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Energy Policy Act of 2005 Section 368 Energy Corridor Review FINAL REPORT: REGIONS 1-6



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Report User Guide

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," prepared and approved this final report. The findings in this report have been identified through a robust and collaborative multi-year review of the existing West-wide (Section 368) energy corridors across federal lands in the western continental United States. The report has been compiled from regional review reports with consideration to comments received to provide BLM and USFS decision-makers with recommended revisions, deletions, and additions to the Section 368 energy corridors. The Agencies examined the Section 368 energy corridors at a regional level with substantial input from Tribes, states, local governments, non-governmental organizations, conservation community groups, electric utilities, renewable energy developers, the oil and gas industry, wildlife organizations, advocacy groups, private landowners, and BLM and USFS staff.

The Agencies have included a suggested framework in this report for BLM and USFS planners to use when performing additional analyses of Section 368 energy corridors during future land use planning. The suggested framework reflects the process used during the regional review to ensure that any recommended revisions, deletions, or additions to energy corridors are aligned to best meet the siting principles identified in the 2012 Settlement Agreement.¹ The siting principles must be considered in modifying Section 368 energy corridors. Therefore, as the BLM and USFS undertake land use planning efforts to modify energy corridors, the suggested framework is available as a helpful resource.

The suggested framework (Section 2) includes:

- Section 2.1 Corridor Siting Principles. Corridors are thoughtfully sited to provide maximum utility and minimum impact on the environment; corridors promote efficient use of landscape for necessary development; appropriate and acceptable uses are defined for specific corridors; and corridors provide connectivity to renewable energy generation to the maximum extent possible, while also considering other generation in order to balance the renewable sources and to ensure the safety and reliability of electricity transmission.
- Section 2.2 Current energy conditions and projected future growth. BLM and USFS planning staff should review the current energy environment, including existing and recently authorized infrastructure and rights-of-way, power plant retirements, and renewable energy development, to locate corridors where future use is anticipated.
- Section 2.3 Interagency coordination and stakeholder and tribal engagement. BLM and USFS planning offices should coordinate between agencies and other BLM and USFS offices to ensure continuity in a corridor's location and should engage Tribes and stakeholders to minimize conflicts where corridors cross lands not managed by the BLM or USFS.
- Section 2.4 General siting guidelines to improve corridor placement and use. BLM and USFS planning staff should evaluate corridors using guidelines developed through the regional review, including conditions under which recommended revisions, deletions, and additions are generally appropriate to improve corridor placement.
- Section 2.5 Corridor management. BLM and USFS planning staff should consider adding energy corridor management recommendations presented in this report to agency land use

plans to enhance corridor utility and resource protection both inside and outside Section 368 energy corridors.

BLM and USFS planning offices, as well as Tribes and stakeholders, evaluated the designated Section 368 energy corridors and interagency operating procedures (IOPs) through the regional review. Based on their input and additional information, the Agencies have compiled and updated the recommended revisions, deletions, and additions to minimize resource concerns and improve corridor effectiveness for all the energy corridors and IOPs in this final report.

Recommended revisions, deletions, and additions (Section 3) include:

- Section 3.1 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors. BLM and USFS planning staff should consider the specific revisions, deletions, and additions listed in Table 3.1 (and described in the corridor summaries) during future land use planning to balance the need for energy development with resource protection.
- Section 3.2 Recommended Revisions and Additions to IOPs. At the national level, the BLM and USFS should consider the recommended new IOPs and IOP revisions listed in Table 3.2 to minimize potential impacts, expedite application processing in Section 368 energy corridors, and provide consistency between the BLM and USFS in administering Section 368 energy corridors. Any changes to IOPs determined to be appropriate would be adopted through BLM and USFS policy or NEPA analysis. In lieu of an amendment to the PEIS, the recommended new IOPs and IOP revisions could be adopted as best management practices in local land use plans or at the project level to minimize potential impacts.

Contents

Notation	i
Acronyms, Initialisms, and Abbreviations	i
Units of Measure	ii
Executive Summary	ES-1
1. Background	1
2. Framework for Considering Recommended Revisions, Deletions, and Additions to Section 368 Corridors	Energy 5
2.1 Corridor Siting Principles	7
2.2 Current Energy Conditions and Projected Growth	7
2.3 Interagency Coordination and Tribal and Stakeholder Engagement	10
2.4 General Siting Guidelines to Improve Corridor Placement and Use	13
2.5 Corridor Management	15
3. Recommended Revisions, Deletions, and Additions	19
3.1 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors	20
3.2 Recommended Revisions and Additions to IOPs	43
3.2.1 Recommended IOP Additions	45
3.2.2 Recommended IOP Revisions	47
4. References and Endnotes	

Figures

Figure 1-1 Section 368 Energy Corridors as Designated in the 2009 PEIS	2
Figure 1-2 Section 368 Energy Corridor Timeline and Process	3
Figure 2-1 Steps for Incorporating Regional Review Recommendations into BLM and USFS Land Use Planning	6
Figure 2-2 Recently Authorized Interstate Energy Transmission Projects	9
Figure 2-3 Corridor 27-225: Corridor Adjustment to Improve Corridor Placement Across Planning Boundaries	11
Figure 2-4 When to Make Revisions, Deletions and Additions to Section 368 Energy Corridors (if applicable)	14
Figure 2-5 Corridor 80-273: Corridor Revision to Avoid an ACEC	15
Figure 2-6 When to Revise Plan Allocations or Designations	16
Figure 3-1 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors	21
Figure 3-2 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors2	22
Figure 3-3 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors2	43
Figure 3-4 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors2	54
Figure 3-5 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors2	65
Figure 3-6 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors	76
Figure 3-7 Recommended Revisions, Deletions and Additions to Section 368 Energy Corridors277	

Tables

Table 3-1 Summary of Recommended Revisions, Deletions, and Additions to Section 368 Energy	
Corridors	288
Table 3-2 Summary of Recommended Revisions and Additions to IOPs	444

Notation

Acronyms, Initialisms, and Abbreviations

ACEC	Areas of Critical Environmental	NPS	National Park Service
	Concern	NST	National Scenic Trail
AGL	above ground level	NTSA	National Trails System Act
BLM	Bureau of Land Management	PEIS	Programmatic Environmental Impact
BMP	best management practices		Statement
BOR	Bureau of Reclamation	PHMA	Priority Habitat Management Area
DC	direct current	RDEP	Restoration Design Energy Project
DoD	U.S. Department of Defense	RETI	Renewable Energy Transition Initiative
DOE	U.S. Department of Energy	RMP	Resource Management Plan
DOI	U.S. Department of the Interior	ROD	Record of Decision
		ROW	right-of-way
EPA	U.S. Environmental Protection Agency		
EPAct	Energy Policy Act of 2005	SEZ	solar energy zone
ESA	Endangered Species Act	SRMA	Special Recreation Management Area
		SWIP	Southwest Intertie Project
		SNWA	Southern Nevada Water Authority
GIS	geographic information system		
GRSG	Greater Sage-grouse	USACE	U.S. Army Corps of Engineers
GuSG	Gunnison Sage-grouse	USDA	U.S. Department of Agriculture
		USFS	U.S. Forest Service
IOP	Interagency Operating Procedure	USFWS	U.S. Fish and Wildlife Service
IRA	Inventoried Roadless Areas	UTTR	Utah Test and Training Range
ISA	Instant Study Area		
		VRM	Visual Resource Management
LMP	Land Management Plan	VQO	Visual Quality Objective
MOU	memorandum of understanding	WSMR	White Sands Missile Range
MP	milepost	WSA	Wilderness Study Area
		WSR	Wild and Scenic River
NCA	National Conservation Area		
NEPA	National Environmental Policy Act		
NHT	National Historic Trail		

Units of Measure

ft	foot, feet
km²	square kilometer(s)
kV	kilovolt(s)
m	meter(s)
mi²	square mile(s)
MW	megawatt(s)

Executive Summary

This final report includes the review of all West-wide energy corridors and was prepared and approved by the Bureau of Land Management, U.S. Forest Service, and the U.S. Department of Energy, hereafter referred to collectively as "the Agencies." The final report summarizes the regional review reports and includes updated recommendations after considering Tribal and stakeholder comments. The final report provides a national, interagency perspective that will assist Bureau of Land Management and U.S. Forest Service decision-makers in consistently adjusting corridor placement and management to maintain feasible, Agency-preferred pathways for energy transmission. The findings in this final report support federal initiatives to: 1) improve transmission and pipeline development that stabilizes the electrical grid and strengthens America's energy infrastructure; 2) expand broadband access across the rural United States (Executive Order 13821); and 3) increase renewable energy production on federal lands while ensuring robust protection for our lands, waters, and biodiversity and creating good jobs (Executive Order 14008). This final report also supports Bureau of Land Management and U.S. Forest Service regulations that direct land use planning efforts to consider existing information (including transportation and utility corridor studies) to determine appropriate placement of utility corridors (43 CFR 2802.11, 36 CFR Part 219).

Agency investment in recommended revisions, deletions, and additions to Section 368 energy corridors could facilitate energy transmission development while protecting natural, cultural, and historic resources across the western United States, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. The recommended energy corridor revisions, deletions, and additions in this report balance maximizing utility with minimizing resource impacts. To ensure recommended corridor revisions, deletions, and additions are consistent with the siting principles in this report, the review of Section 368 energy corridors emphasized robust stakeholder engagement, collaboration, and partnership. The Agencies recommend continued robust engagement, collaborations, conservation community groups, electric utilities, renewable energy developers, the oil and gas industry, wildlife organizations, advocacy groups, private landowners, and other federal agencies to aid in future review and assessment of proposed energy corridor revisions, deletions, or additions. Robust public involvement will allow the Agencies to increase their understanding of local issues, including environmental justice and Tribal concerns.

The Agencies recommend 80 revisions, 9 deletions, and 8 additions to the existing 126 Section 368 energy corridors that were designated in the 2009 West-wide Energy Corridor Programmatic Environmental Impact Statement and associated Bureau of Land Management and U.S. Forest Service records of decision. The recommended revisions, deletions, and additions are summarized in Section 3, Table 3-1, and a comprehensive discussion of the recommendations is located in the corresponding Corridor Summaries document. A suggested framework to integrate these recommendations into Bureau of Land Management and U.S. Forest Service land use planning is provided in Section 2. The Agencies also recommend three revisions and four additions to interagency operating procedures that are provided in Section 3.2 and summarized in Table 3-2. The recommended revisions and additions to the interagency operating procedures are presented for potential implementation through an amendment to the 2009 records of decision as appropriate. This page intentionally left blank

1. Background

Over the duration of their energy corridor review, the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and the U.S. Department of Energy (DOE), hereinafter referred to collectively as "the Agencies," analyzed 126 energy corridors (commonly referred to as Section 368 energy corridors or West-wide energy corridors). These corridors were designated in the 2009 PEIS records of decision (RODs) in the 11 contiguous western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) (Figure 1-1). Section 368 energy corridors are designated for energy transmission and can also serve as interstate pathways for broadband, such as via underground fiber optic cable. The purpose of the Section 368 energy corridor review was to examine updated, relevant information and obtain Tribal and stakeholder input on the energy corridors, including corridors of concern.² Based on the information gathered, the Agencies reviewed the Section 368 energy corridors and developed potential enhancements to the West-wide energy corridor network. Through this report, the Agencies present recommended corridor revisions, deletions, and additions to be considered by BLM and USFS decision-makers in the context of appropriate land use planning. The report also includes recommended interagency operating procedure (IOP) revisions and additions that can be considered by BLM and USFS national policy staff. In addition, this report describes a framework for the BLM and USFS to use in evaluating Section 368 energy corridor placement, including current energy conditions and projected future growth, land use planning considerations, general considerations for future corridor placement, and guidance to improve corridor management.

Figure 1-2 depicts a timeline of the Section 368 energy corridor history and review process with recommended next steps. A clearinghouse of background information on the regional review is available on the West-wide Energy Corridor Information Center³ website. The Section 368 energy corridors were divided into regions, and the corridors were evaluated by region sequentially in three phases (Region 1; Regions 2 and 3; and Regions 4, 5, and 6). For each regional review, abstracts for Section 368 energy corridors were developed to assist the Agencies, Tribes, and stakeholders in identifying specific environmental concerns and other challenges, such as pinch points.⁴ The Agencies used geographic information system (GIS) analyses and other available data, as well as input from Tribes and stakeholders, to evaluate possible physical constraints and resource conflicts. The abstracts provide a condensed record of environmental and other concerns for each corridor and 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. After the corridor abstracts were released, the Agencies conducted public workshops and released the Region 1, Regions 2 and 3, and Regions 4, 5, and 6 regional review reports. The three reports presented initial findings for the corridors in each region. Appendix A describes the Tribal and stakeholder engagement process, lists the entities that provided input on the three reports, and summarizes the input received from Tribes and stakeholders.



Figure 1-1 Section 368 Energy Corridors, as Designated in the 2009 PEIS



TIMELINE OF THE SECTION 368 ENERGY CORRIDORS DESIGNATION AND REVIEW PROCESS

Figure 1-2 Section 368 Energy Corridor Timeline and Process

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2. Framework for Considering Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors

Once a Section 368 energy corridor is designated, it is considered to be a preferable pathway for interstate energy transport until it is amended. In this way, the BLM's and USFS's land use plans balance development with protection of natural resources. The purpose of the regional review was to offer recommended revisions, deletions, and additions to Section 368 energy corridors, which BLM and USFS decision-makers may consider in the context of land use planning. The BLM or USFS may amend the Section 368 energy corridors designated in the land use planning decisions in the two West-wide Energy Corridor Records of Decision (RODs)^{5,6} from 2009. Revisions, deletions, and additions to Section 368 energy corridors can be made several ways in the land use planning process, including through: a new PEIS that considers amendments to designated Section 368 energy corridors based on all of the recommendations; the normal course of revising or amending land use plans; plan amendments triggered by a project; and plan amendments undertaken to address Section 368 energy corridor revisions, deletions, or additions.

Section 3 of this report presents the Agencies' recommended revisions, deletions, and additions to the Section 368 energy corridors from the Regional Reports. In an attempt to adequately recognize and appreciate the changing portfolio of energy generation, technological advancement, and climate and conservation goals, the Agencies have developed a suggested framework to promote consistency and efficacy in evaluation of recommended revisions, deletions, and additions to Section 368 energy corridors during future BLM and USFS land use planning.

The Agencies suggest using the following framework in assessing the recommended revisions, deletions, and additions to Section 368 energy corridors:

- The corridor siting principles (Section 2.1);
- Current energy conditions and projected growth (Section 2.2);
- Interagency coordination and Tribal and stakeholder engagement (Section 2.3);
- General siting guidelines to improve corridor placement and use (Section 2.4); and
- Corridor management (Section 2.5).

Figure 2.1 illustrates the four steps for integrating the framework into the BLM's and USFS's land use planning process.

Initiate corridor review during:

- □ Land use plan update or revision (Comprehensive Approach)
- Land use plan amendment triggered by project (Reactive Approach)
- Land use plan amendment to specifically address energy corridor revisions (Proactive Approach)

2 Incorporate proposed corridor modifications into agency planning analysis

- Regional review (Table 3-1)
- Robust stakeholder engagement
- Alternatives identified by BLM or USFS planning staff

3 Implement framework

A. Consider the siting principles.

Would the revision meet siting principles and requirements specified in EPAct Section 368?

B. Evaluate the current energy environment.

Would the corridor revision be located where future use is anticipated?

C. Coordinate with other federal agencies and engage with stakeholders.

Does the corridor cross multiple jurisdictions or span across lands not managed by the BLM or USFS where interagency coordination and stakeholder engagement could ensure continuity and avoid potential conflicts?

- **D.** Evaluate corridors using general siting guidelines presented in regional review Are there other revisions that could improve corridor placement and use?
- E. Consider adding energy corridor management specifications and direction presented in regional review.

Are there management specifications that could enhance corridor utilization and resource protection?

Designate corridor revisions and management specifications in land use plan decisions

Figure 2-1 Steps for Incorporating Regional Review Recommendations into BLM and USFS Land Use Planning

2.1 Corridor Siting Principles

While reviewing Section 368 energy corridors during future land use planning, BLM and USFS planning staff must first evaluate how recommended revisions, deletions, and additions to Section 368 energy corridors would best meet these four siting principles from the Settlement Agreement:

- 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 generation in order to balance the renewable sources and to ensure the safety and reliability of electricity transmission.

Sections 2.2 through 2.5 describe how BLM and USFS planners can apply the siting principles when evaluating Section 368 energy corridors during future land use planning.

2.2 Current Energy Conditions and Projected Growth

As identified above, two of the corridor siting principles in the Settlement Agreement direct the Agencies to consider whether the Section 368 energy corridors are: 1) thoughtfully sited to provide maximum utility and minimum impact on the environment; and 2) promote efficient use of the landscape for necessary development. In reviewing Section 368 energy corridors during future land use planning, BLM and USFS planning staff should evaluate current and potential future energy transmission needs, including existing and recently authorized infrastructure and rights-of-way (ROWs), planned or anticipated power plant retirements or conversions, and potential renewable energy development. The intent is to locate, plan for, and maintain Section 368 energy corridors as preferred pathways for interstate energy transport until the corridors are amended.

Appendix B contains an assessment of energy conditions and projected energy needs in Region 1, Regions 2 and 3, and Regions 4, 5, and 6 that the Agencies used to evaluate whether Section 368 energy corridors are located in areas that provide reliable energy transmission pathways for local and national energy needs. Appendix B also includes regional, state, and local energy initiatives, policies, and reports.

As conditions change, BLM and USFS planning offices may need to consider additional relevant information. For example, future land use planning should consider studies, initiatives, and other information that are more current than the regional review.

Existing Infrastructure, Retirements, and Planned or Pending Projects

Consistent with the siting principles, the regional review assessed existing energy infrastructure, planned and potential energy generation development, and energy transmission capacity needs. Appendix C contains a description of existing infrastructure, planned or pending projects, and the potential for future energy development in Section 368 energy corridors. The Agencies synthesized this information to consider transmission capacity needs in relation to existing Section 368 energy corridors.

Recently issued federal ROW authorizations for multi-state bulk-power transmission projects are significant because they indicate near-term future energy transmission needs. The ROWs for these projects may also serve as favorable locations for Section 368 energy corridor revisions or additions. Recent power plant retirements also indicate changes in the economics of energy sources and energy demand. BLM and USFS planners should consider these factors when evaluating potential revisions, deletions, and additions to Section 368 energy corridors. If a recently authorized, long-distance energy transmission project is located on federal lands outside a nearby Section 368 energy corridor, the BLM and/or USFS should consider why the corridor was not used and whether the recently authorized ROW warrants a relocation to a nearby existing Section 368 energy corridor or designation as a new Section 368 energy corridor. The Corridor Summaries describe recommended Section 368 energy corridor additions, some of which follow recently authorized ROWs across federal lands (see Figure 2-2). Appendix B, Section B.1.4, describes recently authorized interstate electric transmission and pipeline projects that were evaluated during the regional review.

Initiatives, Studies, and Future Energy Potential

Another siting principle in the Settlement Agreement is to consider whether Section 368 energy corridors facilitate connectivity to renewable energy generation to the maximum extent possible while also considering other sources of energy generation. This siting principle assists in balancing opportunities for renewable energy sources while addressing the availability, safety, and reliability of other types of energy transmission. Section 368 energy corridors play a significant role in connecting renewable energy sources to the western electrical grid. Substantial technological advancements and regional, state, and local energy initiatives, including initiatives aimed at increasing renewable energy, have taken place since 2009, and further developments in these areas could lead to increased energy generation in proximity to Section 368 energy corridors. The Agencies incorporated information from these initiatives as they considered energy transmission needs (areas where energy pathways are needed), recent and proposed energy development, and state renewable portfolio standards with respect to the regional review. Appendix B, Sections B.1.1 through B.1.3, describe specific initiatives and other studies of future energy potential that were evaluated in the three regional review reports (Region 1, Regions 2 and 3, and Regions 4, 5, and 6). Appendix D references the National Renewable Energy Laboratory (NREL) Synthesis Study, a report that synthesizes information from multiple studies forecasting western energy generation and transmission needs over the next 10 to 15 years.

The BLM and USFS should consider these and other relevant studies of energy trends, such as electrical grid storage, when assessing recommended revisions, deletions, or additions to Section 368 energy corridors in future land use planning.



Figure 2-2 Recently Authorized Interstate Energy Transmission Projects

2.3 Interagency Coordination and Tribal and Stakeholder Engagement

Corridor Designations and Interagency Coordination

Another siting principle in the Settlement Agreement is to consider whether Section 368 energy corridors promote efficient use of the landscape for necessary development. The Section 368 energy corridors serve as preferred pathways for interstate energy transmission across the 11 western states. Many Section 368 energy corridors span long distances and cross multiple jurisdictions managed under numerous land use plans. BLM resource management plans (RMPs) and USFS land management plans (LMPs) guide uses and resources on federal lands administered by each agency. RMPs and LMPs should include Section 368 energy corridor designations that reflect preferred pathways for siting electricity transmission and oil, gas, and hydrogen pipelines (see Appendix E, Table E-1, for a list of the land use plans associated with each Section 368 energy corridor PEIS RODs remain in effect. However, some recent BLM and USFS planning projects have changed Section 368 energy corridor locations, boundaries, or mode of use (from or to multi-modal, underground-only, or electric-only). The corridors affected and the relevant new land use plans are listed in Appendix E, Table E-2.

Where revisions, deletions, and additions are being considered to Section 368 energy corridors, especially revisions to their alignment or mode of use, the BLM or USFS planner and decision-maker should consider whether the change would affect adjacent federal lands and should coordinate with other affected federal agencies. During future land use planning involving revisions, deletions, or additions to Section 368 energy corridors, BLM and USFS planning staff should consider whether land use plans and land use planning decisions adopted by other federal agencies or other BLM or USFS offices could affect development within the corridors.

For example, Corridor 27-225 is located in both Nevada and California near multiple large solar energy and electric transmission lines. Section 368 energy corridors were designated with a default width of 3,500 ft, unless they were previously designated as a local corridor with a different width. Corridor 27-225 is designated with a 10,560-ft width in California (it was a 10,560-ft-wide, locally designated corridor prior to designation as a Section 368 energy corridor) and a 3,500-ft width in Nevada (the default width for all Section 368 energy corridors). When the BLM Southern Nevada District Office undertakes land use planning revisions, it could consider widening the corridor to accommodate additional energy infrastructure in a congested area and better align with the designated corridor in California (Figure 2-3).



Figure 2-3 Corridor 27-225: Corridor Adjustment to Improve Corridor Placement Across Planning Boundaries

Tribal and Stakeholder Engagement

Public engagement should be commensurate with the scope and complexity of the land use planning process. Public engagement for land use planning involving recommended revisions, deletions, and additions to Section 368 energy corridors should include Tribes, states, local governments, other federal agencies, non-governmental organizations, conservation community groups, electric utilities, renewable energy developers, the oil and gas industry, wildlife organizations, advocacy groups, and private landowners. The BLM and USFS should seek out opportunities to include Tribes and local communities in the land use planning process to enhance understanding of local issues, including environmental justice and tribal concerns.

The regional review involved robust Tribal and stakeholder engagement. There were six opportunities to provide input during the regional review, facilitated by a web-based input form. In addition, the Agencies conducted five public webinars (four were recorded and posted on the website), three public meetings, nine public workshops, and numerous telephone calls and e-mails with non-governmental organizations, industry groups, and local governments. The Agencies sent letters to Tribes and responded to questions and comments from individual Tribes. Additional information about Tribal and stakeholder engagement during the regional review is contained in Appendix A.

The following considerations have been identified to help BLM and USFS planning offices continue meaningful and productive stakeholder engagement:

- Since federal lands are not contiguous, the Section 368 energy corridors contain gaps where
 they cross Tribal, state, and private lands. Improved engagement and early coordination
 with state and local governments, Tribal governments, and private landowners will help the
 BLM and USFS locate corridors consistent with the siting principles. Concerns expressed by
 state, local, and Tribal governments include decreased property value, visual impacts on
 residences and local communities, loss of farmlands and highway ROWs, impacts on
 irrigation, and impacts on sensitive cultural and natural resources.
- Throughout the regional review, the Corridor Mapper tool was used to aid Agency staff, Tribes, and stakeholders in understanding potential issues regarding Section 368 energy corridors and their proximity to other resources. The Corridor Mapper will remain accessible, but its GIS layers may become outdated. Appendix F lists the GIS layers included in the Corridor Mapper. To address the potential obsolescence of the Corridor Mapper, in January 2020, the BLM launched the ROW corridor mapping tool, called the <u>BLM Landscape</u> <u>Approach Data Portal</u>, to replace the <u>Corridor Mapper</u>. The Landscape Approach Data Portal is a publicly available, online mapping tool that allows users to add their own layers to the tool. This function allows Tribes and stakeholders to view the proximity of Section 368 energy corridors to resources not hosted on the BLM website. BLM and USFS planning staff are encouraged to use this tool when reviewing Section 368 energy corridors and to encourage its use by Tribes and stakeholders during future land use planning involving the corridors. The BLM Landscape Approach Data Portal can be accessed at <u>https://landscape.blm.gov/geoportal/catalog/ROW/ROW.page</u>

 BLM and USFS planning staff are strongly encouraged to coordinate with other federal agencies and other BLM and USFS offices in future land use planning involving Section 368 energy corridors to ensure continuity in locating corridors and to promote efficient use of the landscape. In addition, robust Tribal and stakeholder engagement will help minimize conflicts where corridors cross lands not managed by the BLM or USFS. Enhanced engagement with local governments and private landowners in siting Section 368 energy corridors could also reduce potential socioeconomic and environmental justice impacts on local communities.

2.4 General Siting Guidelines to Improve Corridor Placement and Use

During the regional review, the Agencies identified certain conditions where recommended revisions, deletions, and additions would generally be appropriate to improve corridor placement and use. Figure 2-4 illustrates these conditions to help BLM and USFS planning staff identify them in future land use planning to promote improved use of Section 368 energy corridors and protection of natural resources. Figure 2-4 also describes how recommended revisions, deletions, and additions could be implemented in the future. When reviewing one or more Section 368 energy corridors in future land use planning, BLM and USFS planning staff are advised to evaluate the corridors using these guidelines to promote consistency and efficacy in corridor placement and use.

The recommended revisions, deletions, and additions to Section 368 energy corridors in Table 3-1 could be made through future land use plan revisions or amendments. Figure 2-5 shows an example of how an existing corridor could be revised to avoid an ACEC.



NOTE: Land use plan revisions or amendments, which consider revisions, deletions, and/or additions to Section 368 corridors or revisions to plans to accommodate corridors, at a minimum, must: (A) Meet the requirements specified in EPAct Section 368 and (B) Consider the corridor siting principles in the Settlement Agreement.

Figure 2-4 When to Make Revisions, Deletions, and Additions to Section 368 Energy Corridors (if applicable)



Figure 2-5 Corridor 80-273: Corridor Revision to Avoid an ACEC

2.5 Corridor Management

When reviewing Section 368 energy corridors in future land use planning, BLM and USFS planning staff should consider adding energy corridor management recommendations in this report to their land use plans to enhance corridor utility and resource protection. In reviewing the Section 368 energy corridors, the Agencies observed a need for additional clarity and guidance for managing existing corridors to ensure they continue to meet the siting principles through subsequent revisions and amendments to land use plans.

Section 368 of the Energy Policy Act of 2005, 42 U.S.C. § 15926, states: "A corridor designated under this section shall, at a minimum, specify the centerline, width, and compatible uses of the corridor." In 2009, the U.S. Department of the Interior (DOI) and U.S. Department of Agriculture (USDA) issued RODs designating energy corridors and identifying their centerline, width, and compatible uses. Compatible use was defined as multi-modal, pipeline only, transmission only, and potential inclusion of limits on above- or below-grade use.

An important siting principle in the Settlement Agreement is that appropriate and acceptable uses are defined for specific corridors.⁷ The regional review identified that this standard lacks the detail needed to administer Section 368 energy corridors effectively. Section 368 energy corridors are preferred locations for oil, gas, and hydrogen pipelines and electric transmission lines. Where there are

competing management objectives for federal lands, BLM or USFS planning staff should balance the need for corridor development with resource protection. Thus, it may be beneficial to identify inappropriate and unacceptable uses as well as appropriate and acceptable uses in Section 368 energy corridors to provide sufficient guidance to administer the corridors for their identified purposes. This guidance would also include specifying corridor management objectives and identifying any conflicting management objectives within the corridor, e.g., between management of energy uses and resources in the corridor. Where there are competing management objectives, revisions or deletions may need to be made to the corridor to avoid a resource during future land use planning (see Figure 2-5). In other instances, BLM or USFS planners may consider revising plan allocations or designations to avoid conflicts in a designated corridor (Figure 2-6).

To avoid competing land management objectives within Section 368 energy corridors:

- □ Change avoidance or exclusion area(s) boundaries
- □ Change visual resource boundaries (VRM and VQO)
- □ Change special designation area(s) boundaries

Figure 2-6 When to Revise Plan Allocations or Designations

In addition, management objectives and other guidance for Section 368 energy corridors may enhance corridor utility and resource protection both inside and outside the corridors. Management objectives can also support federal initiatives to 1) strengthen America's energy infrastructure; 2) expand broadband access across the rural United States; and 3) increase renewable energy production on federal lands while addressing resource protection.

Specifically, BLM and USFS land use plans should:

- Include a geospatial representation of the corridor centerline and mileposts.
- Specify the corridor width and, if the corridor width is variable, specify where and how variations occur.
- Specify compatible use of the corridor (e.g., multimodal, transmission line only, pipeline only, underground use only).
- List compatible corridor uses in the following order of priority: major energy transmission infrastructure, minor energy transmission and distribution infrastructure, broadband infrastructure, and access roads. Expanding opportunities for broadband infrastructure on federal lands supports federal initiatives to increase broadband availability for underserved communities.
- Identify non-compatible corridor uses.
- List corridor management objectives.
- List management actions to improve transmission reliability, relieve congestion, and enhance the capacity of the electrical grid.

• Preclude or limit certain types of land use allocations as necessary to ensure the orderly administration of Section 368 energy corridors as preferred locations for long-distance oil, gas, and hydrogen pipelines and high-voltage transmission lines.

In implementing land use plans, BLM and USFS personnel should coordinate with other affected agencies to avoid or restrict incompatible siting of geothermal, wind, and solar energy facilities in Section 368 energy corridors. In addition, to the extent feasible and appropriate, BLM and USFS personnel should consider facilitating use of Section 368 energy corridors by developing enhanced direction for employees and aligning other management actions with the purposes of Section 368 energy corridors.

Examples of this type of alignment could include:

- Coordinating vegetation management objectives for Section 368 energy corridors with energy transmission reliability standards.
- Addressing compatibility with other land uses in Section 368 energy corridors with construction, operation, maintenance, and decommissioning of energy transmission facilities and associated access and infrastructure.
- Removing obsolete or unused facilities in Section 368 energy corridors and rehabilitating the affected areas.
- Managing Section 368 energy corridors as recreational avoidance areas (for both motorized and non-motorized uses) on federal lands.
- Managing Section 368 energy corridors to meet VRM objectives on BLM-managed lands and VQO on USFS-managed lands.
- Managing Section 368 energy corridors 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 G.

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3. Recommended Revisions, Deletions, and Additions

The Agencies engaged in a robust and collaborative multi-year process to present opportunities for revisions, deletions, and additions to Section 368 energy corridors and IOPs. Each of the three regional review reports analyzed designated Section 368 energy corridors and identified recommended revisions, deletions, and additions for the corridors in each region. Each report also identified recommended new and revised IOPs to minimize potential impacts on resources in the corridors. The Agencies considered input received during the comment period for each regional review report, as well as additional current relevant information, to refine the findings in the regional review reports. BLM and USFS planners and decision-makers can consider these recommended corridor revisions, deletions, and additions in future land use planning. Any changes to IOPs could be adopted through BLM and USFS policy or NEPA analysis.

3.1 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors

The Settlement Agreement requires the Agencies to review the Section 368 energy corridors and identify recommended corridor revisions, deletions, or additions to the corridors. Recommended corridor revisions, deletions, and additions are presented in this report for BLM and USFS land use planners and decision-makers to consider in future land use planning, either with a plan amendment or as part of a larger planning effort. The regional review considered Tribal and stakeholder input received on each regional review report, as well as other current relevant information, which led to the following refined findings:

- 80 recommended corridor revisions in all 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming).
- 9 recommended corridor deletions in California, Colorado, Nevada, Oregon, and Wyoming.
- 8 recommended corridor additions in Colorado, Idaho, Nevada, New Mexico, Oregon, and Wyoming.

Figures 3-1 through 3-7 show recommended revisions for Section 368 energy corridors on a map of the corridor network. Figure 3-1 is an overview map of the entire 11-state region. The following maps show specific sections of the region. Table 3-1 contains a summary of the recommended revisions, deletions, and additions for the Section 368 energy corridors, including a rationale for the recommended changes. The corridor summaries provide additional detail of the recommended changes and rationales for each corridor. If no recommended revisions, deletions, or additions are identified for a corridor, the corridor summaries describe how the current location of the corridor meets the four siting principles identified in the Settlement Agreement. Appendix H contains a table showing the Agencies' application of the corridor siting principles in identifying recommended revisions, deletions, and additions to the Section 368 energy corridors.



Figure 3-1 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-2 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-3 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-4 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-5 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-6 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors



Figure 3-7 Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors

Table 3-1 Summary of Recommended Revisions, Deletions, and Additions to Section 368 Energy Corridors

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
	Recommended Co	rridor Revisions
3-8 California	Consider deleting corridor segment at milepost (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. Alternatively, consider merging the corridor from MP 52 to MP 58 with Corridor 8-104 (MP 0 to MP 7).	The recommended minor revisions ⁸ would minimize impacts on Pacific Crest National Scenic Trail (NST), Northern Spotted Owl critical habitat, Mayfield roadless area, Emigrant Trail National Scenic Byway, and Four Trails Feasibility Study 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 recommended minor revisions would minimize impacts on Coho Salmon critical habitat, California National Historic Trail (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 recommended minor revisions would minimize impacts on Coho Salmon critical habitat and 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 recommended minor revisions would minimize some impacts on NHTs and Special Recreation Management Areas (SRMAs) while maintaining a preferred route for potential future energy development collocated with existing and planned infrastructure.
7-8 California Oregon	Consider shifting corridor east from MP 2 to MP 4 to collocate with three existing transmission lines.	The recommended minor revision would minimize impacts on Greater Sage grouse (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.	The recommended minor revisions would minimize impacts on lands with wilderness characteristics and priority habitat management area (PHMA) while maintaining a preferred route for potential future energy development better collocated with existing infrastructure.
8-104 California	Consider shifting corridor slightly west (with existing transmission line as western boundary) from MP 13 to MP 18 and shifting corridor west from MP 70 to MP 75.	The recommended 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.
10-246 Oregon	Consider shifting corridor slightly northwest from MP 21 to MP 23 or site future development northwest of existing transmission lines.	The recommended minor revision would minimize impacts on the Sandy River Wild and Scenic River (WSR), Coho Salmon critical habitat, and visual resources while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor Number ^a and	Recommended Revision, Deletion, or Addition	Rationale
Location		
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 recommended 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 recommended 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 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 recommended minor revisions would minimize impacts on Fort Sage CA SRMA and Webber's Ivesia critical habitat while maintaining corridor width on public 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 recommended 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 existing transmission line from MP 44 to MP 56, MP 115 to MP 130, and MP 154 to MP 160. Consider extending corridor north to connect to Corridor 24-228 along highway.	The recommended minor revisions would minimize potential environmental impacts by better aligning with existing infrastructure, thus minimizing disturbance. Additional corridor revisions to avoid large checkerboard area between MP 56 and MP 105 could be considered at the project-level in coordination with local government and landowners. The potential corridor extension would create a continuous north-south pathway for energy infrastructure.
17-18 Nevada	Consider shifting corridor west from MP 43 to MP 51 along existing 230-kV transmission line. Consider shifting corridor west from MP 32 to MP 43 to avoid expansion of Fallon Naval Air Station Bombing Range.	The recommended revisions would avoid Walker River Reservation and Fallon Naval Air Station Bombing Range expansion while maintaining a preferred route for potential future energy development collocated with existing infrastructure wherever possible.
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 the recommended revision described below. Consider adding a corridor braid along existing infrastructure from MP 175 to MP 251 and retaining the designation of underground only for a portion of the corridor.	The recommended revision would avoid Hastings Cutoff Trail, town of Elko, Elko Band Colony tribal lands, and California NHT; reduce corridor overlap with GRSG habitat; and collocate along existing infrastructure. The recommended revision would minimize impacts on PHMA while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
18-23 Nevada California	Consider shifting corridor and centering along the 1000-kV transmission line for the entire route and narrowing the corridor to a 250-ft width centered on the 1000-kv transmission line to restrict future development to the existing ROW.	Revising the corridor along the existing 1,000-kV transmission line, narrowing the corridor, and restricting development to the existing ROW would minimize future impacts while maintaining corridor utility. The recommended revision along the 1000-kv transmission line would avoid newly designated Alabama Hills National Scenic Area which was designed in the John D. Dingell, Jr. Conservation, Management, and Recreation Act (March 12, 2019).
18-224 Nevada	Consider shifting corridor east at MP 106, following Highway 95 past Tonopah and Goldfield, and rejoining corridor at MP 165 to provide access to Millers solar energy zone (SEZ). Alternatively, consider shifting corridor east at MP 85 along existing transmission line to Highway 95 and south past Tonopah and Goldfield to provide access to Millers SEZ. During land use planning, consider the proposed Greenlink West Transmission Line Project route and proposed Interstate 11 Project route as a preferred pathway for future energy infrastructure.	The recommended revisions would collocate with existing infrastructure and provide access to the Millers SEZ, facilitating solar energy development. If any proposed infrastructure (Greenlink West Transmission Line Project route or proposed Interstate 11 Project route) is approved and constructed in the future, the ROW for the new infrastructure would become a preferred route for energy transport, and the BLM and USFS should consider revising the corridor to align with that ROW.
23-25 Segment California	Consider realigning corridor between MP 0 and MP 18 to connect to Corridor 23-106 via an existing locally designated corridor. Consider extending the corridor across additional BLM-managed lands south of MP 83 in future land use planning.	The recommended revisions would improve corridor utility by shifting the first 18 miles west to connect to adjacent Corridor 23-106. The original corridor route studied in the West-wide Energy Corridor PEIS included U.S. Department of Defense (DoD)-administered lands that were not designated, leaving a corridor gap. Corridor utility could be also be improved by extending the corridor on BLM-managed lands south of MP 83 toward Victorville.
23-106 Segment California	Consider shifting corridor from MP 32 to MP 36 so that the existing transmission line is the eastern boundary of the corridor. The recommended revision for Corridor 23-25 would collocate with Corridor 23-106 between MP 0 to MP 20.	Utilization of the corridor could be improved and impacts from the corridor could be minimized by realigning it to avoid the state park, where the corridor is pinched. The recommended revision would avoid DoD-administered lands at this location.
24-228 Oregon Idaho	Consider making small shifts from MP 7 to MP 76; shifting corridor to the western edge of the highway or transmission line from MP 82 to MP 85; and shifting corridor west from MP 90 to MP 95. Consider extending corridor from its southern end (MP 0) to connect with Corridor 16-24 at MP 195; the width of the extended portion should be limited to the narrower width of Corridor 24-228.	The recommended revisions would minimize impacts on SRMAs (Blackstock, Squaw Creek Addition, and Owyhee Front), Squaw Creek Research Natural Area ACEC, and federal lands with wilderness characteristics while maintaining corridor width on federal lands. The corridor extension would provide a southern pathway into California.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
27-41 Arizona California, and Nevada	Consider extending the corridor at MP 130 along the existing 500 kV transmission line to the east to facilitate connection to Corridors 41-46 and 41-47 in Arizona. The existing transmission line should be the southern boundary of the corridor.	The corridor abruptly stops at the California–Nevada state line, preventing the corridor from connecting to Corridors 41-46 and 41-47. Extending Corridor 27-41 east across Nevada could provide a contiguous corridor between states and could help achieve the purpose of Section 368 energy corridors to serve the national energy transmission and pipeline system.
27-225 Nevada and California	Consider widening corridor between MP 103 and MP 107.	Increasing capacity in Nevada by widening the corridor would alleviate a major bottleneck. This corridor provides a major link in the energy transmission system extending from Wyoming to southern California; however, future use of the corridor is unlikely due to physical constraints from solar energy development within the corridor in southern Nevada. In addition, the California side of the corridor is much wider, at 2 miles in width, and a more coordinated approach should be taken by the BLM in Nevada and California.
29-36 Idaho	Consider shifting corridor northeast from MP 10 to MP 12 and MP 46 to MP 50. The recommended revision for Corridor 36-112 along the recently authorized Gateway West Transmission Project route would connect to Corridor 29-36 at MP 45, providing a secondary route or corridor braid.	The recommended revisions would minimize impacts on Slickspot Peppergrass critical habitat, Four Trails Feasibility Study Trail, and Snake River WSR. The recommended revisions would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors and collocating with the recently authorized Gateway West Transmission Project.
30-52 Segment Arizona	With engagement from Tribes, local governments, and Bureau of Reclamation (BOR), consider revising corridor between MP 94 and MP 200. Consider adding a corridor braid along the recently authorized Ten West Link Project. Between MP 190 and MP 200, consider aligning the existing transmission line as the northern boundary of the recommended corridor revision to avoid the Big Horn Mountain Wilderness Area. Consider widening the corridor at MP 169 to maintain corridor width where a land conveyance to La Paz County has been identified.	The recommended revisions would maximize utility through collocation with planned infrastructure and would increase capacity within the corridor for future projects through the corridor braid collocated with Ten West Link.
35-43 Nevada	Consider realigning the corridor along Interstate 80 to connect Corridor 43-44 with Corridor 17-35.	The recommended revision would collocate existing infrastructure, thereby improving corridor utility and promoting more efficient use of the landscape. This recommended revision would also minimize potential impacts by avoiding GRSG habitat and California NHT.
36-112 Idaho	Consider shifting the entire corridor north to follow the recently authorized Gateway West Transmission Project beginning at Corridor 29-36 at MP 46 to connect to Corridor 36-112 at the end of the corridor at MP 38.	The recommended revision would avoid Oregon NHT, Snake River WSR, and non-federal lands (including prime farmland) to the greatest extent possible. The recommended revision would create a preferred route for potential future energy development collocated with the recently authorized Gateway West Transmission Project.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
36-226 Idaho	Consider shifting corridor along recently authorized Gateway West Transmission Project beginning at Corridor 36-228 at MP 8 to connect to Corridor 36-226 at MP 42. Consider adding a secondary route or corridor braid along the Gateway West Transmission Project ROW to connect Corridor 36-226 at MP 42 to Corridor 112-226 at MP 38.	The recommended revisions would avoid sensitive areas, including Oregon NHT, Fossil Beds National Monument, and non-federal lands (including prime farmland) to the greatest extent possible. The recommended revisions would create a preferred route for potential future energy development by connecting multiple Section 368 energy corridors and collocating with the recently authorized Gateway West Transmission Project.
37-223 (S) Nevada	Consider revising corridor along Southern Nevada Water Authority (SNWA) authorized ROWs from MP 1 to MP 2. Consider adding BLM- managed lands to the corridor between MP 4 and MP 6.	Corridor utility is limited due to jurisdictional gap at Nellis Small Arms Range. Corridor was originally envisioned to include DoD and U.S. Fish and Wildlife Service (USFWS) lands at this location in the West-wide Energy Corridor PEIS. As those designations did not occur, the existing short corridor segments do not provide much function as a preferred route for potential future energy development. The proposed revision would better align with existing infrastructure and other corridors, thereby providing more options for preferred routes for energy project ROWs.
37-232 Nevada	Consider adding a corridor segment along SNWA authorized ROW, which generally follows Highway 168 from MP 33 to the town of Moapa.	The recommended revision would provide a secondary route along existing infrastructure. The corridor is collocated with existing transmission lines and natural gas pipelines, has capacity for future infrastructure development, and is adjacent to Dry Lake SEZ, which provides an opportunity for the corridor to accommodate electric transmission for renewable energy development
39-113 Nevada	Consider revising the corridor from MP 0 to MP 46. Options include realigning along an existing locally designated corridor (Moapa Corridor); realigning along the authorized TransWest Express Transmission Project ROW; and realigning along the existing 500-kV transmission line or Interstate 40.	All recommended realignments would require consultation and engagement with Tribes. The recommended realignment would eliminate the jurisdictional gap at Valley of Fire State Park and would avoid currently undeveloped areas and identified environmental and recreational issues.
39-231 Nevada	Consider widening corridor from MP 9 to MP 11 from 500 ft to 3,500 ft. Consider designating corridor on BOR-managed lands from MP 18 to MP 26.	The recommended revision would broaden an existing pinch point, improving corridor utility and promoting more efficient use of the landscape. The pinch point was caused by a previously identified Instant Study Area (ISA). Congress subsequently removed the designation; however, the width of the corridor has remained unchanged. Designating the corridor across BOR-managed lands would provide better continuity across the corridor but the designation would have to be made by BOR.
41-46 Nevada	Consider extending Corridor 27-41 at MP 130 east along the existing 500-kV transmission line to facilitate connection with Corridors 41-46 and 41-47.	Corridor 27-41 abruptly stops at the California–Nevada state line, preventing the corridor from connecting to Corridors 41- 46 and 41-47. Extending Corridor 27-41 east across Nevada could provide a contiguous corridor between states and could help achieve the purpose of Section 368 energy corridors to serve the national energy transmission and pipeline system.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
41-47 Nevada	Consider extending Corridor 27-41 at MP 130 east along the existing 500-kV transmission line to facilitate connection with Corridors 41-46 and 41-47.	Extending Corridor 27-41 east across Nevada could provide a contiguous corridor between states and could help achieve the purpose of Section 368 energy corridors to serve the national energy transmission and pipeline system.
43-111 Nevada	Consider shifting corridor west to collocate with the planned Southwest Intertie Project (SWIP) transmission line.	If the SWIP transmission line were constructed, the recommended corridor revision would maximize utility and minimize impacts by collocating with infrastructure within GRSG PHMAs and would avoid locating the corridor in PHMAs between MP 6 and MP 11.
49-112 Idaho	Consider shifting corridor along authorized Gateway West Transmission Line Project ROW beginning at MP 13 and connecting to the recommended revision for Corridor 36-112.	The recommended 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 authorized Gateway West Transmission Project.
49-202 Idaho	Consider shifting corridor west from MP 0 to MP 1.	The recommended minor revisions would minimize impacts on Cedar Fields SRMA while maintaining a preferred route for potential future energy development and would better collocate with existing infrastructure.
50-51 Montana	Consider shifting corridor outside the highway corridor to the existing 230-kV transmission line from MP 12 to MP 33.	The recommended revision would locate the corridor on more BLM-managed lands as well as along the highway and would provide a preferred route for potential future energy development collocated with existing infrastructure.
50-203 Montana Idaho	Consider shifting corridor slightly west, with I-15 or existing transmission line as eastern boundary of corridor from MP 10 to MP 11. Consider shifting corridor northwest with existing transmission line as eastern boundary of corridor from MP 118 to MP 123.	The recommended minor revisions would minimize impacts on Lewis and Clark NHT, WSR Study River segment of the Beaverhead River, and Market Lake Wildlife Management Area while maintaining corridor width on federal lands, reducing gaps on private land, 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 at MP 9, intersecting Corridor 229-254 at MP 266, and following Corridor 229-254 until it joins with Corridor 51-204 at MP 22. This route could also be added as a suggested corridor braid.	The recommended revisions would better avoid non-federal lands, including the town of Boulder, and would provide a preferred route for potential future energy development collocated with existing infrastructure. MP 16 to MP 38 contains little federal lands and should not be considered a preferred route for potential future energy development.
51-205 Montana	Consider shifting corridor north away from I-90 from MP 0 to MP 12. Consider deleting corridor from MP 12 to MP 28.	The recommended revisions would better avoid I-90 and would provide a preferred route on federal lands for potential future energy development better collocated with existing infrastructure. MP 12 to MP 28 contains little federal lands and should not be considered a preferred route for potential future energy development.
55-240 Wyoming	Consider shifting corridor slightly from MP 35 and MP 39.	The recommended minor revision would minimize impacts on 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.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
62-211 Arizona	Consider shifting corridor between MP 60 and MP 87, less than 1 mile east and south along the existing 345-kV transmission line, so that the existing transmission line becomes the northern boundary of the corridor.	The recommended revision would maximize corridor utility and avoid potential impacts on General George Crook National Recreation Trail, Mogollon Rim, Chevelon Creek River (which is eligible for Wild and Scenic River designation), Chevelon Crossing, aquatic endangered species, Citizen's proposed wilderness, USFS roadless areas and potential wilderness areas, scenic integrity, cultural resource site density. Steep Ridge, and Vincent Banch.
73-129 Wyoming	Consider shifting entire corridor to follow the authorized Gateway West Transmission Project ROW.	The recommended revision would create a preferred route for potential future energy development collocated with planned infrastructure.
73-133 Colorado	Consider shifting corridor east between MP 46 and MP 57 and MP 72 and MP 79, so that the existing pipelines become the western boundary of the corridor.	The recommended revision would avoid lands with wilderness characteristics, spring creek drainage, and cultural sites. The recommended corridor revision would minimize impacts through collocation with existing and planned infrastructure and would maximize utility by increasing capacity within the corridor.
73-138 Wyoming	Consider shifting entire corridor to follow the authorized Gateway West Transmission ROW.	The recommended revision would create a preferred route for potential future energy development collocated with planned infrastructure.
78-138 Wyoming	Consider shifting entire corridor to follow the authorized Gateway West Transmission ROW.	The recommended revision would create a preferred route for potential future energy development collocated with planned infrastructure.
79-216 Montana Wyoming	Consider deleting corridor from MP 0 to MP 32 and shifting corridor to existing infrastructure in areas where it is not currently collocated, e.g., from MP 103 to MP 147; MP 158 to MP 170; and MP 185 to MP 209. Consider shifting corridor along the highway to avoid lands with wilderness characteristics from MP 185 to MP 198.	The recommended revisions would create a preferred route for potential future energy development by better collocating with existing infrastructure. MP 0 to MP 32 contains little federal lands and should not be considered a preferred route for potential future energy development.
80-273 New Mexico	Consider shifting corridor at MP 131 to align with existing infrastructure.	The recommended revision would maximize utility and minimize impacts by collocating along existing infrastructure and avoiding Morris 41 ACEC.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
81-213 New Mexico Arizona	Consider realigning corridor between MP 0 and MP 18 along an existing 345-kV transmission line south of the corridor. Consider realigning the corridor along the authorized ROW for the Southline Transmission Line Project between MP 28 and MP 78. Consider adding a corridor braid to the north along the Southline Transmission Line Project authorized ROW and the 2016 SunZia Southwest Transmission Project authorized ROW. The northern corridor braid could be designated for transmission lines, and the southern corridor braid could be designated for pipelines. Consider realigning corridor at MP 100 with the authorized SunZia Southwest Transmission Project and Southline Transmission Project.	The recommended revisions would maximize utility by expanding capacity within the corridor and accommodating development outside the Afton SEZ while also providing transmission line access to the SEZ. The recommended revisions would improve corridor utility and minimize impacts by realigning the corridor along the Southline Transmission Line Project authorized ROW and the 2016 SunZia Southwest Transmission Project authorized ROW. The recommended revisions would improve utility because there are numerous homes and farms along the current route that could prevent future energy development. The additional corridor segment could accommodate different needs of transmission lines and oil and gas pipelines at river crossings. A potential re-routing of the corridor at MP 100 would avoid Lordsburg Playa, a VRM Class II area, and Butterfield Trail.
81-272 New Mexico	Consider realigning corridor between MP 0 and MP 40 with the authorized ROW for the SunZia Southwest Transmission Project. Consider realigning the corridor between MP 100 and MP 109 with the authorized ROW for the SunZia Southwest Transmission Project.	The recommended revisions would maximize utility and minimize impacts by collocating along existing infrastructure. From MP 0 to MP 25, the recommended revisions would avoid impacts on El Camino Real de Tierra Adentro NHT, minimize impacts on wildlife, and avoid crossing the Rio Grande River. The recommended revisions from MP 100 to MP 109 would improve corridor utility and minimize impacts by avoiding Sevilleta National Wildlife Refuge, where additional infrastructure is not allowed, and Ladron Mountain-Devil's Backbone Complex ACEC. Coordination with White Sands Missile Range (WSMR) would be required, and it is likely that only pipelines would be authorized in the WSMR call-up area.
87-277 Colorado 89-271	Consider shifting corridor south between MP 5 and MP 43 and narrowing or shifting corridor between MP 103 and MP 115 to avoid lands with wilderness characteristics. Consider shifting corridor slightly to avoid overlap with roadless areas and the active geothermal lease. Although no specific revision has been identified, consider alternate routes to avoid or minimize impacts on Gunnison Sage-grouse (GuSG) critical habitat. Consider shifting corridor west at MP 64 for	The recommended revisions would reduce impacts by avoiding lands with wilderness characteristics and roadless areas and would improve corridor utility by increasing capacity. The recommended revisions would minimize impacts by
New Mexico 101-263	approximately 12 miles and then north to meet the existing corridor at MP 85. Consider shifting corridor south from MP 14 to	avoiding Lesser Prairie Chicken habitat and would maximize utility by collocating with existing infrastructure on BLM- administered lands as much as possible. The recommended minor revision would minimize impacts
California	MP 18, utilizing the existing transmission line as the northern boundary of the corridor.	on Trinity WSR while maintaining a preferred route for potential future energy development collocated with existing infrastructure.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
110-114 Nevada Utah	Between MP 30 and MP 50, consider realigning corridor along Highway 50. Between MP 70 and MP 110, consider realigning corridor east along either existing 230-kV transmission lines, Highway 50, or south of Highway 50 to avoid WSAs. Between MP 83 and MP 93, consider re- routing corridor east of Highway 21	The recommended revisions would improve corridor utility and minimize impacts by avoiding private land, Utah Test and Training Range (UTTR), and riparian areas. The recommended corridor revisions would also support connectivity to multiple energy generation sources and would promote efficient use of the landscape by aligning the corridor consistent with energy demand
111-226 Idaho	Consider shifting corridor east, with the existing transmission line as the western boundary of the corridor or narrowing corridor from MP 28 to MP 30 and MP 32 to MP 34.	The recommended 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 67, utilizing the existing transmission line as the southern boundary.	The recommended minor revisions would minimize impacts on PHMA and Idaho Habitat Management Area while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
113-114 Utah	Consider adding corridor segment (braid) at MP 30 connecting the corridor to the authorized TransWest Express Transmission Project ROW in eastern Nevada.	The recommended revision would improve corridor utility. The current route through the Dixie National Forest is not likely to accommodate additional large transmission lines. The additional corridor segment would increase capacity for north-south development in the region while also providing a connection to Washington County. The recommended revision would avoid Inventoried Roadless Areas (IRAs), the Beaver Dam Slope ACEC, GRSG PHMA, Dixie National Forest, Mountain Meadow Massacre National Historic Landmark, and Old Spanish NHT.
113-116 Arizona Nevada Utah	Consider shifting corridor from MP 47 to MP 51, so that the existing 500-kV transmission line becomes the northern boundary of the corridor. Also, consider shifting corridor south or narrowing corridor at its northern end between MP 20 and MP 26.	The recommended minor revisions would avoid intersecting Fort Pearce ACEC 26 and federal lands with wilderness characteristics and would collocate with existing infrastructure.
114-241 Utah	Consider shifting corridor between MP 42 and MP 79 to follow the east side of the authorized TransWest Express Transmission Project ROW and UNEV pipeline.	The recommended revision would improve corridor utility and minimize impacts by collocating with existing infrastructure and maximizing capacity.
115-208 Arizona	Consider a slight shift between MP 4 and MP 8, so that the existing infrastructure becomes the northern boundary of the corridor.	The recommended revision would avoid Gila River Terraces and Lower Gila Historic Trails ACEC.
116-206 Arizona Utah	Consider realigning corridor with U.S. Highway 89 from MP 53 to MP 79. Consider aligning corridor at MP 79 with the gas pipeline headed west to connect to and align with a 345-kV transmission line and reconnect with the existing corridor at about MP 86.	The recommended revision would maximize utility and minimize impacts by collocating along existing infrastructure, which would minimize potential impacts on GRSG PHMAs.
121-220 Wyoming	Consider shifting corridor south to align with recently authorized Gateway West Transmission Project ROW between MP 9 and MP 13 at the end of the corridor.	The recommended addition would create a preferred route for potential future energy development collocated with planned infrastructure.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
121-221 Wyoming	Consider shifting corridor to the south from MP 11 to MP 15 utilizing the existing pipeline as	The recommended revisions would minimize impacts on ACEC, visual resources, Killpecker Sand Dunes SRMA, and
	the boundary of the corridor; shifting corridor to the south from MP 27 to MP 28, utilizing the existing pipeline as the boundary of the corridor; and shifting corridor to follow Wyoming Pipeline Corridor Initiative and/or existing pipeline infrastructure from MP 31 to the end of the corridor. Consider designating corridor as underground only.	GRSG habitat while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
126-258	Consider realigning corridor from MP 3 to MP 17	The recommended revision would maximize utility and
Utah	and from MP 24 to the end of the corridor to	minimize impacts through collocation with existing
	align with the authorized ROW for the TransWest	infrastructure, would avoid oil and gas infrastructure and
	Express Transmission Project.	topography concerns, and would minimize impacts on federal lands with wilderness characteristics.
129-221	Consider revising entire length of corridor to	The recommended revision would create a preferred route
Wyoming	follow recently authorized Gateway West	for potential future energy development collocated with
	Transmission Project ROW.	planned infrastructure.
132-133	Consider shifting the corridor to occupy BLM-	The recommended revisions would maximize utility by closing
Colorado	managed lands east from MP 6 to MP 9.	a gap in the corridor and increasing the amount of BLM-
	Consider minor adjustments to avoid lands with	managed lands in the corridor and minimize impacts by
	wilderness characteristics and to make the	avoiding South Shale Ridge ACEC and lands with wilderness
	existing transmission line the boundary of the	characteristics
	corridor. Designate corridor as multi-modal	
	where there are existing transmission lines in the	
	corridor to allow for upgrades to those facilities.	

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
132-276 Colorado	Consider revising corridor along the existing 345-kV transmission line from MP 60 to MP 103. Consider shifting corridor slightly east between MP 53 and MP 54 to retain capacity within the corridor on BLM-managed lands.	The recommended revisions would improve corridor utility and minimize impacts by collocating with existing infrastructure and avoiding Magpie Gulch ACEC. The recommended revisions also would avoid mining operations and state lands.
133-142 Colorado	Consider shifting corridor so that the existing 345-kV transmission line becomes the southern boundary of the corridor.	The recommended revision would minimize impacts by avoiding federal lands with wilderness characteristics.
134-136 Colorado	Consider designating corridor as underground only from MP 1 to MP 9.	The recommended revision would minimize impacts on Roubideau Special Management Area and would maximize utility because project proponents would not have to address separation integrity issues that arise when transmission lines and pipelines are collocated within a corridor.
134-139 Colorado	Consider shifting corridor south so that the existing transmission line becomes the northern boundary of the corridor.	The recommended revision would avoid Silesca Ranger Station, a site listed on the National Register of Historic Places that is within the northern portion of the current alignment near MP 3, and would maximize utility within the corridor.
139-277 Colorado	Consider minor corridor adjustments from MP 8 to MP 9.	The recommended minor revisions would avoid Western Yellow-billed Cuckoo proposed critical habitat.
144-275 Colorado	Consider widening corridor from MP 0 to MP 22.	The recommended revision would widen the corridor at pinch points and collocate with existing infrastructure.
218-240 Wyoming	Consider shifting corridor slightly north from MP 18 to MP 23, utilizing the existing infrastructure as the southern boundary of the corridor.	The recommended minor revision would reduce overlap with PHMA while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
220-221 Wyoming	Consider shifting entire corridor slightly to align with the recently authorized Gateway West Transmission Project ROW.	The recommended revision would create a preferred route for potential future energy development collocated with planned infrastructure.
223-224 Nevada	Consider realigning corridor from MP 0 to MP 17 south of U.S. Highway 95 to align with locally designated corridors where there is existing infrastructure.	The recommended revision would improve utility by providing a viable route for energy transmission northwest of the Las Vegas Valley and would reduce impacts by avoiding Tule Springs Fossil Beds National Monument and DoD Nellis Test and Training Range. However, the recommended revision would narrow the corridor width to approximately 1,400 ft.
224-225 Nevada	Consider shifting corridor from MP 33 to MP 61 to align with a locally designated corridor with existing infrastructure. Consider alternatives for navigating the pinch point caused by terrain between MP 6 and MP 9.	The recommended revisions would reduce impacts by better aligning with existing infrastructure. If there is significant solar energy development in Nye County, this route will be important. Alternatives for navigating difficult terrain between MP 6 and MP 9 would improve corridor utility.
<mark>229-254(S)</mark> Idaho Montana	Consider shifting corridor from MP 25 to MP 50 to align with the existing transmission line rather than I-90. Consider designating the corridor as multi-modal instead of underground only.	The recommended 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. Designating the corridor as multi-modal would increase capacity since there is an existing transmission line within the corridor.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
234-235 Arizona	Consider slight adjustments so that the entire corridor is aligned with existing infrastructure and the existing transmission line becomes the western boundary of the corridor, except from MP 7 to MP 8.	The recommended corridor revision would enhance corridor utility and would minimize impacts by realigning with existing infrastructure. Locating the corridor east of the existing transmission line would avoid jaguar critical habitat to the maximum extent possible while collocating with existing infrastructure.
244-245 Washington	Consider adding lands acquired after 2009 to the designated corridor and collocating future development with existing infrastructure.	The recommended minor revisions would minimize concerns regarding steep topography and water quality within 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 recommended minor revisions would minimize impacts on Oregon NHT and Snake River-Mormon Basin BLM Back Country Byway while maintaining a preferred route for potential future energy development collocated with existing infrastructure.
	Recommended Co	rridor Deletions
7-24 Oregon	Consider deleting corridor.	The corridor does not contain existing infrastructure and crosses PHMA 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
<mark>16-104</mark> California Nevada	Consider deleting corridor.	Although an existing 1000-kV transmission line exists within the corridor from MP 0 to MP 30, 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.
36-228 Idaho	Consider deleting corridor.	There is no preferable route in the area. There is local opposition to the designated corridor where it crosses private land. The Agencies considered an alternate route to the south, but it conflicts with GRSG PHMA. Re-aligning the corridor along the approved Gateway West Transmission Project ROW is not feasible because the Boundary Act created a 250-ft ROW through the Morley Nelson Snake River Birds of Prey NCA, and that 250-ft ROW is not a corridor. Corridor 29-36 north of the Gateway West Transmission Project ROW provides an alternate northwest-southeast route.
37-223 (N) Nevada	Consider deleting all of this 0.6-mile corridor while still preserving intersecting Corridors 37-232 and 37-39.	The corridor's utility is very limited due to a jurisdictional gap at Desert National Wildlife Refuge. The corridor was originally envisioned to include DoD- and USFWS-managed lands at this location in the West-wide Energy Corridor PEIS. As those designations did not occur, this short corridor does not provide much function as a preferred route for potential future energy development.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
121-240 Wyoming	Consider deleting corridor and replacing it with the Gateway West Transmission Project ROW recommended corridor addition.	MP 25 to MP 38 does not align with existing infrastructure, and the recently authorized Gateway West Transmission Project ROW is a more preferable pathway for potential future energy development than Corridor 121-240 because Gateway West Transmission Project ROW better aligns energy demand.
130-274 Colorado	Partial deletion: Consider deleting corridor from MP 0 to MP 32 and deleting Corridor 130-274(E).	The portions of Corridor 130-274 that are being considered for deletion are not consistent with the siting principles or the recommended addition of the San Miguel/Dolores Corridor. Corridor 130-274 does not contain infrastructure from MP 0 to MP 32 and during the past 10 years has not served as a preferred pathway to support transmission line infrastructure. Deleting this portion of the corridor would also minimize potential impacts on conservation easements on private land to protect GuSG and would minimize potential impacts on scenery values. Without Corridor 130-274, Corridor 130-274(E) is an isolated parcel that does not promote efficient use of the landscape or maximize utility.
138-143 Wyoming	Consider deleting corridor and replacing with Wamsutter-Powder Rim recommended corridor addition.	The recently authorized TransWest Express/Gateway South Transmission Project ROWs is a preferable pathway for future potential energy development than Corridor 138-143.
230-248 Oregon	Consider deleting corridor.	The corridor does not align with existing infrastructure and river crossing, fire risk, terrain, and stability concerns make future energy development along this corridor unlikely. Other concerns include proximity to wilderness and ACECs, Pacific Crest NST crossings, WSR crossings, Northern Spotted Owl habitat, and habitat for the new White River wolf pack.
232-233 Nevada	Partial deletion: Consider deleting Corridor 232-233(E) but retaining Corridor 232-233(W).	Corridor 232-233(E) does not meet the siting principles because there is no existing infrastructure within the corridor. In addition, potential future energy development could fragment desert tortoise habitat.
	Recommended Co	rridor Additions
San Miguel/ Dolores Corridor, Colorado	Consider adding a new corridor to replace Corridor 130-274/130-274(E). The recommended corridor addition would align with a recently upgraded 230-kV transmission line in the northern portion of the recommended corridor addition and would align with a local road in the southern portion.	The recommended addition would maximize utility by collocating with existing infrastructure and would minimize potential impacts by avoiding lands with wilderness characteristics and conservation easements that protect GRSG. The recommended corridor addition would also minimize potential visual resource impacts by aligning the corridor with existing infrastructure and would promote efficient use of the landscape by providing a continuous north-south corridor through a large portion of western
Curecanti- Rifle Corridor, Colorado	Consider adding a new corridor to align with the Curecanti-Rifle transmission line.	The recommended addition would maximize utility by linking multiple West-wide energy corridors to create a north-south pathway in Colorado and would minimize potential impacts by collocating along an existing 230-kV transmission line and by avoiding IRAs.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
Lucky Corridor, New Mexico	Consider adding a new corridor to align with the planned Lucky Corridor transmission line through the Carson National Forest.	The recommended addition would maximize utility by strengthening the electrical grid along an aging 115-kV transmission line and would minimize potential impacts by collocating along an existing 115-kV transmission line and the planned Lucky Corridor transmission line, if constructed. The recommended corridor addition would provide connectivity to renewable energy generation to the maximum extent possible by facilitating the transmission of renewable energy from northeastern New Mexico to the Four Corners energy hub.
Santa Fe Corridor, New Mexico	Consider adding a new corridor to align with the planned Santa Fe transmission line through BLM- and USFS-administered lands through northern New Mexico near Santa Fe.	The recommended addition would maximize utility by relieving the voltage and capability constraints along the east-west electricity pathway and would minimize potential impacts by collocating along an existing 115-kV transmission line and the Santa Fe transmission line, if constructed. The recommended addition would provide connectivity to renewable energy generation to the maximum extent possible by facilitating the transmission of renewable energy from northeastern New Mexico to the Four Corners energy hub.
TransWest Connector Corridor, Nevada	Consider a new corridor segment from MP 136 of Corridor 110-233 east-southeast to the TransWest Express Transmission Project approved ROW. In addition, or alternatively, consider adding a corridor segment from MP 146 of Corridor 110-233 along U.S. Highway 93 to the TransWest Express Transmission Project preferred ROW.	The recommended addition would maximize utility and promote efficient use of the landscape by providing a second north-south pathway in eastern Nevada to Las Vegas. Corridor 232-233 currently connects multiple Section 368 energy corridors to create the north-south route in eastern Nevada. However, the corridor is constrained by existing infrastructure, Desert National Wildlife Refuge, ACECs, desert tortoise habitat, and designated wilderness. This recommended corridor addition could improve corridor utility and minimize impacts by allowing for additional energy development in the region while avoiding sensitive resources.

Corridor Number ^a and Location	Recommended Revision, Deletion, or Addition	Rationale
Cross-Tie, Utah	Consider adding a corridor east of Corridor 110-114 at MP 72 along a local energy corridor, an existing 230-kV transmission line, and the proposed Cross-Tie transmission line to connect to Corridor 114-241.	The recommended addition would maximize utility by better aligning the corridor with energy demand and increasing transmission capability between the Utah/Wyoming and Nevada/California segments of Section 368 energy corridors. This recommended addition would minimize potential impacts by collocating along existing infrastructure (a 230-kV transmission line and the Cross-Tie transmission line, if constructed) and would promote efficient use of the landscape by providing a continuous east-west corridor through Nevada and Utah. This recommended addition would also provide connectivity to renewable energy generation to the maximum extent possible by facilitating the transmission of high-capacity renewable resources from Wyoming and Utah to southern Nevada and California and providing access for the oversupply of solar energy from California Independent System Operator to customers in Utah and Wyoming. However, topography and UTTR could
Wamsutter- Powder Rim, Wyoming	Consider designating the 3,500-ft Wamsutter- Powder Rim locally designated corridor along the authorized TransWest Express Transmission Project ROW to a new Section 368 energy corridor designated as electric only. The recommended new corridor would begin at Corridor 73-138 (MP 15) and run south along the approved TransWest Express/Energy Gateway South Transmission Project ROWs.	The recommended addition would create a preferred route for potential future energy development collocated with planned infrastructure.
Gateway West, Wyoming ^a Corridors of	Consider designating a new multi-modal corridor along the recently authorized Gateway West Transmission Project ROW beginning at the western end of Corridor 121-220 and running west to the Idaho/Wyoming border to accommodate both pipelines and transmission lines. Concern are identified in red text.	The recommended addition would create a preferred route for potential future energy development collocated with planned infrastructure.

Several revisions, deletions, and additions that were considered but not carried forward can be found in Appendix I.

3.2 Recommended Revisions and Additions to IOPs

IOPs can help expedite application processing in Section 368 energy corridors and provide consistency between the BLM and USFS in administering Section 368 energy corridors. The IOPs were developed in the West-wide Energy Corridor PEIS and adopted 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 best management practices (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 and USFS. The IOPs are presented in Appendix B of both RODs and can be found on the <u>West-wide Energy Corridor Information Center</u> project website.

The Agencies reviewed the IOPs and assessed the need to revise or add to them to better address concerns in the Section 368 energy corridors as part of the regional review. The regional review considered stakeholder input received as well as other current relevant information, which led to the identification of the following recommended revisions and additions to IOPs:

- Four recommended new IOPs related to:
 - Habitat connectivity, wildlife migration corridors and habitat, GRSG habitat, and avian collisions.
 - BLM-managed lands with wilderness characteristics and USFS-managed lands with wilderness character.
 - \circ $\,$ NSTs and NHTs.
 - Tribal concerns and ethnographic studies.
- Three recommended revisions to IOPs related to:
 - Visual resources.
 - Vegetation management.
 - Coordination with DoD.

Table 3-2 contains a summary of the recommended revisions and additions to the IOPs, including a rationale for the potential changes. The sections below describe the recommended revisions and additions and, where applicable, BLM- and USFS-specific information that could be valuable as additional BMPs at the project or land use planning level. In addition to the recommended revisions, the Agencies are suggesting that only clarifying changes be made to the IOP on vegetation management. The corridor summaries identify resource concerns in each Section 368 energy corridor that could be minimized with adoption of recommended corridor revisions, deletions, or additions and adoption of recommended revisions to the IOPs.

RODs could be signed by both agencies to impose new and revised IOPs when projects are sited within Section 368 energy corridors. Revisions and additions to IOPs could also be implemented via BLM and USFS policy.

The Agencies will advocate for the use of this report during BLM and USFS land use planning as well as at the project level. For example, when considering new project proposals within Section 368 energy corridors, the BLM or USFS planning office could ensure that existing BMPs are consistent with the recommended IOP revisions and additions in this report. If the BLM or USFS planning office does not

have an existing BMP (e.g., there is not a BMP for wildlife migration corridors), the BLM or USFS planning office could develop one.

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

IOP	Recommended Revision or Addition	Rationale		
	Recommended IOP Revisions			
Visual Resources	In the existing IOP for visual resources, consider adding a subsection regarding visual impact analysis.	The existing IOP for visual resources requires project proponents to identify and consider and prepare a plan for visual resource management (VRM) and scenery management (SMS), mitigate visual impacts and consider BMPs, and comply with VRM and SMS objectives. The IOP could be expanded to consider cumulative effects associated with energy development within Section 368 energy corridors and conformance with land use plans.		
Vegetation Management	In the existing IOP for vegetation management, consider addressing additional active ingredients in pesticides in the Section 368 energy corridors on BLM-managed lands.	The existing IOP for vegetation management requires an integrated management plan and includes a subsection on pesticide use. The IOP could be expanded to address newly registered uses of three additional active ingredients in pesticides in Section 368 energy corridors on BLM-managed lands.		
Coordination with DoD	In the existing IOP for agency coordination, consider adding text recommending height restrictions for new infrastructure within corridors near DoD training routes.	The existing IOP for agency coordination requires applicants to inform and coordinate with DoD regarding characteristics and locations of anticipated project infrastructure within corridors located on DoD-administered lands or near DoD facilities or flight training areas. The IOP could be expanded to include specific height restrictions for new infrastructure in those locations.		
	Recommended	IOP Additions		
Ecological Resources	Consider adding subsections for habitat connectivity, migration corridors, sage-grouse habitat, and avian collision.	The existing IOPs for ecological resources focus on sensitive species, habitat restoration, and wetlands and other aquatic habitats. There is a need to address habitat connectivity, migration corridors, and avian collision, which are specific concerns for linear infrastructure that spans long distances. An IOP for sage-grouse would provide consistent management for sage-grouse by the BLM and USFS.		
Lands with Wilderness Characteristics and Values NST and NHTs	Consider adding an IOP for lands with wilderness characteristics on BLM-managed lands and lands with wilderness character on USFS-managed lands. Consider adding a subsection for NSTs and NHTs.	There is no IOP for lands with wilderness characteristics or wilderness character. An IOP on this topic could provide consistent management of these federal lands by the BLM and USFS. There is no IOP for NSTs and NHTs. NSTs, NHTs, and Section 368 energy corridors are long, linear features that cross multiple jurisdictions. An IOP could provide guidance across agencies and jurisdictions where Section 368 energy corridors cross NSTs and NHTs.		

Table 3-2 Summary of Recommended Revisions and Additions to IOPs

IOP	Recommended Revision or Addition	Rationale
Tribal	In addition to existing IOPs on government-to-	The existing IOP for Tribal concerns focuses on government-
Concerns and	government consultation, cultural resources,	to-government consultation, cultural resources, and
Ethnographic	and Tribal traditional cultural uses, consider	traditional cultural uses, including 1) identifying sacred sites,
Studies	adding an IOP on working with Tribes to	sacred landscapes, gathering grounds, and burial areas and
	conduct ethnographic studies.	2) avoiding minimizing, or mitigating impacts on those places
		in consultation with Tribes, project proponents, and other
		relevant parties. An additional IOP on working with the Tribes
		to conduct ethnographic studies would increase the BLM's
		and USFS's understanding of significant resources of concern
		to Tribes.

3.2.1 Recommended IOP Additions

Ecological Resources. The BLM and USFS should consider adding the following IOPs to address ecological resources:

- <u>Habitat Connectivity</u>. When Section 368 energy corridors are being designated or modified through a land use plan revision or amendment, impacts on connectivity for wildlife and natural environmental processes should be avoided or minimized. Any electric transmission line or pipeline projects within Section 368 energy corridors should be sited and designed in a manner that minimizes impacts on habitat connectivity. The BLM and USFS should regularly assess wildlife habitat connectivity issues as conditions change.
- <u>Wildlife Migration Corridors and Habitat</u>. The BLM and USFS should consider adding an IOP to ensure that appropriate consideration of wildlife migration corridors and habitat occurs more consistently at the project level in connection with evaluation of proposed development in Section 368 energy corridors.
- <u>GRSG Habitat</u>. An IOP addressing concerns where Section 368 energy corridors cross sagegrouse habitat, such as collision and electrocution hazards, decreasing lek recruitment, increased predation, invasion of nonnative invasive plant species that degrade habitat, behavioral avoidance, and potential barriers to movement could enhance consistency in the BLM's and USFS's evaluation of these concerns in connection with Section 368 energy corridors.
- <u>Avian Collision</u>. The BLM and USFS should consider adding an IOP to minimize the potential for avian collision.

Application in BLM Land Use Planning. The recommended IOP addition regarding habitat connectivity would be consistent with the John D. Dingell, Jr. Conservation, Management, and Recreation Act (Dingell Act). The Dingell Act directs the Secretary of the Interior to assess the impacts of habitat fragmentation on wildlife in the California Desert Conservation Area and establish policies and procedures to ensure the preservation of wildlife corridors and facilitate species migration to determine the individual and cumulative impacts of ROWs for projects in the California Desert Conservation Area. The BLM and USFS could consider Secretarial Order 3362, Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors, when developing the recommended new IOP for migration corridors.

Application in USFS Land Use Planning. USFS land use planning provides for ecological sustainability consistent with USFS authority and the inherent capability of the plan area. USFS land use plans include standards and guidelines for maintaining or restoring the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. Consideration is given to structure, function, composition, and connectivity, taking into account interdependence of terrestrial and aquatic ecosystems and contributions to ecological conditions and sustainability of resources and ecosystems. Standards should address system drivers, including dominant ecological processes, disturbance regimes, and stressors such as natural succession, wildland fire, invasive species, climate change, and the ability of terrestrial and aquatic ecosystems in the plan area to adapt to change.

Lands with Wilderness Characteristics or Wilderness Character. The BLM and USFS should consider adding an IOP to ensure BLM-managed lands with wilderness characteristics and USFS-managed lands with wilderness character are addressed consistently by the BLM and USFS in connection with Section 368 energy corridors.

Application in BLM Land Use Planning. Prior to designating new Section 368 energy corridors or corridor segments, the BLM is required to follow the procedures in BLM Manuals MS-6310, "Conducting Wilderness Characteristics Inventory on BLM Lands (Public)," and MS-6320, "Considering Lands With Wilderness Characteristics in Land Use Plans."

Application in USFS Land Use Planning. Prior to designating new Section 368 energy corridors or corridor segments, the USFS is required to follow the process identified in the Land Management Planning Handbook, Forest Service Handbook 1909.12, Chapter 70, Section 70.6, for identifying and evaluating USFS-managed lands that may be suitable for inclusion in the National Wilderness Preservation System and for determining whether to recommend those lands for wilderness designation.

NSTs and NHTs. The BLM and USFS should consider adding an IOP for NSTs and NHTs as follows:

- The new IOP should provide for the appropriate BLM or USFS project leader to consider the National Trails System Act (NTSA, 16 U.S.C. §§ 1241-1251, as amended), applicable regulations, and BLM and USFS trail policies (BLM MS-6250 and MS-6280; USFS Forest Service Manual (FSM) 2353; and National Park Service (NPS) DO-45) to further the nature and purposes of NSTs and NHTs (NTSA, Sec. 7(c), 16 U.S.C. § 1246(c)); to strive to avoid activities that are incompatible with the purposes of NSTs and NHTs (NTSA, Sec. 7(c), 16 U.S.C. § 1246(c)); and to ensure that any easement or ROW conditions are related to the policy and purposes of the NTSA (NTSA, Sec. 9(a), 16 U.S.C. § 1248(a)).
- To support interagency coordination, the new IOP should provide for the appropriate BLM or USFS project leader to contact the National Trail Administrator (NPS, USFS, or BLM interagency trail-wide leader) when a project in a Section 368 energy corridor may be located in the vicinity of a NST or NHT (NTSA, Sec. 5(a), 16 U.S.C. § 1244(a)), or a trail under study for potential designation as an NST or NHT (NTSA, Sec. 5(c), 16 U.S.C. §1244(c)), to coordinate regional project-level review and to contact the State or Regional Trail Program Leaders (BLM, NPS, USFS, USFWS, BOR, and U.S. Army Corps of Engineers (USACE)) to coordinate local project-level review to meet federal agency trail management requirements and policies for proposed projects in Section 368 energy corridors.

- The new IOP should provide for the affected National Trail Administrator and State or Regional Trail Program Leader to furnish the BLM or USFS any necessary or relevant information, such as a map depicting the NST's or NHT's congressionally designated route and alignment (NTSA, Sec. 5(a), 16 U.S.C. § 1244(a)); a description or location of the ROW for the NST or NHT (NTSA, Sec. 7(a)(2), 16 U.S.C. § 1246(a)(2)); the applicable comprehensive plan (NTSA, Sec. 5(e) and (f), 16 U.S.C. § 1244(e)-(f)); land use plan decisions and maps for established national trail management corridors (BLM MS-6280; FSM-2353); and available data or data requirements for the identification of trail-related features (e.g., historic sites, recreational facilities, and a viewshed analysis) to support site selection and environmental analysis for projects in Section 368 energy corridors.
- The new IOP should provide for considering designation of a Section 368 energy corridor as underground-only where the corridor crosses high potential historic sites⁹ or high potential route segments.¹⁰

Application in BLM and USFS Land Use Planning. Congressionally designated NHTs and NSTs are managed by the NPS, BLM, and USFS for outdoor recreation, conservation, and public enjoyment. Prior to designating new Section 368 energy corridors or corridor segments, the BLM and USFS, in coordination with NPS, would need to identify and mitigate any potential impacts on NSTs and NHTs.

Tribal Concerns and Ethnographic Studies. In addition to existing IOPs on government-togovernment consultation, cultural resources, and Tribal traditional cultural uses, the BLM and USFS should consider developing a new IOP that would provide for working with Tribes to conduct ethnographic studies to increase the BLM's and USFS's understanding of significant resources of concern to Tribes. The new IOP would facilitate appropriate consideration of those resources in connection with evaluation of proposed development in Section 368 energy corridors.

Application in BLM and USFS Land Use Planning. Prior to designating new Section 368 energy corridors or corridor segments, the BLM and USFS would need to consult with Tribes pursuant to Section 306108 (formerly known as Section 106) of the National Historic Preservation Act, 54 U.S.C. § 300101 *et seq.*, and its implementing regulations at 36 CFR Part 800 and could consider conducting ethnographic studies to better inform the consultation process.

3.2.2 Recommended IOP Revisions

Visual Resources. In the existing IOP for visual resources, the BLM and USFS should consider adding a subsection regarding visual impact analysis, cumulative effects associated with energy development within Section 368 energy corridors, and consistency with land use plans.

Application in BLM Land Use Planning. VRM class objectives are binding land use planning decisions. Proposed transmission lines must be consistent with the VRM decisions in the applicable land use plan based on the hard-look visual impact analysis enumerated in *BLM Manual Handbook H-8431-1*, "Visual Resource Contrast Rating." The hard-look analysis must analyze the cumulative effects associated with existing facilities and human-made changes in the character of the landscape in combination with the proposed project to ensure consistency with the applicable VRM class objective. If the cumulative effects analysis demonstrates an inconsistency, approval of the proposed project would necessitate amending the applicable land use plan.

According to *BLM Manual 8400*, "Visual Resource Management," proposed projects need to be consistent with VRM class objectives in the applicable land use plan. Also, while VRM Class IV objectives allow for major modification to occur and for authorized activities to dominate the view, minimizing visual contrast remains a requirement of those VRM class objectives. Visual contrast ratings are required in areas of high sensitivity or high impact.

Application in USFS Land Use Planning. USFS planning objectives are guided by standards and guidelines for integrated resource management to provide for ecosystem services and multiple uses in the plan area, including construction of major infrastructure. Key planning considerations include the potential impacts on scenery, aesthetic values, viewshed, geological features, and associated effects on social and economic opportunities. Planners must document the plan area's contribution to social and economic sustainability, including sustainable recreation; recreation settings, opportunities, and access; and scenic character. When developing plan components for scenic character, the responsible official is informed by an assessment that includes evaluation of the existing and potential scenic character of the area and relevant trends. The scenic character of the plan area or a portion of the plan area may be identified as unique or distinct when viewed within a broader landscape. The responsible official may use the administrative unit's distinctive roles and contribution as a foundation for plan components that provide for scenery.

The USFS uses the scenery management system (SMS) in developing plan components related to scenic character. Viewsheds are elements considered in developing plan components addressing scenery that describe views seen from certain locations such as roads, trails, or campgrounds. Scenic character information, scenic classes, and visitor preferences help determine scenic integrity and sustainability.

Vegetation Management. In the existing IOP for vegetation management, the BLM and USFS should consider addressing newly registered uses of additional active ingredients in pesticides in Section 368 energy corridors on BLM-managed lands. The IOP would align with WGA Policy Resolution 2021-03, National Forest and Rangeland Management, which supports coordinated and consistent application of federal vegetation management practices.

Application in BLM Land Use Planning. The BLM published two RODs, in 2007 and 2016, that focus on management of invasive and noxious weeds on BLM-managed lands in 17 western states (see BLM Instruction Memorandum 2017-078). The 2016 ROD documents approval for the use of three additional U.S. Environmental Protection Agency (EPA)-registered active ingredients in pesticides—aminopyralid, fluroxypyr, and rimsulfuron—in all 17 States covered by the 2016 PEIS. Implementation of the 2016 ROD increases the number of active ingredients approved for use on BLM-managed lands from 18, as established by the 2007 ROD, to 21. The 2016 ROD identifies standard operating procedures that must be used in all applications of pesticides on BLM-managed lands. The standard operating procedures are intended to minimize risks to human health and the environment from pesticide treatments.

Application in USFS Land Use Planning. USFS land use plans must contain information reflecting proposed and potential actions that may occur in the plan area during the life of the plan, including removal of trees and other vegetation, and the proportion of probable vegetation management practices to be used, including the use of pesticides. Decisions regarding the use of pesticides on USFS-managed lands is based on an understanding of the risks associated with their use. For the pesticides

commonly used by the USFS in its management activities, Human Health and Ecological Risk Assessments (HERAs) are prepared. HERAs document a risk assessment of the probability that a pesticide use might pose harm to humans or other species in the environment. The USFS incorporates relevant information from HERAs into environmental documents prepared for pesticide projects and projects involving the use of pesticides. Pesticide applications on USFS-managed lands and waters must be reviewed and approved in advance through the Pesticide-Use Proposal protocol (USFS FSM 2150 and form FS-2100-002).

In addition to these recommended revisions, the Agencies are suggesting that the following purely clarifying changes shown below in bold and strikeout be made to the IOP on vegetation management:

If pesticides (including herbicides) are used, the applicant shall ensure that pesticide applications as specified in the integrated vegetation management plan are conducted within the framework of agency policies and procedures, including prior project-specific review and approval, in accordance with the integrated vegetation management plan, and entail only the use of EPA-registered pesticides that are applied in a manner consistent with label directions and applicable local and state pesticide regulations. Pesticide use should be limited to nonpersistent immobile pesticides and may be applied only in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications (BLM 2007a).

Coordination with DoD. In the existing IOP for agency coordination, the BLM and USFS should consider adding height restrictions for new infrastructure in Section 368 energy corridors near DoD training routes, as follows:

- Where DoD training routes restrict development above ground level, new infrastructure placed in the corridor could not exceed the height of the tallest existing structure in DoD training routes (most likely 0 ft above ground level (AGL));
- Where DoD training route special-use airspace has a floor of 200 ft AGL, new infrastructure placed in the corridor could not exceed 200 ft AGL; and
- Where DoD training route special-use airspace has a floor of 500 ft AGL, new infrastructure placed in the corridor could not exceed 400 ft AGL.

Several recommended IOP revisions and additions that were considered but not carried forward can be found in Appendix I.

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4. References and Endnotes

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 West-wide Energy Corridor Information Center is available at: http://www.corridoreis.anl.gov/.

⁴ 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.

⁵ BLM, 2009, Approved Resource Management Plan Amendments/Record of Decision (ROD) for Designation of Energy Corridors on Bureau of Land Management-Administered Lands in the Western States, BLM/WO-GI-09-005-1800, Jan.

⁶ USFS, 2009, *Record of Decision, USDA Forest Service Designation of Section 368 Energy Corridors on National Forest System Land in 10 Western States,* Decision by Secretary of Agriculture To Amend Land Management Plans Described as the Environmentally Preferred Alternative, Jan. 14.

⁷ 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.

⁸ Corridor revisions identified as 'minor revisions' are generally small adjustments intended to avoid a resource or to more closely follow existing infrastructure. Minor revisions are not included in Figures 3-1 through 3-7 but are described in Table 3-1.

⁹ Under the NTSA, "high potential historic sites" means those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use. Criteria for consideration as high potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.

¹⁰ Under the NTSA, "high potential route segments" means those segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.

¹ https://www.corridoreis.anl.gov/regional-reviews/settlement/.