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1.0 PURPOSE AND NEED

The development of this Environmental Assessment (EA) was based on the Bull Mountain Mine No. 1 Federal Mining Plan Modification Project (Project) EA, which the Office of Surface Mining Reclamation and Enforcement (OSMRE) published on May 11, 2018¹. Most of the information provided in the 2018 EA has not changed and, therefore, is herein incorporated by reference in this EA. Additional information has been incorporated into several sections of this EA that have changed as a result of continued mining operations or that specifically addresses the 2020 Court ruling provided by the U.S. District Court for the District of Montana (the Court) in *350 Montana v. Bernhardt*, No. CV 19-12-M-DWM, 2020 WL 1139674 (D. Mont. Mar. 9, 2020) about the potential for train derailment that may occur along the rail transportation route.

The content in the following subsections in Chapter I, as provided in the 2018 EA, has not changed and, therefore, has not been included in this chapter:

- Section 1.2, *Regulatory Framework and Necessary Authorizations*
- Section 1.5, *Public Comment*
- Section 1.6, *Crosswalk of Resource Areas*

The following subsections were included in the 2018 EA and have been included in this EA with updated information based on continued mining operations that have occurred through March 31, 2020, or additional information incorporated to specifically address the 2020 Court ruling. The original subsection numbers as described in the 2018 EA have been changed for this EA; however, the subsection titles remain the same.

1.1 Introduction

Signal Peak Energy, LLC (SPE) owns and operates the Bull Mountains Mine No.1 underground coal mine (Mine), located in the Bull Mountains of southcentral Montana (**Figure 1.0-1**, to follow). The Mine is located in Musselshell and Yellowstone counties between the Musselshell and Yellowstone rivers, approximately 30 miles north of Billings, Montana, and 20 miles southeast of Roundup, Montana. The vast majority of coal is mined using the longwall method; the remaining development coal is mined using the room-and-pillar method. All coal is washed to improve coal quality and shipped from an onsite rail car loading facility (i.e., tipple).

On March 19, 2008, SPE filed an application with the Bureau of Land Management (BLM) to lease approximately 2,679.76 acres of Federal coal (MTM 97988) in Sections 4, 8, 10, 14, and 22, Township 6 North, Range 27 East, Musselshell County, under the Lease by Application (LBA) regulations (43 Code of Federal Regulations (CFR) § 3425.1) and the Energy Policy Act of 2005 (see the **2018 EA – Appendix A, Figure 1.0-2**). BLM processed the lease application in accordance with regulations found at 43 CFR Subpart 3425 for LBA. The EA titled *Bull Mountains Mine No. 1, Federal Coal Lease MTM 97988, Musselshell County, Montana, EA No. DOI-BLM-MT-CO10- 2009-0010-*

¹ Most of the information provided in the 2018 EA has not changed and, therefore, is herein incorporated by reference in this EA: <https://www.wrcc.osmre.gov/initiatives/bullMountainsMine.shtm>

EA (BLM 2011) (hereafter BLM Coal Lease EA) was prepared to satisfy BLM’s requirements under the National Environmental Policy Act (NEPA). OSMRE served as a cooperating agency for the BLM Coal Lease EA. The BLM Coal Lease EA evaluated the application as it would be processed under the following Federal authorities:

- Mineral Leasing Act, 1920 (MLA), as amended
- NEPA, 1969
- Federal Coal Leasing Amendments Act, 1976 (FCLAA)
- Surface Mining Control and Reclamation Act, 1977 (SMCRA)
- Energy Policy Act, 2005

Both the BLM Coal Lease EA and Federal Mining Plan Modification EA incorporated prior analyses, including the Bull Mountains Exchange Final Environmental Impact Statement (EIS) (BLM 1990) and the Bull Mountains Mine No. 1 EIS (MDSL 1992), which analyzed the effects of proposed mining and connected actions.

The BLM Coal Lease EA analyzed potential impacts associated with leasing five tracts of Federal coal, totaling 2,679.76 acres, which would allow the Mine to continue producing coal instead of ceasing production as recoverable private coal reserves are exhausted. The BLM Coal Lease EA addressed two alternatives, the No Action Alternative and the Proposed Action. Under the No Action Alternative, current and future mining activities approved by the Montana Department of Environmental Quality (MDEQ) would continue for a short time on private lands alone, and appropriate mitigation measures would be implemented to reduce or mitigate effects of mining on the environment. Under the Proposed Action, the subject Federal coal would be mined according to the Life of Mine (LOM) plan, and the same mitigation measures that apply to the No Action Alternative would be applied to the lease areas. The Proposed Action would be a continuation of mining activity at Bull Mountains Mine, and the level of annual coal production would remain the same.

On April 15, 2011, based on a review of the BLM Coal Lease EA, BLM’s Billings Field Office issued a Finding of No Significant Impact (FONSI) for implementing the proposed leasing action. The FONSI was based on the information contained in the BLM Coal Leasing EA and consideration of the Council on Environmental Quality’s (CEQ) criteria for significance (40 CFR § 1508.27). The BLM determined that: 1) the implementation of the Proposed Action would not have significant environmental impacts; 2) the Proposed Action is in conformance with the BLM Billings Resource Management Plan; and 3) the Proposed Action does not constitute a major Federal action having significant effect on the human environment; therefore, an EIS was not required.

The State of Montana has a Federally approved coal regulatory program (hereafter “Montana State program”) administered by MDEQ. The Mine permit (CI993017) was approved by MDEQ in 1993 in accordance with the Montana Strip and Underground Mine Reclamation Act (MSUMRA). Mining and reclamation methods specified in the permit are consistent with requirements of SMCRA (30 United States Code (U.S.C.) Chapter 25) and the implementing Federal regulations (30 CFR Chapter VII) as required by the Montana cooperative agreement with OSMRE (30 CFR § 926.30).

On October 4, 2012, MDEQ approved SPE’s application for Amendment 2 to the Mine permit to include a portion of the Federal coal lease area and adjacent private lands and coal. On August

2, 2013, the DOI’s Assistant Secretary, Lands and Mineral Management (ASLM) signed a mining plan approval document authorizing mining of 140 acres of Federal coal lands within the Amendment 2 boundary, as described below (see the **2018 EA – Appendix A, Figure I.0-2** inset detail).

Township 6 North, Range 27 East, PMM, Musselshell County, Montana

Sec. 8, SW¹/₄ SW¹/₄, and portions² of SE¹/₄ SW¹/₄, N¹/₂ SW¹/₄, SW¹/₄ NW¹/₄, and SW¹/₄ SE¹/₄ containing 140 acres more or less.

On October 5, 2012, SPE submitted a Permit Application Package (PAP) for Mine permit Amendment 3 to include the remainder of proposed future mining. MDEQ reviewed the permit application under the Montana State program, the Federal lands program (30 CFR Chapter VII, Subchapter D), and the Montana cooperative agreement (30 CFR § 926.30). Pursuant to the Montana State program and the cooperative agreement, MDEQ approved the permit application for Amendment 3 on October 18, 2013. The current State-approved Mine permit boundary (see the **2018 EA – Appendix A, Figure I.0-2**) includes the LOM area previously analyzed in the BLM Coal Lease EA, including the existing 140-acre mining plan and the proposed mining plan modification. The permit boundaries of Amendment 2 and Amendment 3 are shown in figures to reflect the permit boundary both before and after Amendment 3 approval. All lands within the Mine permit boundary (including Amendment 2 and Amendment 3) are collectively referred to as the *permit area*.

On November 22, 2013, SPE submitted a mining plan modification for Federal Lease MTM 97988 that would allow coal development and mining operations at the Bull Mountains Mine No. 1 in the remaining Federal coal lands as described in the Amendment 3 PAP. Federal coal lands included in lease MTM 97988 and proposed for mining, but not included in the existing mining plan, are identified in **Table I.0-1**:

Table I.0-1: Township 6 North, Range 27 East, PMM, Musselshell County, Montana.

Section Number	Acres
Sec. 4, lot 1, S ¹ / ₂ NE ¹ / ₄ , SE ¹ / ₄ NW ¹ / ₄ , and S ¹ / ₂ ;	479.76
Sec 8, NE ¹ / ₄ , NE ¹ / ₄ NW ¹ / ₄ , S ¹ / ₂ NW ¹ / ₄ , and S ¹ / ₂ ;	460.00
Sec.10, W ¹ / ₂ NE ¹ / ₄ , SE ¹ / ₄ NE ¹ / ₄ , NW ¹ / ₄ , and S ¹ / ₂	600.00
Sec 14, SW ¹ / ₄ NE ¹ / ₄ , NW ¹ / ₄ and S ¹ / ₂ ;	520.00
Sec. 22, W ¹ / ₂ and SE ¹ / ₄ .	480.00
Total	2,539.76

OSMRE prepared the 2015 Mining Plan Modification EA analyzing potential impacts associated with the proposed mining plan modification. A FONSI was signed on January 27, 2015. OSMRE prepared a mining plan decision document (MPDD), and the ASLM approved the mining plan modification on February 24, 2015. SPE continued mining in accordance with the Mine permit and approved mining plan modification and crossed the Amendment 2 boundary into the Amendment 3 area in approximately May 2015, in association with the East Mains development (see the **2018 EA – Appendix A, Figure I.0-2** inset).

² Portions include areas south and west of the Amendment 2 State permit boundary.

On August 14, 2017, the Court first identified deficiencies in OSMRE’s NEPA analysis, vacated and set aside the 2015 Mining Plan Modification EA, and remanded the matter back to OSMRE for further action (see *Montana Environmental Information Center v. U.S. Office of Surface Mining Reclamation and Enforcement*, 274 F. Supp. 3d 1074 (D. Mont. 2017)). The Court further ordered that mining of the Federal coal within the Amendment 3 permit area be enjoined pending compliance with NEPA. Subsequent orders dated October 31, 2017, and November 3, 2017, in that case allowed limited development work displacing and storing no more than 170,000 tons of Federal coal in Section 8. That coal was required to be stockpiled and stored at the Mine and could not be sold or shipped pending compliance with NEPA.

OSMRE prepared the 2018 EA to address the 2017 ruling by the Court and to satisfy OSMRE’s responsibilities under NEPA. In complying with those responsibilities, OSMRE did not reevaluate potential impacts previously analyzed as part of the BLM Coal Lease EA, which included analysis of all Federal coal lands identified in the proposed mining plan modification. Rather, the EA considered potential changes to the extent or nature of those impacts, based on the current Mine permit approved by the Montana State program and new information specific to this action. Because the BLM Coal Lease EA thoroughly described the environmental setting of the Mine’s LOM area (now the *permit area* or all lands within the *permit boundary*) and mining operations, it was incorporated by reference in the EA. OSMRE signed a FONSI on May 21, 2018. OSMRE prepared a MPDD, and the ASLM approved the mining plan modification on August 3, 2018.

On March 9, 2020, the Court identified a deficiency in OSMRE’s 2018 NEPA analysis, vacated and set aside the 2018 EA, and remanded the matter back to OSMRE for further action (see *350 Montana v. Bernhardt* Case 9:19-cv-00012-DWM, 2020 WL 1139674 (D. Mont. Mar. 9, 2020)). This EA was prepared to address the 2020 Court ruling and satisfy OSMRE’s responsibilities under NEPA. In complying with those responsibilities, OSMRE did not reevaluate potential impacts previously analyzed as part of the 2018 EA. Rather, this EA specifically addresses the potential for train derailment along the rail transportation route, as ordered in the 2020 Court ruling. Because the 2018 EA thoroughly described the affected environment and potential impacts to the various resources, it is incorporated by reference in this EA. The 2018 EA is available at:

<https://www.wrcc.osmre.gov/initiatives/bullMountainsMine.shtm#documents>

This EA was prepared in accordance with the requirements of NEPA and the CEQ regulations implementing NEPA. OSMRE is the lead Federal agency responsible for development of this EA because it makes a recommendation to the ASLM about whether the proposed mining plan modification should be approved, disapproved, or approved with conditions. As such, this EA follows OSMRE’s 516 DM 13, which is the DOI manual guiding OSMRE’s implementation of the NEPA process.

1.2 Purpose and Need

The EA is being prepared in response to the Court’s March 9, 2020, decision to vacate the 2018 EA and remand the decision back to OSMRE to correct the issue on train derailments.

The purpose of the action is established by the MLA and the implementing Federal regulations, which require evaluation of the PAP before SPE may take any action on the Federal leasehold that might

cause a significant disturbance of the environment, which includes conducting underground mining and reclamation operations in the Amendment 3 area of Federal coal lease MTM 97988. OSMRE is the agency responsible for making a recommendation to the ASLM to approve, disapprove, or approve with conditions the proposed mining plan modification. The ASLM will decide whether the mining plan modification is approved, disapproved, or approved with conditions. If approved, the MPDD would allow SPE to conduct coal mining and reclamation operations within the Amendment 3 area of the Federal coal lease and economically recover Federal, state, and private coal reserves through a logical mining unit.

The need for this action is to provide SPE the opportunity to exercise its rights granted by the BLM under Federal coal lease MTM 97988 to access and mine the Federal coal reserves located in the tract and approved by MDEQ as Amendment 3 to the state Mine permit. ASLM approval of the Federal mining plan modification is required to mine Federal coal reserves in the Amendment 3 mining area.

1.3 Issues Identification

OSMRE completed a thorough public scoping process and issues analysis for the project in 2017, as described in the 2018 EA. As a result, OSMRE determined that additional public scoping was not warranted for this EA.

After issuance of the Court’s Decision for the 2018 EA on March 17, 2020, OSMRE received additional information from the Montana Environmental Information Center (MEIC) regarding the 2018 EA’s consideration of the impacts related to increased train transportation on grizzly bears and the presence of northern long-eared bats in the project area (Western Environmental Law Center 2019; Robbins and Moore 2018). OSMRE reviewed the new information and determined that it did not change the conclusions reached in the 2018 EA. The 2020 Court ruling determined that additional information regarding the grizzly bear and northern long-eared bat that was provided by MEIC does not warrant revision of the NEPA analysis for the project’s effects on threatened species in the project area.

The Court ruling, however, determined that OSMRE’s 2018 EA was deficient in assessing the potential for train derailments along the rail transportation route and that additional analysis, as provided in this EA, was warranted to comply with NEPA.

1.4 Consultation and Coordination

A description of consultation and coordination that was conducted for the 2018 EA was provided in **Appendix H** of the 2018 EA. Additional consultation and coordination conducted during the preparation of this EA is provided in **Appendix H**. The appendix also includes a list of preparers and contributors and information regarding distribution of the EA.

2.0 PROPOSED ACTION AND ALTERNATIVES

The content in the following subsections, as provided in the 2018 EA, has not changed. Therefore, these subsections have not been included in the EA:

- Section 2.1.2, *Surface Facilities Area*
- Section 2.1.3, *Other Surface Facilities*
- Section 2.1.4, *Subsidence and Associated Surface Repairs*
- Section 2.1.5, *Hydrological Impacts and Mitigation*
- Section 2.1.6, *Mining-Related Stipulations and Mitigation Measures*
- Section 2.1.7, *Coal Loadout*
- Section 2.1.8, *Coal Destinations*
- Section 2.3, *Alternatives Eliminated From Detailed Study*
- Section 2.3.1, *Subsurface Gas Control*
- Section 2.3.2, *Avoidance of Impacts to Surface Resources, Features, and Uses*
- Section 2.3.3, *Alternative Land Uses*
- Section 2.3.4, *Conditioning Mining on Domestic Sale of Coal*
- Section 2.3.5, *Carbon Offsets*

The following subsections were included in the 2018 EA and have been included in this EA with additional analysis incorporated to specifically to address the 2020 Court ruling or the mining of coal through March 31, 2020.

2.1 Existing Condition

Section 2.1 of the 2018 EA presented a thorough description of the existing condition to support the analysis presented therein and is incorporated by reference. The 2018 EA is available to the public at:

<https://www.wrcc.osmre.gov/initiatives/bullMountainsMine.shtm#documents>.

The following updates to the existing condition since the 2018 EA was prepared, including updates to the permitted ongoing mining operations, are presented to support the analysis in this EA. Unless otherwise noted, this description reflects conditions as of March 31, 2020.

2.1.1 Mining Plan and Mining Operations

Section 2.1.1 of the 2018 EA presented a thorough description of the mining plan and mining operations to support the analysis presented therein and is incorporated by reference. Since the 2018 EA was prepared and Federal coal lease MTM 97988 was granted, underground mining and reclamation activities have continued at the mine. Total saleable coal production for the past 8 years (2012 to 2019) and the estimated saleable coal production for 2020 is provided in **Table 2.1-1**.

Table 2.1-1: Annual saleable coal production.

Year	Saleable Coal (Millions of Tons)
2012	5.72
2013	7.50
2014	8.03
2015	6.49
2016	5.96
2017	6.24
2018	7.52
2019	7.00
2020	6.20 ¹

Source: SPE 2020a.

¹ Estimated saleable coal production for 2020.

Approximately 73.4 million tons of saleable coal remain in the Mining Plan Area after December 31, 2019. SPE continues to mine using the longwall and room-and-pillar mining methods as described in the 2018 EA. For the purposes of this EA, saleable coal tons are 70 percent of the mined coal.

2.2 Description of Alternatives

2.2.1 No Action Alternative

Section 2.2.1 in the 2018 EA presented a thorough description of the existing condition to support the analysis presented therein and is incorporated by reference. Since the 2018 EA was prepared and Federal coal lease MTM 97988 was granted, underground mining and reclamation activities have continued at the mine. **Table 2.2-1** provides updated Mine-related information associated with the No Action Alternative.

Table 2.2-1: Comparative summary of the proposed action and no action alternative relative to the existing condition.

Condition Evaluated	Units	Existing Condition ¹	Additional ²		Difference
			No Action	Proposed Action	
Saleable Coal to be Mined	million tons ²	0	0	86.8	86.8
Saleable Federal Coal to be Mined	million tons ²	0	0	28.5	28.5
Federal Coal Lands in the Mining Plan Area	acres	140	140	2,679.76	2,539.76
Federal Coal Lands to be Mined	acres	0	0	1,725	1,725.0
Remaining Mining Term	years	0	0	8	8
Annual Mine Production (maximum saleable tons)	million tons per year	10	0	10	10
Annual Average Coal Shipment (maximum)	loaded trains per day	1.8	0	1.8	1.8
Surface Facilities Area	acres	574	0	316	316
Air Portals	acres	6	0	0	0
Subsidence Repairs ³	acres	19.6	0	19.6	19.6
Total Subsidence Area	acres	4,933	0	4,896	4,896
Borehole Pads	number	34	0	24	24
	acres	38	0	33.8	33.8
Roads (Outside of Facilities Area)	miles	14.5	0	8.9	8.9
	acres ⁴	53	0	32	32
Total Disturbance ⁵	acres	691	0	401	401

Source: SPE 2020b.

¹ – Existing condition as of March 31, 2020. Due to the checkerboard array of the Federal lands within this EA area, and because SPE is currently mining in the Proposed Action area, the No Action Alternative would immediately force SPE to cease existing mining operations (LW Panel 8 in T6NR27ES22 made impassable).

² – Estimated quantities after March 31, 2020. Saleable tons are 70 percent of mined tons.

³ – A total of 14 acres of repair was needed in the first 3,533 acres in the subsidence area; therefore, an average of 0.004 acre of subsidence repair per acre of subsidence area was used to estimate acreage.

⁴ - 25 acres in the first 6.9 miles of road equates to approximately 3.7 acres per mile based on an average width of approximately 31 feet. These values were used to estimate the additional acreages for future roads.

⁵ - Total disturbance may not precisely match the total of component values due to rounding of acreage values.

2.2.2 Proposed Action

Section 2.2.2 in the 2018 EA presented a thorough description of the Proposed Action to support the analysis presented therein and is incorporated by reference. Since the 2018 EA was prepared and Federal coal lease MTM 97988 was granted, underground mining and reclamation activities have continued at the mine. **Figure 2.1-1** illustrates the Surface Facilities Area associated with the Proposed Action. SPE would primarily utilize the southern rail transportation route for the transportation of coal, which would comprise approximately 90 percent of total rail traffic associated with the Proposed Action. The remaining 10 percent of the rail traffic would occur along the Highline Route, which extends between Laurel, Montana, and Sandpoint, Idaho (SPE 2020c). **Figure 2.1-3** illustrates the rail transport route for the project.

3.0 AFFECTED ENVIRONMENT

Section 3.0 in the 2018 EA presented a thorough description of the Affected Environment to support the analysis presented therein and is incorporated by reference. Since the 2018 EA was prepared and Federal coal lease MTM 97988 was granted, underground mining and reclamation activities have continued at the mine, and mine revenues have remained the same throughout mining operations. The baseline conditions and descriptions of the following resources would be same as described in the 2018 EA since the project area has not changed. As a result, these resources were not included in this section of the EA.

- Section 3.2, *Air Quality*
- Section 3.3, *Climate*
- Section 3.4, *Water Resources*
- Section 3.5, *Soils*
- Section 3.6, *Vegetation*
- Section 3.7, *Wildlife*
- Section 3.8, *Threatened, Endangered, and Special Status Species*
- Section 3.9, *Cultural and Paleontological Resources*
- Section 3.10, *Noise & Vibration*
- Section 3.11, *Socioeconomics*
- Section 3.12, *Environmental Justice*
- Section 3.13, *Visual Resources*

Subsection 3.1, *Transportation & Electrical Transmission*, has been included in this section because baseline conditions associated with rail transportation have changed since the 2018 EA was published.

3.1 Transportation & Electrical Transmission

3.1.1 Vehicle Transportation

Information regarding vehicle transportation would be the same as described in the 2018 EA.

3.1.2 Electrical Transmission

Information regarding electrical transmission would be the same as described in the 2018 EA.

3.1.3 Rail Transportation

Regulatory Environment

The regulatory environment would be the same as described in the 2018 EA.

Coal Transport Routes and Rail Traffic

The existing (and planned) routes would be the same as described in the 2018 EA. The routes and number of train trips are briefly summarized below as parameters that were used in the rail safety (including derailment) analysis. The primary focus of the analysis was based on the routes extending from Montana to British Columbia, which would receive over 96 percent of SPE shipments. No more than 4 percent of transported coal is expected to be used domestically. As the STB applies a threshold of an increase of eight trains per day—or a 100 percent increase in rail traffic when assessing the need to evaluate freight rail safety (STB 2015a, Chapter 17)—the small number of trains headed to various domestic locations was not analyzed further. In order to provide a conservative estimate from the rail safety analysis, 100 percent of the Mine’s coal transported volume was analyzed based on the route to British Columbia.

- Coal from the Mine would be shipped to markets by railroad, beginning with the 30-mile Class III short-line rail spur connecting the tippie in the Surface Facilities Area to the BNSF Railway at Broadview, Montana (**Figure 2.1-3**). Loaded and empty coal trains travelling to and from the Mine comprise all traffic on the rail spur. This represents 1.8 round-trip trains per day as a maximum, with a planned average of 1.4 round-trip trains per day for both current operations and the Proposed Action based on 125 coal cars per train.
- From Broadview, trains travel a Class I railroad 33 miles to Laurel, Montana where they would join the railway system, with alternative routes that may be used in response to inclement weather, maintenance issues, or other factors (**Figure 2.1-3**). Train count data reported for a rail crossing near Acton, Montana, a midway point along the Broadview to Laurel (Mossmain) segment, estimated six trains per 24-hour period in 2013. Round-trip rail traffic associated with the Mine averaged approximately 2.7 trains per day in 2013, which suggests that rail traffic excluding the Mine-related rail traffic was approximately three trains per day in 2013 and that Mine-related traffic comprised approximately half of traffic on that segment. With an average of 2.8 trains per day under the Proposed Action (1.4 round-trip trains per day), this distribution of usage remains approximately the same.
- Most coal transported to Westshore would be hauled along BNSF’s Main Line, as the northern route through Glacier Park involves higher gradients and would thereby only be used by a fraction of the returning empty trains (10 percent of all trains, which is 20 percent of empty trains). The Main Line between Laurel and Westshore Terminal traverses Montana, Idaho, and Washington and enters British Columbia (**Figure 2.1-3**), for roughly 1,327 miles one way. Baseline traffic (i.e., average number of trains per day) estimates of train traffic on the United States segments range from 14.5 (2012 estimate for Mossmain Junction to Sandpoint, Idaho) trains per day to 70 (2015 estimate for segments in Washington, east of Spokane) trains per day. The portion of existing rail traffic related to the Mine’s coal transport (2.1 trains round-trip per day in 2016) was highest from Laurel, Montana to Sandpoint, Idaho. Mine-related rail traffic on that segment was estimated to be less than 15 percent of all rail traffic. With lower numbers of trains per day under the Proposed Action (1.4 round-trip trains), the percentage of all rail

traffic represented by coal-related transport for the Mine also decreased for both current conditions and the Proposed Action.

The 2018 EA described the Montana, Idaho, and Washington rail plans and the projected increase in rail traffic and utilization on all Main Line segments, which further indicates the relatively small fraction of the overall traffic represented by the Mine’s coal transport.

Accident History

As of March 31, 2020, SPE had transported 4,399 trains of coal, representing approximately 549,875 loaded train cars (SPE 2020a). There were also 4,399 unloaded trains. Other than minor incidents involving mechanical issues to train engines and/or to train cars that may have occurred, only one SPE loaded or unloaded train is known to have been involved in an accident or incident of any type. In that one incident, SPE’s records indicate that a minor derailment may have occurred on February 28, 2017. A train, with a destination listed as RBG009, indicated “derail” and had a -119.08 tons listed in the records. SPE currently does not have any additional information related to this possible incident (SPE 2020a). The amount of coal listed is approximately the same amount of coal that could be loaded into one rail car, indicating that it may have been a derailment of one car that slipped off the track, but remained upright, and that was the volume that effectively left the train when the car left the track. The available information does not indicate that any coal was spilled, as would be expected in a derailment where the car remained upright.

Montana experiences train accidents each year—defined by the Federal Railroad Administration (FRA) as:

Collisions, derailments, fires, explosions, acts of God, or other events involving the operation of railroad on-track equipment (standing or moving) and causing reportable damages greater than the reporting threshold for the year in which the accident/incident occurred.

The FRA reporting threshold was \$10,700 in 2018 and nothing different has been reported for 2019. With this low of a threshold for reporting, accidents include a wide variety of incidents and are not limited to the types of collisions or derailments that are reported in the media.

Montana’s accident experience for the last four years is shown in **Table 3.1-1**; this covers all trains operating in the state.

Table 3.1-1: Rail accidents in Montana.

Year	Number of				
	Accidents on All Track Types ¹	Accidents on Mainline Track	Deraillments on All Track Types ¹	Deraillments on Mainline Track	Collisions on Mainline Track
2016	17	9	12	6	1
2017	24	11	20	9	0
2018	26	9	18	7	0
2019	15	6	9	4	0

Source: FRA 2020.

¹ Includes mainlines, industry tracks, sidings, and yards.

Across all track types there was one collision each year for 2016, 2017, and 2018 and four collisions in 2019; almost all of these occurred in yards, which would be at low speeds. As shown in **Table 3.1-1**, the number of accidents of all types on mainline track is approximately 10 per year, of which 4 to 9 are derailments. Only one mainline collision occurred during the 4-year period. **Table 3.1-1** also shows that Montana experienced approximately half of its accidents on mainline track, with the remainder occurring on sidings, industry track, and yard track. Derailments were the major cause of accidents for all track types combined and for mainline track.

As a comparison, the total number of accidents on all track types in Idaho varied from 8 to 13 per year over the same 4-year period. For Washington, the range was 37 to 45 accidents per year (FRA 2020) overall with 6 to 17 accidents per year having occurred on mainline track.

4.0 ENVIRONMENTAL CONSEQUENCES

Section 4.0 in the 2018 EA presented a thorough description of the Environmental Consequences to support the analysis presented therein and is incorporated by reference. Since the 2018 EA was prepared and Federal coal lease MTM 97988 was granted, underground mining and reclamation activities have continued at the Mine. **Table 2.2-1** provides updated Mine-related information associated with the No Action Alternative and Proposed Action.

The impacts for the following resources and sections are the same as described in the 2018 EA because the project area and mining operations have not changed. As a result, these resources or sections were not included in this section of the EA.

- Section 4.2, *Air Quality*
- Section 4.3, *Climate*
- Section 4.4, *Water Resources*
- Section 4.5, *Soils*
- Section 4.6, *Vegetation*
- Section 4.7, *Wildlife*
- Section 4.8, *Threatened, Endangered, and Special Status Species*
- Section 4.9, *Cultural and Paleontological Resources*
- Section 4.10, *Noise & Vibration*
- Section 4.11, *Socioeconomics*
- Section 4.12, *Environmental Justice*
- Section 4.13, *Visual Resources*
- Section 4.14, *Short-term Uses and Long-term Productivity*
- Section 4.15, *Unavoidable Adverse Effects*

Subsection 4.1, *Transportation & Electrical Transmission*, includes information regarding the potential for train derailment and spills along the rail transportation route, which specifically addresses the concern described in the March 9, 2020, Court ruling on the 2018 EA.

4.1 Transportation & Electrical Transmission

4.1.1 No Action Alternative

Vehicle Transportation & Electrical Transmission

Impacts from vehicle transportation and electrical transmission would be the same as described in the 2018 EA.

Rail Transportation

SPE expects the maximum and expected trains/day would be the same under the No Action Alternative as the Proposed Action (SPE 2020a). Moreover, the duration of continued train shipments would be very short term under the No Action Alternative, as SPE would continue shipping coal only until the existing (i.e., already mined) coal stockpiles at the mine site were emptied, which would involve less than a month of shipping. Thus, the estimated chances of a derailment per year for the Proposed Action can be scaled down by a factor of 10 in order to estimate the chances of a derailment occurring during the shorter period associated with the No Action Alternative.

4.1.2 Proposed ActionVehicle Transportation & Electrical Transmission

Impacts from vehicle transportation and electrical transmission would be the same as described in the 2018 EA.

Rail Transportation*Analysis Approach and Data Sources*

The rail safety analysis used existing rail accident data from FRA for 2016 through 2019 as the basis. Although state agencies typically gather information on the accidents that occur in their state, neither the states nor the FRA have enough corresponding data on train-miles within each state for reliably determining accidents per million train-miles for each state. Instead, the FRA provides national accident rates, including rates for individual railroads. The accident rates provided by the FRA have been adjusted by track class to serve as the basis of the rail safety analysis. For the likelihood of an accident, the analysis included both loaded coal trains and unloaded train returns. The analysis was based on BNSF's national accident rates for rail accidents on all track classes, taking into consideration the impacts of unit trains, which are less likely to spend time in yards. **Table 4.1-1** presents the overall national rates as well as the national rates for BNSF. The BNSF experience is slightly better than all railroads on average nationwide. Train accident rates were not available for specific cargoes, such as coal.

Table 4.1-1: Nationwide train accident rates.

Year	Accident Rate per Million Train-Miles			
	All Railroads (Passenger and Freight Trains)		BNSF (Freight Trains)	
	All Track Types	Mainline and Siding Tracks	All Track Types	Mainline and Siding Tracks
2016	2.50	0.89	2.07	0.68
2017	2.53	0.91	2.01	0.59
2018	2.73	0.94	2.10	0.58
2019	2.74	1.00	2.11	0.58

Source: FRA 2020.

These accident rates are based on the experience for all track types—mainlines, sidings, industry

tracks, and yards. Both the rates for the full set of track types and the rates combining mainline and siding tracks are included in **Table 4.1-1**. As the unit trains would not be expected to stop in any yards, rather to stay on mainlines and possibly use sidings, the combined rate for mainline and siding tracks was used in the safety analysis. Based on the last 2 years of BNSF experience, the selected starting point for the accident rate in this analysis was 0.6 accidents per million train-miles.

The analysis estimated the incremental addition to the base accident frequency attributable to the SPE rail traffic, based on train-miles and route length for each route segment analyzed. There was obviously no way to predict exactly where an accident might occur, be it a collision or a derailment, which are the two accident types of primary concern. By predicting accidents per segment, there was some level of information on the general areas in which an accident may occur. Potential consequences (e.g., number of cars derailed and potential for a coal spill) are discussed qualitatively.

The predicted number of accidents per year was calculated by multiplying segment length by the number of trains per year by the appropriate accident rate. Accident rates have been shown to vary considerably by track class, with higher accident rates (i.e., yielding more accidents for a given number of train-miles) occurring on lower track classes. Train accidents are more likely to occur on lower track classes (which have lower maximum allowable speeds) because lower track classes are not designed and maintained to the same standards as higher track classes. FRA's track safety standards establish nine specific classes of track (1 to 9). The selected routes are likely a mix of track classes 3 and 4, with respective maximum operating speeds of 40 and 60 mph. As a conservative approach, all the route except the initial spur was assumed to be track class 3. The spur was assumed to be track class 2, with a maximum speed of 25 mph.

Derailment rates by track class were derived by Liu et al. (2011). Track class 3 was found to have derailment rates that were twice the overall average considering all track classes. Track class 2 was determined to have six times the overall average rates. Likewise, Anderson and Barkan (2004) had found the overall accident rate (i.e., collisions, derailments, and all other types of accidents) on track class 3 was approximately twice the overall average rate for all track classes. These findings continue to be applied in more recent rail safety analyses because the FRA-calculated rates by track class use the same number of train-miles as the denominator in the calculations, rather than the specific number of train-miles that were actually traveled on the different classes of track. Thus, the base rate of 0.6 accidents per million train-miles was doubled to better represent track class 3, resulting in a rate of 1.2 accidents per million train-miles for the majority of the route traveled by the Mine's trains. For the rail spur, the adjusted rate used in the analysis was 3.6 accidents per million train-miles.

Predicted Mine-Related Train Accidents

Table 4.1-2 provides the predicted number of train accidents on each segment for both the loaded and unloaded coal trains associated with the project. As described earlier, the number of trains averages 1.4 per day each for loaded and unloaded trains. The analysis assumed operation would occur 365 days per year.

Table 4.1-2: Predicted train accidents for loaded and unloaded trains.

Segment	Length (miles)	Accident Rate per Million Train-Miles	Mine-Related Coal Train Accidents/Year
<i>Loaded Trains</i>			
Rail Spur to BNSF	30	3.6	0.06
Broadview to Laurel	33	1.2	0.02
BNSF Main Line	1,327	1.2	0.81
<i>Empty Trains</i>			
BNSF Main Line	1,327	1.2	0.81
Broadview to Laurel	33	1.2	0.02
Rail Spur to BNSF	30	3.6	0.06

The results in **Table 4.1-2** show that along the entire route traveled by the Mine-related trains, the analysis predicted less than one accident involving a loaded train per year, using the FRA definition of an accident. For the entirety of the spur and the local line down to the BNSF Main Line, considering both loaded and unloaded trains, the estimate was 0.16 per year or approximately one accident every 6 years. These estimates are higher than the known experience to date, likely due to the BNSF Main Line track classes being a mix of class 3 and class 4, not just class 3 as was assumed in the analysis. Class 4 was determined to have an accident rate of approximately half that for all track classes combined; this would give a factor of four difference between the accident rates for track classes 3 and 4 and reduce the predicted number of accidents per year on the Main Line.

The estimated number of accidents in **Table 4.1-2** are those associated with Mine-related trains. For the mainline to Broadview, there would be roughly twice as many accidents if the other (existing) traffic is also considered along with both loaded and unloaded Mine-related trains. On the BNSF Main Line, the Mine-related trains (loaded and unloaded) had been estimated as approximately 4 to 15 percent of the overall traffic. Thus, the overall number of accidents expected would be much higher than the estimates associated with just the Mine-related trains.

Notably, the chance of an accident in any one location would be very low. As discussed earlier, accidents include derailments, collisions, and other types of events, some with as little as \$10,700 in damage. Smaller events might not even be discernable as an accident to a passerby.

Impacts of Accidents

Not every accident of a loaded Mine-related train would result in a coal spill, and any spills that might occur would vary in size. A collision or derailment could involve only a few rail cars or lead to a greater number of rail cars being derailed in certain circumstances. Furthermore, even when rail cars are derailed, not all of the derailed cars would end up in a position where some or all of their contents could be spilled, depending on the severity and speed of the accident, as well as the levelness of the surrounding terrain.

Any spills that did occur on the initial spur would be expected to be small given the lower operating speeds, which yield less energetic derailments, therefore resulting in fewer rail cars derailing and even fewer releasing cargo. Available data from Liu et al. (2012) indicates that the average number of rail

cars derailed on main line track (all classes and speeds) for 2001 through 2010 was 8.4 cars; the number of rail cars on yard, siding, and industry track ranged from 4.3 to 5.7 rail cars. These types of track provide a better indication of the consequences of derailments at very low speeds.

If an accident caused a significant release of coal, the actual impacts to the environment would depend on the amount of coal released, the length of time that the spilled coal remained in the area before being recovered or cleaned up, the location of the spill relative to areas of environmental concern, and whether the coal ignited, possibly due to the forces involved in the accident. As an example, a derailment of several cars might result in the need to reset the cars in the train and quickly clean up any coal that may have spilled, which would result in minimal or no damage to the environment. A large derailment would require more effort to clear the damaged cars and remove the spilled coal, possibly resulting in damage to the environment around the spill area. If a large derailment occurred and released coal into a stream or sensitive habitat (e.g., wetland) or resulted in a fire, the damage to the environment would be more extensive.

Given that derailments could occur anywhere along the route and that the number of cars involved also could range from very few to a larger fraction of the train, each accident would be unique. OSMRE finds it too speculative to attempt to specify the exact location and consequences of a derailment, it notes that the railroads' procedures and policies cover the range of potential accident scenarios. OSMRE used the best information available to the agency to calculate the likelihood of a derailment and describe the likely number of cars involved in possible derailments (averaging less than 10, as presented above for different types of track).

Potential impacts to the human and natural environment would be mitigated by existing FRA, railroad, and state/local rail emergency response and risk management plans. BNSF has emergency responders in seven locations in Montana (Billings, Chester, Glendive, Great Falls, Havre, Helena, and Whitefish) and additional responders in other locations along their routes (BNSF 2020a). They pre-position response equipment and share emergency response plans specific to different geographic areas with appropriate state and local emergency response organizations along their routes (BNSF 2020b).

Cumulative effects from vehicle transportation and electrical transmission associated with the No Action Alternative and Proposed Action would be the same as described in the 2018 EA. Given the uncertain nature of the number and location of accidents (including train derailments and spills) that may occur along the rail transport route, cumulative effects associated with the No Action Alternative and Proposed Action, in combination with other past, present, and reasonably foreseeable future actions, cannot be determined.

4.1.3 Mitigation Measures

Impacts of coal dust on rail safety would continue to be mitigated under the No Action Alternative through dust control and track maintenance, thereby ensuring effects are negligible in both the short- and long-term.

5.0 APPENDICES

Figures previously provided as **Appendix A** in the 2018 EA have been included in Sections 1 and 2 of the EA. The following appendices provided in the 2018 EA presented a thorough description of air quality, air emissions, climate change, hydrology, wildlife species, and socioeconomics to support the analysis presented therein and are incorporated by reference. Therefore, following appendices have not been included in this EA:

- **Appendix B** – Air Quality
- **Appendix C** – Air Emissions
- **Appendix D** – Climate Change
- **Appendix E** – Hydrology
- **Appendix F** – Wildlife Species List
- **Appendix G** – Socioeconomics
- **Appendix I** – Public Comment Response

Appendix H – Consultation and Coordination

Consultation & Coordination

Information regarding consultation and coordination is the same as described in the 2018 EA. Since public scoping and thorough review and identification of issues for the project was completed from October 20 to November 20, 2017 and described in the 2018 EA, OSMRE determined that additional public scoping for this EA was not warranted.

Preparers and Contributors

OSMRE personnel who contributed to the development of this EA are included in **Table H-1**.

Table H-1: OSMRE personnel.

Name	Organization	Project Responsibility
Gretchen Pinkham	OSMRE	NEPA Project Lead
Elizabeth Shaeffer	OSMRE	Field Operations Branch Manager - OSMRE Western Region

Third-party contractors who contributed to the development of this EA are included in **Table H-2**.

Table H-2: Third-party contractor personnel.

Name	Organization	Project Responsibility
Jon Alstad	ICF	NEPA Project Manager / Document Preparation / Technical Review / Quality Assurance / Quality Control (QA/QC)
Lisa Bendixen	ICF	Rail Transportation Safety Analysis
Meghan Heneghan	ICF	Biologist / Document Preparation / QA/QC
John Priecko	ICF	Document Review / QA/QC

Distribution of the EA

This EA will be distributed to individuals who specifically request a copy of the document. It will also be made available electronically on the OSMRE website at the following link:

<https://www.wrcc.osmre.gov/initiatives/bullMountainsMine.shtm>

Appendix J – Acronyms, Abbreviations, and References

Acronyms and Abbreviations

ASLM	Assistant Secretary, Lands and Mineral Management
BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
FCLAA	Federal Coal Leasing Amendments Act
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
LBA	Lease by Application
LOM	Life of Mine
MDEQ	Montana Department of Environmental Quality
MEIC	Montana Environmental Information Center
Mine	Bull Mountains Mine No. I Underground Coal Mine
MLA	Mineral Leasing Act
MPDD	Mining Plan Decision Document
MSUMRA	Montana Strip and Underground Mine Reclamation Act
NEPA	National Environmental Policy Act
OSMRE	Office of Surface Mining Reclamation and Enforcement
PAP	Permit Application Package
Project	Bull Mountain Mine No. I Federal Mining Plan Modification Project
SMCRA	Surface Mining Control and Reclamation Act
SPE	Signal Peak Energy, LLC
U.S.C.	United States Code

References

- Anderson, R. T., and C. P. L. Barkan. 2004. Railroad Accident Rates for Use in Rail Transportation Risk Analysis. *Transportation Research Record: Journal of the Transportation Research Board* 1863:88–98.
- BNSF Railway Company (BNSF). 2020a. Emergency Responders. Available: <https://bnsf.com/in-the-community/environment/responsible-care/emergency-responders.html>. Accessed: June 10, 2020.
- . 2020b. Rail Safety: Response. <https://bnsf.com/in-the-community/safety-and-security/railway-safety/approach-rail-safety.page#response>. Accessed: June 10, 2020.
- Bureau of Land Management (BLM). 2011. *Environmental Assessment, Bull Mountains Mine No. 1, Federal Coal Lease MTM 97988, Musselshell County, Montana*. DOI-BLM-MT-C010-2009-0010-EA. April.
- Federal Railroad Administration (FRA). 2020. Data Analyses. January 2016 through December 2019. Available: <https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/TrainAccidentsFYCYWithRates.aspx>.
- Liu, X., C. P. L. Barkan, and M. R. Saat. 2011. Analysis of Derailments by Accident Cause: Evaluating Railroad Track Upgrades to Reduce Transportation Risk. *Transportation Research Record: Journal of the Transportation Research Board*. 2261:178–185.
- . 2012. Analysis of Causes of Major Train Derailment and Their Effect on Accident Rates. *Transportation Research Record: Journal of the Transportation Research Board*. 2289:154–163.
- Robbins, L., and P. Moore. 2018. *Bull Mountains Northern Long-eared Bat Acoustic Report*, December 2. 2 pp. Available: <https://www.brmconservancy.org/bat-survey>.
- Signal Peak Energy (SPE). 2020a. Electronic Data Transmittal from SPE to OSMRE Information/Data Request No. 2 (May 12, 2020 Request for Updated Annual Salable Coal Information for 2017, 2018, and 2019). May 13. 1 p.
- . 2020b. Electronic Data Transmittal from SPE to OSMRE in Response to OSMRE Information/Data Request No. 1 (April 22, 2020 Request for Rail Transportation Information and Updated Coal Mining Information). April 27. 2 pp.
- . 2020c. Personal Communication with Joe Farinelli (SPE) and Gretchen Pinkham (OSMRE) Regarding Rail Traffic Along the Southern and Northern Rail Routes. May 15, 2020.
- Western Environmental Law Center. 2019. Case 9:19-cv-00012-DWM Document 37-4, 350 *Montana et al. vs. David Bernhardt, et al.*, Declaration of David Mattson, as Filed in the United States District Court for the District of Montana, Missoula Division on June 28. p. 96.