

APPENDIX M
ALTERNATIVES ELIMINATED FROM DETAILED STUDY

ALTERNATIVES ELIMINATED FROM DETAILED STUDY

1.0 SEGMENT 1E

1.1 East of Laramie Mountains Alternative

The East of Laramie Mountains Alternative was initially considered as an easterly alternative to the original Proposed Route through the Central Laramie Mountains. This alternative is 149 miles long and is located at the east edge of the Laramie Mountains. This route would avoid the Shirley Basin. From Windstar Substation, this route would proceed southeast, crossing the Burlington Northern Railroad tracks, the North Platte River, and I-25. Immediately south of I-25, the route parallels to the north of 230-kV and 115-kV transmission lines, going into and out of crucial big game winter range. At MP 33.4, the route becomes predominantly southerly, staying just west of the Platte County border, crossing into Albany County and the Medicine Bow-Routt NFs at MP 44.4, then out of the NFs and into Platte County at MP 47.4. The route continues in and out of crucial big game winter range, turning slightly southeast at MP 56.1, crossing in and out of the Medicine Bow-Routt NFs. The route turns west southwest at MP 82.3, entering Albany County at MP 88.0, and turning west to northwest at MP 90.2 near Red Mountain. Continuous crucial big game range is present between MPs 78.1 and 96.1. The route passes just north of Wheatland Reservoir No. 2 and crosses the Laramie River at MP 106.9. Continuing west, the route passes through planned and proposed wind farm areas and back into crucial big game winter range. The route enters Carbon County at MP 130.6. Several raptor nest buffers are crossed in the last several miles of the route. At MP 143.6, the route would intersect with the Segment 1E, which is no longer being considered, and continue west, passing just north of the Medicine Bow River and into Aeolus Substation (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 48.5 miles longer than the Proposed Route;
- Crosses 56.1 more miles of big game crucial range;
- Requires construction on 10.0 more miles of steep slopes (> 15 percent); and
- The majority of the route would be Greenfield, and would therefore result in substantially more disturbance along the entire corridor, relative to the considered routes.

1.2 Fetterman Road Alternative

The Fetterman Road Alternative, which would have replaced a portion of the Central Laramie Mountain Alternative, was not included for detailed analysis in the original siting analysis. It was initially considered in an attempt to minimize visual impacts from the line by placing the line within a valley and along an existing road. This route, in conjunction with the Central Laramie Mountain Alternative, would avoid the Shirley Basin. However, upon determining that the visual setting included portions of the old

stage route to Fort Fetterman with trail segments that are eligible for the NRHP, the Proposed Route was moved west out of the stage road setting. Following scoping, local landowners raised issues along this route. Based on landowner interest in this area and a request by the Office of the Governor of Wyoming (OGW 2009) additional analysis, public comment, and further consultation with the Office of the Governor, it was once again eliminated from detailed analysis.

This alternative would exit the Windstar Substation and run eastward, north of the North Platte River, for approximately 4 miles. It then angles generally southward, crossing the North Platte River just west of Careyhurst, crossing the I-25 corridor, and proceeding south through the Medicine Bow-Routt NFs, paralleling just west of the Rock Creek and Fort Fetterman Road, to a location approximately 7 miles west of Garrett. At this point the alternative route turns and heads southwest (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Impacts 0.3 mile more historic trail buffer than the portion of the central Laramie Mountains alternative it would have replaced, and it closely parallels the Rock Creek and Fort Fetterman Road;
- Crosses 21.1 miles of big game crucial winter range;
- Crosses 17.7 miles of core sage-grouse habitat; and
- There are more raptor nests are in proximity to this route than the Proposed Route.

1.3 Central Laramie Mountains Alternative

The Central Laramie Mountains Alternative was originally the Proposed Route for the 1E corridor, which is no longer being considered. It would begin at the existing Windstar Substation located about 3.5 miles east of the community of Glenrock in Converse County, just north of the Dave Johnston Power Plant, and extends to the planned Aeolus Substation. From Windstar, the line would proceed predominantly south for approximately 54 miles, through Converse and Albany Counties crossing the Burlington Northern Railroad, the North Platte River, the Chicago and Northwestern Railroad, and I-25. Southeast of this highway at MP 7.6, the line crosses into the uplands in the vicinity of Brighton Canyon and east of Little Box Elder Creek. The route continues south parallel to Windy Ridge to MP 27, where it crosses into the Laramie Mountains, which it traverses for approximately 15 miles, crossing into Albany County at MP 32. This segment continues south, running parallel to the Rock Creek and Fort Fetterman Road, which is approximately 4 miles to the east. The route alternative continues south to the vicinity of the confluence of Sheep Creek and Mule Creek. At MP 54 near Twenty-two Mile Draw, the route turns southwest for about 12.9 miles before turning westward, and then crossing from Albany County into Carbon County at MP 71.1. From the county line, the route continues westward across Greasewood Flats crossing SR 487 at MP 76.5. It then proceeds west, south of the Freezeout Mountains and north of the Medicine Bow River to the planned Aeolus Substation (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is entirely a Greenfield route, and would therefore result in substantially greater disturbance, relative to the considered routes;
- Contains scenic views in the Laramie Mountains outside of the governor's corridor;
- Crosses a sage-grouse core area;
- Crosses 18.1 miles of big game crucial winter range;
- Crosses 11.3 miles of forested habitats; and
- There are ferruginous hawk and golden eagle nests located in proximity to this route.

1.4 Medicine Bow Alternative

The Medicine Bow Alternative was identified as an alternative at the southern end of the central Laramie Mountain routes, resulting in a more direct route to the Aeolus Substation. It extends from the southern end of the Fetterman Road Alternative through Albany County, across the Thunder Basin Flats, crossing US 487, running along the southern foot of the Freezeout Mountains through sage-grouse core area, and terminating at the Aeolus Substation near the Medicine Bow River (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is entirely a Greenfield route and would therefore result in substantially greater disturbance, relative to the considered routes;
- Crosses 12.6 miles of big game crucial winter range;
- Crosses in proximity to raptor nests; and
- Crosses two sage-grouse lek 0.65-mile buffers.

2.0 SEGMENT 1W

2.1 Shirley Basin Alternative

The Shirley Basin Alternative was developed in an attempt to avoid crossing the Bates Hole MA with a new 230-kV transmission line; however, avoidance of Bates Hole could not be achieved without substantially affecting several other environmental resources. This alternative includes a 230-kV line on steel H-frame structures that would substitute for Segment 1W(a), described above. The proposed 230-kV route would exit the Windstar Substation heading generally west, running north of the North Platte River and the I-25 corridor. The alternative passes north of Glenrock, Casper, and the Natrona County International Airport, and then begins to head southwest, crossing US 20/26 and traversing Emigrant Gap Ridge. This alternative would continue southwest for approximately 27 miles until meeting US 220 just north of the Pathfinder NWR. This alternative would then turn south and parallel the Pathfinder Reservoir and NWR about

6 to 7 miles to the west. Next, the alternative would loop east, passing south of the Seminoe Mountains, crossing Seminoe Reservoir and State Park, passing south of the Shirley Mountains, and terminating at the Aeolus Substation near the Medicine Bow River (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 72 miles longer than the Proposed Route, affecting substantially more resources than the Proposed Route;
- Traverses historic trail buffers, whereas the Proposed Route avoids them;
- Passes through Seminoe State Park, whereas the Proposed Route would avoid this area;
- Crosses portions of the Natrona, Greater South Pass, and Hann sage-grouse core areas; and
- Encroaches upon two sage-grouse lek 0.65-mile buffers.

3.0 SEGMENT 2

3.1 Seven-Mile Alternative

The Seven-Mile Alternative was initially considered because it would follow an existing 230-kV utility corridor that is also a WWE corridor and a BLM-designated ROW corridor, and it is a relatively direct route between the Aeolus Substation and where the Proposed Route, for the Draft EIS, resume traveling in a westerly direction, following its southward routing west of the Aeolus Substation. However, as proposed, following the alignment for this Alternative would mean that both Gateway West and Gateway South would exit the planned Aeolus Substation in a southwesterly direction and both must avoid conflicts with PacifiCorp's existing Seven Mile Hill Wind Energy Project. Based on the need for two planned transmission lines to exit Aeolus, the Proponents proposed that Gateway West proceed due west and then south along a route suggested by the BLM IDT (this routing was later modified as discussed in Chapter 1, Section 1.1.1). Under that scenario, Gateway South, if approved, would exit the Aeolus Substation in a southerly direction parallel to the existing 230-kV transmission line and would be about 2,250 feet from the nearest wind turbine. This distance would allow adequate distance between the transmission line and closest turbine but not allow enough distance to accommodate a second transmission line. Therefore, this alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Does not allow enough distance to accommodate a second transmission line along this area.

3.2 Rawlins Alternative

The Rawlins Alternative was initially considered in order to avoid sage-grouse lek buffers by at least 0.65 mile. It would start approximately 9 miles east of reference point 2f of the Proposed Route (which follows the existing utility corridor and the WWE corridor), diverging

south by up to 2 miles (at its farthest point) on a new ROW before rejoining the Proposed Route approximately one mile west of State Highway 789 (see Appendix O). The alternative would avoid one sage-grouse lek 0.65-mile buffer, but would be 0.5 mile longer than the Proposed Route. However, the BLM, the State of Wyoming, and the WGFD indicated they would prefer that the Project follow the existing utility corridor and the WWE corridor, in lieu of creating Greenfield routes in order to avoid every sage-grouse lek 0.65-mile buffer. The BLM IDT therefore eliminated this alternative from detailed study because it does not follow existing utility corridor or the WWE corridor.

4.0 SEGMENT 3

4.1 Tipton Alternative

The Tipton Alternative was initially considered because it follows the WWE corridor more closely than the Proposed Route. This alternative diverges from the Proposed Route just west of Wamsutter Rim, and extends generally west along the WWE corridor for approximately 13 miles, passing through Tipton, to meet I-80/US 30 (where it also bisects the Proposed Route). This alternative then crosses to the north side of I-80/US 30 and continues generally west along the WWE corridor and just north of the I-80/US 30 corridor for an additional 17 miles, passing north of Table Rock, crossing Patrick Draw, and rejoining the Proposed Route at a location approximately 2.5 miles northwest of the intersection of I-80/US 30 and Bitter Creek Road (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed:

- The WWE corridor along this route contains extensive development including existing roads, railroads, mining, and oil and gas operations, which present substantial constraints to the design and operation of the Gateway West transmission facilities

5.0 SEGMENT 4

5.1 Rock Springs Alternative

The Rock Springs Alternative was developed to maximize the use of the WWE corridor. This alternative follows the Proposed Route to a location 13.5 miles east of the Green River. The alternative route deviates from the Proposed Route near MP 38 and then follows the WWE corridor for 21.9 miles to the south around the NWR (5 miles to the north) and rejoins the Proposed Route near reference point 4b (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is approximately 6.5 miles longer than the Proposed Route;
- Passes within 0.25 mile of two sage-grouse leks as compared to none along the Proposed Route;
- Crosses 1.1 more miles of trona lease lands than the Proposed Route;

- Requires 14.7 miles more Greenfield ROW than the Proposed Route;
- Crosses 9.0 miles more big game crucial winter range than the Proposed Route;
- Crosses 1.2 miles more VRM Class II lands than the Proposed Route; and
- Crosses 3.4 miles more of historic trail buffers than the Proposed Route.

5.2 Southern WWE Corridor Alternative

The Southern WWE Corridor Alternative was initially evaluated in response to the request to consider a route that would follow the WWE corridor along the I-80 corridor. This 266-mile-long alternative is located south of the Proposed Route. At the Green River crossing, the Southern WWE Corridor Alternative would divert south to follow the WWE corridor to the southwest through the checkerboard land towards Evanston, Wyoming. Approximately 60 to 70 percent of the alternative in this portion follows I-80, passing through several miles of land currently used for trona mining. At Evanston, the alternative leaves I-80 and the WWE corridor and proceeds to the northwest through a large wetland south of Woodruff Reservoir, then west into Utah, following existing transmission lines over the Wasatch Mountain Range and into the Salt Lake Valley north of Ogden, Utah. The alternative would then turn north for approximately 45 miles, paralleling existing transmission lines on the east side of I-15, then proceed to the northwest on a route through mostly private agricultural land near the towns of Thatcher, Howell, and Snowville, Utah. Roughly half of this interval parallels I-86. The WWE corridor is rejoined as the alternative crosses into Idaho, continuing northwest, then north before rejoining the Proposed Route in Segment 7 at point 7d (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Does not meet the Proponents' Objectives, as it would neither be feasible to connect to the Populus Substation nor would this alternative allow for the proposed connection between Populus and Borah Substations along Segment 5;
- Is 64 miles longer than the Proposed Route;
- Crosses 136 more miles of private land than the Proposed Route;
- Crosses 131 miles of Utah, including densely populated portions of the Salt Lake Valley; and
- Although 30 miles of the Southern WWE Corridor Alternative would follow the WWE corridor, compared to 2 miles for the corresponding portion of the Proposed Route, the advantage would be negated by the 64 extra miles of total length of this alternative, resulting in substantially greater disturbance compared to the routes considered in detail.

5.3 Consolidation/Relocation Alternatives

Figure M-1 shows an area in southwestern Wyoming in the Kemmerer BLM FO that contains important historic, visual, and natural resources. To date, the Proponents and the BLM have proposed a total of seven alternatives in this area. Each alternative was

designed to reduce impact on one suite of resources; however, each of these alternatives would result in unavoidable impacts on important resources. These alternatives and their resulting impacts are discussed in the following text.

In response to concerns regarding impacts to historic trails and the inconsistency with the overall land use plan decisions in the Kemmerer RMP, the Kemmerer FO requested that an alternative be considered that lessens the impacts to the view shed by either combining the existing and the proposed transmission lines onto one large structure, or modifying the existing structures to be less intrusive on the viewshed. Specifically, the FO requested:

Need to analyze an alternative that would upgrade the line from (A-B-C, 23.5 miles), by installing new non-reflective towers made of dulled or weathering steel, with non-specular wire that could handle existing transmission and include the new proposal under Gateway.

The area is currently crossed by three single-circuit 345-kV transmission lines: Bridger West (Bridger – Populus #1 and #2, and Bridger – Three Mile Knoll), constructed in 1970 through 1974. The three 345-kV circuits currently carry a maximum load of approximately 2,400 MW. Two lines continue west to Populus while the third turns north in the Cokeville area. These transmission lines were constructed with structure and conductor materials that appear shiny under most lighting conditions compared to the dulled finish material to which the Proponents have committed to for Gateway West.

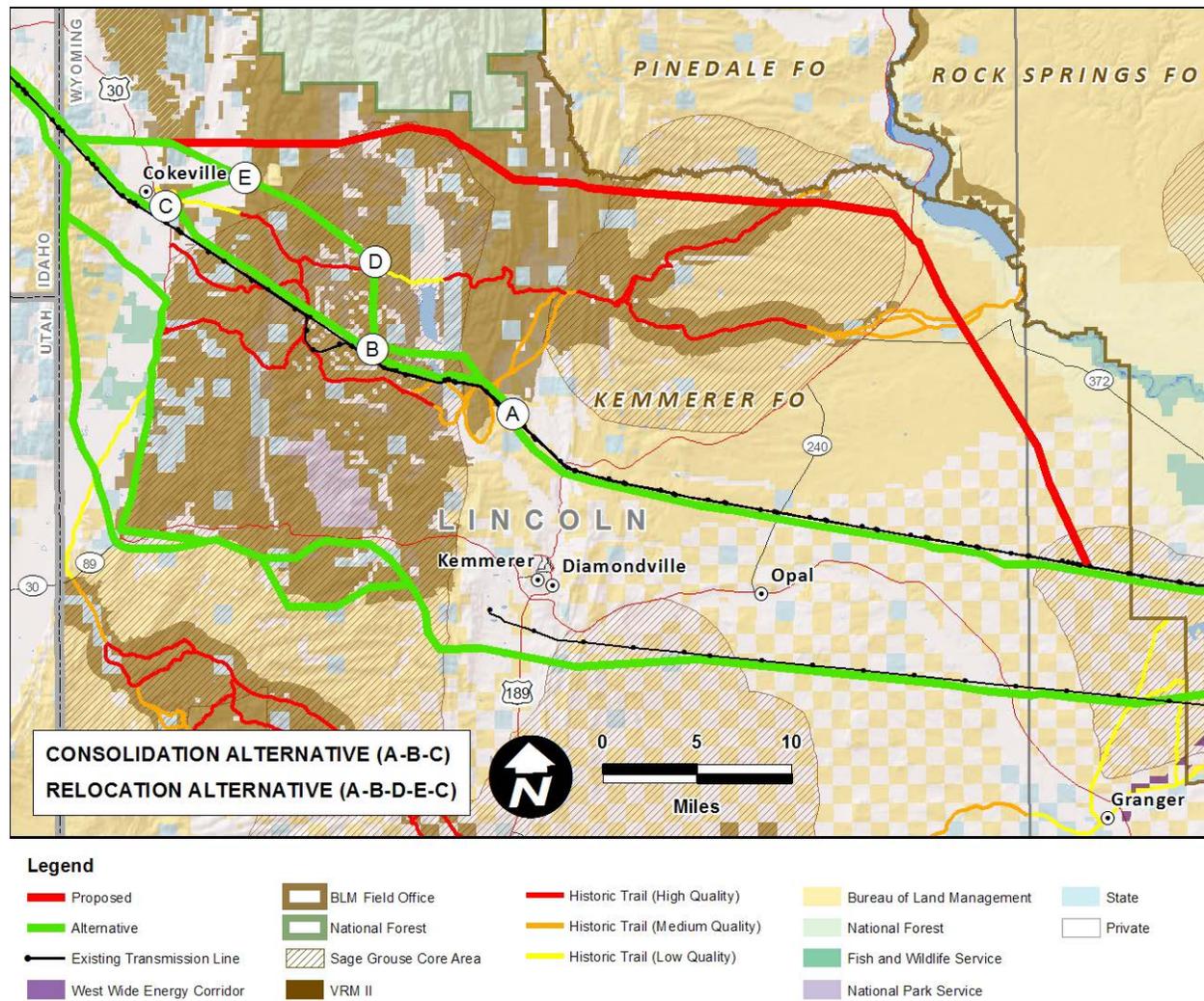


Figure M-1. Consolidation/Relocation Alternatives

The Project originally proposed to carry up to 3,000 MW on a double-circuit 500-kV structure through this area. When combined with energy carried on the three 345-kV structures, the total is about 5,400 MW. While it would be technically feasible to carry this load on one set of double-circuit 765-kV structures through this area, it would be prohibitively expensive for the following reasons:

- The Western Interconnection does not include 765-kV systems, and there are no substations or transformers in the Western grid that could interconnect with this voltage;
- Therefore, to allow for this possibility, new substations would need to be constructed, or existing substations expanded, to accommodate very large new transformers just for this one line. If such a substation or expansion were created near the Jim Bridger Power Plant, then the new 765-kV line would have to be over 150 miles long, from Bridger to Cokeville; and

- A large new substation would have to be built at Cokeville to allow for the 345-kV line that turns north near Cokeville to continue to supply power to the Three Mile Knoll Substation.

This change in the Proposed Action would likely be prohibitively expensive and out of proportion as a possible mitigation to the impacts being avoided. As an alternative to consolidating all circuits on a single structure of a type not compatible with the Western Interconnection, the Proponents were asked to consider consolidating the existing lines on two structures and locating the Gateway West double-circuit 500-kV structure immediately adjacent to them.

Two transmission alternatives were evaluated to determine the feasibility of consolidating or relocating existing and proposed transmission lines to reduce impact. The alternatives considered are:

- Consolidation Alternative (along a 23.5-mile portion of Alternative 4A) that, at completion, would result in two double-circuit 345-kV lines and one 345-kV single circuit along the alignment of the existing transmission lines (Figure 2.4-4, points A, B, and C).
- Relocation Alternative (along a 28-mile portion of Alternative 4F) that, at completion, would result in two double-circuit 345-kV lines and one 345-kV single circuit (Figure 2.4-4, points A, B, D, E, and C).

The environmental advantages of the Consolidation Alternative would include:

- No increase in number of lines crossing historic trails;
- No increase in number of structures in the vicinity of sensitive visual resources;
- The existing 345-kV line would be rebuilt with dull finish structures, insulators, and conductors; and
- Conformance with management objectives in Kemmerer RMP.

The environmental advantages of the Relocation Alternative would include:

- Removal of three 345-kV crossings of high-quality trails, relocating them to an area of lower sensitivity;
- Reduction in number of structures in the vicinity of sensitive visual resources;
- Avoidance of additional high-quality trail crossings with the Gateway West Project; and
- Conformance with management objectives in Kemmerer RMP.

The main environmental disadvantage for either alternative would be more than doubling the disturbance footprint (due to construction of two new sets of structures and removal of the three old sets of structures that have been in place for 35 to 40 years) in important sage-brush habitat within the Sage Core Area for protection of the greater sage grouse. Also, the Relocation Alternative would not be compliant with the Governor of Wyoming's EO 2011-5, requiring new transmission to be located within a designated corridor.

Because the Consolidation/Relocation Alternatives would involve changes to operating transmission lines, the Proponents were asked to evaluate the electrical, schedule, and reliability advantages or disadvantages (IPC and RMP 2010). In addition to the expense (which would be passed on to all the ratepayers), the Proponents report that:

While the rerouting, and rebuilding of Bridger West transmission lines per the BLM proposal is possible, the number of significant transmission outages to address line crossings, line repositions and construction would be prohibitive to Rocky Mountain Power. Additionally, the schedule to perform such a reconstruction is well outside the current Gateway West schedule and would have to be coordinated with planned generation outages at the Jim Bridger Generating Plant.

Even assuming the cost and schedule issues could be resolved, the more fundamental issue raised by the Proponents is that of reliability. They state:

Simultaneous loss of multiple lines or all lines in this corridor (fire, high winds, blizzards, etc.) would result in cascading outages conditions that would impact the entire Western Interconnection. The configurations proposed do not meet the Gateway West project needs and requirements.

The Gateway South and Gateway Central transmission lines are designed to fully carry the power load if the Gateway West line goes down, to meet system reliability requirements. However, if the Gateway West line was built immediately adjacent to the three Bridger lines, a single event could affect all of these lines. In that event, the Gateway South and Gateway Central lines would be unable to carry the combined Bridger/Gateway West load. The Gateway South/Gateway Central lines are designed to handle the Gateway West load but not the combined Bridger and Gateway West load once the Gateway West line is fully energized.

The Proponents have stated that they cannot support this alternative. System studies have not been conducted on this alternative but it is reasonable to assume that the reliability requirements for common corridor outages would not be met and that Gateway West would not receive a rating for Segment 4 that would meet the fundamental purpose and need of the Project.

These alternatives were eliminated from detailed study because, as of the date it was originally proposed, it:

- Did not meet the Proponent's objectives, as It would not meet the reliability requirements.

5.4 Kemmerer Alternative A

The Kemmerer Alternative A was initially considered to avoid a 0.65-mile buffer around sage-grouse leks, a 250-foot buffer around oil and gas wells, and unstable slopes. It would require an entirely Greenfield ROW for about 61.0 miles. This alternative deviates from the Proposed Route approximately 5 miles after crossing the Green River and heads west, along a path located south of the Proposed Route. It crosses the UPRR twice, before turning northwest and briefly rejoining the Proposed Route near an existing transmission line. This alternative then leaves the Proposed Route again,

heading west towards Dempsey Ridge, then turning northwest and where it rejoins this route, just west of Rock Creek (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Requires 36.9 miles more Greenfield ROW than the Proposed Route;
- Crosses 3.3 miles more high-quality historic trail buffer than the Proposed Route;
- Crosses 3.3 miles more irrigated farmland than the Proposed Route;
- Crosses 2.6 miles more National Wetland Inventory (NWI) mapped wetlands than the Proposed Route;
- Crosses 13.4 more miles of big game crucial winter habitat than the Proposed Route;
- Crosses 1.9 more miles of sage-grouse core area than the Proposed Route; and
- Approval could be blocked by a conservation easement secured by the NWR south of Cokeville.

5.5 Kemmerer Alternative B

In January 2008, the BLM Kemmerer FO proposed a route alternative to the south of the Proposed Route in order to avoid environmental constraints along the existing 345-kV transmission lines. The Kemmerer Alternative B incorporates segments proposed by both the Proponents and the Kemmerer FO. This alternative departs from the feasible alternatives just west of Route 189 and trends west, crossing active trona mines owned by FMC, to the area just west of the Chevron coal mine south of the community of Kemmerer. From this point, the Kemmerer Alternative B would proceed to the Wyoming-Utah border south of the Cokeville Meadows NWR through 20.2 miles of Sage Core Area. At the state line, the alternative would turn north (see Appendix O). This area is less disturbed than areas to the north, is within sage-grouse core area, and is big game crucial winter range.

This alternative was eliminated from detailed study because, it:

- Crosses through sage-grouse core areas;
- Crosses through big game crucial winter range; and
- The WGFD expressed concern that this route alternative would cross high-quality habitat with a new ROW.

5.6 Kemmerer Alternative C

The Kemmerer Alternative C was developed early in the routing process. This alternative is located adjacent to the north side of the existing 345-kV corridor (see Appendix O). The alignment of this alternative is within the 2-mile-wide corridor for transmission line siting, established by EO 2011-5 in June 2011 by the Wyoming Governor's office. This alternative is very similar to the Proposed Route, in that it is located on the south side of the existing 345-kV corridor and is also within the designated sage-grouse corridor.

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Encroaches on sage-grouse lek buffers; and
- Offers no advantages over the Proposed Route

5.7 Montpelier Alternative

The Montpelier Alternative was initially considered in order to cross fewer miles of irrigated farm land and wetlands compared to the Proposed Route, and to avoid a large ROW with four circuits and three sets of lattice steel structures across the Bear River Valley. This alternative diverges from the Proposed Route near MP 143 and follows an existing single 345-kV line northwest for approximately 9 miles, then proceeds northwest, offset 1,500 feet from the existing 345-kV line, and passes east of the community of Montpelier. About 3 miles north of this community, the alternative route angles west (leaving the existing 345-kV line) and crosses US 30, the Bear River, and the Bear River Valley before proceeding to the west to the uplands where it rejoins the Proposed Route just east of the Caribou-Targhee NF (see Appendix O), the majority of which would be on Greenfield ROW.

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Is 1.5 miles longer than the Proposed Route;
- Crosses two scenic highways;
- Crosses 7.3 more miles of steep slopes than the Proposed Route;
- Requires approximately 10.1 more miles of Greenfield ROW;
- Crosses 8.8 more miles of big game crucial winter range than the Proposed Route; and
- Adds a new transmission crossing of Bear Lake Valley and US 30.

5.8 Caribou-Targhee Alternatives

The Caribou-Targhee Alternative was originally the Proposed Route; it was an initial attempt at routing through the Caribou-Targhee NF. The first 3 miles of this alternative follow an existing transmission line, after which it heads north towards the Proposed Route. It generally follows the Proposed Route (but somewhat south of it) until rejoining the Proposed Route west of the Caribou-Targhee NF boundary (see Appendix O).

This alternative was not selected for detailed analysis because the Forest Service staff, who are familiar with existing conditions and responsible for the management of this area, recommended a different route that was more feasible in regard to constructability and environmental impacts. The Proponents therefore shifted their Proposed Route to the route recommended by the Forest Service, and the IDT dropped this (initially Proposed Route) from further study.

This route was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is slightly longer than the Proposed Route;
- Has more angle structures than the Proposed Route; and
- The Forest Service recommended another, more feasible route, in regard to constructability and environmental impacts.

An alignment was also considered that exactly paralleled the existing 345-kV powerline in North Canyon, but offset by 1,500 feet to the north. This alignment was not considered in detail because the Forest staff determined that it unnecessarily impacted a substantial length of North Canyon Creek and the associated Aquatic Influence Zone.

5.9 Populus Alternative

The Populus Alternative was initially considered because it would parallel (1,500 feet to the north) an existing 345-kV route through Populus County (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Requires more Greenfield ROW than the Proposed Route;
- Crosses more big game crucial winter range than the Proposed Route;
- Passes within 700 feet of the Downata Hot Springs Resort boundary;
- Traverses one sage-grouse lek and three sage-grouse lek buffers; and
- Results in more environmental effects than the Proposed Route.

6.0 SEGMENT 5

6.1 Deep Creek Alternative A

Deep Creek Alternative A was initially considered as a means of avoiding high-quality forested habitat on BLM-managed lands that are located in the northern portion of the Deep Creek Mountains. This alternative diverges from the Proposed Route at MP 8.3, at which point it heads due west through the Bannock Range, through the Arbon Valley between Pauline and Arbon, and through the Deep Creek Mountains. On the west side of the Deep Creek Mountains, it turns northwest and runs about 3 miles through Rockland Valley, joining Alternative 5D approximately at MP 2, approximately 4 miles northeast of Rockland (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Is 1.3 miles longer than the Proposed Route;
- Crosses 0.4 mile more big game crucial winter range than the Proposed Route;
- Crosses 1.4 miles more VRM Class II than the Proposed Route;
- Crosses 4.6 miles more irrigated agriculture than the Proposed Route;
- Crosses 0.1 mile more wetlands than the Proposed Route; and

- Because topographic constraints do not allow adequate space to accommodate two transmission lines in this area, it would not allow for co-location with Segment 7.

6.2 Deep Creek Alternative B

Deep Creek Alternative B was initially considered because it was a more direct route, compared to the Proposed Route. It diverges from the Proposed Route at MP 29.4 and extends northwest through the Deep Creek Mountains, terminating near MP 6.5 of Alternative 5D (see Appendix O).

While this alignment shortens the length of the line, it would not create an efficient opportunity to co-locate with the Segment 7 route. This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Crosses 1.5 miles of VRM Class II areas than the Proposed Route;
- Crosses 0.2 mile more VRM Class III than the Proposed Route;
- Crosses 0.4 more miles of areas containing steep slopes than the Proposed Route;
- Creates a new route across VRM Class II; and
- Crosses more high-quality forested habitat on BLM-managed lands (located in the northern portion of the Deep Creek Mountains).

6.3 Craters of the Moon North and South Alternatives and Alternative Borah Substation Site (12)

A combination of Power County, Bannock County, and Cassia County residents asked why the Proposed Route could not be routed directly north from the Populus Substation in order to avoid Power and Cassia Counties altogether. The Proponents reported that any route to the north would have to effectively go through or around Craters of the Moon National Monument and Preserve. Two alternative routes were identified. Craters of the Moon South Alternative, through the Monument and Preserve, was determined to not be feasible, as it would require Congressional approval, while Craters of the Moon North Alternative went around the Monument and Preserve, but would be at least 50 miles longer than the Proposed Route (see Appendix O). Even if these conditions did not exist, these alternatives do not meet the Proponents' Project Objectives of having two geographically diverse, east-west transmission lines north and south of the Snake River for reliability, one of which would interconnect at the Borah Substation.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Does not meet the Proponents' Project Objectives for reliability;
- Does not meet the Proponents' Project Objective of connecting with the Borah Substation;

- A route through Monument and Preserve would not be feasible as it would require Congressional approval; and
- The alignment around the Monument and Preserve would be 50 miles longer than the Proposed Route, which would substantially increase resource impacts.

7.0 SEGMENT 7

7.1 Deep Creek Alternative

The Deep Creek Alternative was initially considered by the Proponents as a direct westerly route from Populus Substation. This alternative heads west out of the Populus Substation, crossing I-15, traversing the Bannock Range and 2.5 miles of the Caribou-Targhee NF and the Pleasantview Hills, then passes through the Arbon Valley 2.5 miles south of Arbon, traversing a portion of the Deep Creek Mountains (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Crosses areas designated as BLM VRM Class II and Forest Service Retention;
- Does not parallel any existing transmission lines;
- Crosses 2.4 more miles of steep slope areas than the Proposed Route;
- Crosses 0.3 mile of highly erodible soils, whereas the Proposed Route crosses none;
- Crossed 0.7 mile of areas of slope instability, whereas the Proposed Route crosses none; and
- Has no environmental advantages over the Proposed Route.

7.2 Burley Alternative

The Burley Alternative was initially considered to avoid one sage-grouse lek 0.65-mile buffer; however, it crosses closer to the intersection of Hudspeth's Cutoff and the Oregon NHT (also known as "Parting of the Ways") than the Proposed Route. This alternative diverges from the Proposed Route approximately 15 miles west of Rockland, Idaho. It proceeds northwest for 2 miles and then southwest for 1 mile back to the Proposed Route (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Has greater impacts to historic resources compared to the Proposed Route.

7.3 Irrigated Cropland Avoidance

The following Segment 7 alternatives were investigated to avoid siting the transmission structures in pivot irrigation areas. Although each achieved this goal to some extent, each had additional disadvantages that appeared substantially greater than avoiding the farmland. After examining these five routes, the Proponents identified the Proposed Route east-west location that avoids most pivots. Cassia County identified an

alternative farther south (State Line Route) that avoids all impacts to irrigated agriculture and substantially reduces impact to prime farmland soils. Based on the number of alternatives carried into detailed analysis, the BLM IDT decided not to evaluate the following four alternatives further (see the discussion below for more details regarding the reasons to not to evaluate the following five alternatives).

7.3.1 Oakley Alternative

As discussed above, this alternative was initially considered in order to avoid siting the transmission structures in pivot irrigation areas. This alternative is the southernmost of the irrigation avoidance routes, diverging from the Proposed Route about 5 miles west of Albion. It proceeds southwest along the western foot of the Albion Mountains of the Sawtooth NF, crossing several creeks and washes. After approximately 11 miles, it turns west, passes 2 miles north of Oakley, and continues to the eastern foot of the Sawtooth NF. At that point, it travels northwest for approximately 11 miles where it rejoins the Proposed Route southeast of Artesian City (see Appendix O).

The only identified advantage of this alternative route over the Proposed Route is that it passes through 4.3 miles less agricultural area than the Proposed Route. This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Is 9.3 miles longer than the Proposed Route;
- Is entirely a Greenfield route (31.9 miles);
- Crosses 4.0 miles more big game crucial winter range than the Proposed Route;
- Crosses four raptor nest 0.5-mile buffers, whereas the Proposed Route impacts none;
- Crosses 3.5 miles more of steep slope areas than the Proposed Route;
- Impacts 4.4 more miles of historic trail buffers than the Proposed Routes;
- Crosses 5.6 miles of VRM Class III, whereas the Proposed Route impacts none; and
- Crosses one sage-grouse lek 0.65-mile buffer, whereas the Proposed Route impacts none.

7.3.2 Artesian City Alternative

As discussed above, this alternative was initially considered in order to avoid siting the transmission structures in pivot irrigation areas. This route diverges from the Proposed Route about 5 miles west of Albion. It travels southwest along the western foot of the Albion Mountains of the Sawtooth NF, crossing several creeks and washes. After approximately 8 miles it turns west, passing 3.5 miles north of Oakley, and continuing to the eastern foot of the Sawtooth NF. At that point it travels northwest for approximately 6 miles where it meets the Proposed Route at mile 109, southeast of Artesian City (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Is 6.2 miles longer than the Proposed Route;
- Is entirely a Greenfield route (28.8 miles);
- Crosses 3.0 miles more big game crucial winter range than the Proposed Route;
- Crosses four raptor nest 0.5-mile buffers, whereas the Proposed Route impacts none;
- Traverses 2.9 miles more of steep slope areas than the Proposed Route; and
- Impacts 3.6 miles more historic trail buffers than the Proposed Route.

7.3.3 Cassia Alternative

As discussed above, this alternative was initially considered in order to avoid siting the transmission structures in pivot irrigation areas. This route diverges from the Proposed Route at the northern edge of the Albion Mountains. It travels generally southwest through Cassia County. It passes 2.5 miles south of Burley and continues to the Cassia/Twin Falls County line. It proceeds an additional 2 miles, where it joins the Proposed Route southeast of Artesian City, at the north end of the Sawtooth NF (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Crosses one more historic trails compared to the Proposed Route;
- Crosses 4.17 miles more of irrigated farm land than the Proposed Route; and
- Crosses one more major road than the Proposed Route;
- There are 54 more occurrences of residences or structures within 750 feet of the centerline, as compared to 11 for the Proposed Route; and
- There are 116 more occurrences of residences or structures within 1,000 feet of the centerline, as compared to 31 for the Proposed Route.

7.3.4 I-84 South Alternative

As discussed above, this alternative was initially considered to avoid siting the transmission structures in pivot irrigation areas. This alternative was designed to follow the I-84 freeway. It diverges from the Proposed Route where the Proposed Route crosses I-84, east of Delco, and travels west, parallel to I-84 on the south side between I-84 and the Snake River. It crosses north of I-84 at one location to avoid developed portions of the town of Burley, and then returns to the south side. It continues west until approximately 5.0 miles south of Eden. The I-84 South Alternative then proceeds northwest parallel to the south side of I-84, passing north of Twin Falls and south of Jerome and Wendell. It then turns west just northeast of Hagerman and crosses US 30, the Gooding/Twin Falls County line, and the Snake River. It continues west through the remainder of Twin Falls County, enters Elmore County, and then joins the feasible alternative route, Alternative 9B, approximately 5 miles west of the Twin Falls/Elmore County line.

This segment was eliminated based on the extent of urban, agricultural, residential, and commercial development along the I-84 corridor. A variation of the I-84 corridor

alternative was given further consideration; it would turn, south of Eldon, and proceed due south to the Cedar Hill Substation (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Crosses 23.44 miles more of irrigated farm land than the Proposed Route;
- Crosses 9.05 miles more land considered prime farm land than the Proposed Route;
- Encroaches upon the City of Heyburn;
- A community advisory committee is working with Idaho Power to create a plan to address the Magic Valley's long-term electric demand. The committee has identified as a priority the need to locate a new 500-kV substation at Cedar Hill that will serve as a hub for 230-kV transmission lines to provide reliable service throughout the valley. The I-84 route would add 5.4 miles of additional 500-kV transmission line in a rapidly growing area with no increase in reliability;
- There are 64 more occurrences of residences or structures within 300 feet of the centerline, as compared to 5 for the Proposed Route;
- There are 460 more occurrences of residences or structures within 750 feet of the centerline, as compared to 11 for the Proposed Route; and
- There are 853 more occurrences of residences or structures within 1,000 feet of the centerline, as compared to 31 for the Proposed Route.

7.3.5 Malta Bypass Alternatives

Meadow Creek Farms of Malta, Idaho, opposes the alignment of Alternative 7H as it crosses the Malta Valley. The previously proposed Alternative 7H alignment crosses the valley at its widest point, containing approximately 8 miles of agricultural land, some of which contains center-pivot irrigation. In a letter to BLM dated March 3, 2010 (Yates and Yates 2010), two alternative routes were suggested to eliminate the Malta Valley crossing by Alternative 7H. The Malta Bypass Alternative 1 would move the Raft River Valley/Malta Valley crossing to a point approximately 8 miles north of its proposed location. The Malta Bypass Alternative 2 would be a substantial realignment, shifting the eastern end of Alternative 7H approximately 72 miles west of its proposed location and resulting in a route that avoids the Malta Valley completely (see Appendix O). Alternative 7H was later dropped from consideration, making the need for this alternative moot.

7.3.5.1 Malta Bypass Alternative 1

As discussed above, this alternative was initially considered to avoid the Malta Valley. The Malta Bypass Alternative 1 would cross I-84 at MP 57.6 as it approaches the Raft River Valley from east to west. This alternative would diverge from Alternative 7H at MP 61.0 on the east side of the valley. It would proceed to the northwest, paralleling the interstate for approximately 11.5 miles through the Raft River Valley. It would then turn west for about 4 miles to the west edge of the valley, crossing about 0.8 mile of

irrigated agriculture. The route would then turn southwest along the eastern flank of the Cotterell Mountains before rejoining Alternative 7H at MP 77.6 (see Appendix O).

This alternative was eliminated from detailed study prior to dropping Alternative 7H because as of the date it was originally proposed, it:

- Adds 7.7 miles to Alternative 7H, a route that is already more than 9 miles longer than the Proposed Route;
- Crosses 20 ferruginous hawk nest buffers, 11 more than Alternative 7H;
- Crosses 14 miles of the Raft River–Curlew Valley Important Bird Area (IBA), 5 miles more than Alternative 7H. The Idaho Department of Fish and Game is a partner in the IBA program, established to identify, monitor, and conserve key sites for birds in each state or province. In 2006, Curlew Valley and the Raft River-Curlew Valley Ferruginous Hawk IBAs were merged into one IBA;
- The overall benefit to agriculture would be minimal; avoiding only 2.6 miles of irrigated agriculture at the cost of 7.7 miles of additional length; and
- Alternative 7H was later dropped from consideration, making the need for this alternative moot.

7.3.5.2 Malta Bypass Alternative 2

As discussed above, this alternative was initially considered to avoid the Malta Valley. Malta Bypass Alternative 2 would begin on the Segment 7 Proposed Route at MP 71.9 and does not meet the original intent of Alternative 7H, which the Proponents proposed to provide a southern alternative to the Proposed Route that would also be substantially shorter than Alternative 7I. The Malta Bypass Alternative 2 would leave the Proposed Route and proceed south for approximately 21 miles along the east flank of the Cotterell Mountains and then join Alternative 7H. From there, Alternative 7H would continue for approximately 43 miles to the west to Cedar Hill Substation (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Adds 25 miles to Alternative 7H, a route that is already more than 9 miles longer than the Proposed Route;
- Crosses 9 miles of VRM Class II and VRM Class III areas whereas the Proposed Route avoids nearly all sensitive visual classifications;
- Crosses 38 ferruginous hawk nest buffers (34 more than the Proposed Route) and 17 miles of the Raft River-Curlew Valley IBA whereas the Proposed Route would avoid the IBA; and
- Alternative 7H was later dropped from consideration, making the need for this alternative moot.

7.3.6 Foothills Alternative

The Foothills Alternative was initially considered in order to avoid a local hang gliding operation and sage-grouse leks. This alternative deviates from the Proposed Route just

southwest of where Alternative 7E diverges, where it heads west for approximately 2 miles, then heads south, generally following the Proposed Route (somewhat west of the Proposed Route), until rejoining the Proposed Route approximately 2 miles east of Antelope Hill (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Impacts irrigated farmland;
- Is in proximity to over a dozen residences;
- Crosses a large dairy; and
- Two other alternatives (7E and 7F) were identified that better avoided these types of impacts.

7.3.7 Pinchpoint and Borah Substation Alternative

The Pinchpoint Alternative was initially considered because Power and Cassia Counties had asked why Segment 7 could not be routed along the existing transmission corridor between Populus and Midpoint Substations. Figure M-2 shows the conceptual path of this alternative. In addition, they wanted to know if the transmission line could connect into a relocated Borah Substation that would allow for more orderly land use development in Power County.

This alternative was eliminated from detailed study because, as of the date it was originally proposed:

- The Proponents report that it would not meet reliability criteria due to a “pinchpoint” from the congestion of existing transmission lines in the area south of Craters of the Moon National Monument and Preserve; and
- An analysis presented by the Proponents in a county-sponsored public meeting reported that relocation of the substation would be prohibitively expensive.

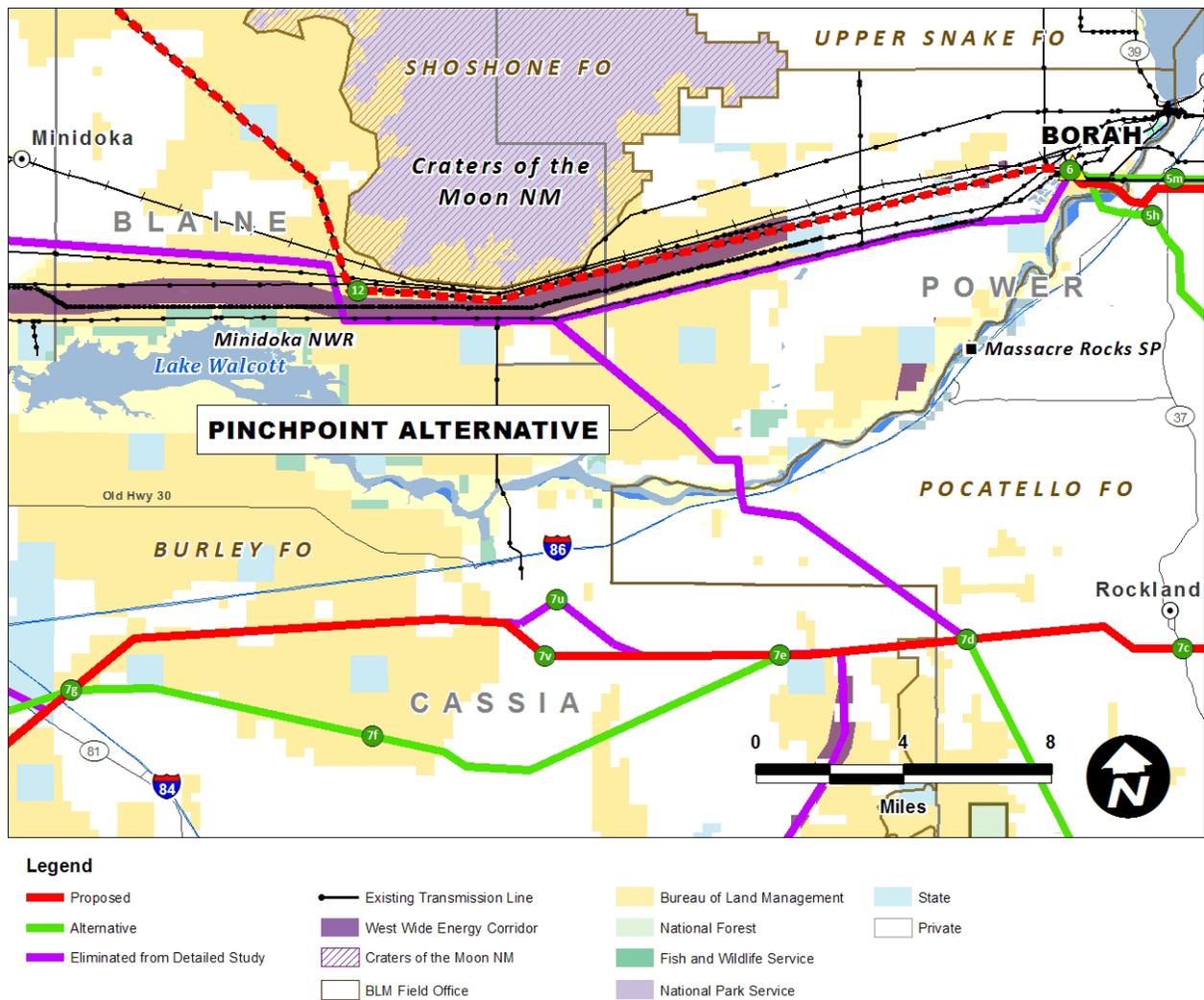


Figure M-2. Pinchpoint Alternative

8.0 SEGMENT 8

The following eight alternatives were considered during the routing process. Each was explored because it followed existing transmission lines, existing corridors, or the WWE corridor, but each presents more environmental impacts than the Proposed Route or Route Alternative evaluated in detail; therefore, the BLM IDT decided not to carry these routes forward for detailed analysis. In addition, a scoping comment suggested co-location of the Proposed Route with planned realignment and upgrading of Kuna–Mora Road near the northwest portion of where Alternative 8B is adjacent to the SRBOP. Consultation with Ada County confirmed that the highway upgrade was planned for several years later than the in-service date for the Proposed Route.

8.1 Summer Lake – Midpoint Alternative

The Summer Lake – Midpoint Alternative was initially considered to parallel the north side of the Summer Lake – Midpoint 500-kV transmission length from where the Project

would first encountered this line, all the way east to a termination at the Hemingway Substation (see Appendix O).

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Is parallel to an existing transmission line on the north side for its length; however, the western end of the alternative (in Canyon and Owyhee Counties) would encounter residences and cropland that would make paralleling the existing line infeasible; and
- The concept of paralleling the Project with existing transmission lines was incorporated into the Proposed Route and Alternative 8D, which also avoid residential and agricultural areas that would be impacted by this alternative.

8.2 I-84 North Alternative

The intent of this alternative is to follow the I-84 corridor to the extent possible. This route diverges from the feasible alternative at MP 20 and heads northwest, paralleling the south side of I-84 and the north side of the Snake River. It passes just south of Bliss and then turns west, still paralleling I-84 and the river. In Elmore County, this route crosses the Snake River twice and then meets the Proposed Route approximately 4 miles northwest of King Hill (see Appendix O). No attempt was made to follow I-84 from this point because the WWE corridor and existing transmission lines presented better siting options.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Parallels the Snake River in relatively close proximity, and crosses the Snake River twice;
- Is 2.2 miles longer than the Proposed Route;
- Is parallel to existing transmission lines for less of its length than the Proposed Route (24.3 miles less);
- Impacts 7.1 miles more areas within the scenic US 30 buffer; and
- Is in close proximity to developed land uses (agricultural, residential, commercial, recreational) to a much greater extent than the Proposed Route.

8.3 I-84 North Variation Alternative

This alternative is a slight variation of the I-84 North Alternative. This option diverges from the Proposed Route northeast of Bliss and travels generally west for 3 miles north of I-84 and the town of Bliss, crosses I-84, and then continues 3 miles west of Bliss, where it joins the I-84 Alternative discussed above (see Appendix O). The environmental advantages and disadvantages of this alternative are the same as those presented for the previously discussed alternative, with the exceptions that it impacts more VRM Class III and less VRM Class II.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Results in more environmental effects than the Proposed Route (as discussed for the I-84 North Alternative).

8.4 WWE Corridor Alternative

This alternative was considered in the WWE Corridor PEIS (DOE and BLM 2008); however, changes were made to the WWE corridor during the analysis process, and the final designated WWE corridor is actually located farther to the west than this alternative had anticipated it would be. This alternative diverges from the Proposed Route at the point where Alternative 8A rejoins the Proposed Route. The WWE Corridor Alternative proceeds northwest, parallel to the Proposed Route and an existing transmission line, and follows the WWE corridor. It rejoins the feasible alternatives just east of reference point 8k, on Alternative 8C, at a location a few miles east of Indian Creek Reservoir (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 1.0 mile longer than the Proposed Route;
- Is only within the designated WWE corridor for 0.7 mile, although it would be within or paralleling an alternative WWE corridor for 36.7 miles;
- Parallels an existing transmission line for 0.9 mile less than the Proposed Route;
- Crosses 3.1 miles of VRM Class I, whereas the Proposed Route would cross none; and
- Crosses 0.3 mile more irrigated agriculture than the Proposed Route.

8.5 Blair Trail Alternative

The Blair Trail Alternative was initially considered because it parallels the north side of an existing transmission line corridor containing 138-kV, 230-kV, and 500-kV lines. This alternative diverges from the Proposed Route at point 8c just south of Blair Trail Reservoir. It travels just northeast of the previously discussed alternative for approximately 11 miles (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 4.1 miles longer than the Proposed Route;
- Impacts three sage-grouse leks, including both the 0.65-mile and 0.25-mile buffers;
- Crosses 5.1 miles of VRM Class I, whereas the Proposed Route crosses none in this area;
- Crosses 0.9 mile more irrigated agriculture than the Proposed Route;
- Crosses 0.4 mile more steep slopes than the Proposed Route; and

- Impacts 2.4 miles more historic trail buffers than the Proposed Route.

8.6 Gooding North Alternative

Residents of Elmore County have commented that the final route should be located farther north and along an existing transmission line from the point where it leaves Midpoint Substation and heads northwest. In response to these comments, the Gooding North Alternative was sited to follow an existing 230-kV transmission line north of the Proposed Route. This 68.5-mile alternative would cross only 10.2 miles of private property. The route would start at Midpoint Substation and proceed to the northwest for approximately 18 miles, before turning to the west-northwest for about 50 miles and rejoining the Proposed Route about 2 miles east of Mountain Home, Idaho (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 1.8 miles more VRM Class I and II land than the Proposed Route;
- Crosses 33.6 miles more elk and mule deer winter range than the Proposed Route;
- Does not follow the WWE corridor;
- Crosses 7.8 miles of pygmy rabbit habitat, whereas the Proposed Route avoids pygmy rabbit habitat;
- Crosses the King Hill Creek ACEC, whereas the Proposed Route avoids it; and
- Crosses 2.4 miles of sage-grouse lek 0.65-mile buffers whereas the Proposed Route avoids sage-grouse buffers.

8.7 King Hill Alternative

The King Hill Alternative was routed to reduce impacts to historic trails and sage-grouse leks, the King Hill WSA, the King Hill Creek ACEC, and topography near King Hill and King Hill Creek (steep drainages and wide canyons), as well as an attempt to follow an existing utility corridor where possible. This route diverges from the Proposed Route near MP 30 and extends in a northwest direction, generally paralleling the north side of the Proposed Route. It passes north of Pioneer Reservoir, across the Gooding/Elmore County line, and north of Blair Trail Reservoir. It then continues along the very southern foot of the Mount Bennett Hills, and rejoins the draft WWE corridor alternative (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Parallels an existing transmission line for 20.6 miles less than the Proposed Route; and
- Crosses 6.2 miles more steep slope areas than the Proposed Route.

8.8 Bennett Hills Alternatives

The Bennett Hills Alternative was designed to minimize impacts to historic trails. This alternative route diverges from the Proposed Route near MP 30 and extends northwest and then west, extending much farther north than the other alternatives in order to avoid constraints such as the King Hill WSA. The majority of this alternative traverses the Bennett Hills. It then rejoins another alternative where the WWE corridor is designated (see Appendix O).

A variation of the Bennett Hills Alternative was also considered in which the alternative began at Midpoint Substation and extended northwest between Shoshone and Gooding along an existing 230-kV transmission line and joining the alternative in the vicinity of Blair Trail reservoir.

These alternatives were eliminated from detailed study because, as of the date they were originally proposed, they:

- Are 5.0 miles longer than the Proposed Route;
- Cross 0.8 mile more VRM Class I area than the Proposed Route;
- Parallel existing transmission lines for 37.8 miles less than the Proposed Route;
- Are Greenfield routes through the Bennett Hills, presenting construction difficulty due to topography and lack of existing access; and
- Cross 32.4 miles more of steep slope areas than the Proposed Route.

8.9 McElroy Butte Alternative

The key issue for this portion of the route was determining the approach to siting a new corridor in an environment of active agricultural use, increasing residential development, and additional planned infrastructure projects. The segments comprising this alternative were an attempt to cross this area with a more direct route.

The first segment of this alternative would require relocating and/or rebuilding a portion of an existing 138-kV transmission line to 230-kV (planned for another project) in addition to the 500-kV Gateway West line on double-circuit 230-/500-kV structures. This route diverges from Alternative 8B approximately 3.5 miles east of Kuna Butte. It would extend southwest for 3 miles, then due west for 3.5 more miles, passing just south of Kuna Butte before crossing Alternative 8B and continuing southwest. Land in this area is a mix of privately owned and SRBOP-managed lands. This alignment would avoid placing a new transmission line through an area annexed by the City of Kuna. The alternative between the first two intersections of the route with Alternative 8B is 1.2 miles shorter than the 4.3-mile equivalent portion of Alternative 8B, but it cuts diagonally across farmlands instead of following the boundary of public and private lands in the hills. The next segment between intersections with Alternative 8B is 0.2 mile shorter than the 4.7-mile equivalent portion of Alternative 8B but it also would cut diagonally across farmlands instead of following county roads. The southern segment between the final intersection and the substation is 0.8 mile shorter than the 3.3-mile equivalent portion of Alternative 8B but also cuts diagonally across farmlands.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Resulted in diagonal crossings of farms and parcels rather than following public/private boundaries and county roads. This would create greater impacts to agricultural and residential properties compared to the Proposed Route.

9.0 SEGMENT 9

9.1 Magic Valley Alternative

The Magic Valley Alternative was designed to create a more direct route compared to the Proposed Route; however, this alternative passes through more irrigated agricultural land (primarily center pivot irrigation), and is near more rural residential development. This alternative exits the Cedar Hill Substation in a northwesterly direction, generally parallel to and south of the Snake River. It passes through Pleasant Valley, crosses Rock Creek, passes about 3 miles south of Twin Falls, continues through the Melon Valley, and crosses Salmon Falls Creek. From this point it continues northwest through the remainder of Twin Falls County, through northern Owyhee County, and into southern Elmore County, where it meets the Proposed Route where Alternative 9B rejoins the Proposed Route (see Appendix O).

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is within or parallel to the WWE corridor for less than 1 mile, compared to 15.0 miles for the Proposed Route;
- Is mostly on private land and does not parallel existing lines, whereas the Proposed Route follows existing lines and WWE corridor routes for portions of its alignment;
- Passes through 29.3 more miles of irrigated agricultural lands (primarily center pivot irrigation);
- Is in proximity to rural residential development;
- Encroaches upon an airport buffer zone; and
- Impacts 15.8 miles of a designated scenic highway (i.e., Highway 30).

9.2 Saylor Creek Alternative

The Saylor Creek Alternative was an initial design for the constriction point between Bruneau Dunes State Park and the Saylor Creek Air Force Range, which was based on a larger required buffer from the Air Force Range. It deviates from the Proposed Route, beginning just east of Browns Gulch and heading due west, then due south, then southwest to avoid conflicts with the Bombing Range.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 1.5 miles longer than the Proposed Route;

- Passes through Bruneau Dunes State Park for 0.3 mile, and would have a greater impact on the view from the park;
- Crosses VRM Class II land, which the Proposed Route would not;
- The Proposed Route was agreed upon through agency consultation as a means to avoid conflicts with the Air Force Range and the State Park, whereas this alternative would not; and
- The final WWE corridor was moved to follow the Proposed Route alignment in this area, by agreement with all adjacent and affected land-managing agencies.

9.3 Magic Valley-Saylor Creek Alternative

The Magic Valley-Saylor Creek Alternative was designed to avoid both the Saylor Creek Air Force Range and the Bruneau Dunes State Park, and would be located primarily on BLM-managed lands by extending farther south than the other routes considered. This alternative proceeds due west to a crossing of Salmon Falls Creek and then extends westward for approximately 33 miles through the Bruneau Desert, and crosses the East Fork of the Bruneau River, proceeds about 5 miles through the Inside Desert, crosses Bruneau Canyon/Bruneau River, and proceeds 5 miles through the Blackstone Desert. At this point it turns northwest and travels approximately 25 miles, between Big Hill and Bruneau Canyon/Bruneau River. This alternative then terminates at a location approximately 6 miles west of C.J. Strike Reservoir, where it joins the Proposed Route.

This alternative was eliminated from detailed study because as of the date it was originally proposed, it:

- Crosses 3.6 miles of the Bruneau-Jarbridge Rivers Wilderness Area associated with the Bruneau River in Bruneau Canyon, which would require Congressional approval;
- Crosses 2.0 miles of an ACEC associated with the Bruneau River in Bruneau Canyon. This area is designated as an ACEC because of bighorn sheep and cultural resources in the area;
- Crosses 3.5 miles of VRM Class I on BLM-managed land associated with Bruneau Canyon;
- Is entirely a Greenfield route, resulting in more disturbance;
- Is not within the WWE corridor;
- Crosses 0.6 mile of historic trail buffer;
- Would be within a Military Operating Area for most of its length, which limits; and obstructions to under 100 feet; and
- Crosses more sage-grouse habitat than the Proposed Route (approximately 47 miles compared to approximately 24 miles for the Proposed Route).

9.4 Blue Ridge Alternative

The Blue Ridge Alternative was part of the original Proposed Route. It was originally proposed by the Proponents because it was the most direct route between Cedar Hill substation and Hemingway substation; however, it is no longer being considered

because it would have passed through the Jarbidge Military Operating Area, an area that prohibits structures greater than 100 feet in height. Instead, the Proposed Action was moved several miles to the north, to the east edge of the Military Operating Area. This new location (i.e., the location of the new Proposed Route) is favored by the military over the Blue Ridge Alternative.

9.5 State Route 78 Alternative

The SR-78 Alternative was part of the original Proposed Route near Hemingway Substation. In this location, Segments 8 and 9 converge as the routes approach the substation. Impacts to subdivisions along Segment 8 caused a portion of Segment 8 to be pushed to the south near the western edge of the route. Therefore, the current Proposed Route along Segment 9 has also been moved further south, and the I-78 Alternative was dropped from further evaluation.

9.6 Central Birds of Prey Nature Conservation Area (NCA) Alternative

The Proponents identified the Central Birds of Prey NCA Alternative during initial scoping as a means of following existing 138-kV and 500-kV transmission lines on the north side of the Snake River. Most of this alternative's route would parallel an existing 138-kV transmission line in a northwesterly direction, until it meets an existing 500-kV line (approximately 15 miles of the far western portion of this alternative). This alternative would then follow this existing 500-kV line to Hemingway.

This alternative was eliminated from detailed study because, as of the date it was originally proposed:

- Placing the line north of the 500-kV line resulted in impacts to irrigated agricultural land and placing it on the south side of the 500-kV line within the Snake River canyon (in the SRBOP) was deemed infeasible. In addition, it created conflicts with private land uses and subdivisions near Melba

Alternative 9D was developed to deal with conflicts with private land uses and subdivisions that were created by the Central Birds of Prey NCA Alternative. Much of Alternative 9D follows the Central Birds of Prey NCA Alternative, except in three places. In the area south of C.J. Strike Reservoir, the original alternative was moved out of private land. To the northwest of C.J. Strike Reservoir, Alternative 9D was also moved west of the original alternative (onto BLM-managed lands) to avoid private lands. Lastly, instead of extending north up the 138-kV line to the 500-kV line, Alternative 9D turns to the west near Sinker Butte.

10.0 SEGMENT 10

10.1 Minidoka Variation

This alternative was examined during the siting process because it follows the existing transmission line, which runs through the Minidoka National Historic Site. This alternative diverges from the Proposed Route at point 10b of the Proposed Route, northwest of Eden, and generally parallels 1 to 2 miles east of the corresponding

segment of the Proposed Route and just east of the North Side Main Canal. It passes near the Minidoka National Historic Site and rejoins the Proposed Route at point 10a.

This alternative was eliminated from detailed study because, as of the date it was originally proposed, it:

- Is 1.2 miles longer than the Proposed Route;
- Is within the WWE corridor or projected WWE corridor for 6.9 miles less compared to the Proposed Route;
- Crosses 0.5 mile more irrigated agriculture than the Proposed Route; and
- Although the centerline of this alternative does not cross the Minidoka National Historic Site, it would be much closer to the site than the corresponding portion of the Proposed Route.