Dangerous Waste Regulation, WAC 173-303), generating between 100 and 1,000 kilograms of hazardous waste per month. Ten informal violations have been issued with compliance achieved.

ALLSITES = Facility/Site Identification System Listing; LUST = Leaking Underground Storage Tank; NFA = No Further Action; MANIFEST = Hazardous Waste Manifest Information; RCRA = Resource Conservation and Recovery Act Information; VCP = Voluntary Cleanup Program; Ecology = Washington State Department of Ecology; CESQG = Conditionally Exempt Small-Quantity Generator; CERCLIS = Federal Comprehensive Environmental Response, Compensation, and Liability Information System; FINDS = Facility Index System/Facility Registry System; CSCSL = Confirmed and Suspected Contaminated Sites; WAC = Washington Administrative Code

3.14.4.2 Existing Operations

As described in Chapter 2, *Proposed Action and Alternatives*, the applicant currently operates a methanol distribution facility. Operations involve receiving, storing, and loading (for transport) methanol. The existing facility includes bulk liquid storage tanks, loading and unloading areas, and a system of pipelines connecting the loading areas with bulk liquid storage tanks. The chemical properties of methanol are described in Table 3.14-3.

Table 3.14-3. Chemical Properties of Methanol

Density	Properties and Potential Release Behavior
Specific gravity 0.79; API 47.49	Floats on water; toxic; relatively high flash point and degree of volatility; infinitely soluble in water.
Source: Cheremisinoff 2000	

Small amount of other chemicals are also handled, stored, and transported on site related to routine operations. These include hazardous materials such as fuels used in facility vehicles, solvents, cleaning agents, paints, oil filters, used oil, batteries, aerosol cans, and fire-fighting foam.

As described in Chapter 2, *Proposed Action and Alternatives*, the storage tank area and truck and rail loading and unloading areas are underlain with secondary containment to capture spills. A vapor combustion unit is used to incinerate vapors associated with rail and truck loading. Under existing conditions, the applicant requires that personnel attend training to be certified to handle hazardous materials and to respond to minor releases consistent with the Occupational Safety and Health Administration standards pertaining to hazardous materials (29 Code of Federal Regulations [CFR] 1910 Subpart H).

Per the state and federal regulations listed in Section 3.14.2, the applicant also has in place various safety and spill containment protocols to address potential releases of hazardous materials that may occur on site. Additionally, the applicant has a U.S. Coast Guard-approved operations manual to reduce the potential for incidents and to clarify emergency notification and response protocols during site operations and vessel transfers.

3.14.5 What are the potential hazardous materials impacts?

This section describes hazardous materials impacts that could occur in the study area. Potential impacts of the no-action alternative are described first, followed by potential impacts of the proposed action.

3.14.5.1 No-Action Alternative

Under the no-action alternative, impacts related to hazardous materials from the construction of the proposed action would not occur. The applicant would continue to operate its existing facility as described in Chapter 2, Section 2.1.3.2, *Existing Operations*, and summarized above. Methanol would continue to be transported to and from the project site by tanker truck, rail, and vessel and loaded, unloaded, and stored on site.

The risks of exposure would be related primarily to the handling and storage of hazardous materials such as fuels used in facility vehicles, solvents, cleaning agents, paints, oil filters, used oil, batteries, aerosol cans, and fire-fighting foam and would be similar to existing conditions. Minor releases of these chemicals and those stored in bulk, including methanol, could occur during routine operations as the result of human error (e.g., improper use, not following required handling and storage protocols) or minor equipment failure (e.g., leaking vehicles or minor hose leaks). These releases would most likely be relatively small and easily contained within the existing containment structures.

Similar to existing conditions, the applicant would continue to require that personnel attend training to be certified to handle hazardous materials and to respond to minor releases consistent with the

Occupational Safety and Health Administration standards pertaining to hazardous materials (29 CFR 1910 Subpart H). Additionally, the applicant would continue to comply with applicable regulations to implement safety and spill prevention and response protocols to reduce the release of hazardous materials.

There would also be the continued potential for larger-scale incidents to occur, primarily with respect to chemicals stored in bulk. Such events could result in more extensive release scenarios. Similar to existing conditions, the probability of larger-scale releases (such as might occur during unloading and loading or during transport) would continue to be relatively low. These risks are discussed in Chapter 4, *Environmental Health and Safety*. However, if larger bulk liquid spills of methanol were to occur, they could result in adverse impacts on humans or the environment. For example, methanol is a skin irritant and can be toxic to eyes, and at high concentrations can affect the central nervous system of humans. Methanol is also highly flammable, and while it essentially dissolves in water, release can result in fires or explosions, depending on the circumstances of the release. For additional information about the risks and environmental consequences related to the release of hazardous materials associated with the no-action alternative, see Chapter 4, *Environmental Health and Safety*.

3.14.5.2 Proposed Action

This section describes hazardous materials impacts that could occur in the study area as a result of construction and routine operation of the proposed action.

Construction

Construction activities would involve the transport, handling, storage, and disposal of hazardous materials such as fuels, solvents, paints, oils, and grease. Although there is a potential for incidents to occur that could expose people or the environment to these materials, construction activities would be conducted in a manner compliant with applicable regulations (Section 3.14.2). Specifically, transport, handling, storage, and disposal would comply with the requirements of RCRA and Washington's Dangerous Waste Regulations (WAC 173-303-145). Additionally, the construction contractor would be required to have certified personnel and a health and safety plan that comply with the Occupational Safety and Health Administration's Safety and Health Regulations for Construction (29 CFR 1926). Compliance with this standard would ensure implementation of best management practices to reduce human exposure to potential contaminants.

Construction activities could also result in the disturbance of potentially contaminated soils; however, as noted in Section 3.14.4.1, *Past Uses and Risk of Potential Contamination*, there are no Recognized Environmental Conditions at the project site. Therefore, there is a low chance of exposure from past site contamination. However, because the original source of the dredged fill material is not known, there remains a possibility that construction could encounter contaminated soils. This potential impact would be greater compared to the no-action alternative. For this reason, the measures summarized in Section 3.14.7.2, *Applicant Mitigation*, would be required to reduce this impact, consistent with state requirements pursuant to WAC 173-204.

The proposed action could also encounter contamination from Recognized Environmental Conditions outside the project site. As mentioned above, six sites located within 0.25 mile of the project site were further analyzed. Four of the sites (Paneltech Products, Inc., Westport Shipyard, Inc., Hoquiam School District Transportation Center, and Grays Harbor Transportation Authority) had previous violations but are now in compliance with Ecology standards. One site (Imperium

Grays Harbor) was listed as a large-quantity generator. Ecology inspection of the facility found seven violations in 2011 and six violations in 2014. Ecology received confirmation that all violations were corrected. The remaining site (Pettit Oil) is active under Ecology’s Toxic Cleanup Program and noted as having contaminated soil and groundwater. This site is located north and approximately 0.23 mile upgradient of the project site. Because this site is located upgradient and only 0.23 mile away, it is possible that contamination migrating (via groundwater) from the Pettit Oil site could have affected the project site. Groundwater depth in the project area is approximately 10 feet below ground surface (Insight Geologic 2012). The site status is listed by Ecology as ‘cleanup started’. Although impacts could occur during construction, implementation of measures summarized in Section 3.14.7.2, *Applicant Mitigation*, would further reduce impacts related to historically contaminated sites adjacent to the project site.

Operations

This section describes the impacts of the proposed action that could result from routine operations at the project site, including the potential for minor spills of various liquids related to the proposed action. Chapter 4, *Environmental Health and Safety*, addresses the potential impacts from increased chance of incidents (e.g., storage tank failure, train derailments, vessel collisions) that would result in release of crude oil and the related consequences.

Under the proposed action, the applicant would continue to handle and store methanol similar to existing conditions. Because the proposed operations related to these activities would not change, the risks of exposure of workers to hazardous materials associated with the methanol distribution activities (e.g., methanol, fuels used in facility vehicles, solvents, cleaning agents, paints, oil filters, used oil, batteries, aerosol cans, fire-fighting foam) would remain the same as the no-action alternative.

As discussed in Chapter 2, *Proposed Action and Alternatives*, the proposed action would entail the construction and operation of a new facility to support unloading, storing, and loading (for transport) crude oil. Table 3.14-4 describes the basic properties of Bakken crude oil and diluted bitumen and their potential behavior upon release. All forms of crude oil contain many different hydrocarbons and include trace levels of other chemicals. Additional information about the properties and characteristics of crude oil is presented in Chapter 4, Section 4.3, *Risk Considerations*.

Table 3.14-4. Basic Properties and Potential Release Behavior of Crude Oil

Product	Properties and Potential Release Behavior
Bakken crude oil ^{a, b}	A “light” crude oil with a high gas content, high vapor pressure, low flashpoint, and low boiling point. It is more volatile than most other types of crude, which correlates to increased ignitability and flammability. Floats on water.
Diluted bitumen ^{a, c, d}	Floats, submerges, and/or sinks depending on temperature, and specific gravity/API value of the particular oil shipment, type of diluent added, and time spent in the environment. Diluent is volatile and readily evaporates. Weathered residue exhibits high level of persistence in environment.

^a Washington State Department of Ecology 2014.

^b Pipeline and Hazardous Materials Safety Administration 2014.

^c Lee et al. 2015.

^d National Academies of Sciences, Engineering, and Medicine 2016

Crude Oil

Crude oil, the liquid form of petroleum, is typically classified as light, medium, or heavy depending on its density compared to water. Crude oil primarily consists of a mixture of paraffins (alkanes), naphthenes (cyclohexanes), and aromatic hydrocarbons that can be distilled to create a variety of products (Polaris 2013: 7). Gasoline, propane, butane, methane, kerosene, diesel, and lubricating oils are some of the products that come from crude oil distillation and processing. Distillation and processing are not part of the proposed action. Crude oil can come from a variety of sources. Under the proposed action, it is anticipated that crude oil would come in the form of Bakken crude oil from the Williston Basin in North Dakota³ or in the form of diluted bitumen derived from oil sands from Alberta, Canada. The unique properties of these “unconventional” oils are introduced below and further discussed in Sections 4.3.1.1, *Material Characteristics* and 4.3.1.2, *Crude Oil*.⁴

Bakken Crude Oil

Bakken crude oil is a light, sweet (low sulfur) crude oil with an average API gravity between 38 and 47 degrees. Bakken crude oil typically contains higher amounts of dissolved flammable gases compared to some lighter crude oils, making it a Class 3 Flammable Liquid.⁵ Bakken crude oil has a flash point that is slightly lower than the average flash point of light crudes. Characteristics such as vapor pressure, sulfur weight, and boiling point are comparable to other light crude oils. (Washington State Department of Ecology 2014: 413).

Bitumen and Diluted Bitumen

Bitumen is derived from oil sand deposits, which consist of a combination of clay, sand, water, and bitumen. Oil sands are typically mined (not pumped because they are highly viscous) and then processed to extract the oil-rich bitumen. Most heavy oils are found at the margins of geologic basins and are thought to be the residue of light oils that have lost their light-molecular-weight components through degradation by bacteria, water-washing, and evaporation (Lee et al. 2015: 20). Bitumen (prior to dilution) is a heavy, dark, black viscous oil and is considered to be a heavy crude.

Diluted bitumen refers to bitumen that has been diluted with at least one lighter petroleum product to make it easier to transport. Diluted bitumen is also referred to as dilbit. Diluted bitumen differs from conventional crudes in its high viscosity, high density (low API gravity), and high sulfur content. Typically, the ratio of bitumen to diluent is 70:30 or 30% diluent (Lee et al. 2015: 21).

Crude Oil Operations

New capacity related to the proposed facility would be dedicated to handling and storing crude oil. Primary operations would include unloading and transferring crude oil from rail cars to storage tanks; storing crude oil in above-ground storage tanks; transferring crude oil (via pipelines) from storage tanks to tank vessels; and conducting routine facility maintenance work (e.g., tank cleaning, equipment maintenance). Although the unloading, storage, and loading of crude oil would occur in a

³ The Williston Basin rail terminals are primarily in North Dakota but extend into Montana, South Dakota, and Saskatchewan, Canada.

⁴ The term *unconventional oil* is used to describe oils that are extracted using unconventional methods such as surface mining of shallow bitumen deposits, steam-assisted gravity drainage for *in situ* extraction of deep bitumen deposits, cyclic steam injection for heavy oils, or horizontal drilling with hydraulic fracturing for recovery of light shale oils (such as Bakken crude oils) (Lee et al.: 24).

⁵ A Class 3 flammable liquid has a flash point of not more than 140°F (60°C) (49 CFR 173.120).

manner similar to existing operations, there is increased risk of exposure of people (primarily workers) and the environment due to the increase in throughput compared to the no-action alternative and increased consequences to human health and the environment due to the additional hazardous materials, namely crude oil.

Similar to existing conditions, exposure to hazardous materials associated with routine operations under the proposed action would be most likely to occur during unloading and loading activities. Most likely causes would continue to be human error (e.g., misuse of equipment, inadequate application of health and safety procedures, improper implementation of specific handling requirements) or minor equipment failure (e.g., small valve leak), resulting in incidental spills or exposure to other hazards (e.g., dermal absorption, inhalation exposure, small fires, slips and falls).

As noted in Chapter 2, *Proposed Action and Alternatives*, and consistent with the regulations outlined in Section 3.14.2 (Facility Oil Handling Standards, WAC 173-180; Clean Water Act [33 U.S.C 1251 et seq.] and the Oil Pollution Act [33 U.S.C. 2701 et seq.]), the proposed facility would be designed and operated to meet the appropriate safety standards as a designated oil facility. Specifically, the facility would be designed to meet primary and secondary containment standards in the event of an oil spill. Additionally, the applicant would be required to develop the required spill prevention, contingency, and response plans to reduce the potential for releases of crude oil and to clarify emergency notification and response protocols during site operations and vessel transfers. Similar to existing conditions, the applicant would also continue to ensure that personnel training and handling and storage activities would also comply with the appropriate safety standards intended to reduce the risks of incidents and to address potential spills during operation.

Because the potential consequences of an incident (e.g., a spill during vessel loading, tank rupture), depend on the specific circumstances of each event (e.g., location, size of the release, land or water based, etc.), a risk analysis was conducted to frame the analysis of impacts and to be able to characterize the potential changes in risks of exposure of people and the environment to hazardous materials associated with the proposed action. This analysis is presented in Chapter 4, *Environmental Health and Safety*, and addresses potential risks during onsite operations and offsite rail and vessel transport.

3.14.6 What required permits and plans apply to hazardous materials?

The following permit conditions and required plans are expected to reduce impacts related to hazardous materials. Additional requirements specific to the handling, storage, and transport of crude oil are discussed in Chapter 4, *Environmental Health and Safety*.

- City of Hoquiam Fire Department Approval
 - Fire prevention and suppression requirements
- City of Aberdeen Fire Department Approval
 - Fire prevention and suppression requirements
- City of Aberdeen Utility Services Agreement
 - Communication and coordination

- Washington State Department of Ecology National Pollutant Discharge Elimination System Construction Stormwater General Permit and Industrial Stormwater Permit
 - Discharge/effluent limits
 - Monitoring, sampling, and reporting requirements
 - Operations and maintenance plan
 - Stormwater pollution prevention plan
 - Onsite spill control material provision requirements
 - Stormwater pollution prevention plan preparation requirement
 - Stormwater BMP development and implementation
 - Spill prevention control and countermeasures plan preparation requirement
 - Industrial discharge best management practice development and implementation
 - Personal protective equipment plan for use, storage, and maintenance
- Spill prevention, contingency, and response plans to satisfy federal and state oil spill prevention and contingency planning and facility operations requirements
 - Evaluation of onsite safety and health hazards
 - Pre-emergency planning and coordination with outside organizations
 - Roles and responsibilities in an emergency
 - Evacuation routes and emergency alert and response protocols
 - Oil and hazardous material transfer operation protocols
 - Containment and countermeasures to prevent oil spills from entering navigable waterways
 - Notification procedures
 - Spill mitigation procedures
 - Facility response activities
 - Training and exercise procedures
 - Equipment descriptions: emergency shutdown system, containment, fire fighting

3.14.7 What mitigation measures would reduce hazardous materials impacts?

This section describes the applicant mitigation that would reduce hazardous materials impacts from the construction and routine operation of the proposed action. Mitigation measures to reduce potential impacts on environmental health and safety from increased risk of incidents and related consequences are presented in Chapter 4, *Environmental Health and Safety*.

3.14.7.1 Applicant Mitigation

The applicant will implement the following mitigation.

- To address odiferous, stained, or discolored groundwater or soil encountered during construction activities, or if groundwater encountered is suspected to be contaminated during construction activities, the following mitigation measures will be implemented.
 - The applicant will seek the professional recommendation of a consultant specializing in the handling and identification of hazardous materials and contaminated media.
 - If deemed necessary, based on the above consultation, the applicant will conduct soil and/or groundwater testing for identification of possible hazardous materials.
 - Construction personnel will isolate and cover suspect soil until analytical results are reviewed by qualified personnel.
 - The consultant will compare analytical results to the applicable EPA's regional screening levels, which address common environmental pollutants. If hazardous materials are discovered in the soils and/or groundwater at levels above the regional screening levels, the consultant will provide recommendations on the steps required for proper treatment and/or removal and disposal of the contaminated media.

3.14.8 Would the proposed action have unavoidable and significant adverse hazardous materials impacts?

Compliance with the applicable regulations and permit conditions along with implementation of the mitigation measures described above would reduce hazardous materials impacts. There would be no unavoidable and significant adverse impacts from construction and routine operations. Potential impacts related to increased risk of incidents and related consequences are addressed in Chapter 4, *Environmental Health and Safety*.