

Corridor 18-224

Carson City to Las Vegas Corridor

Corridor Purpose and Rationale

The corridor connects multiple Section 368 energy corridor and provides a north-south pathway for energy transport, from Carson City to the Nevada Test and Training Range as well as to Las Vegas, Nevada. During scoping for the WWEC PEIS, routes generally following this corridor were not suggested. However, input from the DoD resulted in adding this route to avoid further encroachment on DoD facilities and activities in California. The route followed by Corridor 18-23 was already congested, and Corridors 18-224 and 224-225 were suggested as the way to meet the demand for more service to southern California. The Soda Springs Valley east of Hawthorne has potential for solar energy development. There is one existing solar project that the CCDO approved in 2015. Additional transmission capacity would be required to build new solar projects.

Corridor location:

Nevada (Esmeralda, Lyon, Mineral, and Nye Co.)

BLM: Pahrump, Sierra Front, Stillwater, and Tonopah Field Offices

Regional Review Region(s): Region 1 and Region 5

Corridor width, length:

3,500 ft in Tonopah and Pahrump FOs;

10,560 ft in rest

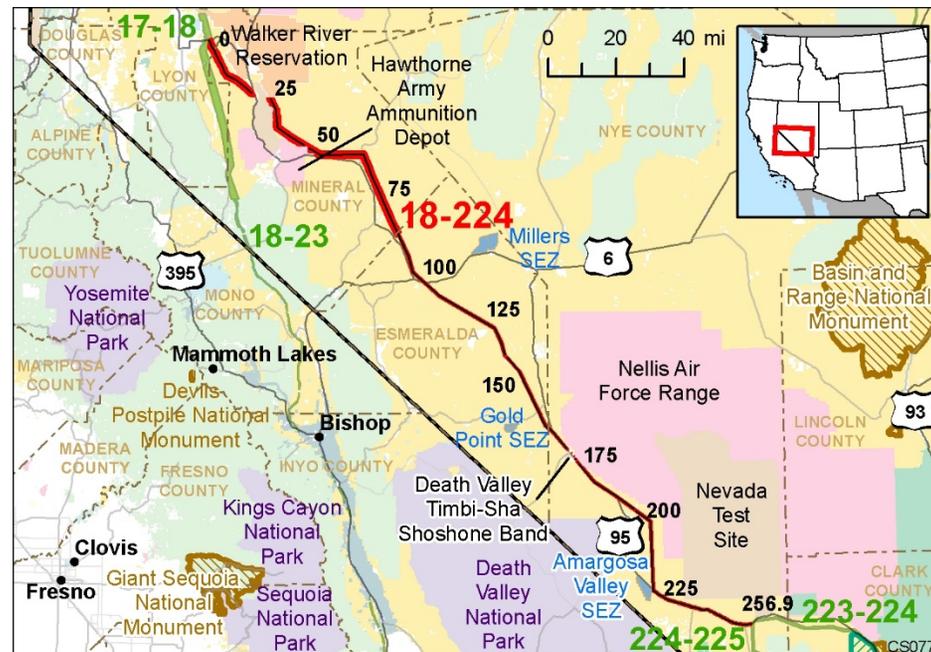
244 miles of designated corridor

257 miles of posted route, including gaps

Designated Use:

- corridor is multi-modal

Corridor of concern (N)



Corridor history:

- Locally designated prior to 2009 (Y)
- Existing infrastructure (Y)
 - The corridor is occupied by 115-, 138-, and 345-kV transmission lines for a portion of its length.
- Energy potential near the corridor (Y)
 - Amargosa Valley SEZ is adjacent to MP 225 to MP 226
 - Gold Point SEZ is 7 mi west of MP 162
 - Millers SEZ is 15 mi north east of MP 107.
 - Solar power plant is within corridor at MP 62.
 - 4 substations are within the corridor and 9 more substations are within 5 mi of the corridor.
- Corridor changes since 2009 (N)

Figure 1. Corridor 18-224

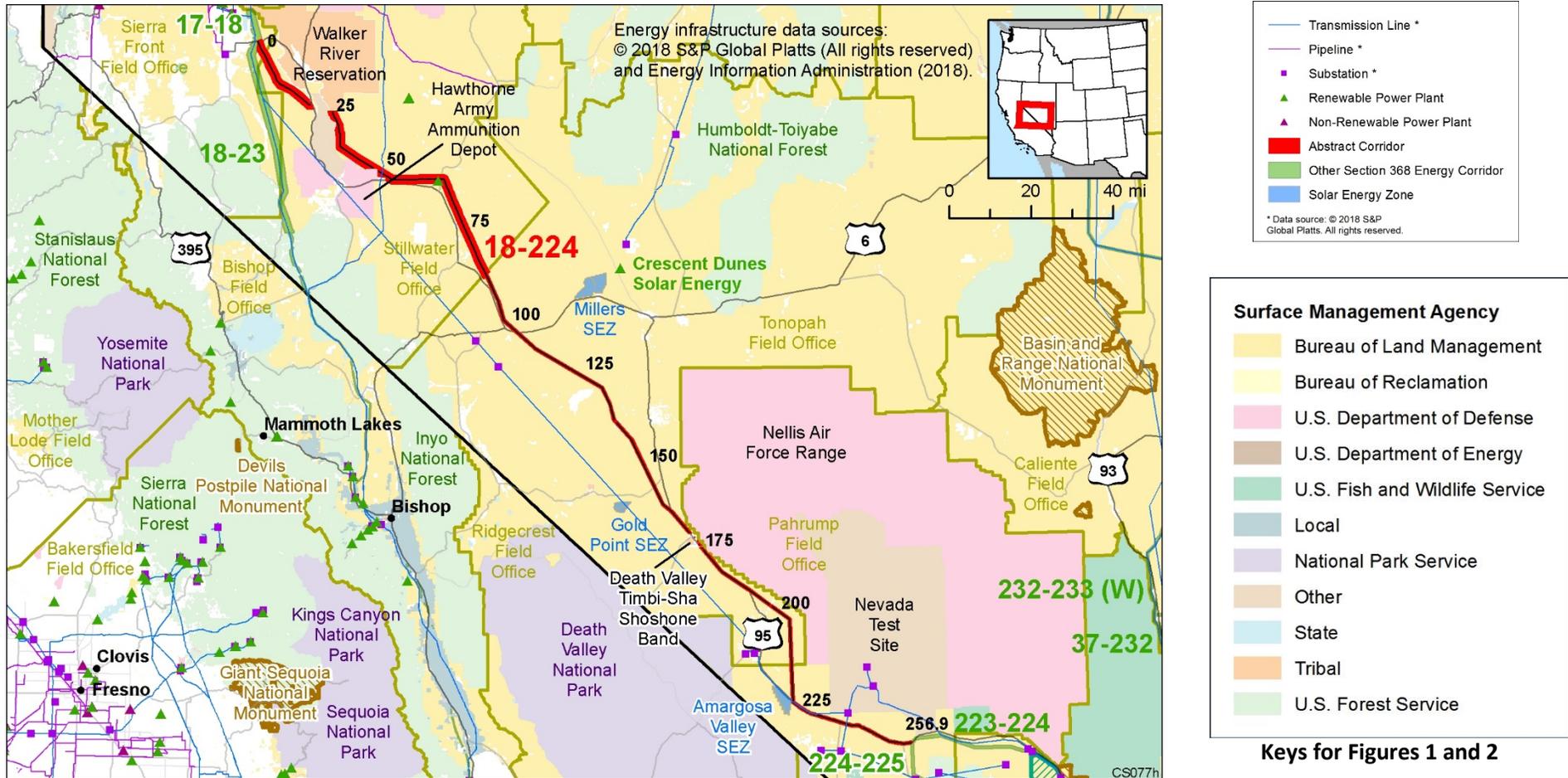


Figure 2. Corridor 18-224 and nearby electric transmission lines and pipelines

Conflict Map Analysis

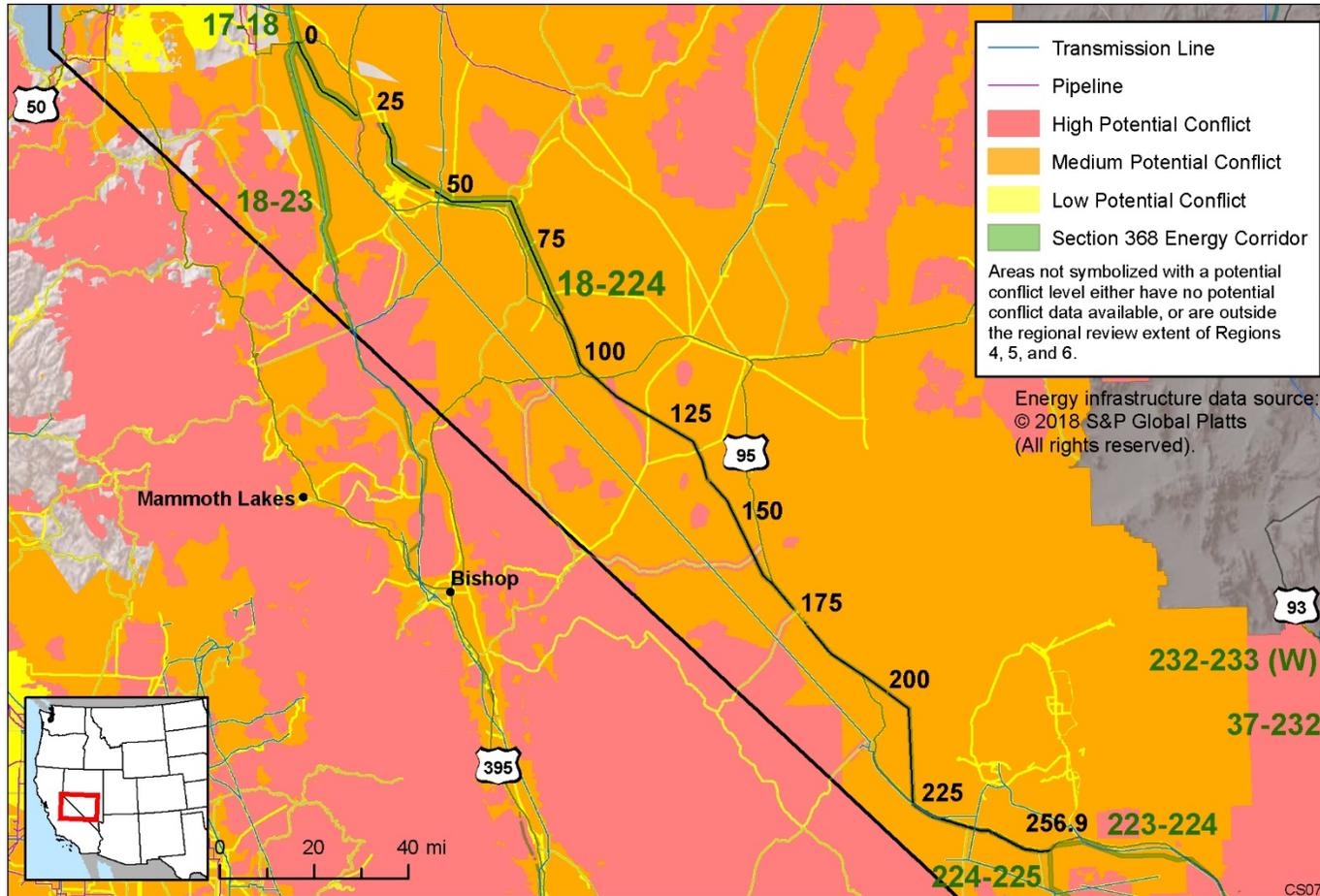


Figure 3. Map of Conflict Areas in Vicinity of Corridor 18-224

Figure 3 reflects a comprehensive resource conflict assessment developed to enable the Agencies and stakeholders to visualize a corridor’s proximity to environmentally sensitive areas and to evaluate options for routes with lower potential conflict. The potential conflict assessment (low, medium, high) shown in the figure is based on [criteria](#) found on the WVEC Information Center at www.corridoreis.anl.gov. To meet the intent of the Energy Policy Act and the Settlement Agreement siting principles, corridors may be located in areas where there is potentially high resource conflict; however, where feasible, opportunity for corridor revisions should be identified in areas with potentially lower conflict.

Visit the 368 Mapper for a full view of the potential conflict map (<https://bogi.evs.anl.gov/section368/portal/>)

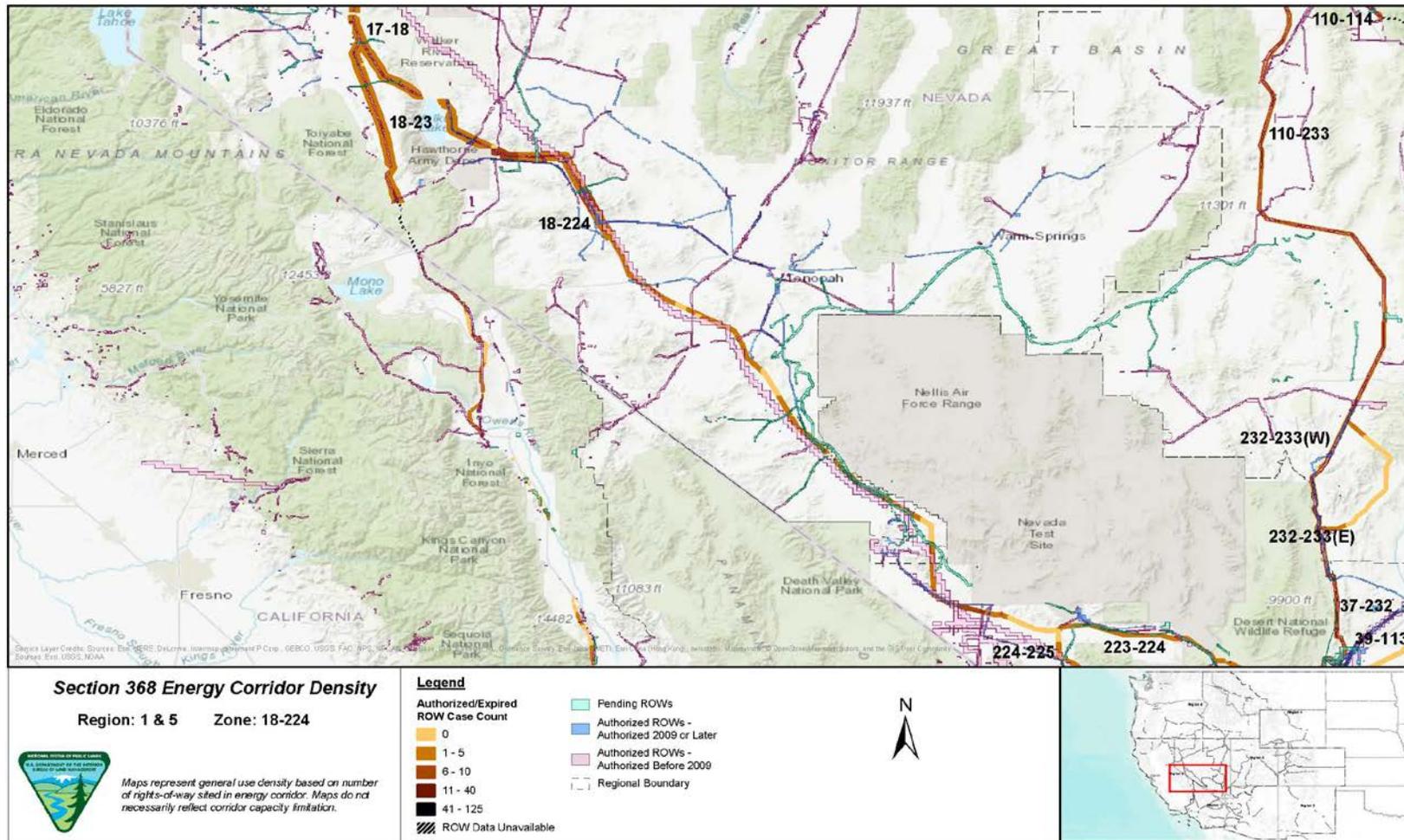


Figure 4. Corridor 18-224, Corridor Density Map

Figure 4 shows the density of energy use to assist in evaluating corridor utility. ROWs granted prior to the corridor designation (2009) are shown in pink; ROWs granted after corridor designation are shown in blue; and pending ROWs under current review for approval are shown in turquoise. Note the ROW density shown for the corridor is only a snapshot that does not fully illustrate remaining corridor capacity. Not all ROWs have GIS data at the time this abstract was developed. BLM and USFS are currently improving their ROW GIS databases and anticipate more complete data in the near future.

Corridor Review Table

Designated energy corridors are areas of land prioritized for energy transmission infrastructure and are intended to be predominantly managed for multiple energy transmission infrastructure lines. Other compatible uses are allowable as specified or practicable. Resource management goals and objectives should be compatible with the desired future conditions (i.e., responsible linear infrastructure development of the corridor with minimal impacts) of the energy transmission corridor. Land management objectives that do not align with desired future conditions should be avoided. The table below identifies serious concerns or issues and presents potential resolution options to better meet corridor siting principles.

The preliminary information below is provided to facilitate further discussion and input prior to developing potential revisions, deletions, or additions.

CORRIDOR 18-224 REVIEW			
POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP)¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS²
<i>BLM Jurisdiction: Carson City Field Office</i>			
<i>Agency Land Use Plan: Carson City FO Consolidated RMP (2001)</i>			
VRM Class II area and the corridor intersect – Visual design considerations shall be incorporated into all surface disturbing projects regardless of size or potential impact. The objective of VRM Class II designation is to retain the existing character of the landscape.	MP 28 to MP 37		Areas with the VRM Class II designation may not be compatible with future overhead transmission line development; however, the corridor is collocated with an existing transmission line. Future infrastructure could be located within the eastern portion of the corridor to avoid the VRM Class II area or the corridor could be shifted to the east to avoid the VRM Class II area. A change in the VRM class within the corridor could be considered.
<i>BLM Jurisdiction: Tonopah Field Office</i>			
<i>Agency Land Use Plan: Tonopah RMP (1997)</i>			
VRM Class II area and the corridor intersect – Stipulations will be developed and attached to project authorizations to maintain designated VRM classes. The objective of VRM Class II designation is to retain the existing character of the landscape.	MP 109 to MP 114, MP 157 to MP 159, and MP 173		Areas with the VRM Class II designation may not be compatible with future overhead transmission line development in an area without existing infrastructure. Several of the intersections with VRM Class II areas occur at an approximately perpendicular angle and thus cannot be readily avoided. Where possible, small adjustments to avoid VRM Class II areas can be considered. In order to best meet the siting principles, a change in the VRM class could be considered.
Desert Tortoise connectivity area and the corridor intersect – New or amended ROWs within Desert Tortoise habitat have to be compatible with the special values of the area. Corridor 18-224 would	MP 209 to MP 217	Comment on abstract: how will transmission lines through tortoise habitat be avoided or mitigated?	The Agencies could consider shifting the corridor to the west to follow I-95 or the existing transmission line. The corridor could be aligned so that either the interstate or

CORRIDOR 18-224 REVIEW

POTENTIAL COMPATIBILITY ISSUES or CONCERNS TO EXAMINE	MILEPOST (MP)¹	STAKEHOLDER INPUT and OTHER RELEVANT INFORMATION	POTENTIAL RESOLUTIONS BASED ON SITING PRINCIPLE ANALYSIS²
be located within a designated utility corridor identified in the RMP.			the transmission line is the western boundary of the corridor to avoid Desert Tortoise connectivity area.
BLM Jurisdiction: Pahrump Field Office Agency Land Use Plan: Las Vegas Resource Management Plan (BLM 1998)			
Desert Tortoise connectivity area and the corridor intersect — The RMP does not address Desert Tortoise connectivity issues. Areas mentioned as ACECs for Desert Tortoise do not occur near the corridor. There is no apparent conflict based on the RMP.	MP 218 to MP 236, MP 239 to MP 253, and MP 255 to MP 257	RFI comment: re-route to avoid siting new facilities in Priority 1 & 2 Connectivity Habitat without existing transmission, and minimize additional transmission siting in these areas. If additional transmission is permitted, site as close together as possible and with as little ground disturbance and vegetation clearing as possible. Use full mitigation hierarchy to avoid, minimize, and compensate for impacts within four miles of P1 & P2 habitat.	There are no management prescriptions that would preclude future development within the corridor. Options to shift the corridor to federal lands outside of the connectivity area are limited considering the extent of such areas within the corridor area within both Regions 3 and 1.
Least Cost Corridor for Desert Tortoise Connectivity and the corridor intersect —The RMP does not address least cost corridors for Desert Tortoise connectivity issues. Areas mentioned as ACECs for Desert Tortoise do not occur near the corridor. No apparent conflict based on RMP.	MP 250 to MP 257		There are no management prescriptions that would preclude future development within the corridor. Options to shift the corridor to federal lands outside of the connectivity area are limited considering the extent of such areas within the corridor area within both Regions 3 and 1.
BLM Jurisdiction: Battle Mountain, Carson City, Elko, Ely and Winnemucca DOs in Nevada and Northern California DO Agency Land Use Plan: Nevada and Northeastern California GRSR ROD and ARMPA – March 2019			
The corridor does not intersect with GHMA or PHMA areas.		RFI comment: re-route or exclude new infrastructure ROWs and avoid all new energy infrastructure development within GRSR PACs (14% overlap).	The corridor appears to best meet the siting principles. The corridor is not located within GRSR GHMAs or PHMAs; therefore, development and management inside of the corridor would not be affected.

¹ Mileposts are rounded to the nearest mile.

² Siting Principles include: *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.* Projects proposed in the corridor would be reviewed during their ROW application review process and would adhere to Federal laws, regulations, and policy.

Additional Compatibility Concerns

The issues and concerns listed below are not explicitly addressed through agency land use plans or are too general in nature to be addressed without further clarification. Although difficult to quantify, the concerns listed have potential to affect future use and/or development within this designated corridor. The Agencies have provided a preliminary general analysis. The information below is provided to facilitate further discussion during stakeholder review.

Corridor Revision:

- Corridor 18-224 is not an acceptable alternative to other routes. Some commenters have suggested using this route as an alternative to Corridor 18-23 in Owens Valley. This would just move those impacts to Nevada and it would not be technologically practical to move a California corridor eastward. The many resource conflicts make this an unviable alternative (comment on abstract).

Analysis: The corridor serves a different market than Corridor 18-23. Corridor 18-224 serves the Las Vegas, Nevada and Arizona area while Corridor 18-23 serves southern California.

Topography:

- Steep slopes/erosive soils

Analysis: The Agencies could consider potential adjustments to the corridor to avoid terrain and soil concerns.

Jurisdictional Concerns:

- Nellis Air Force Range is adjacent to corridor between MP 178 to MP 181.
- The corridor traverses US Highway 95 on the east side near the Nevada Test and Training Range and Amargosa River through Beatty, which may create pinch points. Shift corridor west between MP 209 and MP 217 to collocate with Hwy 95 (comment on abstract).
- Department of the Air Force is proposing an expansion of the NTTR (MP 195 to MP 202) to establish a weapons safety footprint area to support development of a new target(s) on the existing NTTR under Alternative 3A through a legislative EIS. The corridor is impacted in two areas, primarily due to using aliquot part land description. Both areas are on the far western edge of the proposed expansion and can be managed to meet 368 energy corridor objectives and NTTR training objectives through design features. This is not the preferred alternative for NTTR since it impacts other land uses and socio-economics in the Beatty area. The Air Force developed a second alternative for this area called Alternative 3A-1 (MP 195 to MP 197). Alternative 3A-1 impacts the corridor in one location on the far western edge of the proposed expansion for approximately 2 miles. The Air Force has not identified a specific target area(s) just a general zone, pending site specific investigation which lead to the current perceived conflict between the proposed NTTR expansion and the 368 energy corridor at this location. This area can be managed to meet 368 energy corridor objectives and NTTR training objectives through design features.
- Hawthorne Army Ammunition Depot is adjacent to corridor MP 41 and MP 45 to MP 48.
- Amargosa Valley, Nevada is within the corridor at MP 238.
- There are several potential pinch points, including the Walker River Indian Reservation, the Hawthorne Army Depot, the Black Mountain-Pistone Cultural Area, and mountains on the north end.
- The corridor would be in the vicinity of Yerington. Would private property need to be seized? Any potential wildfire caused by a new transmission project would damage property and endanger lives. How would a new transmission line impact property values (comment on abstract)?

Analysis: The Agencies could consider shifting the corridor northeast from MP 46 to MP 48 so that existing infrastructure would be the southern boundary instead of the centerline to eliminate a pinch point along the Hawthorne Army Ammunition Depot. The Agencies could also consider shifting the corridor south from MP 237 to MP 239 to avoid Amargosa Valley, Nevada. Between MP 139 and MP 141, the Agencies could consider shifting the corridor to the east to create continuity. The Agencies could consider other potential adjustments to the corridor to avoid jurisdictional concerns, such as realigning along the existing 345 kV transmission line.

Tribal Concerns/Cultural Resources:

- The corridor is adjacent to the Amargosa River Corridor. There is a high potential for unknown cultural resources.
- Black Mountain-Pistone Archaeological Area.
- Death Valley Timbi-Sha Shoshone Band Reservation adjacent to corridor and in undesignated corridor segment from MP 174 to MP 177.
- Walker River Reservation adjacent to corridor and in undesignated corridor segment MP 20 to MP 27.

Analysis: Section 106 of the NHPA requires federal agencies to consider the effects of an undertaking on cultural resources. Existing IOPs require tribal engagement early in the planning process for any proposed project in the corridor. Development within tribal lands would require proponent negotiations with the tribal governments and the BIA. Proponents would have to work with the tribe for a tribal resolution consenting to the grant of ROWs (by BIA). BIA cannot grant ROWs without tribal consent. Existing IOPs specific to tribal consultation would be followed in connection with any proposed energy project in the corridor. There does not appear to be another route/modification that would eliminate potential land ownership issues entirely.

Lands with wilderness characteristics:

- Citizens' Wilderness Proposal: Agai Pah Hills South, Clayton Ridge North Unit, Monte Cristos North, Monte Cristos South, West Wassuks (RFI comment).

Analysis: The BLM's current inventory findings will be used in land use planning analyses related to the revision, deletion, or addition to the energy corridors. At such time that citizen's inventory information is formally submitted, the BLM will compare its official Agency inventory information with the submitted materials, determine if the conclusion reached in previous BLM inventories remains valid, and update findings regarding the lands ability to qualify as wilderness in character. Agencies could consider an IOP to provide guidance on the review process for applications within corridors with incomplete inventories. The potential IOP would assist with avoiding, minimizing, and/or mitigating impacts to lands with wilderness characteristics.

- NV-050-306A lands with wilderness characteristics overlaps 809 acres (MP 89 to MP 90), re-route the corridor to the west to avoid. NV-050-306A lands with wilderness characteristics overlaps 2001 acres (MP 90 to MP 94), re-route the corridor to the west. NV-050-330B lands with wilderness characteristics overlaps 1,813 acres (MP 120 to MP 124). NV-050-320 lands with wilderness characteristics overlaps 1.734 acres (MP 125 to MP 128). NV-050-336A lands with wilderness characteristics overlaps 2,697 acres (MP 134 to MP 140), re-route corridor to the east. NV-050-03R-15 lands with wilderness characteristics overlaps 1,219 acres (MP 146 to MP 149), re-route corridor to the northeast. NV-050-352A lands with wilderness characteristics overlaps 682 acres (MP 163 to MP 167), re-route the corridor to the northeast. NV-050-363 lands with wilderness characteristics overlaps 1,669 acres (MP 207 to MP 210) re-route the corridor to the west (comment on abstract).

Analysis: The BLM retains broad discretion regarding the multiple use management of lands possessing wilderness characteristics without Wilderness or WSA designations. Agencies could consider a new IOP to assist with avoiding and/or minimizing impacts of developing energy infrastructure on lands with wilderness characteristics.

Ecology:

- Re-route to avoid "Very High" risk to permeability, and work closely with state and federal wildlife and science agencies to ensure that connectivity is maintained (RFI comment).
- The corridor passes through an area affected by the Amargosa Toad. The USFWS has identified desert tortoise habitat on east side of corridor located between Beatty and the Nevada Test and Training Range (NTTR).
- Desert Bighorn Sheep are within the area.
- Oasis Valley is a hotspot for biodiversity and The Nature Conservancy has purchased four properties to conserve and restore to maintain biological resources in the area. Sensitive species locally include the Amargosa toad (*Anaxyrus nelsoni*), Oasis Valley speckled dace (*Rhinichthys osculus* ssp.), and spring snails (Family Hydrobiidae (comment on abstract).
- A new breeding Bell's vireos (*Vireo bellii*) has been discovered and encouraged through riparian restoration. Potential breeding habitats for Federally Endangered Southwestern willow flycatcher (*Empidonax traillii extimus*), and Western yellow-billed cuckoo (*Coccyzus americanus* Distinct Population Segment) are also present with ongoing restoration work of riparian and wetland habitat (comment on abstract). How will large transmission lines impact these species and current habitat restoration projects? (comment on abstract)
- The Oasis Valley in Nevada lies along the Amargosa River and has numerous springs, marshes, riparian areas, and meadow grasslands with rare plants. It is a birding hotspot as well, for waterbirds and Neotropical migratory birds, as well as resident and breeding desert species. The area supports a high number of nesting golden eagles (*Aquila chrysaetos*) in the surrounding mountain ranges. A transmission corridor through this area would have large impacts to bird life, as well as potentially increase raven nesting. Ravens are predators on bird nests and desert tortoises (comment on abstract).
- The corridor would endanger raptors, water birds and all migrating birds at Walker Lake. Walker Lake has also been recognized as an Important Bird Area (comment on abstract).

Analysis: Existing IOPs and BMPs would be required. Section 7 consultation with USFWS would be commensurate with agency determination of potential affect to threatened or endangered species. The Agencies could consider an IOP for habitat connectivity so that transmission projects within Section 368 energy corridors are sited and designed in a manner that minimizes impacts on habitat connectivity. Development within the corridor should, at most, only result in temporary short term displacement of Desert Bighorn Sheep.

Recreation:

- This area is currently utilized for OHV recreation including casual use and SRP for commercial/competitive events. Location design can mitigate physical conflicts, however it will change the visual aspects for users familiar with the area.

Analysis: Section 368 energy corridors were designated to provide long-distance pathways for electrical transmission and pipelines while minimizing impacts from proliferation of energy ROWs across federal lands. Corridors are often collocated with existing infrastructure to minimize impacts on resources, including recreation. Adherence to existing IOPs for visual resources would be required.

Military and Civilian Aviation:

- MTR - Slow-speed Route and the corridor intersect from MP 0 to MP 21 and MP 27 to MP 31.
- MTR - VR and the corridor intersect from MP 0 to MP 21, MP 28 to MP 35, MP 45 to MP 50, MP 87 to MP 106, MP 120 to MP 242, MP 247 to MP 252, and MP 254 to MP 257.
- MTR - IR and the corridor intersect from MP 37 to MP 73 and MP 87 to MP 110, MP 123 to MP 197, and MP 211 to MP 242, and MP 247 to MP 257.
- SUA and the corridor intersect from MP 194 to MP 212.

Analysis: Adherence to existing IOP regarding coordination with DoD would be required. Agencies could consider a revision to the existing IOP to include height restrictions for corridors in the vicinity of DoD training routes.

Abstract Acronyms and Abbreviations

ACEC = Area of Critical Environmental Concern; ARMPA = Approved Resource Management Plan; BIA = Bureau of Indian Affairs; BLM = Bureau of Land Management; BMP = best management practice; CCDO = Carson City District Office; DoD = Department of Defense; FO = Field Office; GHMA = general habitat management area; GIS = geographic information system; GRSG = Greater Sage-grouse; IOP = interagency operating procedure; IR = instrument route; MP = milepost; MTR = Military Training Route; NHPA = National Historic Preservation Act; NTTR = Nevada Test and Training Range; OHV = off-highway vehicle; PAC = priority area for conservation; PEIS = Programmatic Environmental Impact Statement; PHMA = priority habitat management area; RFI = request for information; RMP = resource management plan; ROW = right-of-way; USFS = U.S. Forest Service; USFWS = U.S. Fish and Wildlife Service; VR = visual route; VRM = visual resource management; WWEC = West-wide Energy Corridor.