

Summary

An interdisciplinary analysis on the proposed action is documented in a project record. An index of the project record is presented in the Appendix. Source documents from the project record are incorporated by reference throughout this environmental impact statement by showing the document number(s) in brackets [24, 58]. The draft environmental impact statement (DEIS) summarizes the project record to make the analysis results as clear as possible.

Purpose and Need and Proposed Action

The communities of Ojo Caliente, El Rito, La Madera, Cañon Plaza, Mesa Vista, Petaca, Las Placitas, Servilleta, Vallecitos, Carson and Pilar lie within Taos or Rio Arriba Counties and have all grown since lines were constructed in the 1940s. These communities are expected to continue to grow at a similar rate as in the past. Although the increase in population is far less in outlying communities, the individual consumption of electrical power has increased with the expansion of electronic technology.

In order to provide adequate power for current and future needs, prevent power outages and fluctuations, improve reliability and reduce line loss costs to all Kit Carson Electric Cooperative (KCEC) users, the Carson National Forest and Bureau of Land Management (BLM) Taos Field Office propose to authorize Kit Carson Electric Cooperative to construct, operate and maintain a new 115 kV transmission line across National Forest System and BLM lands. It would run from the existing 115 kV transmission line in the 115/345 kV corridor just north of Black Mesa to a proposed substation location north of the Ojo Caliente community, Taos County, New Mexico. The transmission line proposal should sufficiently serve the power needs of the area. If at any time the population growth should exceed expectations, the substation equipment could be upgraded. The proposed substation equipment should supply adequate energy for 40 to 50 years. No new permits would be required to upgrade substation equipment as no additional land use area or impacts would occur.

The proposed action includes the administrative action required by BLM to authorize the existing line and associated access necessary for maintenance and repair.

Public Involvement

Beginning in the summer of 2000, Carson National Forest analysis team members and Kit Carson Electric Cooperative staff participated in a number of meetings and discussions with communities and their representatives, local citizen groups, interested individuals, and representatives from other state and Federal agencies concerning the Ojo Caliente 115 kV transmission line proposal.

On October 12, 2000 a Notice of Intent to prepare an environmental impact statement was published in the "Federal Register" (65 FR 60612) to notify the public and solicit comments on the proposed action. [181] A Revised Notice of Intent to prepare an environmental impact statement was published in the "Federal Register" (68 FR 38670) on June 30, 2003. [258] The revised notice added an Option to meet this need using National Forest System lands and included other information not in the previous NOI and changes to the proposed dates for release of the EIS.

Native American tribes that may be interested in the project were identified early on [25-30, 35], and per the 1999 requirements of the National Historic Preservation Act, Section 106, consultation with affiliated tribal officials was initiated in late 1999. Tribal consultation is

ongoing. Local pueblos were identified as most likely to still be using the area and were formally consulted. They include San Juan, San Ildefonso, Pojoaque, Tesuque, Nambé, and Santa Clara. Other tribes contacted are Hopi, Navajo, Jicarilla Apache, Comanche, Southern Ute, Ute Mountain, Jemez, Taos and Picuris. Copies of the April 2000 “Enchantment,” describing the proposed action for the Ojo Caliente transmission line, were also sent to those on the forest’s tribal mailing list. [68-84]

The analysis team prepared a brochure entitled “Proposed Action” in March 2000. The brochure described in detail the proposed action, preliminary issues and how to contact the analysis team for information or comments for the Ojo Caliente proposed transmission line. It also contained a proposed action and similar information for a second power line proposal from Talpa to Peñasco. [85, 87, 88]

“Proposed Action” was distributed March 25, 2000 by Kit Carson Electric Cooperative as a supplement to the April 2000 “Enchantment” (Vol. 52, Number 54), a New Mexico newsletter prepared by the electric cooperatives. [65] Copies were mailed out to all Kit Carson Electric Cooperative subscribers (17,850 copies). In addition, the “Enchantment” was sent to individuals and groups on the Carson National Forest mailing list of people interested in activities proposed on the national forest. [87, 88] Kit Carson Electric Cooperative’s quarterly newsletters for April 2000 and September 2000, “Getting Connected,” discussed the Ojo Caliente proposed transmission line, as well as the Talpa-Peñasco proposal. [85, 173] In 2003, an update on the Ojo Caliente EIS process was included in the March and August issues of “Getting Connected.” [251, 263] The newsletters went out to 21,132 subscribers.

Significant Issues

Public comments on the proposed Ojo Caliente transmission line covered a wide variety of topics. These included concerns related to effects on wildlife, soils and watershed, cultural resources, economics, scenic values, as well as the use of alternative energy, burial of the line, effects of electromagnetic fields, and the need for improved service. Significant issues were used to develop alternative routes and/or were addressed in the analysis of environmental effects (Chapter 3, *Affected Environment and Environmental Consequences*). Evaluation criteria are used to measure the potential consequences of the alternatives as they relate to each issue. The following are the significant issues and corresponding evaluation criteria identified for the proposed transmission line.

Significant Issue: Environmental Impacts of a New Utility Corridor

The proposed action would create a new utility corridor. Constructing a new line and associated maintenance road could cause unnecessary adverse environmental impacts.

Significant Issue: Impacts to Scenic Values

The proposed transmission line would negatively affect scenic and visual values of the area through which it traverses.

Significant Issue: Tres Piedras Connection

After the proposed action went out for public comment, an issue was raised concerning the lack of service along a portion of U.S. 285 between the existing 25 kV corridor and Tres Piedras, and that Tres Piedras has no backup source of electrical power in the event the current distribution system goes down.

Other Issues

A number of people requested that certain environmental impacts of the proposed transmission line be addressed in the environmental impact statement. The following are impacts that are included and analyzed as a part of Chapter 3, *Affected Environment and Environmental Consequences*.

- Need for Proposed Action
- Effects on archeological sites and traditional gathering areas
- Effects of electric-magnetic fields (EMF)
- Effects of higher potential for fire

In addition to significant issues for which alternatives are developed, some respondents suggested alternatives of their own. These are discussed in Chapter 2, *Alternatives* under *Alternatives Considered, but Eliminated from Detailed Study*. Reasons why these alternatives were eliminated are provided in this section of the environmental impact statement.

Additional issues may be identified as the analysis and disclosure process continues; issues identified in the formal comment period for this draft EIS will be analyzed and described and discussed in the final EIS. If needed, new alternatives may be developed, and/or additional mitigation or monitoring might be added for the final document as a result of the identification of new issues.

Alternatives

Federal agencies are required by the National Environmental Policy Act (NEPA) to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the proposed action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope of the need for improving consistency in electrical power, increasing efficiency in providing that power, and expanding the capacity of the system in areas Kit Carson Electric Cooperative provides electrical power through conventional transmission and distribution lines; duplicative of the alternatives considered in detail or; determined to be components that would cause unnecessary environmental harm. Therefore, a number of alternatives were considered, but dismissed from detailed consideration for reasons summarized in Chapter 2, *Alternatives Considered But Eliminated from Detailed Study*.

The purpose and need for the proposed action, along with the significant issues serve as the objectives and framework around which the alternatives were developed. Alternatives are used to evaluate different ways to resolve significant issues brought forth by the public (see Chapter 1) and satisfy the purpose and need for action. For this analysis, four alternatives have been

considered in detail. In addition to the alternatives, an Option was developed to address the need for another distribution line to the Tres Piedras area. This issue came up after the proposed action was developed and released to the public for comment. The Option could be included with any action alternative. Because the Tres Piedras Option does not fully meet the purpose and need of the proposed action, it could not stand alone as an alternative.

Alternative A - No Action

This alternative is the “no action” alternative required by the Council on Environmental Quality for implementation of NEPA (40 CFR Part 1502.14d). Under this alternative no new upgrade to the existing distribution lines would be authorized across National Forest System or BLM lands. The No Action Alternative is the point of reference for evaluating the action alternatives. This alternative would maintain the existing 25 kV line (Figure 6) in its present location and maintenance of the line would continue as normal. This alternative would not address the purpose and need of the proposed action.

Alternative B - Proposed Action

This alternative is the proposed action (Figure 7). It would originate from the existing 115 kV line about 1.5 miles northeast of Black Mesa and about 3 miles southwest of Cerro Azul, it has also been referred to as either the “Black Mesa or Cerro Azul Tap” alternative.

Alternative B would authorize KCEC to construct a new transmission line that would tap into the existing 115 kV Hernandez to Taos transmission line approximately 1.5 miles northeast of Black Mesa on the Carson National Forest. The line would run north/northwest along Forest Road 558 for about 6.7 miles and connect into the existing 25 kV distribution line, located just north of U.S. 285—also located on the Carson National Forest. It would follow the 25 kV right-of-way for about 1 mile, where it would leave the Carson National Forest and enter lands administered by the BLM. Then the line would follow the existing corridor west and slightly south for 1.9 miles to the location of the proposed substation just north of the intersection of U.S. 285 and NM 111.

This route would total 9.6 miles and involve 7.7 miles on National Forest System and 1.9 miles on BLM administered lands. It would not cross any private land. This alternative would create 6.7 miles of new corridor.

One brown metal pole or 2 to 3 wooden pole structures with guy wires may be used to provide greater support and strength where four to five corners or angles in the line occur. Approximately 3 miles of underbuild would be required from the point where it connects into the existing 25 kV line down to the proposed substation. The 25 kV line would be underbuilt on the same poles to provide a loop and backup system in case of a failure at the substation or along the 115 kV line.

This alternative would include a new substation location, the line and pole appearance and the use of the distribution lines described in Chapter 2, *Items Common to All Action Alternatives*. Alternative B would be consistent with the Carson Land and Resource Management Plan [5] and the BLM’s Taos Resource Management Plan [7].

Alternative C - Existing Corridor

During the scoping process, a common concern expressed in the comments was that the proposed transmission line would create a new corridor. Alternative C addresses the significant issue of the

environmental impacts related to creating a new utility corridor (see Chapter 1, *Issues*). This alternative was developed based on meeting the purpose and need for the proposed action and utilizing the existing power line corridor, rather than creating a new one. It would run entirely through an existing corridor. Alternative C will also be referred to as the “Existing Corridor” alternative.

Alternative C would construct a new transmission line that would tap into the existing 115 kV Hernandez to Taos transmission line on private land in the vicinity of where it crosses NM 567 (Figure 8). A new 115 kV transmission line would proceed west along the existing 25 kV distribution line corridor on State or private land for approximately 2.8 miles, then cross onto the Carson National Forest. It would continue west and then along U.S. 285 (crossing two parcels of private land) for approximately 10.9 miles (~2 miles on private), where it would enter lands administered by the BLM. Then the line would follow the existing corridor west and slightly south for 1.9 miles to the location of the proposed substation just north of the intersection of U.S. 285 and NM 111.

This route would total 15.6 miles and cross through 4.8 miles of private land, in addition to 8.9 miles of National Forest System lands and 1.9 miles on BLM lands. This alternative would not create any new utility corridor.

One brown metal pole or 2 to 3 wooden pole structures with guy wires may be used to provide greater support and strength where four or five corners or angles in the line occur. Existing poles would be replaced to enable the higher voltage lines to be positioned properly above the existing 25 kV distribution line. The 25 kV line would be underbuilt on the same poles the entire length of the new line (15.6 miles) to provide a loop and backup system in case of a failure at the substation or along the 115 kV line.

This alternative would include a new substation location, the line and pole appearance and the use of the distribution lines described in Chapter 2, *Items Common to All Action Alternatives*. Alternative C would be consistent with the Carson Land and Resource Management Plan [5] and the BLM’s Taos Resource Management Plan [7].

Alternative D - 285P Tap

Another public concern expressed during the scoping process was that the proposed transmission line would impact scenic values to residents and travelers along U.S. 285. Alternative D addresses the significant issue of the visual impacts related to the new transmission line route across the open terrain between Black Mesa and U.S. 285 as proposed (see Chapter 1, *Issues*), and along highway 567 and U.S. 285 using the existing route in Alternative C. This alternative was developed based on meeting the purpose and need for the proposed action and using topographic features, such as draws, swales and hills, to obscure the majority of the line from the view of residents in the Carson area and/or motorists along U.S. 285. Alternative D will also be referred to as the “285P Tap” alternative.

Alternative D would authorize KCEC to construct a new transmission line that would tap into the existing 115 kV Hernandez to Taos transmission line on National Forest System lands where it intersects Forest Road 285P (Figure 9). A new 115 kV transmission line would proceed north, following the bottom of Cañada Embudo for 4.8 miles. It would swing west and cross U.S. 285 where the highway turns westward to Ojo Caliente. It would run parallel to U.S. 285 for about 5.7

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miles on national forest, at a distance of up to one-half mile north from the highway. It would then enter BLM lands and intersect with the existing 25 kV distribution line. The line would follow the existing corridor west and slightly south to the location of the proposed substation just north of the intersection of U.S. 285 and NM 111 for 1.9 miles on BLM lands.

This route would total 12.4 miles and involve 10.5 miles of National Forest System lands and 1.9 miles on BLM administered lands. It would not cross any private land. This alternative would create 11.1 miles of new corridor, however 5 miles of existing line and poles would be removed. One mile of existing line would still remain through private land.

One brown metal pole or 2 to 3 wooden pole structures with guy wires may be used to provide greater support and strength where six or seven corners or angles in the line occur. Since 5 miles of the existing corridor along the south side of U.S. 285 would be eliminated, about 7.6 miles of underbuild would be required from the point where the line connects into the existing 25 kV line down to the proposed substation. The 25 kV line would be underbuilt on the same poles to provide a loop and backup system in case of a failure at the substation or along the 115 kV line.

This alternative would include a new substation location, the line and pole appearance and the use of the distribution lines described in Chapter 2, *Items Common to All Action Alternatives*. Alternative D would be consistent with the Carson Land and Resource Management Plan [5] and the BLM's Taos Resource Management Plan [7].

Option - Tres Piedras Connection

This Option addresses the significant issue brought forth during public scoping that Kit Carson Electric Cooperative does not have the means of serving the residents south of Tres Piedras along U.S. 285 at all (see Chapter 1, *Issues*). This Option would provide electrical service through a new distribution line. This Option will also be referred to as the "Tres Piedras Connection." Since this Option does not fully meet the purpose and need for action, it is not a stand-alone alternative. It could only be selected as part of one of the action alternatives.

The Tres Piedras Connection would authorize KCEC to construct a new distribution line that would tap into the existing 25 kV distribution line in the vicinity of the microwave station just north of the intersection of NM 567 and U.S. 285 (Figure 10). It would cross the highway to the west side and proceed north along U.S. 285, where it would cross back east of the highway to connect into the existing line that comes south from Tres Piedras along U.S. 285. This route would total 7.5 miles. With the exception of 1.5 miles through private land, this Option would be on National Forest System lands.

Table 1. Comparison of alternatives

	Alternative				Option
	A	B	C	D	
Total miles new 115 kV line	0	9.6	15.6	12.4	
Miles on NFS lands	0	7.7	8.9	10.5	
Miles on BLM lands	0	1.9	1.9	1.9	
Miles on Private/State lands	0	0	4.8	0	
Miles creating new corridor	0	6.7	0	11.1	
Miles of underbuild	0	2.8	15.6	7.6	
Miles of existing corridor eliminated	0	0	0	5.0	

Table 1. Comparison of alternatives

	Alternative				Option
	A	B	C	D	
New substation	No	Yes	Yes	Yes	
Total miles new 25 kV line					7.5
Miles on NFS lands					6.0
Miles on Private lands					1.5

Note: Number of miles is rounded to the nearest 0.1 mile.

Summary of Effects

The following table provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2. Summary of effects of implementing each alternative and the option

	Alternative				Option
	A	B	C	D	
Significant Issues					
Environmental Effects of a New Utility Corridor					
Miles of proposed transmission line construction in new corridor	0	6.8	0	11.0	7.5 (but is within highway corridor)
Miles of proposed transmission line in existing corridor	0	2.8	15.6	1.5	0
Total miles	15.6	9.6	15.6	12.5	7.5
Estimated disturbed acres, including substation and temporary use areas (not including existing roads)	None	22.3	33.5	39.7 (Includes removal of 5 miles of existing 25 kV line and poles)	Area within highway right-of-way is already disturbed
Impacts on Scenic Values					
Summary of visual effects	No Change	The primary effect would be on an area that is	This corridor would be the most visible to	This alternative is the least visually	A smaller line, but would be visible for 7.5

Table 2. Summary of effects of implementing each alternative and the option

	Alternative				Option
	A	B	C	D	
		a relatively open, uninterrupted expanse. Only a mile or two of line would be visible from most locations within the area due to the slightly rolling landscape including from U.S. 285. The entire line would be visible from high points such as Black Mesa, Mesa Vibora and Cerro Azul.	the most people throughout the majority of its length—by both residents from the Carson area and traveling visitors along U.S. 285.	intrusive. The eastern portion would be located in a broad depression and would only be visible to visitors in the immediate area. The western portion would be mostly out of sight from U.S. 285. It would be visible near the boundary of BLM and FS at which all the action alternatives would be equally or similarly visible. Five miles of existing 25 kV line would be removed from along U.S. 285, thus improving visual quality along this section.	miles along the edge of the highway right-of-way. Slightly mitigated by being on the west side, with the major viewshed to the east.
Acres where scenic integrity would be reduced	No change	1,490 From Partial Retention to Modification	0	1,055 From Partial Retention Modification	2,486 From Partial Retention to Modification
Acres where scenic integrity would be upgraded	No change	0	0	1,619 From Modification to Retention	0
Effects on scenic quality in the Carson community	No change	No effect	Very visible along NM 567 for approximately 6 miles.	No effect	No effect

Table 2. Summary of effects of implementing each alternative and the option

	Alternative				Option
	A	B	C	D	
Miles along U.S. 285 and NM 567 in which transmission line would be visible	8.1 along U.S. 285 6 along NM 567	3.6 along U.S. 285	8.1 along U.S. 285 6 along NM 567	3.7 along U.S. 285	7.5 along U.S. 285
Miles of distribution line eliminated	0	0	0	5	0
Consistency with Carson National Forest Visual Quality Objectives and Recreation Opportunity Spectrum	No change	Does not go below 1 level	No change	Does not go below 1 level	Does not go below 1 level

Tres Piedras Connection

Whether the area along U.S. 285 south of Tres Piedras has access to the electrical grid serviced by KCEC	No change	No change	No change	No change	Power would become available
Whether the Tres Piedras area has a backup loop designed into their electrical system	No	No	No	No	Yes

Other Environmental Impacts**Need for Proposed Action (Economics)**

Project reliability	No	Yes	Yes	Yes	NA
Long-term needs	No	Yes	Yes	Yes	Yes
Project costs/ maintenance	\$8,300	\$2,500,100/ \$5,150	\$3,161,400/ \$8,300	\$2,825,400/ \$6,700	\$163,500/ \$1,900
Estimated annual line loss	\$27,575	\$8,380	\$13,500	\$10,900	\$2,600

Soils and Water

Table 2. Summary of effects of implementing each alternative and the option

	Alternative				Option
	A	B	C	D	
Effects on soils and potential for erosion	No change	Minimal	Minimal	Minimal	Minimal
Effects on water quality	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
Vegetation					
Acres of vegetation affected	No change	17.5	28.1	22.5 10.8 (line removal)	No change
Wildlife					
Effects on wildlife (especially potential raptor electrocution)	Low - area is outside raptor concentration areas, but not fully mitigated.	No effect in new construction areas/fully mitigated			
T&E species and associated habitats	No effect	No effect	No effect	No effect	No effect
Effects on Forest Service plant and animal “sensitive species”	No effect	No effect	No effect	No effect	No effect
Public Health and Safety					
Potential for electromagnetic field effects on human health	Slight (no change)	None	Slight	None	None
Increased potential for wildland fire caused by power line	No change (Minimal)	Minimal	Minimal	Minimal	Minimal
Roads					
Potential for increased access to areas not currently accessible by motor vehicle	No change	Approximately 2 miles of two-track	No change	Approximately 2 miles of two-track	No change
Effects of increased access	None	Increased recreational	None	Increased recreational	None

Table 2. Summary of effects of implementing each alternative and the option

	Alternative				Option
	A	B	C	D	
		access. Temporary habitat disturbance. Vegetation removal and soil compaction and/or erosion.		access. Temporary habitat disturbance. Vegetation removal and soil compaction and/or erosion.	

