

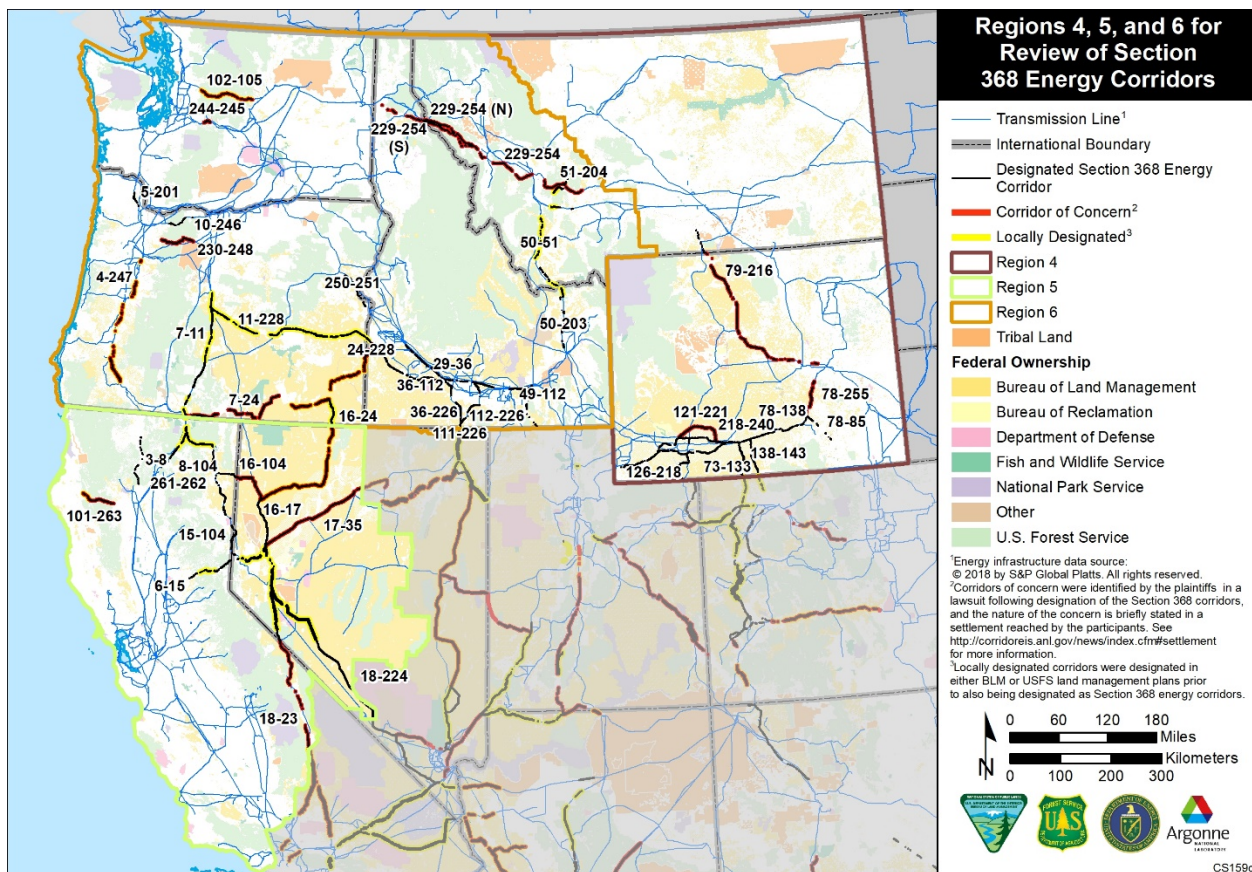
November 2020



Energy Policy Act of 2005

Section 368 Energy Corridor Review

REGIONS 4, 5, and 6



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Notation

Acronyms, Initialisms, and Abbreviations

ACEC	Area of Critical Environmental Concern	MTR	Military Training Route
ARMPA	Approved Resource Management Plan Amendment	NCA	National Conservation Area
		NEPA	National Environmental Policy Act
		NGO	non-governmental organization
BIA	Bureau of Indian Affairs	NHT	National Historic Trail
BLM	Bureau of Land Management	NPS	National Park Service
BMP	best management practices	NREL	National Renewable Energy Laboratory
BOR	Bureau of Reclamation		
		NSA	National Scenic Area
DoD	U.S. Department of Defense	NST	National Scenic Trail
DOE	U.S. Department of Energy		
DOI	U.S. Department of the Interior	OHV	off-highway vehicle
DRECP	Desert Renewable Energy Conservation Plan	PEIS	Programmatic Environmental Impact Statement
		PHMA	Priority habitat management area
EIR	Environmental Impact Report	PV	photovoltaic
EIS	Environmental Impact Statement		
EPA	U.S. Environmental Protection Agency	REDA	Renewable Energy Development Area
EPAct	Energy Policy Act of 2005	RMP	Resource Management Plan
ESA	Endangered Species Act	RNA	Recreation Natural Area
		ROD	Record of Decision
FLPMA	Federal Land Policy and Management Act	ROW	right-of-way
		SEDA	Solar Energy Development Area
GIS	geographic information system	SEZ	solar energy zone
GHMA	general habitat management area	SRMA	Special Recreation Management Area
GPA	General Plan Amendment	SUA	Surface Use Area
GRSG	Greater Sage-grouse		
		USDA	U.S. Department of Agriculture
IHMA	Idaho Habitat Management Area	USFS	U.S. Forest Service
IOP	Interagency Operating Procedure	USFWS	U.S. Fish and Wildlife Service
IR	Instrument Route		
		VQO	Visual Quality Objective
LMP	Land Management Plan	VR	Visual Route
LMPA	Land Management Plan Amendment	VRM	Visual Resource Management
LNG	liquefied natural gas		
LUPA	Land Use Plan Amendment	WPCI	Wyoming Pipeline Corridor Initiative
		WSA	Wilderness Study Area
MFP	Management Framework Plan	WSR	Wild and Scenic River
MOU	Memorandum of Understanding		
MP	milepost		

Units of Measure

ft	foot, feet
km ²	square kilometer(s)
kV	kilovolt(s)
m	meter(s)
mi ²	square mile(s)
MW	megawatt(s)

Executive Summary

On behalf of the Section 368 Interagency Workgroup, comprising the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and the U.S. Department of Energy (DOE), and in response to the 2012 Settlement Agreement, this third report is presented for the purpose of supporting enhancements to the West-wide energy corridor network across the western United States. The Settlement Agreement did not change or nullify designated energy corridors, but it did provide four foundational principles which were to be applied within a corridor review process, as has been done here. This review process was performed collaboratively with State and tribal governments, the energy industry, non-governmental organizations, local communities, and other Federal agencies. The findings will be used to improve the West-wide energy corridor network, thereby advancing the Presidential priority of improving the Federal environmental review and permitting for infrastructure projects as outlined in Executive Order 13807.

The Regions 4, 5, and 6 review evaluated energy corridor placement on Federal lands managed by both the BLM and the USFS across northern California, Idaho, Montana, western Nevada, Oregon, Washington, and Wyoming. In compliance with the Settlement Agreement, BLM, USFS, and DOE (“the Agencies”) identified opportunities for potential energy corridor revisions, deletions, and additions for consideration during future land use planning at the local level. The specific findings are found in Section 3, Table 3-1, of this report and are summarized as follows: 45 potential corridor revisions; 4 potential corridor deletions (two in Wyoming, one in California and Nevada, and one in Oregon); and 3 potential corridor additions (two in Wyoming and one in Oregon). The corridor summaries detail the findings related to each corridor, including potential corridor revisions, deletions, and additions. The potential corridor revisions, deletions, and additions reflect application of the corridor siting principles and appropriately balance the need for safe and reliable energy connectivity with concerns for potential resource impacts on BLM-managed public lands and USFS-managed National Forest System lands.

The Section 368 Interagency Workgroup also identified one potential addition to the interagency operating procedures (IOPs), which are best management practices for improving consistency across the BLM and USFS in processing applications for use of Section 368 energy corridors. In addition, the Section 368 Interagency Workgroup identified additional language for two potential new IOPs identified in the reports for Region 1 and Regions 2 and 3, and one potential revision to an existing IOP. The potential additions and revisions to the IOPs are presented in Section 3.4.1 of this report.

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1. Purpose, Scope, and Background

During the Section 368 energy corridor review for Regions 4, 5, and 6, the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and the U.S. Department of Energy (DOE), hereafter referred to collectively as “the Agencies,” analyzed 59 energy corridors (commonly referred to as Section 368 energy corridors or West-wide energy corridors) located in Regions 4, 5, and 6, which include northern California, Idaho, Montana, western Nevada, Oregon, Washington, and Wyoming (Figure 1-1). This report specifically identifies and describes 45 potential corridor revisions, 4 potential corridor deletions, and 3 potential corridor additions that local BLM and USFS land managers should consider through future land use planning processes. Additionally, the Agencies present one potential addition to the interagency operating procedures (IOPs), additional language for the two potential new IOPs identified in the reports for Region 1 and Regions 2 and 3, and one potential revision to an existing IOP.¹

1.1 Purpose and Scope

The purpose of the Section 368 energy corridor regional reviews is to examine current relevant information and stakeholder input on the corridors, including corridors of concern,² and based on this information identify potential revisions, deletions, or additions to the corridors and potential IOP revisions, deletions, or additions. The first report covering Region 1 was released for 30-day public review on June 20, 2019, and the report covering Regions 2 and 3 was released for a 30-day public review on August 22, 2019. The two reports included potential corridor and IOP revisions, deletions, and additions. This report presents revisions, deletions, and additions for Regions 4, 5, and 6.

Abstracts for each Section 368 energy corridor in Regions 4, 5, and 6 were developed to assist the Agencies and stakeholders in identifying specific environmental concerns and other challenges, such as pinch points.³ The abstracts allow for review of each corridor within the framework of the corridor siting principles, as listed in Section 1.2.2. The Agencies used geographic information system (GIS) analyses to evaluate possible physical constraints and resource conflicts, as well as input from stakeholders and other available data. The abstracts provide a condensed record of environmental and other concerns for each corridor. The Agencies considered the condensed record of environmental and other concerns identified through this review process in the context of resource management goals and objectives in applicable BLM and USFS land use plans to determine whether these resource management goals and objectives were compatible with the desired future conditions of the Section 368 energy corridors (i.e., responsible linear infrastructure development with minimization of impacts). The abstracts identify which Section 368 energy corridors effectively meet current and projected energy needs and which fall short due to limited build-out capacity, site-specific conflicts, or other considerations. Figure 1-2 displays the Section 368 energy corridor regional review process, including developing the abstracts from multiple information sources utilizing an analysis framework, conducting workshops, and drafting the Regions 4, 5, and 6 Report.

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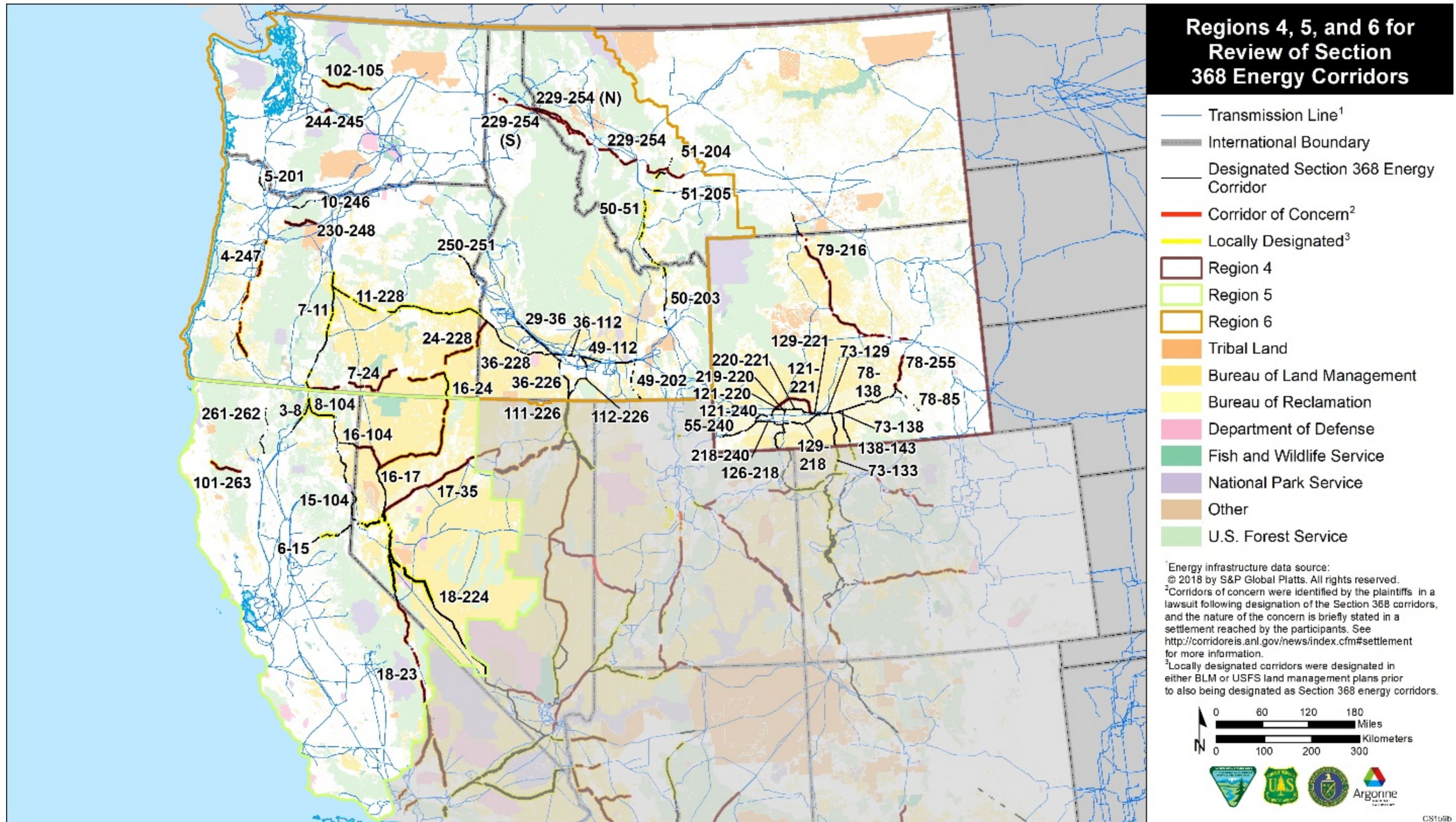


Figure 1-1 Section 368 Energy Corridors in Regions 4, 5, and 6

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SECTION 368 REGIONAL REVIEWS FOR REGIONS 4,5, & 6 – PROCESS GRAPHIC

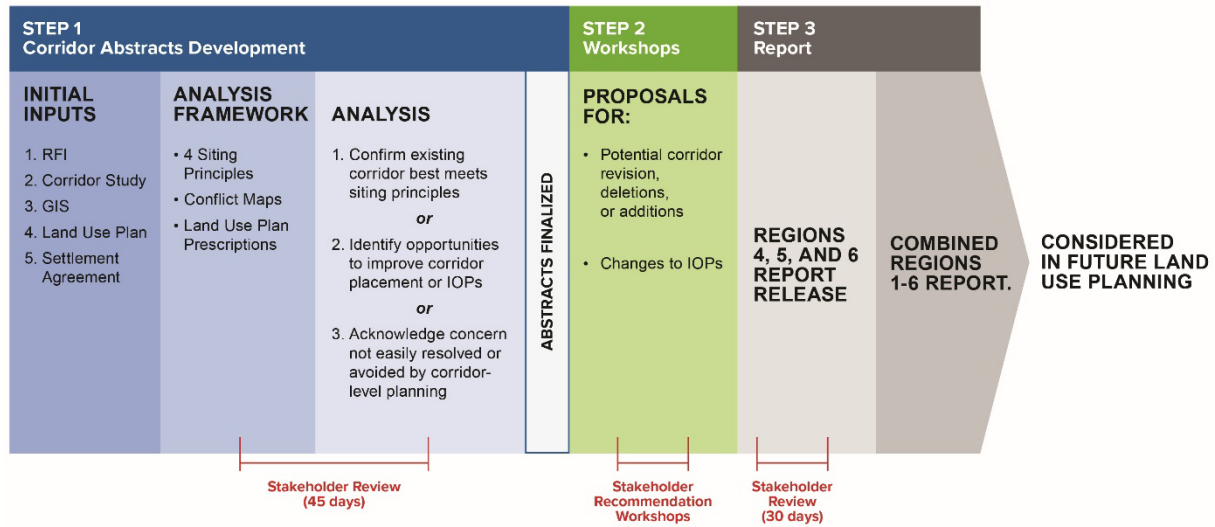


Figure 1-2 Section 368 Energy Corridor Review Process — Regions 4, 5, and 6

1.1.1 Potential Corridor Revisions, Deletions, or Additions

As described above, one component of this regional review is to identify potential revisions, deletions, or additions to Section 368 energy corridors. Corridor abstracts include details used to develop potential corridor revisions, deletions, or additions for consideration in future land use planning decisions including (1) during the normal course of land use plan revisions; (2) during an amendment to a land use plan caused by a specific project proposal that does not conform to a land use plan, or when issues within a designated Section 368 energy corridor necessitate review of an alternative corridor path; or (3) during an amendment to individual land use plans specifically to address corridor changes. Corridor summaries (Regions 4, 5, and 6: Interagency Corridor Modification Summaries, Potential Corridor Revisions, Deletions, and Additions) detail potential revisions, deletions, or additions, or — if none are identified for a corridor — describe how the current location of the corridor meets the four siting principles identified in the Settlement Agreement (see Section 1.2.2).

Examples of potential corridor revisions include:

- Slight corridor alignment adjustments to avoid a specific area (e.g., an Area of Environmental Concern [ACEC], National Historic Trail [NHT], or other sensitive resource) where a more favorable route is available;
- Corridor adjustments to better align with existing or planned infrastructure to minimize infrastructure sprawl;
- Corridor adjustments (including modifications to corridor width) to create greater capacity within the corridor where additional capacity needs are reasonably anticipated; and
- Changes to designated use within a corridor (multi-modal, electric only, underground only).⁴

Examples of potential corridor deletions or additions include:

- Shortening a section of corridor or eliminating a corridor or corridor segment that does not meet the siting principles (i.e., corridor contains no existing infrastructure and does not serve as a preferred pathway to support energy transmission); and
- Addition of new corridors or corridor sections to better align with energy demand (including potential renewable energy generation sites) along existing or planned infrastructure and to increase connectivity to other West-wide energy corridors.

1.1.2 Corridor Management

In reviewing the energy corridors, the Agencies observed a need for improved clarity and consistent guidance for managing existing corridors to ensure they continue to meet the siting principles through subsequent amendments to land use plans. Section 3.3 notes that in addition to identifying appropriate and acceptable uses, as required upon designation, it would also be beneficial to identify inappropriate and unacceptable uses within corridors (e.g., nonlinear features such as geothermal and solar energy facilities). This approach would provide more comprehensive guidance regarding the corridor's intended purpose. Specific issues to address through BLM and USFS land use planning are identified in the corridor summaries in this report. These issues include situations where land management prescriptions conflict with the purpose of Section 368 energy corridors as the preferred location for energy transport across Federal lands managed by the BLM or the USFS.

The Energy Policy Act of 2005 (42 U.S.C. 15926) requires that “[a] corridor designated under this section shall, at a minimum, specify the centerline, width, and compatible uses of the corridor.” Settlement Agreement Siting Principle #3 states that “[a]ppropriate and acceptable uses are defined for specific corridors.”⁵ In 2009, the BLM and USFS issued Records of Decision (RODs) designating energy corridors and identifying their centerline, width, and compatible uses.^{6 7} Compatible use was defined as multi-modal, pipeline only, transmission only, and potential inclusion of limits on above- or below-grade use.

1.1.3 IOPs

As part of the Settlement Agreement, this regional review also assesses the IOPs, which were established in the 2009 RODs and are best management practices (BMPs) for processing applications for use of Section 368 energy corridors across the BLM and USFS. The Agencies reviewed the IOPs and assessed the need to update them to better address concerns within the Section 368 energy corridors. Section 3.4 of this report describes one potential new IOP, additional language for the two potential new IOPs identified in the reports for Region 1 and Regions 2 and 3, and one potential revision to an existing IOP. Any changes to IOPs would be adopted through an amendment to the West-wide Energy Corridor Programmatic Environmental Impact Statement (PEIS) and records of decision signed by the U.S. Department of the Interior and the U.S. Department of Agriculture if determined to be appropriate. In lieu of amendments to the PEIS, the potential new IOPs and IOP revisions should be adopted as best management practices in local land use plans or at the project level to minimize potential impacts. The corridor summaries identify resource concerns within each Section 368 energy corridor or potential

corridor revisions, deletions, or additions that could be mitigated with the adoption of potential new IOPs or IOP revisions.

1.1.4 Stakeholder Process

The regional review process includes robust stakeholder engagement to identify concerns and develop solutions through potential revisions, deletions, or additions to Section 368 energy corridors. Agency stakeholder engagement included but was not limited to:

- Tribal governments;
- State governments;
- County governments;
- Plaintiffs in the litigation giving rise to the Settlement Agreement (see Section 1.2.2 of this report);
- Non-governmental organizations (NGOs);
- U.S. Department of Defense (DoD), U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), Bureau of Indian Affairs (BIA), Bureau of Reclamation (BOR), and other Federal agencies;
- The energy industry (e.g., utilities, transmission and pipeline companies, power project generators, and regional transmission planning entities);
- Private landowners; and
- Members of the public.

Stakeholder engagement occurred in three stages, indicated in red text in Figure 1-2. Stakeholders provided input through interactive webinars, in-person meetings and workshops, telephone calls, e-mails, and web-based submissions. The Agencies apprised stakeholders of current information via project website updates providing access to a variety of corridor-related information, including archived documents from the West-wide Energy Corridor PEIS, Corridor Study, and Settlement Agreement. The website continues to be updated periodically as the regional review process progresses and will be available for use in BLM and USFS land use planning following completion of the regional reviews.

1.1.5 Available Tools

Several tools were developed to facilitate stakeholder understanding of and input on the regional review process. These tools include corridor abstracts, the Section 368 Energy Corridor Mapping Tool, and a web-based form for receiving stakeholder input on the regional review process and the Section 368 energy corridors. These tools are available on the West-wide Energy Corridor Information Center project website at <http://www.corridoreis.anl.gov>.

1.2 Background

1.2.1 West-wide Energy Corridor PEIS

Section 368 of the Energy Policy Act of 2005 (EPAct) mandates that the U.S. Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) designate energy corridors for potential placement of future oil, gas, and hydrogen pipelines and electricity transmission and distribution infrastructure. The Agencies prepared a PEIS and the BLM and USFS signed RODs in 2009 designating approximately 5,000 miles of Section 368 energy corridors on BLM-administered lands and approximately 1,000 miles of Section 368 energy corridors on USFS-administered lands. The PEIS, RODs, and related documents are available on the project website at www.corridoreis.anl.gov/eis/guide/index.cfm.

1.2.2 Lawsuit and Settlement Agreement

On July 7, 2009, several plaintiffs⁸ filed a lawsuit against the Agencies in United States District Court alleging that the energy corridor PEIS and RODs violated the EPAct, National Environmental Policy Act (NEPA), Endangered Species Act (ESA), the Federal Land Policy and Management Act (FLPMA), and the Administrative Procedure Act.

On July 3, 2012, the Agencies entered into a settlement agreement with the plaintiffs (Settlement Agreement). The Settlement Agreement required the Agencies to conduct regional reviews of the designated Section 368 energy corridors, among other stipulations, and to establish an interagency memorandum of understanding (Interagency MOU) to outline the Agencies' process for conducting regional reviews, guided by four siting principles outlined in the Settlement Agreement.

The regional reviews are intended to evaluate the Section 368 energy corridors for any potential revisions, deletions, and additions utilizing the following four siting principles from the Settlement Agreement as a framework:

1. Corridors are thoughtfully sited to provide maximum utility and minimum impact on the environment;
2. Corridors promote efficient use of the landscape for necessary development;
3. Appropriate and acceptable uses are defined for specific corridors; and
4. Corridors provide connectivity to renewable energy generation to the maximum extent possible while also considering other sources of generation, in order to balance the renewable sources and to ensure the safety and reliability of electricity transmission.

Additional information on the Settlement Agreement can be found on the project website at <http://corridoreis.anl.gov/regional-reviews/settlement/>.

1.2.3 Corridor Study

The Settlement Agreement requires the Agencies to perform a corridor study to evaluate how well the Section 368 energy corridors are achieving their intended purpose of promoting environmentally responsible right-of-way (ROW) siting decisions and reducing the proliferation of dispersed ROWs across Federal lands.⁹ The corridor study assessed the utilization of Section 368 energy corridors since their designation in 2009 and established current baseline data to be used in the regional reviews. The corridor study covered January 2009 to October 2014. Findings from the corridor study are located on the project website at <http://corridoreis.anl.gov/regional-reviews/corridor-study/>.

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2. Regions 4, 5, and 6 Review

2.1 Current Energy Conditions and Projected Growth

Energy corridors exist to provide reliable energy transmission pathways for local and national growth. Two of the corridor siting principles in the Settlement Agreement are to consider whether the Section 368 energy corridors are thoughtfully sited to promote maximum utility and minimum impact on the environment and whether the corridors promote efficient use of the landscape for necessary development. Consistent with these siting principles, the Regions 4, 5, and 6 review assessed existing energy infrastructure, planned or future energy development potential, and additional energy transmission capacity in the Regions 4, 5, and 6 Section 368 energy corridors.

Most of the 59 energy corridors in Regions 4, 5, and 6 that the Agencies designated in 2009 had preexisting energy transmission infrastructure. By the very nature of utility-scale energy generation technology previous to 2009 energy corridor designations, the existing infrastructure had been largely commissioned to transport fossil-fuel, nuclear and hydroelectric energy. Since 2009, additional infrastructure has been constructed within the Section 368 energy corridors, and many corridors have pending ROW applications for other primary energy transportation sources, including utility-scale renewable energy sources (Figure 2-1). Appendix A contains a description of the existing infrastructure, planned or pending projects, and the potential for future energy development in the Regions 4, 5, and 6 Section 368 energy corridors. The Agencies utilized that information in this review to determine available capacity for development in those corridors.

A third siting principle in the Settlement Agreement is to consider whether Section 368 energy corridors provide connectivity to renewable energy generation to the maximum extent possible while also considering other sources of generation, in order to balance the renewable sources and to ensure the safety and reliability of electricity transmission. Stakeholders in the Regions 4, 5, and 6 review indicated strong interest in developing renewable energy. Renewable energy development in Section 368 energy corridors is critical for connecting renewable energy sources to the grid. Section 2.1 of this report describes initiatives and studies investigating future energy potential and associated electrical and pipeline transmission needs, including renewable energy (Sections 2.1.1, 2.1.2, and 2.1.3).

2.1.1 Regional Initiatives and Studies

NREL Synthesis Study

The BLM commissioned the National Renewable Energy Laboratory (NREL) to prepare a report synthesizing information from multiple studies forecasting western energy generation and transmission needs over the next 10 to 15 years.¹⁰ Factors that may affect energy generation and consumption in the western region include changing generating mix, state and Federal policies, decreasing costs of natural gas and renewable energy generation, and market evolution.

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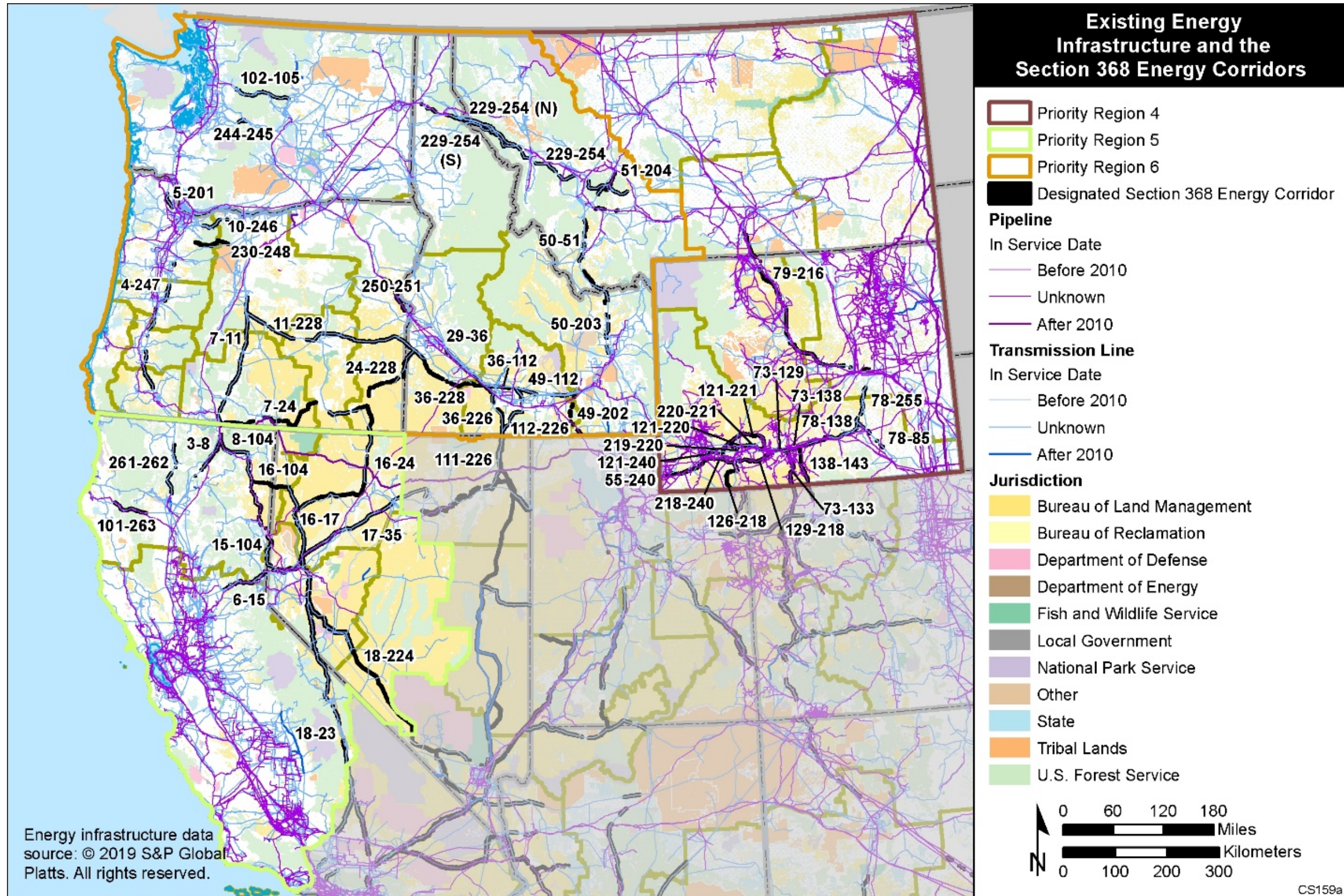


Figure 2-1 Existing Energy Infrastructure and the Regions 4, 5, and 6 Section 368 Energy Corridors

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The NREL study focused on Regions 2 and 3, however, general conclusions were made that under the 2026 common case (or expected future) scenario, there was minimal projected congestion and even projected decreases in congestion on paths from Utah to California and from the Pacific Northwest to California).¹¹ Factors supporting this finding included preference from developers to build gas-fired generation near load centers; renewable resource generation in state with access to local transmission; and planned transmission projects under development that will largely meet projected future transmission demands.

Solar Energy Development PEIS

In 2012, the BLM created a Solar Energy Program for utility-scale solar energy development on BLM-administered lands in six southwestern states.^{12 13} Through land use plan amendments, the BLM designated seventeen solar energy zones (SEZs) and additional solar variance areas in Arizona, California, Colorado, New Mexico, Nevada, and Utah.¹⁴ The SEZs are priority areas for solar energy and associated transmission infrastructure development that have been established to facilitate near-term, utility-scale solar energy development on BLM-administered lands; minimize potential negative environmental impacts; and optimize existing transmission infrastructure and energy corridors. The following SEZs are close to (within 20 miles of) Regions 4, 5, and 6 Section 368 energy corridors:

- Amargosa Valley SEZ, Nevada, adjacent to Corridor 18-224 (milepost (MP) 225 to MP 226).
- Gold Point SEZ, Nevada, approximately 20 miles east of Corridor 18-224 (MP 96).
- Millers SEZ, Nevada, approximately 7 miles west of Corridor 18-224 (MP 163).

BLM West-wide Wind Mapping Project

In 2016, the BLM conducted a reassessment of suitability of BLM-managed lands for wind energy development based on multiple changes that had occurred since issuance of the ROD for implementation of the Wind Energy Programmatic EIS in 2005,¹⁵ such as issuance of land use plan amendments for the Greater Sage-grouse (GRSG), issuance of the Desert Renewable Energy Conservation Plan in California,¹⁶ and reversal of the blanket exclusion of ACECs from wind energy development¹⁷ (BLM Instruction Memorandum 2009-043). The reassessment produced updated maps showing BLM-administered lands that are excluded from wind energy development, as well as additional environmentally sensitive areas with respect to wind energy development (lands with high or moderate levels of siting considerations). The results of the reassessment are summarized in a report and associated maps for specific areas of interest, which are posted at <https://bogi.evs.anl.gov/wwmp/portal/>.

2.1.2 State Energy Conditions and Future Energy Potential

Current Energy Conditions

Table 2-1 lists the net energy generation by energy source for states located in Regions 4, 5, and 6. Renewable energy accounts for a significant portion of energy generation in Regions 4, 5, and 6, particularly in California and Idaho. Wyoming currently has the largest amount of energy generation from coal, but almost 10 percent of the state's total energy generation comes from wind energy and

there is anticipated potential for additional wind energy. Hydroelectric power accounts for most of the energy generation in Washington and more than half of the energy generation in Idaho and Oregon.

Table 2-1 2017 Net Generation by State (% total)¹⁸

State	Coal	Natural Gas	Nuclear Energy	Renewable resources (hydroelectric power)	Renewable resources (solar, wind, geothermal, biomass)
California	0.14	43	9	21	26
Idaho	0.13	18	0	61	20
Montana	49	1.5	0	39	8
Nevada	5	70	0	5	21
Oregon	3	24	0	61	12
Washington	5	9	7	71	8
Wyoming	86	2		2	9

Renewable Energy Potential in Regions 4, 5, and 6

Nevada and California - There are several SEZs near Corridor 18-224 in the Region 5 portion of Nevada that could serve as areas for future renewable energy development. There is also a strong interest in solar energy development, combined with substantial existing geothermal energy production in this area. However, a lack of transmission lines to transport solar or geothermal energy to load centers presents a barrier for potential developers. Existing substations in the Bishop, California, area (near Corridor 18-23) are a preferred hub to move solar energy in and out of the area to load centers. California energy demand is high, and the state’s renewable portfolio standard requires all electric load-serving entities to procure 60% of their electricity portfolio from eligible renewable energy resources by 2030, making renewable energy development in Nevada critical to serve California demand.¹⁹

Oregon - There is significant wind, geothermal, and solar energy potential near Wagon Tire Mountain near three Section 368 energy corridors (east-west Corridors 11-228 and 7-24, and north-south Corridor 7-11). However, renewable energy resources require an additional north-south pathway east of Corridor 7-11 into California. A corridor addition in the area could serve to connect renewable energy to demand.

Wyoming - There are significant wind resources in Wyoming, but not enough transmission lines to accommodate potential future development. There are currently 1,488 MW of installed capacity and approximately 3,000 MW under construction.²⁰ The Energy Gateway West Transmission Project (see Section 2.1.5 and Figure 2-3) is under construction and is being built to alleviate some of this need for transmission facilities. In the future, additional infrastructure may be needed to transmit wind energy from Wyoming to out-of-state load centers, and Section 368 energy corridors could be well-placed to accommodate that need.

Wyoming Pipeline Corridor Initiative

The Wyoming Pipeline Corridor Initiative (WPCI) is a pipeline ROW network proposed by the Wyoming Pipeline Authority. The goal of the proposed pipeline ROW network is to meet future CO₂ pipeline needs for oil extraction in Wyoming by establishing approximately 1,150 miles of pipeline corridor on Federal lands in nine BLM-managed areas, as well as across smaller areas of lands managed by the USFS, Bureau of Reclamation, and DoD. Figure 2-2 shows the location of the proposed WPCI pipeline ROW network relative to the designated Section 368 energy corridors. The proposed pipeline network would not be limited to CO₂ conveyance, but could eventually accommodate oil, natural gas and the byproducts of these industries, as well as meet anticipated needs for CO₂-based enhanced oil recovery.²¹

This regional review considered the proposed location of WPCI ROWs and in the context of Section 368 energy corridors in Wyoming. The proposed WPCI ROWs are located within the entire length of six Section 368 energy corridors and are parallel to or overlap part of six additional Section 368 energy corridors. The Agencies have identified 2 corridors that could be revised to better align with the proposed WPCI ROWs. Potential revisions, deletions, and additions to Regions 4, 5, and 6 Section 368 energy corridors can be found in Table 3-1 and in the corridor summaries.

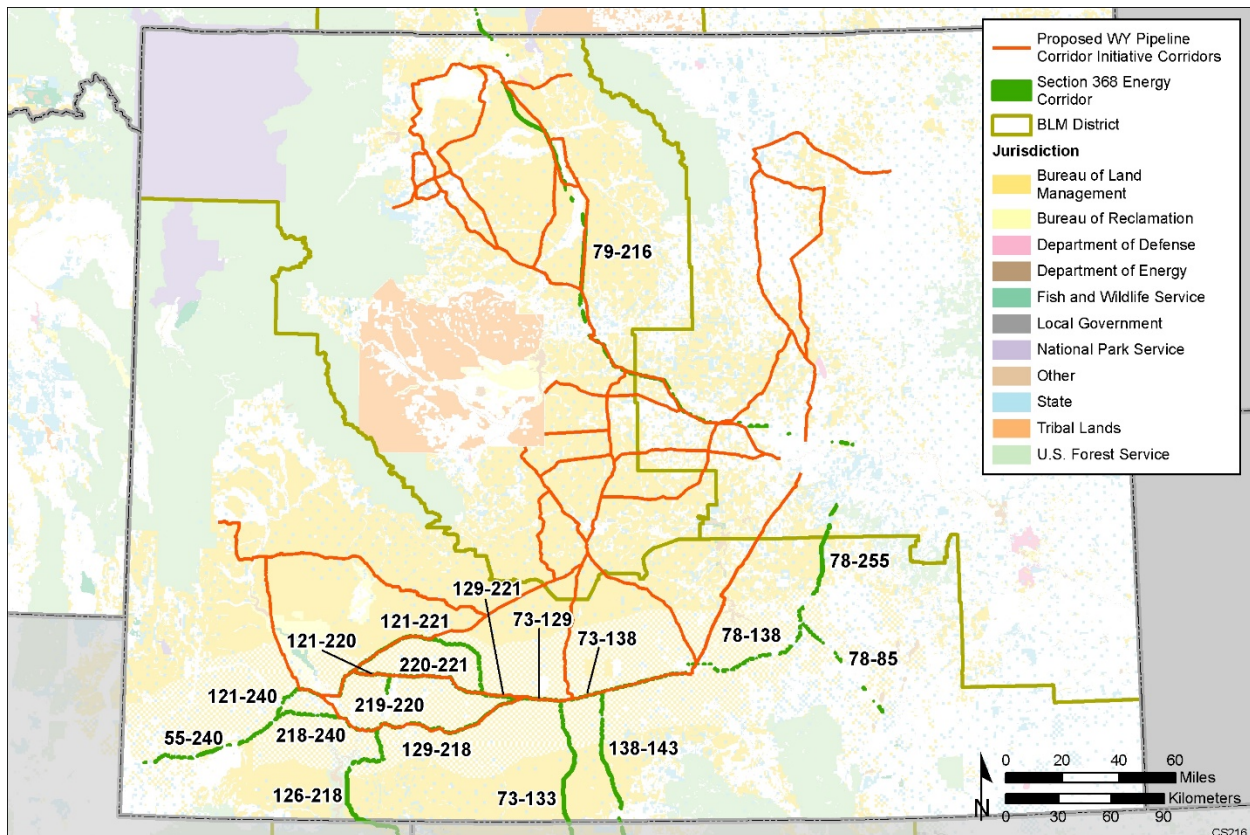


Figure 2-2 Location of Proposed WPCI ROWs Relative to Section 368 Energy Corridors

Pipeline Development in Oregon

Over the past couple of decades, there has been intermittent but continued interest in constructing an east-west pipeline to bring natural gas from the Canadian and U.S. Rockies to the Oregon coast for export as liquefied natural gas (LNG) to destinations outside the United States. In 2009, the Palomar Gas Transmission Project proposed a 217-mile, 36-inch diameter east-west underground natural gas pipeline in northwest Oregon. Corridor 230-248 was designated along this route, but the Palomar natural gas pipeline was never built. Current proposed projects include the Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline. The Pacific Connector Gas Pipeline would involve construction of a 229-mile-long, 36-inch-diameter interstate natural gas pipeline from Malin, Oregon, to Coos County, Oregon. The pipeline would cross approximately 46.9-miles of BLM-managed lands, 30.6-miles of USFS-managed lands, and roughly 0.31-miles of Bureau of Reclamation-managed lands before terminating at a new LNG export terminal (Jordan Cove) in Coos Bay, Oregon.²² The project has not yet been approved and the Jordan Cove Terminal is currently undergoing environmental review and related consultations by the Federal Energy Regulatory Commission, DOE, and other Federal, state and local permitting agencies.

2.1.3 Local Initiatives and Potential Future Development

Inyo County, California, Renewable Energy General Plan Amendment

In March 2015, Inyo County, California, certified a Program Environmental Impact Report and approved a Renewable Energy General Plan Amendment (GPA).

The Renewable Energy GPA established eight Solar Energy Development Areas (SEDAs) within Inyo County totaling over 5,000 acres, divided into three Solar Energy Groups based on their location the County and the associated transmission and distribution facilities. New transmission in or through Inyo County above what is necessary for the megawatt cap placed on each Solar Energy Group is not supported by the County. Therefore, collocation of transmission and intertie facilities is encouraged.²³

The Rose Valley and Owens Lake SEDAs are adjacent to Corridor 18-23 (MP 194 to MP 210 and MP 226 to MP 229) and are within 12 miles of the corridor from MP 121 to MP 129. This corridor could provide future transmission connectivity to the SEDAs, but early engagement would be required to ensure transmission line development is coordinated with Inyo County.

Campbell County, Wyoming

There is local support for energy development opportunities within Campbell County located in northeastern Wyoming, and the county government is interested in discussing the possibility of a potential corridor addition. There is very little Federal land in Campbell County where BLM manages the surface-estate, making the designation of a Section 368 energy corridor impractical. However, it is suggested that during future land use planning, the BLM and USFS should engage with Campbell and adjacent counties that contain more Federal land to assess whether there is interest in and support for a new corridor across Federal land in the area, with the understanding that the corridor would also have to cross private land. A new Section 368 energy corridor in northeastern Wyoming would expand the major interstate energy transmission network and help connect energy resources to demand.

Southern Idaho

There has been substantial and ongoing coordination among the counties in southern Idaho for a potential energy corridor route. Power County has established an Electrical Transmission Corridor Overlay Zone (EO) through a Power County Transmission Line Ordinance, as the County's preferred route for transmission lines. Transmission lines sited outside of the EO must adhere to performance standards before construction and development of future transmission lines would be authorized.

There is also local support for a potential corridor addition along a transmission corridor established by Cassia County in their Comprehensive Plan which runs east-west near the southern border of Cassia County and along the border between Idaho and Utah. The findings of this review suggest that during future land use planning, the BLM and USFS should engage with Cassia, Power, and other adjacent counties in southern Idaho to further assess the counties' coordinated interest and the feasibility of the proposed energy corridor through this area to alleviate concerns of energy infrastructure crossing prime agricultural land to the extent possible.

2.1.4 Authorized Major Energy Infrastructure Project ROWs

Table 3-1 and the corridor summaries describe potential Regions 4, 5, and 6 energy corridor additions, some of which follow recently authorized energy infrastructure ROWs across Federal lands. Recently authorized interstate energy transmission project ROWs across Federal lands in Regions 4, 5, and 6 are listed below.

Energy Gateway South Transmission Project: 250-ft-wide ROW; 416-mile, single-circuit 500-kV transmission system from a substation near Medicine Bow in Carbon County, Wyoming, to a substation near Mona in Juab County, Utah.^{24 25 26} The corridor follows a portion of Corridor 78-138. The project will deliver electricity from planned facilities (including wind energy facilities) in Wyoming.²⁷

Energy Gateway West Transmission Line Project: 250-ft-wide ROW; 1,000 mile, 230-kV (150 miles) and 500-kV (850 miles) transmission system between the Windstar Substation near Glenrock, Wyoming, and the Hemingway Substation near Melba, Idaho. The corridor follows a portion of Corridors 78-255, 78-138, and 73-138. The corridor closely follows but is not collocated with Corridors 73-129, 129-221, 220-221, and 121-220.²⁸ The project will deliver power from existing and future electric resources (including renewable resources such as wind energy) and will provide strength and reliability to the region's transmission system.²⁹

TransWest Express Transmission Project: 250-ft-wide ROW; 728-mile (442 miles on BLM-administered lands; 18 miles on USFS-administered lands), 600-kV direct current transmission system from south-central Wyoming to southern Nevada.^{30 31 32} The corridor follows a portion of Corridor 78-138. The project will deliver electricity generated by renewable resources (including wind energy from Wyoming to the Desert Southwest Region and solar or another type of renewable energy from the Desert Southwest to the Rocky Mountain Region) and will strengthen the power grid that serves the western United States.³³

Boardman to Hemingway Transmission Line Project: 250-ft-wide ROW; 290-mile, 500-kV transmission line between the proposed Longhorn Substation four miles east of Boardman, Oregon, to Idaho Power's existing Hemingway Substation in Owyhee County, Idaho (See Figure 2-3). The project will provide additional electrical load capacity between the Pacific Northwest Region and the Intermountain Region of Southwestern Idaho and alleviate existing transmission constraints.³⁴

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Ruby Pipeline Project: 50-ft-wide ROW; 678-mile (368 miles of Federal land), 42-inch-diameter interstate natural gas pipeline system that extends from Wyoming through northern Utah and northern Nevada and terminates near Malin, Oregon. The project provides natural gas from the major Rocky Mountain basins to consumers in California, Nevada, and the Pacific Northwest.

Recently authorized, multi-state energy transmission line project ROWs in Regions 4, 5, and 6 that have necessitated conforming amendments to BLM resource management plans (RMPs) and USFS land management plans (LMPs) are listed in Appendix C.

2.2 Land Use Planning Process and Regional Reviews

BLM RMPs and USFS LMPs guide administration of Federal lands by each agency. RMPs and LMPs outline management guidelines, including designations regarding siting of electric transmission ROWs. The Regions 4, 5, and 6 Section 368 energy corridors are managed under multiple RMPs and LMPs (see Appendix C for a list of the land use plans associated with each Regions 4, 5, and 6 Section 368 energy corridor). At the time this report was written, several agency land use planning efforts were in progress or scheduled to initiate soon. In-process land use planning is not included in this regional review, but to the extent possible, the information from this regional review related to potential Section 368 energy corridor revisions, deletions, and additions is being shared with those land use planning efforts to improve government efficiencies.

2.2.1 Amendments to RMPs and LMPs

Since the designation of Section 368 energy corridors in 2009, RMP and LMP amendments have been issued that affect management of Section 368 energy corridors or identify changes to corridor boundaries. These RMP and LMP amendments are listed below.

GRSG-Approved Resource Management Plan Amendments (ARMPAs)

Of the 59 Regions 4, 5, and 6 corridors, 45 intersect GRSG habitat areas, which include priority habitat management areas (PHMAs), general habitat management areas (GHMAs), sagebrush focal areas (SFAs), and other or additional habitat management areas (HMAs). The BLM and USFS 2015 and 2016 GRSG RODs and associated Approved Resource Management Plan Amendments (ARMPAs), Approved Resource Management Plans (ARMPs), or Land Management Plan Amendments (LMPAs) were aimed at protecting GRSG populations and include the following:

- Wyoming GRSG ARMPA;³⁵
- Billings Field Office ARMPA;³⁶
- Cody Field Office ARMP;³⁷
- Worland Field Office ARMP;³⁸
- Idaho and Southwestern Montana GRSG ARMPA;³⁹
- Nevada and Northeastern California GRSG ARMPA;⁴⁰
- Oregon GRSG ARMPA;⁴¹
- ROD and LUPA for the Nevada and California GRSG Bi-State DPS in the Carson City District and Tonopah Field Office;⁴²

- GRSG ROD Idaho and Southwest Montana, Nevada and Utah and LMPAs;⁴³
- GRSG ROD Northwest Colorado and Wyoming and LMPAs;⁴⁴ and
- GRSG Bi-State Distinct Population Forest Plan Amendment ROD.⁴⁵

The BLM released GRSG RODs and ARMPAs in March 2019 that amended the BLM’s 2015 GRSG RODs and ARMPAs.⁴⁶ These 2019 GRSG RODs and ARMPAs amended some of the RMPs previously amended by the 2015 GRSG ARMPAs. To the extent feasible, the information in the 2019 GRSG RODs and ARMPAs was considered in the analyses conducted for the Region 4, 5, and 6 regional reviews. The 2019 GRSG RODs and ARMPAs applicable to Regions 4, 5, and 6 include the following:

- Idaho GRSG ROD and ARMPA;⁴⁷
- Nevada and Northeastern California GRSG ROD and ARMPA;⁴⁸
- Oregon GRSG ROD and ARMPA;⁴⁹ and
- Wyoming GRSG ARMPA and ROD.⁵⁰

Appendix B enumerates changes (if any) to the Section 368 energy corridors that were made on the basis of decisions in the 2015, 2016, or 2019 GRSG RODs, ARMPAs, and LMPAs. Potential corridor revisions aimed at protecting GRSG habitat identified in this regional review include re-aligning a corridor, reducing the corridor width, removing corridor segments, or designating corridors as underground only. Where applicable, these potential revisions are described in the corridor summaries and in Table 3-1.

2.3 Summary of Stakeholder Input

Agencies consider robust stakeholder input to be critical to an effective and comprehensive regional review of West-wide energy corridors. The Agencies engaged stakeholders through letters, website notifications, public webinars, conference calls, workshops, and in-person meetings. The Agencies compiled input from diverse perspectives to evaluate Section 368 energy corridors and identify potential revisions, deletions, and additions consistent with Settlement Agreement siting principles. Appendix D of this report describes the stakeholder engagement process, lists the entities that provided input during comment periods and workshops, and summarizes the input received from stakeholders.

3. Potential Regions 4, 5, and 6 Section 368 Energy Corridor Modifications

3.1 Potential Corridor Revisions, Deletions, and Additions

The Agencies' review of Section 368 energy corridors in Regions 4, 5, and 6, including corridors of concern, identified potential revisions, deletions, and additions to the corridors for consideration in future land use planning, either with a plan amendment or as part of a larger planning effort.

Potential corridor revisions range from minor shifts to avoid an environmental resource (e.g., GRS habitat, an ACEC, or lands with wilderness characteristics) to larger corridor adjustments to better follow existing or recently authorized infrastructure. This report identifies 45 potential corridor revisions.

The regional review identifies four potential corridor deletions where the designated corridor does not substantially meet the siting principles (i.e., where the corridor does not minimize impacts and is no longer considered to be a necessary energy pathway):

- Corridor 7-24 generally runs east-west across portions of southern Oregon, where there is no foreseeable utility-scale east-west energy demand. The corridor does not contain existing energy infrastructure and crosses GRS SFAs and PHMAs along much of its length.
- Corridor 16-104 generally runs north-south across about 30 miles of Nevada and then runs east-west about 45 miles to California. The corridor intersects PHMAs where there is no existing infrastructure, and other corridors in the area can meet future energy needs.
- Corridor 121-240 is an east-west corridor in Wyoming that does not follow existing infrastructure, and a more preferable pathway for energy transmission has been identified along the recently authorized Gateway West route.
- Corridor 138-143 is a north-south corridor at a location in Wyoming where a more preferable pathway for energy transmission has been identified along the recently authorized TransWest/Gateway South route.

The Agencies considered potential new corridors along recently authorized energy transmission project ROWs or where demand is needed (e.g., to better connect to renewable energy resources). This report identifies three potential corridor additions:

- A north-south corridor along TransWest Express from Wyoming into Colorado;
- An east-west corridor along the recently authorized Gateway West route from Wyoming to the Idaho border; and
- A northeast-southwest corridor from Burns, Oregon, to Corridor 7-11 along an existing 500-kV transmission line.

The Agencies considered adding a new corridor following the Ruby Pipeline route, but determined that additional infrastructure collocated with Ruby Pipeline is unlikely due to resource concerns (GRSG habitat in Nevada and cultural resources and access issues), a lack of energy demand, and separation integrity requirements for co-location with transmission lines.

Figure 3-1 shows potential revisions to Section 368 energy corridors in Regions 4, 5, and 6 on a map of the corridor network. Table 3-1 contains a summary of the potential revisions, deletions, and additions for the Section 368 energy corridors in Regions 4, 5, and 6, including the rationale for those potential changes. More detailed information for all the corridors is provided in the corridor summaries. Appendix E contains a table showing the Agencies' application of the corridor siting principles in identifying potential revisions, deletions, and additions to the Section 368 energy corridors in Regions 4, 5, and 6.

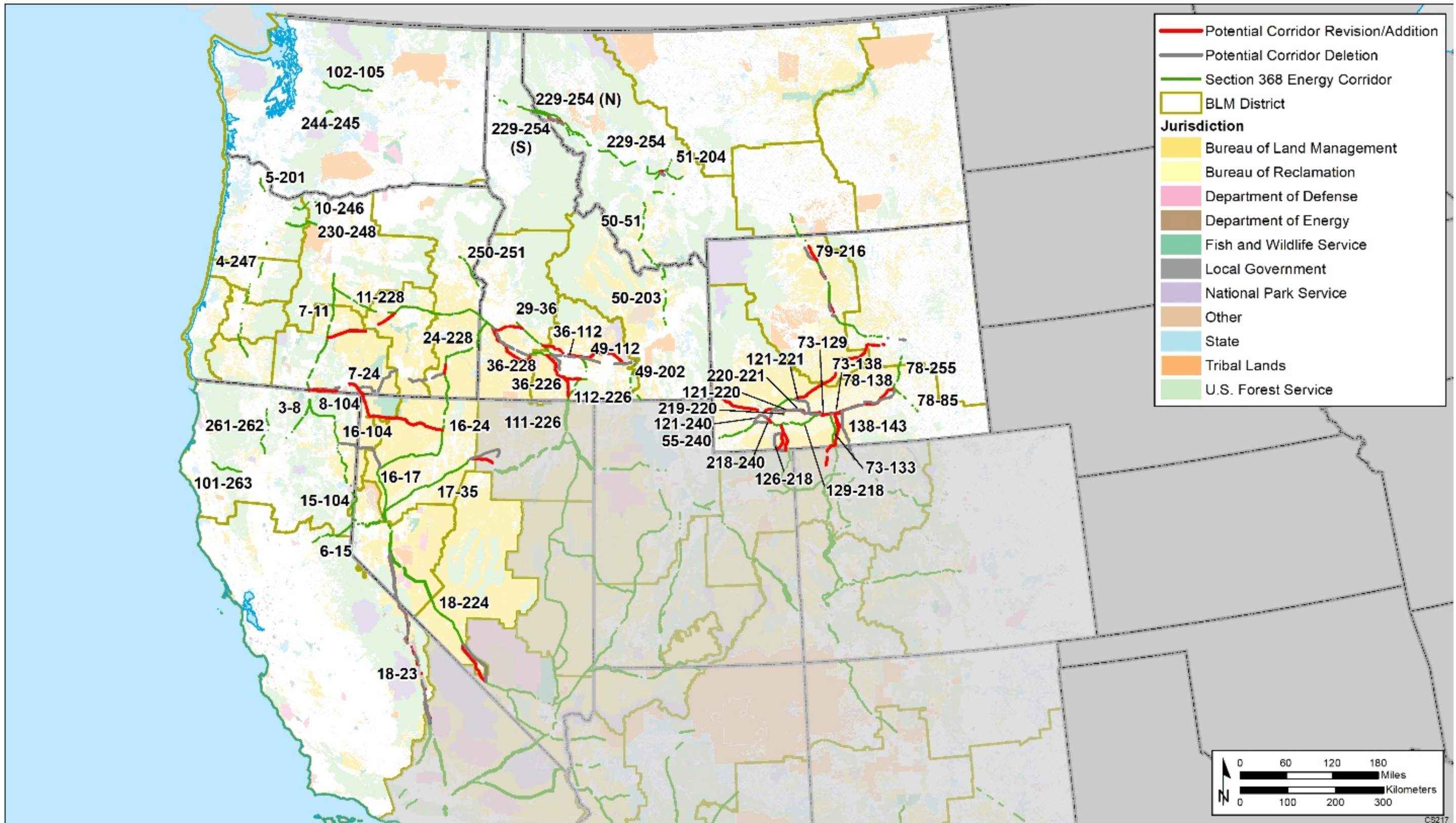


Figure 3-1 Potential Revisions, Deletions, and Additions to Regions 4, 5, and 6 Section 368 Energy Corridors

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Table 3-1 Summary of Potential Revisions, Deletions, and Additions to Regions 4, 5, and 6 Section 368 Energy Corridors

Corridor # ^a and Location	Potential Revision, Deletion, or Addition	Rationale
Potential Corridor Revisions		
3-8 California	Consider deleting corridor segment at MP 0; expanding corridor west from MP 16 to MP 22; and shifting corridor slightly east, with existing infrastructure as western boundary, from MP 52 to MP 58. Alternately consider merging the corridor segment between MP 52 to MP 58 with MP 0 to MP 7 of Corridor 8- 104.	The potential minor revisions would minimize impacts on the Pacific Crest NST, Northern Spotted Owl critical habitat, the Mayfield roadless area, the Emigrant Trail National Scenic Byway, and the Four Trails Feasibility Trail, while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
4-247 Oregon	Consider shifting corridor east at MP 122 and MP 136; shifting corridor west from MP 140 to MP 143; and limiting future infrastructure to western portion of corridor from MP 151 to MP 152.	The potential minor revisions would minimize impacts on Coho Salmon critical habitat, the California NHT, and Four Trails Feasibility Study Trail while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
5-201 Oregon	Consider shifting corridor, with existing transmission line as western boundary, from MP 10 to MP 11 and at MP 14.	The potential minor revisions would minimize impacts on Coho Salmon critical habitat and the Tillamook State Forest while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
6-15 California Nevada	Consider shifting corridor north at MP 21 and from MP 27 to MP 31.	The potential minor revisions would minimize some impacts on NHTs and SRMAs while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
7-8 California Nevada	Consider shifting corridor to the east from MP 2 to MP 4 to collocate with three existing transmission lines.	The potential minor revision would minimize impacts on GRSG to the greatest extent possible while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
7-11 Oregon	Consider shifting corridor from MP 77 to MP 81; shifting corridor to better align with existing infrastructure from MP 101 to MP 120; and shifting corridor slightly west from MP 123 to MP 125. Corridor would connect to the potential corridor addition (WagonTire Mountain).	The potential minor revisions would minimize impacts on lands with wilderness characteristics and PHMAs while maintaining a preferred route for potential future energy development better collocated with existing infrastructure.
8-104 California	Consider shifting corridor slightly east, with existing transmission line as western boundary, from MP 13 to MP 18 and shifting corridor west from MP 70 to MP 75.	The potential minor revisions would further avoid the Damon Butte Roadless Area and minimize impacts on the Emigrant Trail National Forest Scenic Byway and Four Trails Feasibility Study Trail while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor #^a and Location	Potential Revision, Deletion, or Addition	Rationale
10-246 Oregon	Consider shifting corridor slightly northwest from MP 21 to MP 23 or siting future development northwest of existing transmission lines.	The potential minor revision would minimize impacts on the Sandy River WSR, Coho Salmon critical habitat, and visual resources while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
11-103 Oregon	Consider shifting corridor west from MP 0 to MP 1. From MP 14 to MP 15, consider shifting corridor west and/or locating new infrastructure within corridor west of existing transmission line or restricting development to underground only.	The potential minor revisions would minimize impacts on GRSG and visual resources while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
11-228 Oregon Idaho	Consider shifting corridor along existing transmission line from MP 0 to MP 4; shifting corridor south from MP 61 to MP 65, MP 149 to MP 151, MP 162 to MP 171, and MP 177 to MP 188; and shifting corridor north from MP 192 to MP 194.	The potential minor revisions would minimize impacts on lands with wilderness characteristics while maintaining a preferred route for potential future energy development better collocated with existing infrastructure.
15-104 California Nevada	Consider shifting corridor east of the existing transmission line at MP 10 and MP 26 and shifting corridor northeast to more closely follow existing transmission line from MP 40 to MP 44.	The potential minor revisions would minimize impacts on the Fort Sage CA SRMA and Webber's Ivesia critical habitat while maintaining corridor width on Federal land and providing a preferred route for potential future energy development collocated with existing infrastructure.
16-17 Nevada	Consider shifting corridor west from MP 22 to MP 30.	The potential minor revision would minimize impacts on Mount Limbo WSA and visual resources while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
16-24 Nevada Oregon	Consider shifting corridor along existing infrastructure from MP 0 to MP 12; shifting corridor along the existing transmission line from MP 44 to MP 56, MP 115 to MP 130, and MP 154 to MP 160; and extending corridor north to connect to Corridor 24-228 along the highway.	The potential minor revisions would minimize potential environmental impacts by better aligning with existing infrastructure. Additional corridor revisions to avoid large checkerboard area between MP 56 and MP 105 could be considered at the project-specific level, in coordination with local government and landowners. The potential corridor extension would create a continuous north-south pathway for potential future energy infrastructure.
17-18 Nevada	Consider shifting corridor west from MP 43 to MP 51 along existing 230-kV transmission line.	The potential minor revision would minimize impacts on the Walker River Reservation while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
17-35 Nevada	Consider adding a corridor braid at MP 136 west to collocate with the existing 230-kV transmission line until it joins with MP 195 in Region 3.	The potential revision would minimize impacts on PHMAs in Region 3 while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor # ^a and Location	Potential Revision, Deletion, or Addition	Rationale
18-23 Nevada California	Consider shifting corridor where it deviates from the existing infrastructure to follow the 1000-kV DC line from MP 86 to MP 216, widening corridor to 1320 ft between MP 110 and MP 116; and designating future development only within existing ROW footprint between MP 38 and MP 212.	Restricting development to the existing ROW footprint would limit future impacts while maintaining corridor utility. Widening the corridor between MP 110 and MP 118 would help establish an appropriate and compatible boundary to maintain utility of corridor if WSAs are designated as wilderness. The potential revision along the DC transmission line might further the purpose of recently enacted legislation designating the Alabama Hills National Scenic Area.
18-224 Nevada	Consider shifting corridor northeast from MP 46 to MP 48; shifting corridor about 1 to 5 miles west from MP 163 to MP 225; and joining the existing transmission line south of the Town of Beatty into Region 1.	The potential revisions would avoid a pinch point along the Hawthorne Army Ammunition Depot, the Nevada Test and Training Range expansion, and the Town of Beatty. If carefully sited, the revision would also avoid desert tortoise connectivity habitat. The potential revision should maintain adequate distance from Death Valley National Park and follow a route that would minimize terrain issues.
24-228 Oregon Idaho	Consider shifting corridor to the western edge of the highway or transmission line from MP 82 to MP 85; shifting corridor west from MP 90 to MP 95; and making small shifts from MP 7 to MP 76. Consider extending corridor from its southern end (MP 0) to connect with Corridor 16-24 at MP 195.	The potential revisions would minimize impacts on SRMAs (Blackstock, Squaw Creek Addition, and Owyhee Front), the Squaw Creek Research Natural Area ACEC, and lands with wilderness characteristics while maintaining corridor width on Federal land. The corridor extension would provide a southern pathway into California.
29-36 Idaho	Consider shifting corridor to the northeast from MP 10 to MP 12 and MP 46 to MP 50. The potential revision for Corridor 36-112 along the ROW for the recently authorized Gateway West route would connect to Corridor 29-36 at MP 45, providing a secondary route or corridor braid.	The potential revisions would minimize impacts on Slickspot Peppergrass critical habitat and the Four Trails Feasibility Study Trail. The potential revisions would create a preferred route for potential future energy development connecting multiple Section 368 energy corridors and collocating with the ROW for the recently authorized Gateway West Transmission Project.
36-112 Idaho	Consider shifting entire corridor north to follow the ROW for the recently authorized Gateway West route, beginning at Corridor 29-36 at MP 46 and connecting to Corridor 36-112 at the end of the corridor at MP 38.	The potential revision would avoid the Oregon NHT, Snake River WSR, and non-Federal lands (including prime farmland) to the greatest extent possible. The potential revision would create a preferred route for potential future energy development collocated with the ROW for the recently authorized Gateway West Transmission Project.

Corridor # ^a and Location	Potential Revision, Deletion, or Addition	Rationale
36-226 Idaho	Consider shifting corridor along the ROW for the recently authorized Gateway West route, beginning at Corridor 36-228 at MP 8 and connecting to Corridor 36-226 at MP 42. Between MP 40 and MP 64.9, shift corridor slightly to the west to have the existing 116-kV transmission line as its western boundary (Figure 3.5-24c). Consider adding a secondary route or corridor braid along Gateway West to connect Corridor 36-226 at MP 42 to Corridor 112-226 at MP 38.	The potential revision would avoid sensitive areas, including the Oregon NHT, Fossil Beds National Monument, and non-Federal lands (including prime farmland) to the greatest extent possible. The potential revision would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors and collocating with the ROW for the recently authorized Gateway West Transmission Project.
36-228 Idaho	Consider two potential revisions: 1. Aligning corridor along the ROW for the recently authorized Gateway West route, beginning at MP 89 and connecting to Corridor 29-36 at MP 12; and 2. Aligning corridor along BLM-managed lands south of the current corridor location, possibly along Gateway West alternative 9E, from MP 32 to MP 95.	1. The potential revision would avoid private lands in Owyhee County, where there is no existing infrastructure and where there is strong local opposition to future development within the corridor. The potential revision would depend on whether it is compatible with the purposes of the Morley Nelson Snake River Birds of Prey NCA. The potential revision would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors and collocating with the ROW for the recently authorized Gateway West Transmission Project. 2. The potential revision would avoid private lands in Owyhee County and the NCA, and while it would not follow existing infrastructure, it would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors.
49-112 Idaho	Consider shifting corridor along the ROW for the recently authorized Gateway West route, beginning at MP 14 and connecting to the potential revision for Corridor 36- 112.	The potential revision would avoid non-Federal lands to the greatest extent possible and would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors and collocating with the ROW for the recently authorized Gateway West Transmission Project.
49-202 Idaho	Consider shifting corridor west from MP 0 to MP 1.	The potential minor revision would minimize impacts on the Cedar Fields SRMA while maintaining a preferred route for potential future energy development.
50-51 Montana	Consider shifting corridor outside the highway corridor to the existing 230-kV transmission line from MP 12 to MP 33.	The potential minor revision, while moving the corridor partially into GRSG GHMA, would better avoid non-Federal lands as well as the highway and would provide a preferred route for potential future energy development collocated with existing infrastructure.

Corridor #^a and Location	Potential Revision, Deletion, or Addition	Rationale
50-203 Montana Idaho	Consider shifting corridor slightly west, with I-15 or existing transmission line as the eastern border of corridor, from MP 10 to MP 11, and shifting the corridor northwest from MP 118 to MP 123.	The potential minor revisions would minimize impacts on Lewis and Clark NHT, the WSR Study River segment of the Beaverhead River, and the Market Lake Wildlife Management Area, while maintaining corridor width on Federal lands, reducing gaps across private lands, and providing a preferred route for potential future energy development collocated with existing infrastructure.
51-204 Montana	Consider deleting corridor from MP 16 to MP 38. Consider shifting corridor west along existing transmission line from MP 9 and MP 16 to avoid the City of Boulder.	The potential revision would better avoid non-Federal lands and would provide a preferred route for potential future energy development collocated with existing infrastructure. MP 16 to MP 38 contains little Federal land and should not be considered a preferred route for future development.
51-205 Montana	Consider shifting corridor between MP 2 and MP 12 so existing 230-kV transmission line is southern corridor boundary. Consider deleting corridor from MP 12 to MP 28.	The potential revision would better avoid I-90 and would provide a preferred route on Federal lands for potential future energy development better collocated with existing infrastructure. The segment from MP 12 to MP 28 contains little Federal land and should not be considered a preferred route for future development.
55-240 Wyoming	Consider shifting corridor slightly north from MP 35 and MP 39.	The potential minor revisions would minimize impacts on the California NHT, Oregon NHT, Mormon Pioneer NHT, Pony Express NHT, and Four Trails Feasibility Study Trail while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
73-129 Wyoming	Consider shifting entire corridor to follow the ROW for the authorized Gateway West route.	The potential corridor revision would create a preferred route for potential future energy development collocated with planned infrastructure and would provide connectivity to renewable energy generation.
73-138 Wyoming	Consider shifting entire corridor to follow the ROW for the authorized Gateway West route.	The potential corridor revision would create a preferred route for potential future energy development collocated with planned infrastructure and would provide connectivity to renewable energy generation.
78-138 Wyoming	Consider shifting entire corridor to follow the ROW for the authorized Gateway West route.	The potential corridor revision would create a preferred route for potential future energy development collocated with planned infrastructure and would provide connectivity to renewable energy generation.
79-216 Montana Wyoming	Consider deleting corridor from MP 0 to MP 32 and shifting corridor as needed to align with existing infrastructure, such as from MP 103 to MP 125, MP 158 to MP 170, and MP 185 to MP 209.	The potential revisions would create a preferred route for potential future energy development by better collocating with existing infrastructure. The segment from MP 0 to MP 32 contains little Federal land and should not be considered a preferred route for future development.
101-263 California	Consider shifting corridor south from MP 14 to MP 18, with existing transmission line as northern border of corridor.	The potential minor revision would minimize impacts on the Trinity, California National WSR while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor #^a and Location	Potential Revision, Deletion, or Addition	Rationale
111-226 Idaho	Consider shifting corridor east, with existing transmission line as western border of corridor from MP 28 to MP 30. Consider shifting corridor west or narrowing corridor from MP 32 to MP 34.	The potential minor revisions would minimize impacts on visual resources while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
112-226 Idaho	Consider shifting corridor north from MP 30 to MP 41 and MP 44 to MP 50, with existing transmission line as southern border of corridor.	The potential minor revisions would minimize impacts on PHMAs and IHMAs while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
121-220 Wyoming	Consider shifting corridor south to align with the ROW for the recently authorized Gateway West route, from MP 9 to MP 13 at end of corridor.	The potential corridor addition would create a preferred route for potential future energy development collocated with the ROW for the recently authorized Gateway West Transmission Project.
121-221 Wyoming	Consider shifting corridor between MP 11 and MP 15, with existing pipeline as border of corridor; shifting the corridor from MP 27 to MP 28, with existing pipeline as border of corridor; shifting corridor to follow WPCI and/or existing pipeline infrastructure from MP 31 to end of corridor; and designating as underground-only.	The potential revision would minimize impacts on the ACEC, visual resources, Killpecker Sand Dunes SRMA, and GRSG while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
126-218 Wyoming	Consider deleting corridor from MP 62 in Utah to MP 109 and revising corridor along either existing pipeline or transmission line to the east.	The potential revision would minimize impacts on the Flaming Gorge NCA while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
129-221 Wyoming	Consider revising entire length of corridor to follow the ROW for the recently authorized Gateway West route.	The potential corridor revision would create a preferred route for potential future energy development collocated with the ROW for the recently authorized Gateway West Transmission Project.
218-240 Wyoming	Consider shifting corridor slightly north from MP 18 to MP 23, with existing infrastructure as southern border of corridor.	The potential minor revision would avoid PHMAs while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
220-221 Wyoming	Consider shifting entire corridor slightly to follow the ROW for the recently authorized Gateway West route.	The potential corridor revision would create a preferred route for potential future energy development collocated with the ROW for the recently authorized Gateway West Transmission Project.
229-254(S) Idaho Montana	Consider shifting corridor from MP 25 to MP 50 to align with existing transmission line, rather than I-90.	The potential minor revisions would minimize impacts on Bull Trout critical habitat while maintaining a preferred route for potential future energy development collocated with existing energy infrastructure.

Corridor #^a and Location	Potential Revision, Deletion, or Addition	Rationale
244-245 Washington	Consider adding lands acquired after 2009 to the designated corridor in future land use planning and collocating potential future energy development closely with existing infrastructure.	The potential minor revisions would minimize concerns regarding steep topography and water quality within the Green River Municipal Watershed while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
250-251 Oregon	Consider shifting corridor slightly from MP 18 to MP 28.	The potential minor revisions would minimize impacts on the Oregon NHT and Snake River-Mormon Basin Back Country Byway while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
Potential Corridor Deletions		
7-24 Oregon	Consider deleting corridor and replacing it with a north-south route (see Wagontire Mountain Corridor addition).	The corridor does not contain any infrastructure and crosses PHMAs along most of its length. In addition, there does not appear to be an east-west energy demand in the area. Therefore, the corridor does not meet the siting principles in the Settlement Agreement.
16-104 California Nevada	Consider deleting corridor.	Although there is an existing 1000-kV transmission line in the corridor from MP 0 to MP 30, a PHMA intersects the corridor where there is no existing infrastructure (from MP 43 to MP 75). In addition, there are other corridors in the area that can meet future energy needs.
121-240 Wyoming	Consider deleting corridor and replacing it with the Gateway West potential corridor addition (see below for Potential Corridor Addition-Gateway West).	The segment from MP 25 to MP 38 does not align with existing infrastructure, portions of the corridor intersect and are adjacent to the Oregon NHT/Mormon Pioneer NHT/Pony Express NHT, and the recently authorized Gateway West route is a better pathway for energy transmission than Corridor 121-240 because the Gateway West route better supplies energy demand.
138-143 Wyoming	Consider deleting corridor and replacing with Wamsutter-Powder Rim potential corridor addition (see below for Potential Corridor Addition-Wamsutter-Powder Rim).	The recently authorized TransWest Express/Gateway South route is a better pathway for energy transmission than Corridor 138-143 because the TransWest Express/Gateway West route follows a similar path and indicates near-term future electric transmission needs, as well as potentially favorable locations for corridor development.
Potential Corridor Additions		
Wamsutter- Powder Rim Wyoming	Consider upgrading the 3,500-foot Wamsutter-Powder Rim locally designated utility corridor along the ROW for the authorized TransWest Express route to a new Section 368 energy corridor (electric-only). The potential new corridor would begin at MP 15 of Corridor 73-138 and run south along the approved TransWest/Gateway South route.	The potential corridor addition would create a preferred route for potential future energy development collocated with the ROW for the recently authorized TransWest Express Transmission Project.

Corridor # ^a and Location	Potential Revision, Deletion, or Addition	Rationale
Gateway West Wyoming	Consider a new corridor, designated as multimodal to accommodate both pipelines and transmission lines, along the ROW for the recently authorized Gateway West route beginning at the western end of Corridor 121-220 and running west to the Idaho/Wyoming border.	The potential corridor addition would create a preferred route for potential future energy development collocated with the ROW for the recently authorized Gateway West Transmission Project.
Wagontire Mountain Oregon	Consider a new corridor from Burns, Oregon, heading south/southwest along the existing 500-kV transmission line to connect to Corridor 7-11.	The potential corridor addition would create a preferred route for potential future energy development, including wind energy development, collocated with existing infrastructure while avoiding PHMAs to the greatest extent possible.
Southern Idaho Idaho	Consider a new corridor through Cassia County along the border between Idaho and Utah.	The potential corridor addition would create an east-west route through southern Idaho that has local government consensus and avoids private agricultural land.
No Potential Revisions, Deletions, or Additions		
6-15 15-17 73-133	78-85 78-255 102-105 129-218	219-220 229-254 230-248 261-262
^a Corridors of Concern are identified in red text.		

3.2 General Considerations for Future Energy Development

During the West-wide Energy Corridor Regional Reviews, the Agencies identified several actions that would help agency decision-makers address concerns related to Section 368 energy corridors and thus promote improved use of the corridors and protection of valuable resources.

In the Region 1 Review, the Agencies identified the need to:

- Provide Agency policy and program guidance to local BLM and USFS offices describing the purpose and benefits of designating and using Section 368 energy corridors.
- Improve coordination between the BLM, USFS, and other involved agencies to avoid or restrict siting of nonlinear features such as geothermal and solar energy facilities within Section 368 energy corridors.
- Review why a Section 368 energy corridor was not used when an authorized long-distance oil, gas, or hydrogen pipeline or high-voltage electric transmission or distribution line has been located outside of or adjacent to a Section 368 energy corridor and consider whether

future revisions, deletions, or additions to the unused corridor segments could improve utilization of the corridor.

- Consider a corridor shift when a Section 368 energy corridor straddles a road or trail (e.g., an Interstate Highway, an NST, an NHT, or a Scenic Byway) to increase the potential for meeting applicable VRM objectives.
- Encourage proponents of projects in Section 368 energy corridors to integrate visual resource planning and design principles during the early phases of project planning to meet BLM VRM and USFS scenic integrity objectives and avoid land use plan amendments.

Additionally, during the Regions 2 and 3 Review, the Agencies identified the need for agency decision-makers to:

- Consider realigning corridors with existing infrastructure to allow maximum utilization. Figure 3-2 from the Regions 2 and 3 Review report shows how a corridor can be shifted along existing infrastructure to maximize utilization as well as avoid an ACEC and lands with wilderness characteristics.
- Include robust communication between local BLM and USFS offices and the Section 368 Interagency Workgroup in Agency policy and program guidance to ensure that changes to Section 368 energy corridors resulting from land use plan revisions or amendments are updated in the Section 368 energy corridor mapping tool to provide transparency to stakeholders.

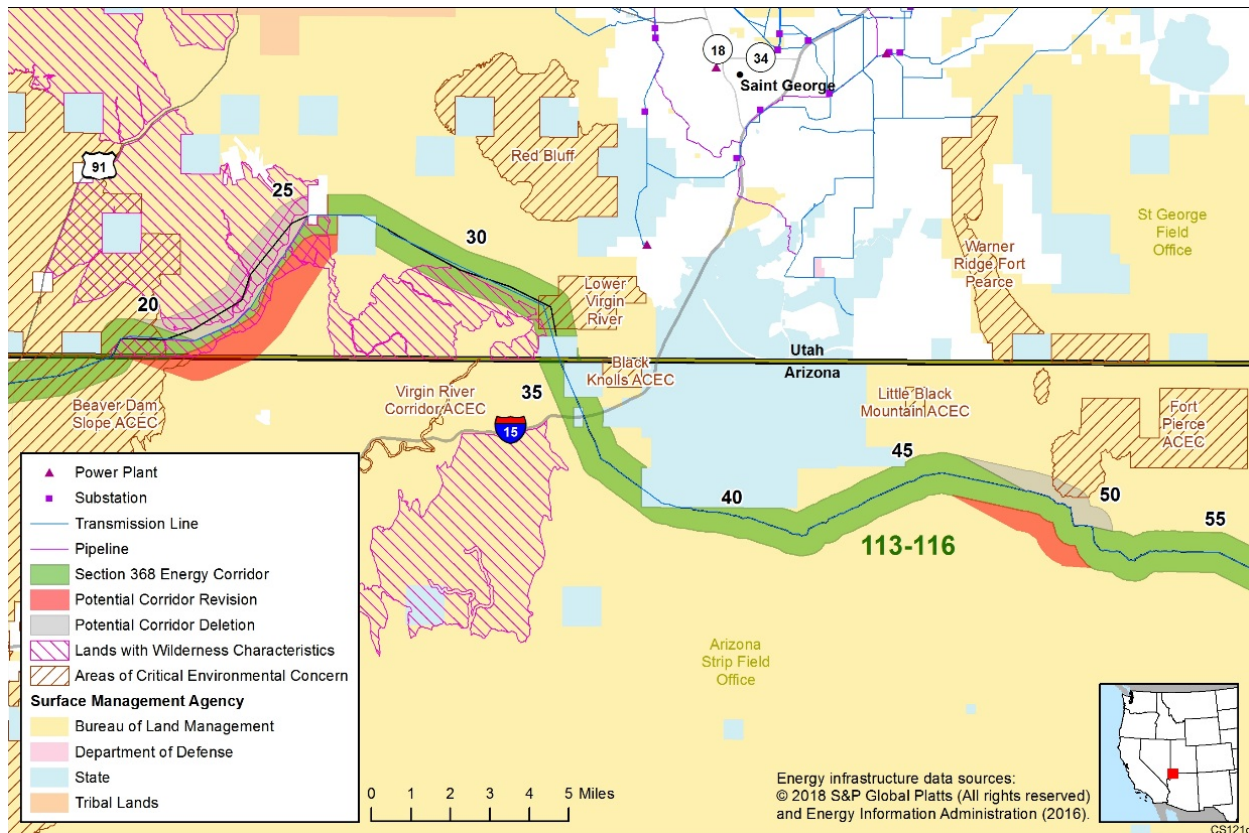


Figure 3-2 Corridor 113-116: Corridor Shift to Avoid ACEC (excerpted from Regions 2 and 3 report)

In the Regions 4, 5, and 6 Review, the Agencies identified the following additional considerations for agency decision-makers:

- Since Federal lands are not always contiguous, the corridors contain corridor gaps where they cross tribal, state, and private lands. Improved engagement and early coordination with state and local governments and tribes could help the Agencies site corridors in locations that are more preferable to state, local, and tribal governments and avoid areas of concern. State, local, and tribal governments have expressed concerns about proximity to farmland, irrigation and agriculture, private residences and local communities, highway ROWs, and sensitive cultural resources.
- When the BLM or USFS acquires lands within a corridor gap, the Agencies should provide guidance and direction for the conditions under which those lands should be designated as a Section 368 energy corridor. Similarly, the Agencies need to remove the corridor designation when the BLM or USFS disposes of Federal lands within a Section 368 energy corridor.
- The Agencies should encourage preferred uses of Section 368 energy corridors. Land use planning for corridors should include programmatic impact considerations for the intended uses related to infrastructure.

3.3 Corridor Management

The minimum specifications for each designated energy corridor include specifying the length, width, and compatible uses of the corridor. The regional reviews have identified that this minimum standard lacks the detail needed to administer Section 368 energy corridors effectively in terms of corridor utilization and resource protection. Agency land use planning needs improved Section 368 energy corridor management specifications and direction to enhance corridor utilization and resource protection both inside and outside Section 368 energy corridors. Agency land use plans should:

- Include a legal description for the corridor centerline and mileposts;
- Specify the corridor width and, if the corridor width is variable, specify where and how variations occur;
- Specify modes of corridor use (e.g., multimodal, electric transmission only, pipeline only, underground use only);
- Enumerate compatible corridor uses in the following order of priority: major energy transmission infrastructure, minor energy transmission and distribution infrastructure, broadband telecommunications and fiber optic infrastructure,⁵¹ and access roads;
- Identify non-compatible corridor uses;
- Enumerate corridor management objectives;
- List management actions to improve transmission reliability, relieve congestion, and enhance the capability of the energy grid to deliver electricity;
- Preclude or limit certain types of land use allocations as necessary to insure the orderly administration of Section 368 energy corridors as preferred locations for long-distance oil, gas, and hydrogen pipelines and high-voltage electric transmission and distribution lines; and
- Align other management actions with the purposes of Section 368 energy corridors. Examples of this type of alignment include the following:
 - Section 368 energy corridors serve a public benefit by providing a reliable location for transmission infrastructure development for the supply of energy essential to the local, regional, and national economies.
 - Vegetative conditions and vegetation management objectives are aligned with energy transmission reliability standards.
 - Other land uses in Section 368 energy corridors are compatible with and not detrimental to construction, operation, maintenance, and decommissioning of energy transmission facilities and associated access and infrastructure.
 - Obsolete or unused facilities in Section 368 energy corridors are promptly removed, and the areas where the removed facilities were situated are rehabilitated to the satisfaction of the authorized officer.
 - Section 368 energy corridors are managed to prevent motorized and non-motorized recreational uses in the corridors.
 - Section 368 energy corridors are managed to meet VRM III or VRM IV objectives.
 - Section 368 energy corridors are managed to avoid the introduction or minimize the spread of noxious and invasive plant species in the corridors.

Additional guidance on land use planning for Section 368 energy corridors is contained in Appendix F.

Designated energy corridors are preferred locations for linear ROWs and facilities. Where there are competing management objectives for the same Federal lands, the agency planning staff should balance the need for responsible corridor development with the objective of minimizing adverse environmental impacts. The corridor summaries identify conflicting management objectives in each of the Regions 4, 5, and 6 Section 368 energy corridors and potential corridor additions that could address those conflicts.

3.4 General Considerations for IOP Revisions, Deletions, and Additions

IOPs are critical for expediting application processing in Section 368 energy corridors and providing consistency between the BLM and USFS in administering Section 368 energy corridors. The IOPs were developed through the West-wide Energy Corridor PEIS and designated in the subsequent BLM and USFS RODs to provide uniform criteria for evaluating proposals and applications for using Section 368 energy corridors. The IOPs are similar to BMPs, but they are mandatory and apply to all proposals, applications, and authorizations for energy transmission projects in Section 368 energy corridors administered by the BLM or USFS. The IOPs are presented in Appendix B of both RODs.^{52 53}

The Agencies have determined that the IOPs are sometimes poorly understood and inconsistently utilized. Therefore, in addition to identifying potential revisions, deletions, and additions to the IOPs in the regional reviews, the Agencies are evaluating how to enhance understanding and consistent application of the IOPs.

The reports for Region 1 and Regions 2 and 3 identify potential new IOPs and IOP revisions:

- The Region 1 report identified the need for new IOPs related to habitat connectivity as an ecological resource, lands with wilderness characteristics, and NSTs and NHTs.
- The Region 1 report identified the need for IOP revisions for three IOPs related to visual resources, vegetation management, and DoD coordination.
- The Regions 2 and 3 report identified the need for new IOPs related to wildlife migration corridors as an ecological resource and ethnographic studies as a tribal concern.

New IOPs could be added and existing IOPs could be revised through internal BLM or USFS guidance or manuals or handbooks.

3.4.1 Potential IOP Additions

During the Regions 4, 5, and 6 review, the Agencies identified the following potential new IOP for GRS habitat:

Ecological Resources. The Agencies should consider adding an IOP related to GRS habitat. An IOP that addresses predation issues (e.g., the installation of barriers or structures to prevent raptors from preying on GRS) where Section 368 energy corridors cross GRS habitat could ensure that the Agencies address impacts on GRS consistently across BLM- and USFS-managed lands.

In addition to the potential new IOP for GRS habitat, the Agencies should consider adding language to the potential new IOPs identified in the Region 1 report and Regions 2 and 3 report:

- For the potential new IOP related to habitat connectivity, the Agencies should consider adding language that provides for addressing wildlife corridors and migration patterns at the project level more consistently.
- For the potential new IOP related to NHTs, the Agencies should consider adding language that provides for consideration of designating a corridor as underground-only where the corridor crosses high potential segments of the NHT.

3.4.2 Potential IOP Revisions

During the Regions 4, 5, and 6 review, the Agencies identified the following potential IOP revision for river crossings:

Surface Water. The Agencies could revise the existing IOP regarding wild and scenic rivers to provide for consideration of reducing the corridor width at wild and scenic river crossings.

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Endnotes and References

¹ IOPs are designed to foster long-term, systematic planning for energy transport development in the West, provide industry with a coordinated and consistent interagency permitting process, and provide practicable measures to avoid or minimize environmental harm from future development within the corridors.

² Corridors of concern are corridors identified by plaintiffs in the Settlement Agreement as having specific environmental issues. Corridors of concern and the specific environmental issues are located in Appendix A of the Settlement Agreement.

³ The term “pinch points” refers to corridor segments with a considerably reduced capacity for new project infrastructure compared to the rest of the corridor. Examples include reduced corridor width due to challenging terrain or jurisdictional land ownership patterns; existing conflicting surface use activities such as airfields, quarries, or mining in or immediately adjacent to the corridor path; and existing infrastructure such as transmission and distribution lines, pipelines, roads, railroads, power generation facilities, or pipeline booster or compressor stations in the corridor path, which may impede the future placement of new project infrastructure within the corridor.

⁴ For this regional review, underground only and pipeline only are synonymous and may include aboveground facilities or components.

⁵ U.S. District Court for the Northern District of California, San Francisco Division, 2012, *Settlement Agreement between The Wilderness Society et al. v. United States Department of the Interior et al.*, No. 3:09-cv-03048 JW, Joint Motion to Dismiss Case Pursuant to Fed. R. Civ. P. 41(a)(2), July 9. Available at http://corridoreis.anl.gov/documents/docs/Settlement_Agreement_Package.pdf. Accessed March 16, 2017.

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⁸ The plaintiffs include The Wilderness Society, BARK, Center for Biological Diversity, Defenders of Wildlife, Great Old Broads for Wilderness, Klamath-Siskiyou Wildlands Center, National Parks Conservation Association, National Trust for Historic Preservation, National Resources Defense Council, Oregon Natural Desert Association, Sierra Club, Southern Utah Wilderness Alliance, Western Resource Advocates, Western Watersheds Project, and County of San Miguel, Colorado.

⁹ White *et al.*, 2016, *Section 368 Corridor Study*, ANL/EVS-16/6, prepared by the Environmental Science Division, Argonne National Laboratory, Argonne, Ill., for Bureau of Land Management, U.S. Forest Service, and U.S. Department of Energy, May.

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