3.8 Energy

This section describes the impacts on energy resources that would result from construction and operation of the proposed rail line. Energy resources in this context include the diesel fuel, gasoline, electricity, and natural gas used during construction and operation of the proposed rail line, as well as the infrastructure required to distribute those energy resources. The subsections that follow describe the study area, data sources and methods used to analyze the impacts, the affected environment, and the impacts of the Action Alternatives on energy.

3.8.1 Analysis Methods

This subsection identifies the study area, data sources, and analysis methods used to analyze potential impacts on energy resources.

3.8.1.1 Study Area

The study area for energy resources includes the project footprint[1] for each Action Alternative, where all construction and operation activities that would consume energy would take place. The study area also includes the energy supply and distribution infrastructure, including electricity transmission, crude oil pipelines, natural gas pipelines, and petroleum product pipelines that could intersect the proposed rail line, and existing fuel (gasoline, diesel fuel) transport, storage, and distribution infrastructure that could supply fuel to the proposed construction and operation of the rail line.

The study area excludes energy consumption related to the construction and operation of crude oil loading and unloading (terminal) facilities and the disposition of crude oil that would be transported by the rail line. These considerations are discussed in Section 3.15, *Cumulative Impacts*. The study area excludes construction and operation of diesel fuel storage or distribution equipment for fueling diesel locomotives at terminal locations. Potential terminal locations are discussed in Section 3.15, *Cumulative Impacts*.

3.8.1.2 Data Sources

OEA reviewed the following data sources to determine the potential impacts on energy resources that could result from construction and operation of the proposed rail line.

- Publicly available geographic information system (GIS) data (ArcGIS 2019a, 2019b; EIA 2020a) for existing electric transmission lines and electrical substations in the study area.

[1] The *rail line footprint* includes the area of the railbed, as well as the full width of the area cleared and cut or filled. The rail line footprint would also include other physical structures installed as part of the proposed rail line, such as fence lines, communications towers, siding tracks, relocated roads, and power distribution lines. The rail line footprint is the area where rail line operations and maintenance would occur. The area would be permanently disturbed. The *temporary footprint* is the area that could be temporarily disturbed during construction, including areas for temporary material laydown, staging, and logistics. Disturbed areas in the temporary footprint would be reclaimed and revegetated following construction. The *project footprint* is the combined area of the rail line footprint and temporary footprint, both of which would be disturbed during construction, comprising where construction and operations of the proposed rail line would occur.

- Publicly available GIS data (ArcGIS 2018, 2019c, 2019d; PHMSA 2020a) for crude oil, natural gas, and petroleum product pipeline rights-of-way in the study area.
- Utah Geological Survey publication *Utah's Energy Landscape* (Vanden Berg 2020a, 2020b, 2020c), which includes location information for electric transmission line and crude oil, natural gas, and petroleum product pipeline.
- GIS data (Coalition 2019) of road-rail and rail-rail crossings for each Action Alternative.
- U.S. Energy Information Administration (EIA) data including the *State Energy Profile - Utah* (EIA 2020b) for statewide energy (electricity and petroleum products) supply and statewide data for consumption of diesel fuel, gasoline, and electricity.
- Information regarding the energy distribution infrastructure (e.g., electric power distribution lines) that would be constructed or modified for each Action Alternative.

3.8.1.3 Analysis Methods

OEA used the following methods to analyze potential impacts in the study area related to energy resources.

- **OEA estimated the energy consumption for construction and operation**. OEA estimated the amount of energy that would be needed for construction and operation of each Action Alternative. Energy consumption for construction of the proposed rail line includes fuel for construction equipment, fuel for construction personnel vehicles, and electricity for construction, including lighting of construction site areas. Energy consumption for operation of the proposed rail line includes diesel fuel for locomotives, fuel for operations personnel vehicles, and electricity for powering communications equipment, signals, and other rail-related equipment. OEA used the EPA MOVES model to calculate diesel fuel and gasoline consumption for operating on-road and off-road equipment for both construction and operation. Modeled energy consumption units (joules) were converted into physical units (gallons) using EIA conversion factors for diesel fuel and gasoline (EIA 2020c). For operations, OEA modeled two scenarios: the high rail traffic scenario (10.52 trains per day) and the low rail traffic scenario (3.68 trains per day).
- **OEA assessed availability of energy resources for construction and operation**. OEA compared the energy that would be needed for construction and operation of each Action Alternative to the statewide energy supply and statewide energy demand to assess whether adequate electricity and petroleum products are available for construction and operation of the proposed rail line. OEA also assessed whether new energy supply, transport, or distribution infrastructure or modifications to existing infrastructure would be needed to supply electricity or fuel for construction or operation of the alternatives.
- **OEA assessed impacts on existing energy infrastructure**. OEA identified existing fixed energy transport and distribution infrastructure, including crude oil, natural gas, and petroleum product pipeline and electric transmission lines in the study area, and evaluated whether construction or operation of the alternatives would result in any impacts on that infrastructure. OEA identified places where the proposed rail line would cross roadways (road-rail crossings) or existing rail lines (rail-rail crossings) for each Action Alternative and evaluated whether construction or operation of each alternative would result in any impacts on truck routes that are used to transport energy (i.e., transport of crude oil and petroleum products).

The impact analysis for energy resources excludes energy consumption for quarrying and transport of ballast and aggregate, as well as the production and transport of cement. OEA assumes that the Coalition would obtain cement, aggregate, ballast, and other materials required for construction of the rail line from existing permitted facilities, and that no new facilities would be required to support rail line construction.

3.8.2 Affected Environment

This subsection describes the existing conditions related to energy resources in the study area. The Coalition would obtain the electricity and fuel needed to construct and operate the proposed rail line from existing energy supply, transport, and distribution infrastructure in Carbon, Duchesne, Uintah, and Utah Counties, including electric transmission and distribution lines and substations, petroleum product pipelines, and petroleum product storage and distribution facilities that would be supplied by fuel trucks operating on public roads.

3.8.2.1 Electricity Supply Infrastructure

There are two main existing electricity suppliers in the study area. The Moon Lake Electric Association provides electricity service to customers in Duchesne and Uintah Counties (MLEA 2020). The Rocky Mountain Power Company provides electricity to Carbon, Duchesne, Uintah, and Utah Counties (RMP 2020).

3.8.2.2 Statewide Energy Consumption

Statewide consumption of motor gasoline (not including ethanol) was 135 trillion British thermal units (TBtu) in 2018. The transportation sector represented 32 percent (267 TBtu) of total energy consumption in 2018 (EIA 2020b). Statewide consumption of distillate fuel oil was 90.4 TBtu in 2018 (EIA 2020b). Statewide gasoline consumption in Utah was 1,170,761,966 gasoline gallon equivalents (GGEs)[2] (140.83 TBtu) in 2018. Statewide diesel fuel consumption in Utah was 589,596,284 GGEs (70.13 TBtu) in 2018 (EIA 2020c; EIA 2020d).

3.8.2.3 Petroleum Product Supply

There are five petroleum refineries located in Utah, all in the Salt Lake City area. These refineries process approximately 200,000 barrels of crude oil per day. Crude oil processed by the refineries mainly arrives by pipeline from Colorado, Wyoming, and Canada, and by truck from the Uinta Basin (Basin) and other areas of Utah (Vanden Berg 2020d; EIA 2020e). The five Utah petroleum refineries represent approximately 30 percent of the refining capacity in the Rocky Mountain region, and the refineries produce motor gasoline, diesel fuel, jet fuel, and other fuel oils (Vanden Berg 2020d; EIA 2020e). Refined products move by pipeline and by truck from the Utah refineries to markets in Utah, Idaho, Nevada, Wyoming, Washington, and Oregon. Pipelines also transport refined petroleum products into Utah from refineries in Wyoming and Montana.

Petroleum refineries in the Salt Lake City area (Salt Lake County, Davis County) include Holly Frontier, Big West, Chevron, Silver Eagle, and Marathon Oil. The Chevron Salt Lake Refinery

[2] Gasoline gallon equivalent (GGE) is the amount of fuel it takes to equal the energy content of one liquid gallon of gasoline where one GGE equals 120,167 BTUs. (EIA no date). 1 gallon = 1 GGE gasoline; 1 gallon diesel fuel = 1.155 GGE diesel fuel (EIA no date).

processes approximately 54,720 barrels per day (bpd) of crude oil into petroleum products including gasoline, diesel fuel, propane, and jet fuel (EIA 2020i). The Holly Frontier Woods Cross Refinery processes approximately 39,330 bpd of crude oil into refinery products (Holly Frontier 2019; EIA 2020i). The Marathon Oil refinery in Salt Lake City is the largest refinery in Utah, refining approximately 63,000 bpd (Marathon Oil 2019; EIA 2020i). The Silver Eagle refinery processes approximately 15,000 bpd, and the Big West refinery processes approximately 31,664 bpd (EIA 2020i).

3.8.2.4 Electricity-Generating Capacity and Electricity Consumption

Statewide electricity-generating capacity in Utah was 9,003 megawatts (MW) in 2018. Statewide net electricity generation in Utah in 2018 was 39,375,424 megawatt hours (MWh) (EIA 2020f). Utah is a net exporter of electricity to other states and exported 32 TBtu (5.63 million MWh) of electricity to other states in 2018 (Vanden Berg 2020e; EIA 2020f, 2020g).

3.8.2.5 Electric Transmission Lines

Figure 3.8-1 shows the electric transmission lines in the study area. Electric transmission lines in the study area include a 34.5-kilo-volt-ampere (kVa) transmission line operated by Rocky Mountain Power and a 138-kVa transmission line operated by UPALCO (EIA 2020b; PacifiCorp 2016).

3.8.2.6 Crude Oil, Natural Gas, and Petroleum Product Pipelines

Figure 3.8-1 shows crude oil, natural gas, and petroleum product pipelines in the study area. Pipelines in the study area include one natural gas pipeline operated by Dominion Questar and one crude oil (hazardous material) pipeline operated by Chevron (Questar 2018, 2019; PHMSA 2020b, 2020c). OEA did not identify any petroleum product pipelines in the study area.

3.8.2.7 Oil and Gas Wells

Figure 3.8-1 shows the oil and gas wells and water injection wells, which are used in oil and gas recovery, in the study area. Wells in the study area include four producing wells, three plugged and abandoned wells, one shut-in well, two approved but not drilled wells, and three water injection wells.

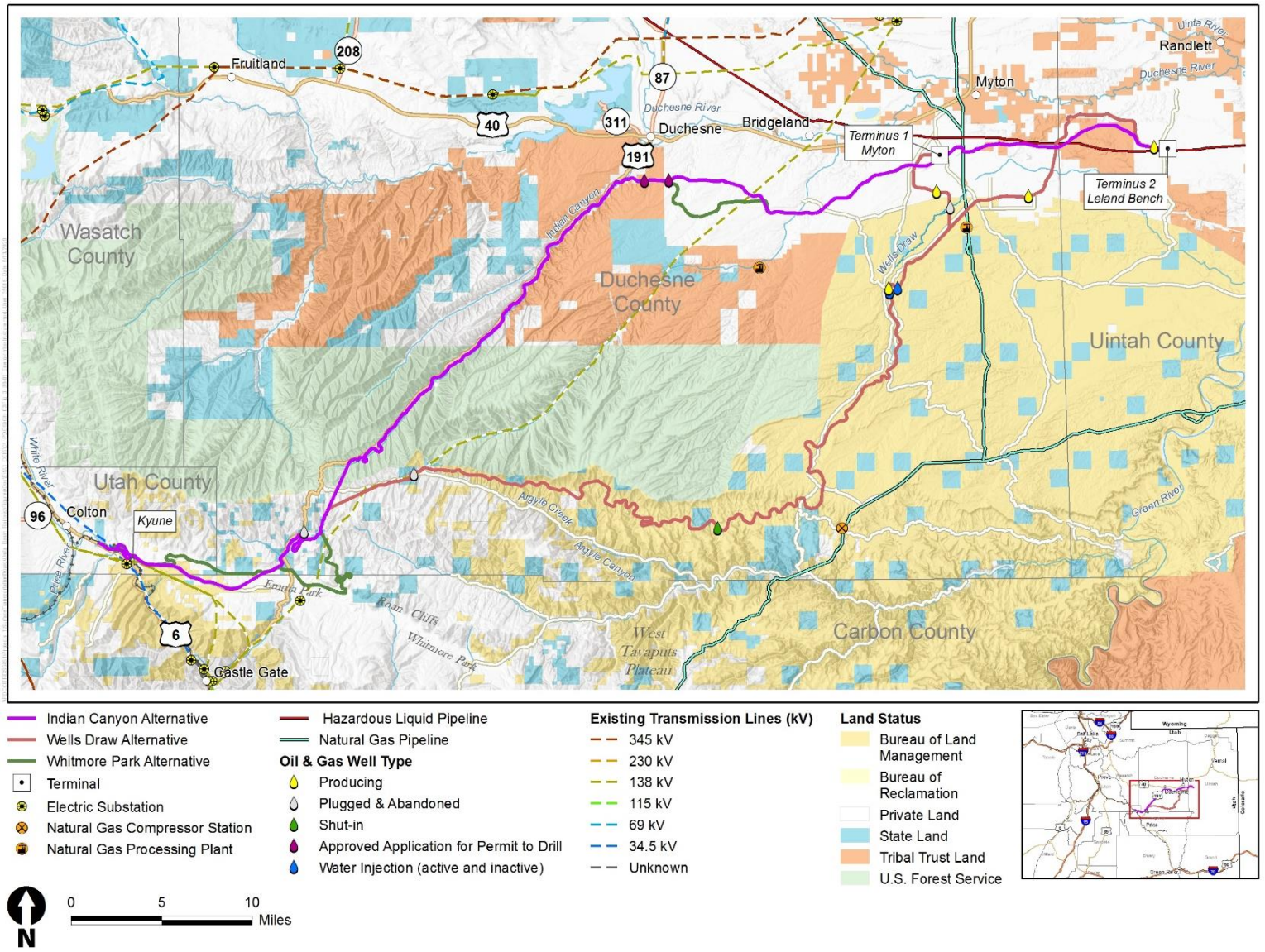
3.8.2.8 Road-Rail Crossings

Road-rail crossings include roads that could be used as transport routes for petroleum products (truck tankers). At-grade road-rail crossings in the study area include Forest Road (FR) 303, FR 304, Wells Draw Road, and Horner Knoll Road in Duchesne County, Leland Bench Road in Uinta County, and Quarry Road in Utah County. Road-rail crossings in the study area are shown in Section 3.1, *Vehicle Safety and Delay*, Figure 3.1-1. A list of public at-grade crossings for each Action Alternative is included in Appendix D, *Grade-Crossing Safety and Delay Analysis*.

3.8.2.9 Rail-Rail Crossings

The Action Alternatives would not require the construction of any new rail-rail crossings.

Figure 3.8-1. Oil and Gas Pipelines, Transmission Lines, and Oil and Gas Wells



Source: ArcGIS 2018, 2019c, 2019d; PHMSA 2020a, UDOGM 2020.

3.8.3 Environmental Consequences

Construction and operation of the proposed rail line could result in impacts on energy resources, including impacts on energy consumption and impacts on existing energy transportation infrastructure. This subsection first presents the potential impacts that would be the same for all three Action Alternatives and then compares the potential impacts that would be different for each Action Alternative. For comparison purposes, this subsection also describes energy resources under the No-Action Alternative.

3.8.3.1 Impacts Common to All Action Alternatives

Construction

Electricity Consumption and Distribution

Construction of any of the Action Alternatives would require electricity for construction site lighting and operation of electricity-driven equipment. The Coalition would obtain electric power for construction sites by installing temporary connections within the rail line footprint to nearby existing electric distribution lines. Where existing electric distribution lines are not accessible, OEA expects that the Coalition would use portable generators or solar power to provide electricity for rail construction. OEA anticipates that electricity consumption during construction would be minimal and that the existing electricity distribution system would be adequate to provide the electricity that would be needed for construction. Therefore, construction of the proposed rail line would not require new or expanded electrical substations or other fixed electrical distribution facilities.

Road Closures and Realignments

Road closures and realignments associated with the construction of any of the Action Alternatives would not affect access to or operation of energy fixed facilities (Figure 3.8-1) or transport of energy products. While temporary road closures during construction could temporarily affect access, standard traffic control measures, such as detours and temporary access roads, would minimize impacts and the potential for delays (VM-3). Each of the Action Alternatives would involve permanently realigning existing roads in some locations (refer to Appendix A, *Action Alternatives Supporting Information*, for locations of road relocations). The Coalition would design these road realignments so as to allow continued vehicle access to existing fixed facilities, such as oil pads, during and following construction of the proposed rail line (ENGY-MM-1).

Operations

Electricity Consumption and Distribution

Operation of any of the Action Alternatives would require electricity for signal, communication, and safety equipment. The Coalition states that it would obtain this electric power by installing permanent connections within the rail line footprint to nearby existing electric distribution lines. Where existing electric distribution lines are not accessible, the Coalition would use solar power to provide electricity for signal, communication, and safety equipment. The consumption of electricity for railroad operations would be negligible compared to available electricity capacity in the region.

Fuel Consumption

In the short term, OEA does not expect that the proposed rail line would divert truck transportation of crude oil to rail transportation for the purpose of serving existing oil refineries in Salt Lake City because those refineries currently do not have rail access. If the proposed rail line were constructed, therefore, tanker trucks would continue transporting crude oil from production areas in the Basin to Salt Lake City refineries, and the consumption of diesel fuel by those trucks would not change as a result of the proposed rail line.

OEA anticipates, however, that the proposed rail line would eliminate the existing tanker truck traffic transporting crude oil from production areas in the Basin to the Price River Terminal in Wellington, Utah. If the proposed rail line were constructed, the tanker trucks that currently transport crude oil to the Price River Terminal would likely go to the proposed rail line terminals in the Basin instead because the proposed rail line terminals would be significantly closer to oil production areas in the Basin than the Price River Terminal. Based on information provided by the Coalition, OEA estimated that tanker trucks transport approximately 10,000 barrels of crude oil per day to the Price River Terminal.[3] This corresponds to approximately 17,464 tanker trucks per year. Because this tanker truck traffic would be diverted to rail transportation if the proposed rail line were constructed, OEA estimates that the diesel fuel consumption for truck transportation would be reduced by approximately 47,500 gallons per year under any of the Action Alternatives. Operation fuel consumption estimates for the Action Alternatives include the reduction in fuel consumption from diverted trucks.

Rail Transportation of Energy Resources

If the Coalition were to construct and operate any of the Action Alternatives, the proposed rail line would offer a new transportation option for moving crude oil out of the Basin to markets across the United States. As discussed in detail in Section 3.15, *Cumulative Impacts*, oil producers in the Basin could expand production of crude oil in the future and transport that crude oil on the proposed rail line. Because the proposed rail line would be operated as a common carrier, all oil producers in the Basin would be able to ship oil on the proposed rail line. Depending on future conditions in the global market for crude oil, the Coalition estimates that the proposed rail line could transport between 130,000 barrels and 350,000 barrels of crude oil per day, on average. Those estimates correspond to between 1.84 loaded oil trains per day (the low rail traffic scenario) and 4.96 loaded oil trains per day (the high rail traffic scenario). OEA anticipates that these trains would transport crude oil from the Basin to markets in the Texas Gulf Coast, the Louisiana Gulf Coast, the Midwest, the West Coast, and other regions (Appendix C, *Downline Analysis Study Area and Train Characteristics*).

The volume of crude oil that would move on the proposed rail line under either the high rail traffic scenario or the low rail traffic scenario would be less than one-half of one percent of total global crude oil production. Therefore, OEA concludes that the availability of a new transportation option for crude oil from the Basin would have an insignificant effect on global crude oil supply and a negligible impact on crude oil prices, which depend on many factors, including refinery capacity and

[3] Based on the Coalition's Response to OEA's Information Request #2 (Coalition 2019), as of October 2019, operators were producing approximately 90,000 barrels of oil per day in Uintah and Duchesne counties, of which up to 80,000 barrels were being trucked to the Salt Lake City refineries. The remaining 10,000 barrels were being sent to rail terminal facilities outside the Basin. For the purposes of this section, OEA assumed that all 10,000 barrels were being shipped to the Price River Terminal, which is currently the closest rail terminal to the Basin.

consumer demand for petroleum products. OEA anticipates that crude oil transported on the proposed rail line would displace shipments of crude oil from production areas outside of the Basin, including oil produced elsewhere in the United States and oil imports from abroad. Potential environmental impacts related to the combustion of the crude oil that could be transported on the proposed rail line are discussed in Section 3.15, *Cumulative Impacts*.

3.8.3.2 Impact Comparison between Action Alternatives

Construction

Fuel Consumption

Construction of any of the Action Alternatives would involve the consumption of different amounts of diesel fuel and gasoline to power construction equipment, trucks, and construction personnel vehicles. Table 3.8-1 shows the diesel fuel and gasoline consumption for each year of construction for each of the Action Alternatives.

Table 3.8-1. Diesel and Gasoline Consumption for Each Year of Construction

Action Alternative	Diesel (thousand gallons)	Gasoline (thousand gallons)	Total (Thousand gallons)	Total (million BTUs)	Percent of Annual Statewide Fuel Consumption (%) Diesel/Gasoline
Indian Canyon Alternative					
Year 1	6,902	1,584	8,486	1,138,697	1.05/0.14
Year 2	6,954	1,536	8,490	1,140,068	1.06/0.14
Year 3	2,386	497	2,883	387,613	0.36/0.04
Total	**16,242**	**3,617**	**19,859**	**2,666,378**	**N/A**
Wells Draw Alternative					
Year 1	5,172	1,786	6,958	925,348	0.8/0.16
Year 2	5,210	1,732	6,942	924,126	0.8/0.15
Year 3	5,347	1,678	7,025	936,466	0.8/0.15
Year 4	5,254	1,624	6,878	917,135	0.8/0.14
Total	**20,984**	**6,819**	**27,803**	**2,785,940**	**N/A**
Whitmore Park Alternative					
Year 1	8,269	1,639	9,908	1,333,128	1.3/0.15
Year 2	8,337	1,590	9,927	1,336,606	1/3/0.14
Year 3	2,868	515	3,383	455,900	0.4/0.05
Total	**19,473**	**3,744**	**23,217**	**3,125,635**	**N/A**

Notes:
OEA calculated energy consumption using EPA MOVES model.
BTU = British thermal unit; N/A = not applicable; -- = no construction

The table reports fuel consumption in gallons of fuel consumed and, for comparison, as a percentage of total fuel use in Utah. Construction of the Wells Draw Alternative would result in the highest total fuel consumption, followed by the Whitmore Park Alternative and Indian Canyon Alternative. Tunnel track construction would require the most fuel (approximately 40 to 48 percent of the total consumption amount depending on the alternative) compared to other construction activities. Total

fuel consumption would be small relative to the refining capacity of the Salt Lake City area refineries and would therefore not affect regional fuel supply.

Oil and Gas Wells

Table 3.8-2 displays the number, types of wells, and lease ownership within the study area of each Action Alternative that would be affected by construction of the proposed rail line.

Table 3.8-2. Wells in the Study Area of each Action Alternative by Lease Ownership

	Number of Wells by Lease Ownership				
	Federal	Fee (Private)	Tribal	State	Total
Indian Canyon Alternative					
Producing	--	--	1	--	1
Plugged and Abandoned	--	--	--	1	1
Shut-in	--	--	--	--	--
Approved Application for Permit to Drill	--	--	2	--	2
Water Injection (active and inactive)	--	--	--	--	--
Total	--	--	**3**	**1**	**4**
Wells Draw Alternative					
Producing	1	1	2	--	4
Plugged and Abandoned	1	--	--	2	3
Shut-in	1	--	--	--	1
Approved Application for Permit to Drill	--	--	--	--	--
Water Injection (active and inactive)	3	--	--	--	3
Total	**6**	**1**	**2**	**2**	**11**
Whitmore Park Alternative					
Producing	--	--	1	--	1
Plugged and Abandoned	--	--	--	--	--
Shut-in	--	--	--	--	--
Approved Application for Permit to Drill	--	--	1	--	1
Water Injection (active and inactive)	--	--	--	--	
Total	**--**	**--**	**2**	**--**	**2**

Notes:

Source: UDOGM 2020

Producing = well is actively producing oil or gas; plugged and abandoned = well is no longer producing and is permanently closed; shut-in = well for which construction has been completed but that is not currently being operated; Approved Application for Permit to Drill = well has been approved by the Utah Division of Oil, Gas, and Mining but drilling has not commenced; water injection = well used to inject produced water

Of the three Action Alternatives, the Wells Draw Alternative would affect the greatest number of wells, followed by the Indian Canyon Alternative and the Whitmore Park Alternative. The Wells Draw Alternative would affect the most wells on federal, private, and state leases, while the Indian Canyon Alternative would affect the most wells on tribal leases. OEA anticipates that oil and gas-producing wells and shut-in wells would be plugged and abandoned in accordance with Utah Administrative Code Rule R649-3-24, *Plugging and Abandonment of Wells*, resulting in loss of actual and potential oil and gas production from these locations. For locations where an Application for

Permit to Drill has been approved, the application would be withdrawn, which would result in the loss of potential production. Active and inactive water injection wells would be plugged and abandoned, resulting in the loss of water injection capacity. To minimize the potential for impacts on abandoned wells, OEA is recommending mitigation requiring the Coalition to follow construction safety procedures that would entail identifying plugged and abandoned wells and protecting them from potential damage due to rail construction activities (ENGY-MM-2).

Electric Transmission Lines and Pipelines

Table 3.8-3 shows the number of utility corridors crossed by each Action Alternative. The Wells Draw Alternative and Whitmore Park Alternative would each cross four electric transmission lines and two pipelines, while the Indian Canyon Alternative would cross two transmission lines and two pipelines. Any crossing of utility rights-of-way would occur in accordance with applicable regulatory standards (refer to Appendix A, *Regulations*). OEA does not anticipate that construction of the proposed rail line would require any existing electric transmission lines, pipelines, or other surface or underground utility infrastructure to be temporarily or permanently relocated, modified, removed, or abandoned in place. Underground utility lines traversing the rail right-of-way could require installation of casings or other types of protection-in-place, which could occur without interfering significantly with existing utility services. Therefore, OEA does not anticipate that construction of the proposed rail line would require planned temporary or permanent interruption of utility services. To ensure that impacts on utility corridors are minimized, OEA is recommending mitigation requiring the Coalition to ensure that industry standards and applicable Utah Division of Public Utilities' regulations and guidelines are met in the event that temporary or permanent utility relocation is needed and to coordinate any alterations with utility service providers to avoid interruption of utility services to customers to the extent possible (ENGY-MM-3).

Table 3.8-3. Utilities Crossed by Action Alternative

		Number of Crossings per Action Alternative		
Utility Type/Utility Name	**Size**	**Indian Canyon**	**Wells Draw**	**Whitmore Park**
Natural Gas Pipeline/ Questar Pipeline Company	20-inch	1	1	1
Crude Oil Pipeline/ Chevron Salt Lake Crude Pipeline	---	1	1	1
Electric Transmission Line/ Rocky Mountain Power	34.5 kVa	1	1	1
Electric Transmission Line/ UPALCO	138 kVa	1	3	3
Total		**4**	**6**	**6**

Notes:
Sources: ArcGIS 2018, 2019c, 2019d; PHMSA 2020a; EIA 2020h
kVa = kilovolt-ampere

Operation

Fuel Consumption

The primary use of diesel fuel during rail operations would be to power the locomotives. Gasoline consumption would be primarily for operation of equipment and on-road and off-road vehicles.

Table 3.8-4 shows the diesel and gasoline fuel consumption for each Action Alternative under the low rail traffic scenario and high rail traffic scenario. Because it is the longest route, operation of the Wells Draw Alternative would consume the most fuel, followed by the Whitmore Park Alternative and the Indian Canyon Alternative.

Table 3.8-4. Fuel Consumption by Scenario

	Low Rail Traffic Scenario		High Rail Traffic Scenario	
Fuel Type	**Gallons/Year**	**Million Btu/Year**	**Gallons/Year**	**Million Btu/Year**
Indian Canyon Alternative				
Diesel	3,883,928	533,578	11,552,146	1,587,045
Gasoline	72,013	8,662	144,026	17,324
Total	**3,955,941**	**542,240**	**11,696,171**	**1,604,370**
Wells Draw Alternative				
Diesel	5,103,837	701,170	14,939,087	2,052,347
Gasoline	102,320	12,308	188,899	22,722
Total	**5,206,157**	**713,478**	**15,127,985**	**2,075,069**
Whitmore Park Alternative				
Diesel	4,266,669	586,159	12,616,273	1,733,236
Gasoline	74,537	8,966	149,074	17,931
Total	**4,341,206**	**595,125**	**12,765,347**	**1,751,168**

Notes:
OEA calculated fuel consumption using EPA MOVES model.
Btu = British thermal unit

Table 3.8-5 expresses the consumption of diesel fuel and gasoline during rail operations as a percentage of total diesel and gasoline consumption in Utah. As the table shows, total fuel usage would represent a small fraction of statewide consumption under both the high rail traffic scenario and the low rail traffic scenario. Under either scenario, therefore, fuel consumption for rail operations would have a negligible effect on regional fuel supply.

Table 3.8-5. Percentage of Statewide Fuel Consumption for First Year of Operation

	Low Rail Traffic Scenario		High Rail Traffic Scenario	
Action Alternative	**Diesel (%)**	**Gasoline (%)**	**Diesel (%)**	**Gasoline (%)**
Indian Canyon	0.59	0.01	1.76	0.01
Wells Draw	0.78	0.01	2.27	0.02
Whitmore Park	0.65	0.01	1.92	0.01

Road Crossings

As discussed in Section 3.1, *Vehicle Safety and Delay*, each of the Action Alternatives would cross public and private roads at grade. Trucks transporting energy products and utility maintenance vehicles could experience delays at at-grade road crossings, but these delays would be infrequent and of relative short duration and would not affect overall operations of energy facilities. The Whitmore Park Alternative would require the most at-grade road crossings (49 private and 17 public at-grade crossings) and, therefore, could contribute to greater delays for the transport of the energy products or access to energy facilities than either the Wells Draw Alternative (34 private

and 27 public at-grade crossings) or the Indian Canyon Alternative (45 private and 8 public at-grade crossings). OEA concludes, however, that none of the Action Alternatives would significantly affect access to or operation of energy facilities or the transport of energy products. The proposed rail line would not affect energy substations and other energy facilities located on US 191 and other major roads because the crossings over those roads would be grade separated (Figure 3.8-1).

3.8.3.3 No-Action Alternative

Under the No-Action Alternative, the Coalition would not construct the proposed rail line and would not transport crude oil by rail. No energy would be consumed to construct or operate the proposed rail line. The No-Action Alternative would not affect existing transmission lines, pipelines, truck transportation routes, or other energy distribution infrastructure. Under the No-Action Alternative, trucks would continue to transport crude oil from production areas in the Basin to refineries in Salt Lake City and to the Price River Terminal in Wellington.

3.8.4 Mitigation and Unavoidable Environmental Impacts

OEA is recommending three mitigation measures related to energy resources and concludes that, if the Board were to impose those mitigation measures, the construction and operation of the proposed rail line would result in insignificant impacts on energy resources (Chapter 4, *Mitigation*). Construction and operation of any of the Action Alternatives would consume energy, including diesel fuel, gasoline, and electricity, but this energy demand would represent only a small percentage of the available supply of energy in the study area. Each of the Action Alternatives would cross electric transmission line and crude oil pipeline rights-of-way. The Coalition would design these crossings in accordance with industry regulatory standards, and OEA anticipates that these standards would minimize any chance of disrupting pipeline and transmission line operation. Construction of any of the Action Alternatives would result in the closure of producing and approved oil wells, but the closure of these wells would not significantly affect the supply of energy resources in the study area. The rail transportation of crude oil on the proposed rail line would also not significantly affect the national or global supply of crude oil or crude oil prices. Any potential future increase in crude oil production in the Basin would not be a direct or indirect impact of the proposed rail line. Therefore, impacts related to crude oil production are discussed in Section 3.15, *Cumulative Impacts*.