Visual Resources
Specialist Report

Garkane Energy Cooperative, Inc.
Tropic to Hatch 138 kV Transmission Line

Prepared For:

U.S. Forest Service – Dixie National Forest

National Park Service – Bryce Canyon National Park

Bureau of Land Management – Kanab Field Office

Bureau of Land Management – Grand Staircase-Escalante National Monument

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SPECIALIST REPORT
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1.1. INTRODUCTION

Garkane Energy Cooperative, Inc. (Garkane) proposes to construct a 138 kV circuit transmission line supported by wood pole H-frame structures between the communities of Tropic and Hatch in Garfield County, Utah. The proposed new transmission line would replace portions of an existing 69 kV transmission line between the Tropic and Hatch Substations that currently provides service west of Tropic.

1.1.1. Purpose of the Specialist Report

The purpose of this Specialist Report is to characterize existing visual resources within the Project Area and to analyze and disclose potential environmental effects on visual resources that would occur under the Proposed Action and Alternatives as described below. These data and impact analyses will be used to develop an Environmental Impact Statement (EIS) for the Garkane 138 kV Transmission Line proposal.

1.1.2. Proposed Action and Alternatives

1.1.2.1. Alternative A: Proposed Action

Alternative A would be constructed within a right-of-way crossing public lands administered by the U.S. Forest Service (USFS) Dixie National Forest (DNF), Bureau of Land Management (BLM) Kanab Field Office (KFO), and the Grand Staircase-Escalante National Monument (GSENM); Utah State lands administered under the State Institutional Trust Lands Administration (SITLA); and private lands.

The Alternative A 100-foot-wide right-of-way would extend 30.41 miles. The route would begin at the proposed East Valley Substation located east of Tropic and extend northeast to adjoin the Rocky Mountain Power/PacifiCorp 230 kV transmission line right-of-way. The route would then parallel the west side of the Rocky Mountain Power/PacifiCorp transmission line route to the northwest across GSENM land and through Cedar Fork Canyon through a planning window for a utility right-of-way identified in the 1986 Land Resources Management Plan (LRMP). The route would diverge from the 230 kV line access route and extend west across John's Valley and skirt just to the north of the Bryce Canyon Airport. The route would continue west for approximately 4 miles and turn south, crossing SR 12, and extend southwest across the Johnson Bench area, passing to the south of Wilson Peak. The route would continue west down Hillsdale Canyon through a planning window for a utility right-of-way identified in the 1986 LRMP and turn north for approximately 0.5 mile. The route would continue to the west, crossing private property (Sunset Cliffs), and extend west to cross U.S. 89 where it would turn to the southwest for approximately 2 miles to the Hatch Substation. The proposed route would cross 17.35 miles of DNF, 3.31 miles of KFO, 3.68 miles of GSENM, 4.23 miles of SITLA, and 1.84 miles of private lands.

In addition to construction of the proposed transmission line, the proposed project includes the development of a new substation (East Valley) east of Tropic and the expansion of the Hatch Substation. Garkane's existing 69 kV transmission line between the Bryce Canyon Substation and Hatch Mountain Switch Station would be unnecessary once the proposed 138 kV transmission line is operational and would be removed (approximately 16.23 miles) and the right-of-way rehabilitated.

The Proposed Action would involve the development of overland access routes in portions of the right-of-way where a suitable route is not available and where development of an access route is permitted by the authorizing agency. Access to the Rocky Mountain Power/PacifiCorp 230 kV transmission line in the

Cedar Fork Canyon area would need to be improved. In *limited access areas*, the alignment would be accessed via helicopter and/or foot, and there would be no centerline access.

Implementation of the Proposed Action would also require the amendment of the GSENM Management Plan (2000).

1.1.2.2. Alternative B: Parallel Existing 69 kV Route

Alternative B would be constructed within a right-of-way crossing public lands administered by the DNF and KFO, National Park Service (NPS) Bryce Canyon National Park (BRCA), and SITLA and private lands. This route would have no surface impacts on the GSENM.

The Alternative B 100-foot-wide right-of-way would extend 29.11 miles. This alternative route would begin at the proposed East Valley Substation located east of Tropic and extend west through the Tropic Substation (the Tropic Substation would be decommissioned) and then cross SR 12 and continue across BRCA (deviating slightly from the existing right-of-way for approximately 1.5 miles) to a point near the current Bryce Canyon Substation near Bryce Canyon City. For this Alternative, the Bryce Canyon Substation would be decommissioned and a new replacement substation would be built at a new location approximately 1 mile to the west to allow for needed expansion. The route would extend approximately 0.5 mile to the north around Bryce Canyon City, west across SR 63 and then parallel Garkane's existing 69 kV line right-of-way predominately across private and SITLA lands. The alternative route would parallel the existing right-of-way just to the south across the plateau in a northwest direction to Red Canyon, where it would generally follow the existing right-of-way through Red Canyon into Long Valley where it would cross U.S. 89 and continue to the Hatch Mountain Substation. From there the route would follow the existing line south to the Hatch Substation. This route would cross 5.58 miles of DNF, 8.29 miles of KFO, 2.81 miles of BRCA, 3.63 miles of SITLA, and 8.80 miles of private lands.

The proposed project includes the development of a new substation (East Valley) east of Tropic and the expansion of the Hatch Substation. The Tropic Substation would be removed. One new substation would be required in Bryce Valley. The existing Bryce Canyon Substation would be decommissioned, and a new replacement substation to the west of Ruby's Inn would be built. It would be located in one of two new locations (Option 1 on DNF land or Option 2 on private land). Once the proposed 138 kV transmission line is operational, the entire existing 69 kV line from approximately 1 mile east of the existing Tropic Substation to the Hatch Mountain Substation would be removed (approximately 21.57 miles) and the right-of-way rehabilitated.

In addition, under Alternative B approximately 9 miles of distribution lines would need to be constructed primarily on private and SITLA lands in 50-foot rights-of-way in conjunction with the new substations.

A 22.75-mile long two-track access route along the centerline of the proposed right-of-way would provide construction access. Centerline access would not be developed within *limited access areas*, including BRCA and portions of Red Canyon.

Under this alternative the GSENM Management Plan would not be amended.

1.1.2.3. Alternative C: Cedar Fork Southern Route

Like Alternative A, Alternative C would be constructed within a right-of-way crossing public lands administered by the DNF, KFO, GSENM, SITLA, and private lands.

The Alternative C 100-foot-wide right-of-way would extend 29.78 miles. This alternative route would begin at the proposed East Valley Substation located east of Tropic and extend northeast to adjoin the Rocky Mountain Power/PacifiCorp 230 kV transmission line right-of-way. The route would then parallel the west side of the Rocky Mountain Power/PacifiCorp transmission line access to the northwest across GSENM land and through Cedar Fork Canyon through a planning window for a utility right-of-way identified in the 1986 LRMP. The route would diverge from the 230 kV line access and extend west

across John's Valley and follow the south side of State Route (SR) 22 for just under 2 miles and then follow the western boundary of BRCA for approximately 1 mile. The route would then extend west to the north of Bryce Canyon City and across SR 63. The route would continue west across the southern portion of Johnson Bench and to the upper reaches of Right Fork Blue Fly Creek. The route would drop off the plateau at this point and traverse an unnamed canyon to Hillsdale Canyon and would extend south of private property and continue west, crossing U.S. 89, where it would turn to the southwest for approximately 2 miles to the Hatch Substation. This route would cross 13.58 miles of DNF, 3.43 miles of KFO, 3.68 miles of GSENM, 2.06 miles of SITLA, and 7.03 miles of private lands.

In addition to construction of the proposed transmission line, the proposed project includes the development of a new substation (East Valley) east of Tropic and the expansion of the Hatch Substation. Garkane's existing 69 kV transmission line between the Bryce Canyon Substation and Hatch Mountain Switch Station would be unnecessary once the proposed 138 kV transmission line is operational and would be removed (approximately 16.23 miles) and the right-of-way rehabilitated.

The Proposed Action would involve the development of overland access routes in portions of the right-of-way where a suitable route is not available and where development of an access route is permitted by the authorizing agency. Access to the Rocky Mountain Power/PacifiCorp 230 kV transmission line in the Cedar Fork Canyon area would need to be improved. In *limited access areas*, the alignment would be accessed via helicopter and/or foot, and there would be no centerline access.

Alternative C would also require the amendment of the GSENM Management Plan (2000) by changing the designation of a 300-foot-wide 3.68-mile stretch (133.81 acres) of the Primitive Zone to Passage Zone to accommodate both the proposed right-of-way and the existing 230 kV Rocky Mountain Power/PacifiCorp transmission line, as well as provide for future utility needs; and within this area, changing the existing Visual Resource Management (VRM) Class designation from Class II to Class III.

1.1.2.4. Interconnect Options

The purpose of the interconnect route options is to provide flexibility to decision makers to combine segments of the action alternatives to select the most appropriate route among the various alternatives to minimize impacts to resource values.

The North-South Interconnect option would extend 1.84 miles across DNF land west of Johnson Bench and could connect segments of Alternatives A and C together.

The East-West Interconnect option would extend 3.70 miles across DNF land south of Johnson Bench and could connect segments of Alternatives A and C together.

1.1.2.5. Alternative D: No Action

Though it does not meet the purpose and need statement, the No Action alternative is required under Council of Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) [40 CFR 1502.14(d)]. For this analysis, the No Action alternative is considered to be the continued operation of the existing 69 kV transmission line and future circumstances that would occur without federal approval of Garkane Energy's proposal to construct and operate a 138 kV transmission line from Tropic to Hatch. Specifically, it means that "no action" would be achieved by any one of the federal agencies declining to grant Garkane permission to build in the agency's respective jurisdiction. Thus, in the case of DNF, "no action" means denying the transmission line easement; for BLM, "no action" means denying approval of the proposed plan amendment and granting of a right-of-way permit for BLM lands; and, for BRCA, "no action" means denying a right-of-way permit. Each agency makes its decision independent of the others, so it is possible that one or more agencies could grant permission for the proposal while another could deny permission. Thus, if any agency denied permission for the proposed transmission line, it would not be built.

The existing 69 kV transmission line has already passed its life expectancy. To maintain system stability and reliability, Garkane would need to overhaul the line within its existing right-of-way and permit conditions. Overhaul of the existing 69 kV transmission line would involve replacement of conductor and poles. Each pole would be inspected; Garkane estimates as much as 90 percent of the poles would need to be replaced. Overhaul would involve disturbance to the centerline access outside *limited access areas* using vehicles and equipment. Overhaul would require the use of temporary disturbance areas identified in conjunction with Alternative B, as the sites would be needed for pulling and splicing of wire and overall project staging. Total cost would range from 1.4 to 2.1 million dollars.

These activities would increase the amount of trucks, heavy equipment, and crews within the right-of-way far above average annual activity levels.

1.1.3. Impact Inducing Activities on Visual Resources

Impacts to scenic quality and visual resources within the Garkane Project Area would be caused by one or more of the following surface disturbances or alterations to the landscape:

1. Vegetation removal or clearing within and adjacent to the proposed transmission line right-of-way.
2. Roads and tracks caused by transmission line construction and removal vehicles and equipment.
3. Construction and removal infrastructure (e.g., outhouses, trailers, equipment staging areas).
4. The presence of transmission line power poles and powerlines in and along the right-of-way.

The impacts to scenic quality would be caused by the visual intrusions, and introduced line, form, color, and texture contrasts on the existing landscape.

1.1.4. Visual Resources Issue Statement

The issues related to visual resources, as documented in the scoping report, include 1) short-term reductions in scenic quality from construction-related surface disturbances, vegetation removal and clearing along the right-of-way, construction vehicles and construction infrastructure; and 2) the potential long-term impacts to scenic quality from the constructed power lines, power poles, and maintenance access roads along the expanded right-of-way. These potential short-term and long-term impacts could impact scenic views and viewing locations within and of BRCA, DNF, and BLM-administered public lands along SR 63, County Road 22, and SR 12 and U.S. 89. These potential impacts could also affect scenic views along the SR 12 and U.S. 89 scenic byway travel corridors. There are concerns that these visual impacts could exceed existing scenic quality objectives within the DNF, BRCA, and the KFO, and those amendments to the Forest Plan and the KFO RMP may be necessary to allow construction of the project.

1.2. DESCRIPTION OF AFFECTED ENVIRONMENT

The portion of southern Utah that includes the Garkane Project Area is internationally recognized for its diverse landscapes and world-class scenic quality. The Park and Monument within which lies the Project Area draw visitors from throughout the U.S. and from other countries for sightseeing, wildlife viewing, developed and dispersed backcountry recreation, and on-road touring.

Within the GSENM, elevated, remote, and rugged sedimentary rock layers present a wide variety of brilliantly colored formations and shapes that are unobscured by vegetation. The Monument encompasses about 1,600 square miles of sedimentary rock, consisting of successively ascending plateaus, terraces, and cliffs that are deeply cut by steep-walled canyon.

BRCA is internationally known for its unusual scenic beauty, and as discussed below, was established to protect the scenic quality of the geologic resources within the canyon. Bryce Canyon geology is a unique display of brilliantly colored limestone, clay, and silt sedimentary rocks in an extraordinary diversity of shapes. The formations range in color from white to red and create strong contrasts with the lowlands east of the Park and the timbered hillsides and plateaus to the west.

The DNF is similarly endowed with high scenic quality, and is adjacent to or surrounds three National Parks and the Monument. Red Canyon is particularly noted for its geologic formations, comparable to those found in BRCA. Scenic quality within the Forest is one of the major attractions, and is often the reason cited for visiting southern Utah.

The KFO includes a broad and diverse range of visual settings and visual quality, ranging from basalt cliffs, sandstone buttes, mesas, sand dunes, desert plateaus, and canyons to views of the Grand Staircase geologic area. The scenic quality of these areas is high, and is appreciated by Utah residents, and by national and international visitors to the region. Noted locations with outstanding scenic quality include the Pink Cliffs (also found in BRCA), the White Cliffs, the Vermillion Cliffs, and Coral Pink Sand Dunes.

All of these areas include important travel corridors and recreational routes that contain very high scenic quality, notably SR 12 Scenic Byway and U.S. 89 Scenic Byway. The area also provides many hundreds of miles of mountain bike, foot, equestrian, off-highway vehicle, and jeep trails for experiencing this scenic quality in a variety of ways.

1.2.1. Project Area

The Project Area is in Garfield County, between the communities of Tropic and Hatch in southern Utah. The Project Area includes the following:

- Proposed Action and alternative transmission line right-of-way.
- Temporary work areas.
- Proposed substation sites.
- Proposed access roads and routes, and access improvements.
- Existing 69 kV transmission line right-of-way.

1.2.2. Data Sources

The Study Area for visual resources includes (1) the proposed transmission line construction and removal rights-of-way and (2) the viewshed from paved and/or unpaved travel routes, hiking trails, scenic viewpoints and overlooks, and population centers that are near or adjacent to the proposed Project Area.

The following data sources were referenced when conducting the field survey, visual resource characterization, and subsequent analyses:

- GIS—Field maps, including GIS coverages of visual management within BRCA, DNF, the GSENM, and the KFO were prepared and reviewed for use in field surveys and impacts analysis. A GIS-based viewshed analysis was conducted to determine the extent of visibility along the major thoroughfares in the Project Area.
- Field survey—A field survey was conducted in July 2008 along and within the Garkane Project Area, including trails within the DNF and BRCA. Surveys were also conducted along SR 12 and U.S. 89, SR 63, a portion of SR 22, and the existing transmission line route. Analysis observation points were selected based on the results of the surveys.

- DNF LRMP—The LRMP was considered for its policy and management directions (USFS 1986). The DNF LRMP Amendment to update the methods used for scenic inventory and management was used as the reference for visual analysis within DNF (USFS 2000).
- GSENM Management Plan—This Plan was considered for its policy and management directions (BLM 2000).
- KFO Final RMP and EIS—The recently approved RMP and EIS was considered for its policy and management directions (BLM 2008).
- NPS—BRCA General Management Plan (NPS 1987) and the NPS Management Policies related to scenic quality (NPS 2006b) were reviewed for direction and guidance on resource impacts and management direction. Other NPS NEPA documents were considered for additional information on impacts thresholds for visual resources (NPS 2003).
- Garkane—Project-related data and construction details were considered for their potential impacts on visual resources.

1.2.2.1. Assessment Methodology

Federal land use management agencies have developed a variety of methods for describing landscapes and for analyzing the impacts to the scenic quality of a landscape. The common goal of these methods is to apply a level of objectivity and consistency to the process and to reduce the subjectivity associated with assessing landscape visual quality. One concept commonly used by federal land managers in the BLM, NPS, and USFS to assess impacts to scenic quality is contrast analysis. Contrast analysis can be summarized as the degree to which a project or activity affects scenic quality or visual resources depending on the visual contrasts created or imposed by a project on the existing landscape. The contrasts can be measured by comparing the project's features with the major features in the existing landscape (BLM 1986). Each land use agency applies the concept differently (e.g., different terminology, different methodologies for assessing impacts); however, the essential contrast analysis process described below is common to the USFS, BLM, and NPS. The appropriate terminology and applicable analysis methods required by each federal agency with jurisdiction where the Garkane project would lie were used in applying the contrast analysis process throughout the Project Area. The process was used to characterize scenic quality and assess potential scenic quality impacts from new transmission line construction and removal of the existing line.

Visual contrast analysis compares the existing, characteristic features and contrasts of the landscape to the contrasts imposed on that landscape by a proposed project. The landscape features used in the comparison are the forms, colors, textures, and lines that comprise the existing and potentially modified landscape. Landscape form refers to the unified masses or shapes of the landscape being analyzed, such as existing structures, topography, and natural objects (e.g., conical peaks, blocky mesas, rolling grassland). Landscape color refers to the colors of structures, vegetation, soil, water, rock, and sky. Landscape textures are the variations, patterns, density, and graininess of the landscape surface (e.g., uneven, sparse, and seemingly random-ordered shrubs in an arid landscape; even, orderly, and dense rows of trees in an orchard), and the dimensions of those surface variations (e.g., tall conifers, short grasses). Linear landscape features are the real or imagined paths that the eye follows when perceiving abrupt changes in form, color, or texture. These are often noticeable as the edge effect created at the boundary of two contrasting areas (e.g., a line of trees along a rocky slope or ledge, the abrupt boundary between forest and grassland, a dark ridgeline silhouetted against a bright sky). It should be noted that all of these observable landscape features (line, form, color, and texture) can be affected by environmental factors that include the viewing distance, the angle of view, atmospheric effects (e.g., haze, fog, dust, smoke), lighting conditions, and time of day.

In general, the project-related landscape changes that repeat the natural features of the landscape or are well integrated with existing landscape features are considered to be in harmony with their surroundings. These changes produce low levels of contrast and are considered to have a low impact on existing scenic quality or on the aesthetic values of the landscape. Landscape modifications that do not harmonize with the surrounding landscape are considered to be in contrast with that landscape. The contrasts appear obvious, they stand out, and they can be scenically displeasing to viewers because they are not well integrated with the existing natural landscape.

For the Project Area, aesthetic or visual analysis involves determining the degree of visual change between the existing landscape and the landscape that would be produced by the proposed development. The degree of change to the landscape is determined for areas of "high scenic value" or "high visual sensitivity," that is, landscapes that are most interesting and appealing. These tend to be the undeveloped, natural landscapes with a harmonious blend, abundance, and diversity of lines, forms, colors, and textures. In general, the landscapes viewed from the Project Area that meet the above criteria include the BRCA overlooks and trails; the DNF trails, scenic roadways, and areas in and adjacent to Red Canyon; the SR 12 and U.S. 89 Scenic Byways within the KFO; and the northern portion of the GSENM near the town of Tropic.

1.2.2.2. Contrast Analysis Process

In general, the process of analysis consists of an evaluator:

1) Obtaining a description of the proposed project or plan to ascertain the types of activities proposed.
2) Identifying the designated scenic or visual management objectives within the proposed Project Area.
3) Selecting representative viewpoints from which the plan or Project Area's landscapes are described and the plan's impacts on visual resources are determined. The criteria for selecting representative viewpoints are as follows:

    - Areas with visual sensitivity (as discussed above), which for the Garkane Project Area, would include the BRCA scenic overlooks, Park approaches, and hiking trails; areas designated as having High or Very High scenic integrity, Red Canyon, and scenic backways within the DNF; scenic byways within the KFO; areas with designated high BLM VRM Class objectives (typically VRM Class I and Class II) , trails, and scenic byways within the GSENM; the SR 12 Scenic Byway (a designated All-American Road), and U.S. 89 (a designated Utah State Scenic Byway.
    - The potential number of viewers of the Project Area. The most comprehensive views of the Project Area would be from major thoroughfares (along U.S. 89 and SR 12 [both designated scenic byways as mentioned above]); scenic backways, popular hiking trails and overlooks, and major travel intersections.
    - The length of time the Project Area is in view. Motorists on the major thoroughfares that stop at a Byway wayside or pullout, and pass through or close by the Project Area (typically along SR 12 and U.S. 89, and SR 63) would have the best views of existing scenic quality and any changes to that quality.
    - The angle of observation. More weight is given to those potential viewpoints that show more of the Project Area, as more potential impacts would be visible. Views that are elevated, present slopes, and aspects that show more of the Project Area are preferred. Conversely, flat areas are not considered ideal representative viewpoints because a relatively small portion of the Project Area is likely to be visible.

Typically, viewpoints used for analysis are selected along well-used roadways and trails, and near communities, as these are areas where the greatest number of people will see the project impacts for the longest time. Based on the above criteria, a total of 15 representative viewpoints were selected within the Project Area. These viewpoints provide representative views of the existing landscape and of potential impacts to the landscape from project development, and were established along U.S. 89, SR 12, in Red Canyon, along a DNF scenic backway, in BRCA, and north of the town of Tropic.

4) Describing the Project Area landscape from the selected viewpoints, using the landscape elements or features of form, line, color, and texture as discussed above. The purpose of characterizing or describing the landscape is to establish a baseline of existing scenic values and aesthetic quality. Typically, the landscape is digitally photo-documented from the selected viewpoints, the precise location of the viewpoint is recorded using GPS, and any relevant field notes are recorded at that time. The digital photographs are then used to prepare the landscape description.

5) Having reviewed the project description, determined the types and intensities of proposed development, described the Project Area landscape, and noted the visual management objectives for the area, contrast analysis is conducted to determine the potential impacts to the baseline scenic quality. Visual simulations of the proposed project development and visual contrasts are produced as an aid in visualizing the degree of change that would be imposed on the existing landscape.

6) A contrast analysis between the baseline scenic landscape and proposed project activities and elements is conducted using the best professional judgment of visual resource specialists, landscape photographs of KOPs, and visual simulations of potential impacts.

7) Determining if the degree of proposed impacts and project-created visual contrasts meets or exceeds visual resource management objectives or scenic integrity objectives of federal agencies on that portion of the Project Area that lies within its jurisdiction. The impacts to visual resources would be considered important, substantial, an impairment of the resource, or significant if the effects of the Proposed Action or the alternatives were to exceed the BLM, USFS, and NPS visual resource objectives on lands under their jurisdiction within the Garkane Project Area.

1.2.2.3. Federal Visual Resource Management Systems

As mentioned above, the BLM, USFS, and NPS all use the contrast analysis concepts in analyzing impacts to visual resources. However, each agency applies its own system to establish visual resource management objectives or scenic integrity levels.

U.S. Forest Service

The USFS uses a Scenery Management System (SMS), which replaces the USFS's older Visual Management System (VMS). Similar to the BLM, both of these systems rely on visual inventory and scenic quality classes to manage visual resources. Note that during the preparation of the current DNF Plan, the older VMS concepts were used, and that the Forest Plan was amended in 2000 to adopt the SMS (USFS 2000). The SMS concepts and terms are used in this report.

The amended DNF Plan applies four of the five SMS Scenic Integrity Objectives to manage visual resources (the Very Low Scenic Integrity Objective is not applicable in the Dixie NF). They are described below in **Table 1.2-1**. The Scenic Integrity Objective, as described in the amended Forest Plan, refers to the "degree of acceptable change or alteration of the landscape." The SMS also considers Concern Levels, which are a categorization of the importance of scenic resources to forest visitors. This concept is analogous to the BLM's viewer sensitivity levels (see the analysis Methodology description above). Concern Level 1 is applied to road, trails, and travelways where people have a concern for scenic resources, where there is a high degree of visitation, and where there is a sense of the area having regional

or national significance. Examples of Concern 1 areas include designated scenic byways and areas such as Red Canyon (USFS 2000).

Table 1.2-1. USFS SMS Scenic Integrity Objectives

LANDSCAPE THEME	SCENIC INTEGRITY OBJECTIVE
The landscape is intact, with only minute, if any, deviations. The existing character and sense of place should be expressed at the highest level. Human influence from historic use or management should appear completely natural to the majority of viewers.	Very High
The landscape appears unaltered and intact. Deviations may be present, but should repeat the line, form, color, and textures of the existing landscape character so completely, and at such a scale, that they are not evident.	High
The landscape appears slightly altered. Noticeable changes should remain visually subordinate to the landscape character being viewed.	Moderate
The landscape appears moderately altered. Deviations and changes to the landscape may begin to dominate the landscape character. These changes should borrow valued landscape attributes such as size, shape, edge effects, patterns of natural openings, vegetative type changes, or architectural styles that are outside of the altered landscape.	Low

Source: USFS 2000

Bureau of Land Management

The BLM (which for this project includes the KFO and the GSENM) uses a VRM system to manage visual resources on public lands. The primary objective of VRM is to maintain the existing visual quality of BLM administered public lands and to protect unique and fragile visual resources. The VRM system uses four classes to describe the different degrees of modification allowed to the basic elements of the landscape (i.e., line, form, color, and texture; BLM 1980).

The VRM Classes and their objectives are described in **Table 1.2-2**.

Table 1.2-2. VRM Classes and Objectives

VRM CLASS	OBJECTIVE DESCRIPTION
I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention.
II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not

VRM CLASS	OBJECTIVE DESCRIPTION
	dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
IV	The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the landscape (BLM 1986).

National Park Service

The NPS does not apply a classification system to managing scenic quality within National Parks. However, it should be noted that Bryce Canyon was designated as a National Park to preserve its extraordinary and unique rock formations. The variety and type of rock colors and forms within the canyon are at least comparable to those found in Red Canyon (DNF, Powell Ranger District), which has been designated by the USFS for management with High visual quality objectives. As stipulated in the Park's mission statement, preservation, conservation, and protection of the Park's spectacular geologic formations is a primary and overarching objective in park planning and management (NPS 2006a). As mandated under the Organic Act (16 U.S.C. 1; NPS 1916), all visual resources and scenic quality within National Parks are to be conserved and managed in an unimpaired condition for the enjoyment of future generations. Potential impairment of the resource is determined using context, intensity, duration, and timing to gauge the level of impacts of proposed projects within the National Park System.

1.2.2.4. Visual Resources Field Survey

Prior to conducting the field survey, a GIS viewshed analysis was conducted to ascertain the areal extent of Project Area visibility from the major thoroughfares within the Garkane Project Area: U.S. 89, SR 12, SR 63, and SR 22. The result of the viewshed analysis showed that substantial segments of the Proposed Action and alternatives transmission lines would be visible from these major roadways. The conclusion derived from the viewshed analysis results was that, with a few exceptions, most of the Project Area needed to be considered when trying to establish representative visual analysis viewpoints. It should be noted that the visibility information derived from the viewshed analysis was not used to modify the proposed and alternate transmission line alignments into areas of lower visibility.

Representative viewpoints for analyzing impacts to scenic quality within the Project Area were selected through consultation with USFS, NPS, and BLM resource specialists to determine what areas they considered to possess visual quality and visual sensitivity along the proposed transmission line rights-of-way. The SWCA visual resource specialist visited each of these proposed sites, accompanied by either a USFS or NPS agency specialist (depending on the jurisdiction within which the viewpoint lay) for most locations, to photographically record, establish GPS locations, take compass bearings, and take field notes. For some proposed viewpoints, the locations were suggested by the agency specialist and then visited alone at a later date by the SWCA resource specialist (e.g., Golden Wall Trail, SR 89 Scenic Byway). Several viewpoints were independently selected by the SWCA resource specialists, based on the proposed route alignments and visibility from the major travel routes within the Project Area.

A total of 15 viewpoints were selected from the viewpoint data collected during the field survey, based on the criteria described under the Contrast Analysis Process above and agency input (**Table 1.2-3**). The locations for all of the selected viewpoints were mapped and are shown in **Figures 1.2-1** and **1.2-2**.

Table 1.2-3. Visual Analysis Viewpoints

VIEWPOINT NUMBER	VIEWPOINT
1	U.S. 89
2	U.S. 89/SR 12 junction
3	SR 12 Red Canyon eastbound
4	SR 12 Red Canyon westbound
5	Golden Wall Trail
6	USFS boundary/SR 12
7	USFS Scenic Backway
8	Bryce Airport Wayside
9	SR 12/SR 63 junction
10	Park boundary–SR 12
11	SR 12 wayside
12	Fairyland Overlook
13	Mossy Cave Trail
14	Tropic/SR 12
15	GSENM primitive road

1.2.3. Resource Management Direction

1.2.3.1. Dixie National Forest

The 1986 LRMP states that one of DNF's recreation management direction and goals (which includes management of scenic resources) will "provide for a pleasing visual landscape." The objective of this goal is to "rehabilitate or mitigate visually unacceptable conditions or facilities." The LRMP also stipulates that the USFS VMS will be applied to the DNF, with the general direction of rehabilitating all projects and areas that do not meet visual quality objectives. This would be accomplished by 1) planning and locating vegetation manipulation which retains landscape color and texture, 2) blending soil disturbances into the natural topography, 3) re-vegetation, and 4) choosing facility designs, colors, locations, and orientations that meet the adopted visual management objectives for an area.

In 2000, the DNF amended the LRMP by implementing the updated and improved SMS to replace the older VMS method of scenic management. Implementation of SMS was mandated by the USFS, and the newer system is being applied within the context of the DNF's current visual management goals, objectives, and management directions.

1.2.3.2. Bureau of Land Management

<u>Kanab Field Office</u>

The KFO RMP (2008) management action for visual resources states "To the extent practicable, bring existing visual contrasts into VRM class conformance as the opportunity arises." The current RMP goals and objectives for visual resource management are to 1) maintain or improve, where possible, the quality of visual resources, and 2) plan, modify, or implement management activities in a manner that will minimize impacts to visual resources, and 3) apply special emphasis in environmental assessment and project design to projects in the seen area (foreground) in order to meet VRM objectives (BLM 2008).

Grand Staircase-Escalante National Monument

The GSENM Management Plan states that "All proposed actions must consider the importance of visual values and must minimize the impacts the project may have on these values. While performing an environmental analysis for projects, the visual resource contrast rating system will be utilized as a guide to analyze potential visual impacts of the proposal. Projects will be designed to mitigate impacts and conform to the assigned VRM Class objective…"

1.2.3.3. Bryce Canyon National Park

The BRCA General Management Plan states that the primary objective in Park management is to preserve the natural values within the Park for visitor use and enjoyment. To do this, visibility would be maintained to ensure that the "primary attraction" of the Park ("the multitude of high panoramic vista points") be preserved through maintenance of air quality and control of energy-related projects. General management direction for visual resources is directed by the NPS Policy that requires a determination that a proposed action would not lead to impairment of the resource. "Impairment" is defined as an impact that would harm the integrity of the Park's visual resource values, including opportunities for enjoying those resources and values, as determined by the severity, duration, and timing of the impacts to those values and resources.

1.2.4. Project Area Visual Character

A mentioned above, a GIS viewshed analysis was conducted to determine the visibility of the proposed Project Area, as seen from major thoroughfares. Based on the results of that GIS analysis, discussions with agency resource specialists, and a field survey, the following viewpoints were selected as representative of the potential impacts from the proposed transmission line alignments within the Project Area. These points have been mapped and are shown in **Figures 1.2-1 and 1.2-2**. Representative photographs are also shown in the **Appendix A** to give the reader a sense of the landscape being described and analyzed.

1.2.4.1. Viewpoint 1 (U.S. 89 Scenic Byway)

This viewpoint along U.S. 89 (**Figure 1.2-1**) was selected because it is representative of scenic quality along U.S. 89 (a State Scenic Byway) north of Hatch and because it is located approximately 0.25 mile north of the highway crossing of Segment A-3 of the Proposed Action or Segment C-3 of the Cedar Fork Southern Route Alternative. Views to the east and west in the foreground and middleground are designated VRM Class III. Background and far middleground views lie within the DNF and have a Moderate scenic integrity. From this perspective, the proposed transmission line and impacts to the viewscape would likely be observed for a relatively long time by southbound motorists.

Foreground views to the east and south are of a flat to gently rolling topography covered by sagebrush, forbs, shrubs, and grasses, and interspersed with scattered, taller juniper and deciduous trees. Tan to buff-colored soil lies exposed along the Sevier River bank just to the east of the roadway. Landscape colors also include dark green trees, gray-green sagebrush, light green grasses and forbs, gray asphalt roadway, and gray-green water within the river. The river and river bank create a distinct linear feature within the landscape. Foreground views to the west are of tree-, shrub-, and grass-covered low, steep slopes and cliffs that lie adjacent to the roadway. Vegetation colors and soil exposure are similar to the south and east foreground views. Middleground views to the east and south are of a flat topography, with a fairly uniform covering of light green vegetation, occasionally broken by exposed tan-colored soil. Low hills covered with dense stands of conifers lie at the far end of the middleground. Middleground views to the west are obscured by the steep slopes and cliffs in the foreground.

Figure 1.2-1 Viewpoints used for Visual Analysis in Western Portion of Project Area

Background views to the south and east are dominated by the rugged, steep slopes and escarpments of red rock and dark green conifer that comprise the Sunset Cliffs. The background view to the west is obscured by the foreground steep slopes and cliffs along the roadway.

1.2.4.2. Viewpoint 2 (Junction of U.S. 89 and SR 12)

This viewpoint lies at the intersection of U.S. 89 and SR 12 (**Figure 1.2-1**), where visitors to Red Canyon, BRCA, and the GSENM would turn onto the SR 12 Scenic Byway and leave the U.S. 89 State Scenic Byway. This location was chosen because it would provide the first views of the Parallel Line Route to travelers at the junction of two scenic byways and because the views of the line would be in view for a relatively long time while motorists proceed through the intersection.

Foreground views on privately owned lands to the east and south are of a relatively flat to hilly topography, covered with light and dark green shrubs, grasses, and forbs. Clumps of conifers lie along the steeper slopes. Surface disturbances from road construction, road signs, light and sign posts, commercial and residential buildings, and transmission lines are visible within and intermingled with the natural landscape. Foreground views to the west are of a steep sagebrush-covered slope at the intersection. Landscape colors include exposed, buff-colored soil and gray rock, and light green sagebrush. Road shoulder surface disturbance, sign posts, light poles, and eroded soil are also visible within the natural landscape.

Managed as VRM Class III, the middleground views that are not obscured by the hilly foreground show a fairly indistinct, flat, uniformly light green landscape to the east and south. Middleground views to the west are blocked by the steep slopes in the foreground.

Background views to the east (managed for High Scenic Integrity Objectives within the DNF) and south (managed as VRM Class III) show a landscape very similar to that described in Viewpoint 1: red rock cliffs and conifer-covered steep lower slopes of the Sunset Cliffs to the south, and the western entrance to Red Canyon. Background colors include red rock and green conifers. The background views to the west are blocked by the steep slopes in the foreground.

1.2.4.3. Viewpoint 3 (SR 12 Red Canyon Eastbound)

Located near the western boundary of the Powell Ranger District of the DNF, this viewpoint (**Figure 1.2-1**) was selected because it provides motorists traveling along SR 12 with views of the existing and proposed Alternative B and right-of-way clearing. The existing line and line clearing would be on the forested slopes leading into Red Canyon. The viewpoint viewscape and area of concern lie to the south of SR 12. The immediate foreground viewscape is designated as VRM Class III under the KFO RMP. Middleground and background views lie within the Powell Ranger District and are designated as High for scenic integrity.

Foreground views are of a topographically flat, gently rising slope. The existing SR 12 roadway, road shoulder, road right-of-way fence, and sagebrush-covered flats are the predominant features in this view. Colors range from the gray roadway, tan grasses, and dark green shrubs along the right-of-way to light green sagebrush in the distance. Landscape linear features include the road edge and right-of-way fence.

Middleground views are of the steep, forested slopes that rise abruptly from the light green sagebrush flats in the foreground. The conifer-covered slopes are uniformly dark green, and the transmission line clearing is clearly visible within the surrounding dense conifer vegetation.

Background views are of the sparsely vegetated, rugged, redrock cliffs and steep slopes at the western entrance to Red Canyon.

1.2.4.4. Viewpoint 4 (Red Canyon Westbound)

This viewpoint is located near the west end of the SR 12 Scenic Byway (**Figure 1.2-1**) as it approaches the SR 12-U.S. 89 junction. The viewscape ranges from the southeast to the west. Within the exception of privately owned lands along the highway corridor, the landscape is designated as VRM Class III within the KFO. The viewpoint was selected because of its elevation above the landscape to the west that provides an unobscured view of the existing transmission line and the proposed Parallel Line Route as it proceeds west out of the Red Canyon and Sunset Cliffs area, crossing U.S. 89, to the existing Hatch Mountain Substation.

The foreground view to the southeast is similar to that described in Viewpoint 3 (Approach to Red Canyon): a topographically flat to gently rising slope in the near foreground whose dominant features are dense, uniformly distributed, light green colored sagebrush. Looking to the southeast, the far middleground comprises a heavily forested west-facing slope that rises abruptly from the relatively flat near-foreground slope. An obvious edge effect is visible along the boundary between trees and sagebrush; a strong color difference is similarly visible between the dark green conifers and light green sagebrush. The existing transmission line clearing is partially and indistinctly visible on the wooded slope. The foreground view to the south is of a relatively featureless flat, sagebrush-covered landscape that gently slopes to the west. Westward foreground views are a continuation of the south view.

The middleground and background view to the southeast is a continuation of the steep-sloped, wooded landscape described above. The middleground view to the south is the same as the foreground view. Middleground views to the west include the indistinctly visible roadcuts and the disturbed area along U.S. 89, with weak, but visible, color differences between light green vegetation and tan exposed rock; the gently rising slopes on the opposite side of the U.S. 89 roadway present an indistinct color difference between light green vegetation on the lower slopes with dense, dark green conifer on the upper slopes and ridge tops. The existing transmission line clearing on the distant, wooded slopes to the west is obviously visible from this perspective.

Background views to the southeast are obscured by the foreground and middleground slopes. Background views to the south are simple: low, long, ridges with indistinct color, shading, and forms except for a fairly distinct, undulating ridgeline. Background views and landscapes to the west are similarly indistinct and generally featureless, except for a long, slightly irregular ridgeline along the horizon.

1.2.4.5. Viewpoint 5 (Golden Wall Trail)

The Golden Wall trail viewpoint is located south of SR 12 in Red Canyon and is part of the canyon's trail system. This location was chosen because the trail lies within the existing and proposed Parallel Line Route Alternative, because of the trail's popularity and use by Red Canyon campers and day hikers, and because of the high scenic quality within and surrounding this locale. The viewpoint location lies at an intersection of the trail and the transmission line right-of-way (**Figure 1.2-1**), at a point where the transmission lines pass directly overhead and stretch cross-canyon. The USFS has designated and manages this locale for High scenic integrity.

Looking west, the foreground view is very simple: a smooth, moderately steep, rising slope composed of rocky reddish-tan soil with very sparse vegetation. Widely spaced dark green, individual pinyon trees and shrubs and a random scattering of yellow and gray, low-growing forbs are visible among the reddish soil. The view is back up the trail and ends at a ridgeline dominated by the existing transmission line's power pole and lines. The pole creates very strong line, color, and form contrasts with the surrounding landscape from this perspective as the light brown poles are highly visible against a dark blue sky. Middleground and background views are obscured by the proximity of the rising slope and ridgeline.

The opposite view, looking downslope along the trail, is highly variable. The foreground view looking southeast down the trail is similar to that just described: sparse clumps of pinyon-juniper and a scattering of shrubs and low-growing forbs on rocky, reddish soil. The existing transmission line is entirely visible as it extends down slope and across the canyon to the opposite ridgeline. The north-facing slopes on the south side of the trail are covered with dense, uniformly scattered stands of dark green pinyon-juniper and gray tree snags. Views to the north are of the Golden Wall rock formation with its yellow, gray, and red vertical cliffs; horizontal, banded rock strata; and smooth talus slopes interspersed with clumps of dark green conifers. Middleground views are of the slopes and ridgeline on the opposite side of the canyon. The topography is variable, consisting of a steep, highly eroded canyon slope composed of the same reddish, coarse, rocky soil. Dark green conifers are unevenly scattered across the red-rock slopes and red soil at the base of the slopes.

Background views are almost entirely obscured by the proximity of the Golden Wall formation and the high slopes and ridgeline on the opposite side of the canyon. Background views that are visible are of an indistinct, horizontal ridgeline and rocky tan-green slopes beneath it.

1.2.4.6. Viewpoint 6 (USFS Boundary along SR 12)

This USFS viewpoint (**Figure 1.2-1**) is located near the eastern boundary of the DNF along SR 12. It was chosen because the USFS has designated this area for High scenic integrity management in the foreground along the highway corridor. The Proposed Action route (in Segment A-2) would cross SR 12 just to the west of this viewpoint, and motorists traveling both east and west along the highway would have this transmission line clearly in view for a relatively long time (the roadway is straight and there are few view-obscuring features). The view is to the west, along the SR 12 Scenic Byway.

Foreground views are of a relatively flat topography. Vegetation to the north of the roadway is predominantly grass within the road right-of-way and low-growing light green sagebrush and regularly spaced dark green juniper and pinyon beyond. Buff-colored soil is exposed along a roadcut, and the roadway is a strong linear landscape feature. Views to the west and south are of light green grassland occasionally interrupted by solitary conifers.

Middleground views to the north (also designated for High scenic integrity management) are obscured by the tall pinyon-juniper stand. To the south and west (designated for Moderate scenic integrity management), the landscape is dominated by a low, heavily wooded steep-sloped ridge. Dark green trees and exposed reddish soil are the predominant colors. Redrock and patchy, green vegetation on steep slopes are visible to the west, near the entrance to Red Canyon.

Background views to the north are obscured by the foreground pinyon-juniper stand. To the west, the background view is obscured by the middleground ridge and the red hills near Red Canyon. To the south, the background comprises long, low, wooded slopes similar to that in the middleground.

1.2.4.7. Viewpoint 7 (USFS Scenic Backway)

The viewpoint (**Figure 1.2-2**) lies between the DNF boundary to the north and the proposed Cedar Fork Southern Route Alternative (in Segment C-2) to the south, along a USFS Scenic Backway (East Fork of the Sevier River Road, Forest Road 30087). It was chosen because of its proximity to the point where the proposed Southern Route transmission line would cross the backway and because the backway crossing area has been designated for High scenic integrity management in the foreground.

Figure 1.2-2. Viewpoints used for Visual Analysis in Eastern Portion of Project Area

The viewpoint lies just north of the existing (Wilson Peak) line and proposed Cedar Fork Southern Route (Segment C-1) crossing, and foreground views show the existing single-pole line stretched along an east-west orientation and crossing the roadway. A USFS guard station (with access roads, main station, and out buildings) lies at the base of a gentle, conifer-, shrub-, and grass-covered slope. To the south, the landscape is flat and covered with dense stands of dark green conifers. To the west, the landscape becomes gently undulating, and a vegetation transition from light green grass and exposed buff-colored soil to random scattering and then dense stands of conifer is obvious.

Middleground and background views to the east and south are obscured by the tall, dense conifer stands. To the west, the middleground is dominated by the steep-sided and heavily wooded Wilson Peak and by a long, low, dark green, wooded ridge. Exposed red-rock outcrops surrounded by dark green vegetation are visible in the far middleground.

Background views to the west are of a gently north-sloping range that borders the Red Canyon area. Vertical, red-rock cliffs and patchy, dark green vegetation growing on the top and along the lower slopes of the range are the dominant landscape features.

1.2.4.8. Viewpoint 8 (Bryce Airport Wayside)

This viewpoint is located along SR 12 at an interpretive wayside, southwest of the Bryce Canyon Airport (**Figure 1.2-2**). This point was chosen because it provides unobstructed views of the Proposed Action Route to the northeast at a location along the SR 12 Scenic Byway where motorists are encouraged to stop to view the landscape and become informed about the historic Bryce Canyon Airport (visible to the north) and the surrounding Paunsaugunt Plateau. The viewscape is to the north, ranging from the northeast to the northwest.

The foreground views (predominantly under private ownership except for small parcels designated as VRM Class IV within the KFO) are of topographically flat landscape, uniformly covered with low-lying shrubs and grasses. Scattered, unevenly distributed, low-lying dark green conifers are visible in the far foreground. The landscape texture is smooth. Visible foreground structures include the highway right-of-way fence and interpretive signs in the immediate foreground; electrical distribution transmission lines, occasional private houses, sheds, and outbuildings, unpaved roads, and airport structures are visible in the far foreground.

The near middleground to the northwest is managed for Moderate scenic integrity and is dominated by an intermittent line of long, low, low-sloped hills (the Pine Hills). The hills are uniformly, but sparsely, vegetated with tall, dark green conifers. The exposed rock and soil on the hill slopes are brown, buff, and tan. The landscape texture is medium. The far middleground to the north (within private and State ownership) is defined by a rugged, steep-sloped, moderately high and undulating ridge. The ridge slopes are uniformly and densely covered with dark green vegetation. Exposed rock and soil on the slopes appear dark brown. To the northeast, beyond the foreground airport structures, the far middleground is bounded by a long, steep-sloped, heavily vegetated ridge. Exposed cliff faces and rocky outcrops visible along the ridge slopes are tan to reddish-pink. Textures appear coarse.

Background views are of a series of long, high, very rugged ranges. The ridgelines are undulating to horizontal, and the numerous high, exposed cliff faces show numerous highly visible, horizontal rock strata with colors that range from reddish-pink, light orange, and tan to brown. Dense, patchy dark green vegetation covers the ridge tops and steep slopes. Landscape textures appear coarse.

1.2.4.9. Viewpoint 9 (Junction of SR 12 and SR 63)

This viewpoint was chosen because it lies at the road turnoff and access to BRCA (**Figure 1.2-2**). At this point, all eastbound motorists on SR 12 would have clear, long views of the proposed Cedar Fork Southern Route Alternative (in Segment C-1) as it runs north-south along the Park boundary.

Looking east along SR 12, the foreground view (on privately owned lands) is dominated by the roadway intersection and road signs; tall, vertical light poles; billboards; and commercial buildings. The foreground landscape is flat to undulating, light green grassland. A line of dark green conifers is visible, growing along the top of a long, low hill in the far foreground.

The middleground view is to the northeast and within the Park boundary and consists of a long, low hill of exposed redrock outcrops within variably dense, dark green wooded slopes. SR 22 (Antimony Road) is also visible in the middleground as it proceeds northeast.

Background views are also to the northeast, and comprise a continuous line of horizontal to undulating, high mountain ranges that ends abruptly in a steep cliff. Landscape colors are visible as horizontal bands of red and tan rock and as dark green vegetation growing along the ridge slopes.

1.2.4.10. Viewpoint 10 (Park Boundary along SR 12)

This viewpoint is located along SR 12 at the western Park boundary (**Figure 1.2-2)**. The viewpoint was chosen because it provides a motorist's SR 12 westbound and eastbound view of the proposed Cedar Fork Southern Route Alternative (in Segment C-1) as it crosses the highway along a north-south axis at the Park boundary.

The foreground eastward view (all of which lies within the Park boundary) is similar to the foreground view described under Viewpoint 7 but closer and more detailed: flat to undulating, light green/brown grassland that rises to a long, low ridge in the far foreground. A line of dark green conifers is visible, growing along the top of the ridge in the far foreground. Exposed, tan to buff-colored rock and soil is visible to the north at the toe of the rising slope. Right-of-way fences bound SR 12 and converge at a point in the far foreground where the highway begins its descent into Tropic Canyon. Landscape textures appear smooth in grass-covered areas and moderately rough where conifers are visible. The Park boundary to the south is defined by a low wire fence that tends to blend in with the surrounding vegetation and landscape. To the north, the boundary fence appears more distinct but gradually blends in with the surrounding landscape in the distant middleground. The near foreground is dominated by wide gravel-covered road pullouts that lie on both sides of the highway. The foreground westward view, most of which is on privately owned lands with the immediate foreground on Park land, is of a topographically flat landscape, uniformly covered in low, green, tan, and brown grasses and shrubs. Road and Park signs, highway right-of-way and Park fences, and the gravel pullout are visible. Landscape textures appear smooth. Middleground and background views to the east, north, and south are generally obscured by the foreground ridge at the head of Tropic Canyon, with the exception of an indistinct view of distant, background ranges that is visible through the ridgeline road cut into Tropic Canyon. Middleground views to the west are similar to those described for the foreground: a relatively bland and homogenous, flat topography dominated by uniformly distributed low grasses and shrubs, interrupted by an occasional conifer. A long, low, flat ridge is visible in the far middleground to the northwest, whose dominant landscape characteristics are a continuous face of exposed, reddish-tan rock outlined by a line of dark green vegetation on the ridge top and at the base of the rock face.

Background views to the west consist of undulating ridgelines underlain by dark green vegetation and of high, exposed rocky outcrops and escarpments of reddish-tan-buff rock and soil.

1.2.4.11. Viewpoint 11 (SR 12 Wayside)

The SR 12 Wayside viewpoint (**Figure 1.2-2**) is located at a scenic pullout along SR 12, near the mid-point of Tropic Canyon. This viewpoint was selected because it provides unobstructed views within the Park of the existing 69 kV transmission line and right-of-way between lower Tropic Canyon and the rim of the Pink Cliffs (at the eastern edge of the Paunsaugunt Plateau). The viewscape is generally to the

south, ranging from southeast at the lower end of the canyon to the southwest where the Pink Cliffs define the edge of the plateau.

Foreground views (all of which lie within the Park) are of a highly variable landscape and topography that ranges from vertical, rugged cliffs and rock outcrops down-canyon and along the Pink Cliffs escarpments to gently undulating, smooth hills and ridges within the central portion of the canyon. Dark green, tall conifers and brown snags are densely and regularly spaced throughout the foreground except on the cliffs and on the tops of ridges and hills, where vegetation gradually becomes more diffuse and unevenly sparse. Low-growing shrubs appear gray and light green. Soil and rock are visible though the vegetation covering, and colors range from brown, tan, and buff to reddish-pink.

Middleground views are similar to the foreground (also within the Park boundary) but with additional views of tan and reddish-pink cliffs on the far side of the canyon and distant views of the Pink Cliffs as they extend southwest into the Park interior. The existing transmission line and right-of-way are topographically hidden from the casual view in the middleground except for a single power pole that is clearly visible on the southwest horizon at the edge of the Pink Cliffs escarpment, on the plateau.

Background views are obscured by the viewpoint's lower elevation in relation to the surrounding cliffs and canyon walls in the middle distance, with the exception of the view to the southeast through Tropic Canyon. This abbreviated background view shows an indistinct, receding series of flat to undulating ridgelines within the GSENM. Background colors include lines and patches of dark green vegetation covering the ridge slopes interspersed with patches of tan-buff exposed rock and soil.

1.2.4.12. Viewpoint 12 (Fairyland Overlook)

The Fairyland Overlook viewpoint (**Figure 1.2-2**) was chosen because of the major BRCA overlooks (including Sunset, Sunrise, and Bryce Point overlooks) and because it is the closest to the existing transmission line that passes through the Park and to the proposed Parallel Line Route Alternative. The viewpoint lies at the edge of the Pink Cliffs, and the view extends from north to east along the existing transmission line route.

Foreground views lie within the Park and are of deeply incised, eroded, steep slopes and cliffs, mounds, towers and columns, walls, and standing stones. The landscape topography and form features are extremely variable and diverse, ranging from vertical cliffs and towers to flat or gently sloping canyon bottoms. Foreground colors are also extremely variable and diverse, ranging from red to yellow/tan to gray to white/cream within exposed rock strata overlain with patches, dense clusters, and lines of dark green conifers. Landscape line and texture contrasts are extreme, caused by tall, isolated and clusters of vertical columns, a multitude of short and long, horizontal ridgelines, and bands of horizontal rock strata. A network of hiking trails is visible along the less steep slopes. All of these foreground natural landscape features create an extremely variable and visually complex landscape, producing a scenic quality of the highest degree because of the high degree of diversity of landscape features.

Middleground views, also within the Park, are of a relatively indistinct series of roughly parallel, low, rugged, ranges receding into the background. Highly visible horizontal, linear ridgelines predominate. Exposed redrock outcrops and dense stands of vegetation are visible on the ridge tops and slopes.

Background views are similar to the middleground: parallel series of horizontal, linear ranges of brightly colored rock and dark green vegetation.

1.2.4.13. Viewpoint 13 (Mossy Cave Trail)

The Mossy Cave Trail viewpoint (**Figure 1.2-2**) is located near the cave and trail end, at a point where the existing transmission line passes directly overhead. This viewpoint was chosen because of the proximity

of the existing line and proposed Parallel Line Route Alternative to a popular, highly accessible trail within BRCA.

Located within a narrow, high canyon, there are no middleground or background views. The foreground view is of exposed red, dark brown, yellow, and buff-colored soil, rock outcrops, boulders, and smooth talus slopes on steeply sloped canyon walls. Vegetation is predominantly composed of tall dark green conifers and a scattering of light green shrubs clinging to the talus slopes and relatively stable areas around rock outcrops. The tall conifers are rough textured. A single power pole is visible at the top of the canyon wall but is partially obscured by the canyon walls from this perspective. Transmission lines run overhead but are also not obviously visible to the casual observer.

1.2.4.14. Viewpoint 14 (North of Tropic along SR 12)

The North of Tropic viewpoint (**Figure 1.2-2**) was selected because it includes views of the existing and proposed Parallel Line Route at a point where the line crosses the SR 12 Scenic Byway, because the line would be visible to all motorists traveling westward during the day toward BRCA, because of its proximity to Tropic and the impacts of the proposed line on visual quality as seen from town, and because the line lies within the foreground of public lands managed under the jurisdiction of the GSENM. From this viewpoint's perspective, the viewscape ranges from south along SR 12 into Tropic Valley, east into East Valley, and then northeast and north along SR 12 into the GSENM.

The foreground view to the south and southeast is privately owned and consists of a flat to rolling landscape interspersed with isolated, flat-topped, low hills; power distribution lines and poles stretched across and along SR 12; and residential dwellings and access roads. Vegetation colors range from dark green trees, light-colored shrubs, and buff and tan grasses. Distant foreground views include patterned, irrigated fields surrounded by buff and light green scattered vegetation. To the east, irrigated fields are predominant in the near foreground, with landscape features similar to those described above. The far foreground is dominated by gray, tan, light brown, and buff-colored steep slopes and escarpments of The Backbone. The existing transmission line power poles are visible from this foreground view; the line appears to lie directly below The Backbone slopes and creates a weak to moderately strong vertical line contrast with the surrounding landscape. The near foreground view to the north, along SR 12 as it turns toward the entrance to Tropic Canyon, is on privately owned lands and is a continuation of the east view, with green, irrigated fields surrounded by tan and buff-colored vegetation in a topographically flat landscape. The distant foreground view lies within the GSENM (designated as VRM Class II) and is of the steep lower slopes along the toe of the above-mentioned escarpments. From this perspective, the existing transmission line appears closer, is more clearly in view, and appears to converge with and cross the SR 12 roadway several hundred yards to the north.

Middleground and background views on privately owned lands to the south are obscured by a low hill that crosses the roadway. To the southeast and east, the landscape is dominated by a series of long, low, flat-topped hills or mesas. Exposed, relatively unvegetated, gray and tan rock and soil are visible on the hill or mesa slopes. Dark green vegetation grows on top of these features, but the viewing distance tends to diminish these landscape features. To the north, the middleground is dominated by the rugged, uniformly vegetated slopes and cliffs that are a continuation of The Backbone feature.

Background views to the southeast and east are simple: a low, undulating range and ridgeline is the only background landscape feature, and its distance from the viewpoint causes its features to appear indistinct. Background views to the north are obscured by the high slopes and cliffs in the middleground.

1.2.4.15. Viewpoint 15 (GSENM Primitive Road)

The Primitive Road viewpoint (**Figure 1.2-2**) is located within the boundary of the GSENM (and designated as VRM Class II and Class III) at a point where an existing power transmission line and line

maintenance road proceed northwest into the northernmost portion of the GSENM. This location was chosen because of its proximity to East Valley, SR 12, and the town of Tropic; it was also chosen because it lies within the GSENM and because the Proposed Action route or Cedar Fork Southern route would lie adjacent to this existing transmission line. The viewscape is to the northwest, looking into the GSENM.

Immediate foreground views lie within designated VRM Class III areas, with the far foreground to the north within a designated VRM Class II area. Foreground views are of a topographically flat landscape that rises abruptly in the far foreground into a long, low, gently sloping ridge. The abrupt rise of the low ridge creates a strong linear edge effect at the base of the ridge, where it meets the flat landscape. The existing dark brown, vertical power poles, horizontal transmission lines, and access road are clearly visible and also create landscape line and edge effects with the surrounding and background landscape as they recede into and converge in the far foreground–near middleground. With the exception of surface disturbances within the access road, vegetation is uniformly distributed within the foreground: dense, low-lying, brown, reddish, and green shrubs and grasses cover the flats; uniform, but more sparsely distributed, vegetation covers the ridge slopes. Tan, exposed soil is clearly visible on the slopes and on the access road. The foreground texture is smooth.

Middleground views lie within designated VRM Class II and Class III areas (views to the northwest are generally within VRM Class III; views to the north lie within VRM Class II). The views are dominated by rugged, steep-sloping to vertical cliff faces that extend across most of the middleground landscape. These features are reddish-pink, buff to tan, with cliff tops and talus slopes irregularly topped with patches and lines of dark green vegetation. Background views are obscured by the high cliff faces in the far middleground.

1.2.4.16. Agency Visual Resource Management Areas

The Proposed Action and alternatives cross both USFS SMS Scenic Integrity Objectives and BLM VRM classes. Segments of the proposed rights-of-way that intersect the agency visual resource management areas are summarized in **Table 1.2-4** and shown in **Figures 1.2-1 and 1.2-2**.

Table 1.2-4. Agency Visual Resource Management Areas by Alternative

Alternative Segment	DNF–SMS (miles)			GSENM–VRM (miles)		KFO–VRM (miles)		
	High	Mod	Low	II	III	II	III	IV
A-1	2.98	8.25	0.00	0.81	2.82	0.00	0.00	0.00
A-2	0.35	1.44	0.00	0.00	0.00	0.00	0.00	0.00
A-3	2.80	1.50	0.00	0.00	0.00	0.00	3.15	0.16
B	4.01	1.32	0.26	0.00	0.00	0.71	4.49	3.09
C-1	1.64	2.93	1.20	0.81	2.82	0.00	0.00	0.00
C-2	0.22	2.25	0.00	0.00	0.00	0.00	0.00	0.00
C-3	2.47	1.09	1.76	0.00	0.00	0.00	3.27	0.16
East-West	0.10	1.74	1.78	0.00	0.00	0.00	0.00	0.00
North-South	0.00	1.27	0.57	0.00	0.00	0.00	0.00	0.00

1.3. IMPACT ANALYSIS

1.3.1. Direct and Indirect Effects

As discussed, a GIS-based viewshed analysis of Project Area visibility from the major Project Area thoroughfares (SR 12 and U.S. 89, SR 63, and Country Road 22) was conducted to determine the extent of potential impacts to visual resources. In general, the conclusion derived from the analysis was that, with the exception of several areas, all of the Project Area would potentially be visible to motorists traveling along these routes. The areas of exception (where the proposed transmission lines would not likely be visible) are: 1) segments of the Proposed Action's Segment A-1 in East Valley, and adjacent areas in the GSENM and DNF ; 2) most of the Interconnects routes in the Proposed Action's Segment A-2 and Cedar Fork Southern Route's Segment C-2; 3) the southern and central portions of the Pink Cliffs in BRCA; and 4) the southern-most portions of the Proposed Action (in Segment A-3) and the Cedar Fork Southern Route Alternative (in Segment C-3). These areas were not surveyed for potential viewpoint and visual analysis locations.

1.3.1.1. Indicators and Methods of Analysis

The following table shows the levels of impacts (and their definitions) used to assess the degree of impacts to visual resources within the Project Area. As discussed above, the contrast analysis method is applied from the perspective of chosen viewpoints, using the terms and concepts, and visual resource objectives applicable to each federal agency. The range of effects shown below in **Table 1.3-1** is a more generalized, simplified range, derived from those agency classes, for use in preparing the analysis.

Table 1.3-1. Magnitude and Degrees of Effects to Visual Resources

ATTRIBUTE OF EFFECT		DESCRIPTION RELATIVE TO VISUAL RESOURCES
Magnitude	No Impact	Would not produce obvious changes in landscape contrasts.
	Minor	Project-related visual impacts that would retain the existing character of the landscape, create a low level of change, and while seen, would not attract the attention of the casual viewer.
	Moderate	Visual impacts that would partially retain the existing character of the landscape, and while attracting the attention of the casual viewer, would not dominate the view.
	Major	Project-related impacts that would create a high degree of change within the existing landscape, would dominate the view, and be a focus of viewer attention.
Duration	Short-term	Less than 5 years
	Long-term	Greater than 5 years

As discussed above in the description of the contrast analysis method (**Section 1.2.1.2**), visual impacts are the increases in line, form, color, and texture contrasts imposed on the existing landscape. These contrasts can result from (but are not limited to) surface disturbances (e.g., from road and structure construction) loss of vegetation, visual intrusions (e.g., vehicles, equipment in the viewing area), and loss of long-distance viewing caused by vehicle exhaust emissions and fugitive dust. Low impacts would be those contrasts that tend to blend in with the existing landscape; high impacts would be highly visible and not blend in with the existing landscape. Unnatural, man-made contrasts are generally considered to have a degrading effect on scenic quality because they introduce unharmonious landscape features into the natural landscape. The magnitude of those introduced features is classified according to the degree to which they attract the attention of the casual viewer and the length of time that they would be visible to

viewers. The following visual analysis uses these degrees of introduced project-related visual contrasts to determine whether the magnitude of contrast meets or exceeds USFS, BLM, and NPS visual resource management goals.

Short-term impacts to scenic quality would include those project-related activities and surface disturbances that introduce contrasts on the existing landscape that are visible to the casual viewer for less than 5 years; long-term impacts would be those introduced contrasts that persist for longer than 5 years.

The indictors for impacts to visual resources within the Project Area are:

- Consistency with and conformity to NPS and USFS scenic quality management or integrity objectives.
- Consistency with and conformity to designated BLM visual resource management class objectives.

Through the NEPA process, threshold values have been developed to assist the evaluator in determining if a project's activities would constitute an impairment of visual resources. The threshold values used for the Garkane project within BRCA are described below. Note that a Major determination would constitute an impairment of the resource.

Table 1.3-2. NPS Visual Resource Impacts Threshold Values

Threshold values	No Impact	Minor	Moderate	Major
	No short-term or long-term changes to the views of the right-of-way would occur. Some transient (temporary) visual changes may occur, caused by temporary alterations in vehicular traffic patterns or by the movement of equipment.	Changes to visual resources would be short-term and non-substantive only, and would be limited to the immediate right-of-way. Only limited mitigation or interpretive measures would be required.	Short-term changes to visual resources may occur both within and beyond the right-of-way. Long-term changes would be limited to the right-of-way.	Both short-term and long-term changes may occur both within and beyond the right-of-way, and some of these changes may be substantive throughout.

Source: NPS 2003.

1.3.1.2. Direct and Indirect Effects by Alternative

Impacts Common to All Action Alternatives

Vegetation clearing for the right-of-way would create a linear element in the landscape. This would be more pronounced in forested areas of the Project Area where vegetation above 4 feet would be removed. However, mitigation would ensure that vegetation along the edge of the right-of-way and extending outside of the proposed right-of-way would be selectively cleared so as to create irregular edges and open spaces that would mimic the natural vegetative patterns in the immediate area. The result would be to minimize the obvious linear edge often associated with utility rights-of-way.

Longer-term disturbance that would be visible to viewers would include the two-track centerline route that would be used for ongoing operation and maintenance activities, and the denuded ground immediately around the base of each pole. Visual impacts would also vary by season and time of day as light conditions change, foliage changes color and falls, and snow creates a light, homogenous backdrop that may contrast more with project elements.

Specific impacts associated with each of the viewpoints for all alternatives are discussed below.

Construction

All alternatives would involve the use of construction equipment, helicopters, and work crews which would cause temporary visual intrusions in the landscape to the casual viewer. During construction these impacts would be more intense, as there would likely be more equipment visible for longer durations. Short-term, unavoidable adverse impacts to scenic quality would also be created by fugitive dust raised during line construction.

Each alternative would also have short-term visual impacts from construction-related disturbance around pole structures that would effectively remove ground cover and expose soils. This would create temporary visual contrasts with surrounding landscape colors and textures until the areas are revegetated.

Operations and Maintenance

During operations and maintenance activities, the presence of equipment and personnel would be less noticeable than during construction as they would be present for a short time and in smaller numbers at a given location.

Alternative A: Proposed Action

Simulations for selected viewpoints are included in **Appendix A**.

Impacts as a Result of Amending the GSENM Management Plan

Alternative A would require the amendment of the GSENM Management Plan (2000) by designating a 100-foot-wide Passage Zone through a designated Primitive Zone, and changing the existing VRM Management Class designation from Class II to Class III within the Passage Zone. The proposed 138 kV line would be consistent with the VRM Management Class III objectives.

Construction

Viewpoint 1 (U.S. 89 Scenic Byway). From this viewpoint, Segment A-3 of the transmission line would be clearly in view as it approaches U.S. 89 from the east and comes across the foothills and plain, and then crosses the roadway. Short-term, visually intrusive color, line, and form contrasts would be created by the presence of construction vehicles and equipment, and from exposed soil surface disturbances in the middle and foreground around poles and along the centerline access route. Long-term color and line contrast-related visual impacts would be produced by the 100-foot long-term right-of-way: the edge effect created by removal of vegetation over 4 feet tall within the right-of-way would be mitigated by clearing additional vegetation outside of the right-of way to create irregular edges and adjacent open spaces to mimic existing vegetative patterns. Right-of-way clearing would create minor to moderate visual impacts, particularly noticeable from the U.S. 89 byway on vegetation-cleared west-facing foreground and middleground slopes where color contrasts would be created between brightly colored soil and green vegetation.

Short-term, adverse impacts to scenic quality would also be created by fugitive dust (PM_{10}, $PM_{2.5}$) raised during line construction in surface-disturbed areas of the right-of-way. While the impacts would be short-term, long-distance viewing of scenery and landscapes would likely be diminished by obscuring fugitive dust. It should be noted that under all of the Action Alternatives, surface disturbances during transmission line construction and existing line removal would likely create fugitive dust impacts, as described above.

The transmission line structures would create moderate form and texture contrasts with the surrounding landscape by superimposing tall power poles on a relatively flat and smooth-textured landscape. Transmission line structures would have strong form contrasts when viewed to the west of the roadway because of the power poles' and transmission lines' silhouettes against the background sky. Under the KFO RMP, the viewshed is designated as VRM Class III, which allows a moderate impact to scenic quality.

The impacts described above would likely not meet the VRM Class III objectives near the roadway because as the line approaches the scenic byway and attracts viewer attention, the visual disturbances would dominate the view of the casual observer (i.e., southbound motorists) approaching this viewpoint, and would likely exceed the objectives of VRM Class III. A Plan amendment may be required. As described in the Affected Environment, there is very little surface disturbance or land development from this south-viewing perspective, so the impact of the transmission line on the landscape would not be reduced by existing structures or surface disturbances. It is recommended that a visual simulation be produced for this viewpoint to show the degree of visual impacts.

The construction of this line would indirectly cause the existing transmission line (approximately 4 miles to the north) to be removed, and the right-of-way reclaimed. This would have minor adverse impacts on scenic quality from this viewpoint because of the long viewing distance that would only be observable for northbound motorists.

Viewpoint 2 (SR 12-U.S. 89 Junction). This area is designated as VRM Class III under the KFO RMP. The Proposed Action route would have minor impacts on visual resources from this perspective because of the long viewing distance. The line (in Segment A-3) would be constructed approximately 4 miles to the south, which would reduce any visual contrasts created by surface disturbances and transmission line structures in the short-term and long-term. As described in the Affected Environment, the area in the foreground and middleground of the intersection has been disturbed by road and building construction, and by road signs and light posts that reduce scenic quality. Therefore, long-distance (approximately 4 miles) transmission line construction disturbances would likely not attract the casual viewer attention of motorists entering the intersection from the north or passing through the intersection. Therefore, this level of impact would meet the KFO RMP designated VRM Class III objectives.

Under this alternative, the existing transmission line south of SR 12 would be removed, and the right-of-way reclaimed. The impacts to scenic quality would be beneficial, but minor, in the long-term as the existing line is not highly visible from this viewpoint and the existing surface disturbances and development at the junction would continue to detract from scenic quality.

Viewpoint 3 (Red Canyon Eastbound). Alternative A would have minor impacts on scenic quality from this perspective as Segment A-3 would be constructed at least 3.5 miles to the south of this viewpoint. The viewing distance would likely reduce any visual contrasts to the casual viewer (who would likely be looking to the east toward the highly scenic Red Canyon geologic formations). This level of impact would meet the VRM Class III objectives in the KFO RMP.

There would be minor, long-term beneficial impacts to scenic quality from removal of the existing transmission line south of SR 12 and reclamation of the right-of-way. There would be short-term, minor, adverse impacts from visually intrusive line removal equipment and vehicles.

Viewpoint 4 (Red Canyon Westbound). Segment A-3 would have minor impacts on scenic quality from this perspective because, as discussed under Viewpoint 3, the proposed transmission line would be constructed at least 3.5 miles to the south. The viewing distance between the line and SR 12 would reduce any visual contrasts to a degree not obvious to the casual viewer. This level of impact would meet the VRM Class III and IV objectives in the KFO RMP.

There would be minor, beneficial impacts from the removal of the existing 69 kV transmission line south of SR 12 and reclamation of the existing right-of-way on forested slopes west of U.S. 89. In the long-term, the existing line and color contrasts within the forest-cleared areas of the existing right-of-way would diminish, and the viewscape would be beneficially restored to a more natural and undisturbed setting.

Viewpoint 5 (Golden Wall Trail). Under Alternative A, the transmission line would be constructed between approximately 2.5 to 4 miles to the south of the Red Canyon area (in Segments A-2), so there would be no impacts in the short term and long term on existing scenic quality along the trail.

The long-term, indirect impacts of construction along this route would be beneficial to scenic quality because the existing 69 kV transmission line along the Golden Wall trail would be removed, the right-of-way would be reclaimed, and all existing surface-disturbance visual impacts from the existing line would gradually diminish.

Viewpoint 6 (USFS Boundary along SR 12). The viewscape from this observation point along SR 12 lies within an area designated as High for foreground scenic integrity management and is also classified as a Concern Level 1 Travelway (an area where people have a high concern for scenic resources). There are few disturbances and structures within view on this topographically flat landscape, except for the roadway and highway right-of-way fencing. Construction of Alternative A (in Segments A-1 and A-2) to the north of the roadway and then across SR 12 near this viewpoint would have adverse short-term and long-term form, texture, and line contrasts on the existing landscape. The large, tall vertical and horizontal members of the transmission line support structures and transmission lines would create strong and adverse contrasts in texture and form with the predominantly flat grassland in the foreground and middleground; the exposed soil and darker colors of the transmission line structures would create strong color contrasts within an essentially light green landscape. Non-specular conductor would be used within the High SIO area on DNF land. This would reduce visual impact of the transmission line, especially when seen from a distance. As motorists approach the transmission line right-of-way from either direction, the structures would visually dominate the view because (1) the line would lie directly in front of them as it crosses the roadway, and (2) there are no areas of high scenic quality in the foreground or middleground to distract or capture the attention of the viewer. Also, under this alignment the transmission line would extend perpendicular to and on either side of the roadway for approximately 0.25 mile to the north and over 0.5 mile south of the road (all within the High scenic integrity area). Views to the north of SR 12 would be visually dominant as the transmission line crosses wooded areas and then spans the road. Views to the south would be partially obscured by topography. As described above, the USFS SMS levels of visual resource management under the current High integrity level requires that "the landscape appear natural to the majority of viewers, the landscape character appears intact, and while deviations may be present, they are not evident." Therefore, it is likely that the construction of Alternative A in this area would exceed the designated High scenic integrity management level in the short-term and long-term. A Plan amendment may be required. A visual simulation is recommended for this viewpoint to graphically show the potential contrasts created by line construction.

A beneficial impact on scenic quality would be that the existing transmission line would be removed after the Proposed Action line was constructed and operational. However, the beneficial impacts would be minor because the existing line is not immediately or obviously visible to the casual viewer nor does it capture the attention of the viewer traveling in either direction along SR 12.

Viewpoint 7 (USFS Scenic Backway [East Fork of the Sevier River Road]). Under Alternative A, there would be no impacts to scenic quality from the perspective of the backway because the transmission line would be constructed along a right-of-way to the north and west of the byway (in Segment A-1); the proposed line would not likely be visible to travelers on the backway.

Removal of the existing transmission line (between Hatch Mountain and Bryce Canyon) and reclamation of the right-of-way would have long-term, minor, and beneficial impacts on scenic quality because the line and form contrasts created by this line would be removed from the viewscape. There would be minor impacts created during removal and reclamation of the existing line from visually intrusive line-removal vehicles and equipment and during reclamation and re-vegetation activities, but these would be short-term.

Viewpoint 8 (Bryce Airport Wayside). Alternative A would be constructed to the north of UT 12, across a relatively flat landscape administered to the northeast by the State of Utah and to the north and northwest by the DNF. The USFS has designated the area for a Moderate level of scenic management. From the perspective of motorists stopping at the wayside to view the interpretive signs and study the landscape, the impacts of the Proposed Action Route would be visible in the distance as it crosses Johns Valley in

the middleground from approximately the boundary of the Escalante Ranger District (to the east-northeast) to an approximate point where the line enters the Powell Ranger District and becomes topographically hidden behind the Pine Hills (to the northwest). The line would create short-term line, form, and color contrasts within the existing landscape because of the unobstructed views of line construction, right-of-way surface disturbances, vegetation clearing in west-sloping forested areas adjacent to the Escalante Ranger District, transmission line structures, vehicles, and transmission lines that would attract the attention of the casual viewer.

In the long-term, the power poles and transmission lines would have minor line, form, and color impacts on scenic quality, as the transmission line would attract the attention of the wayside viewer because of the length of time that the structures would be in view and because of the length of the transmission line that would be visible to wayside viewers studying the landscape.

To ensure aviation safety, the FAA may require orange balls be mounted on the transmission lines and high-intensity lights mounted on the power poles for that segment of the line that lies within the airport's flight approach. The impact on daytime viewing of the landscape from the wayside would be moderately adverse because the flashing strobe lights on the power poles would likely attract viewer attention. There would likely be minor impacts to night sky viewing to the north because of the increased potential for skyglow and light pollution from the upward-directed, unshielded power pole lights; however, it should be noted that this viewpoint is not likely to be visited by casual viewers at night, that the existing airport parking and structure lighting already impacts night sky viewing, and that the viewpoint is approximately 1 mile from the well-lit SR 12-SR 63 junction and the Bryce Canyon City development.

The transmission line would likely meet the designated Moderate scenic management objectives for the area to the north and northwest of the viewpoint because the transmission line would remain subordinate to the existing landscape even though it would attract casual viewer attention.

Viewpoint 9 (Junction of SR 12/SR 63). Under Alternative A, the transmission line (in Segment A-1) would be constructed no less than 1.5 miles to the north of the intersection. There would be minor, adverse, long-term impacts to scenic quality, as the transmission line would be visible, but the viewing distance to the transmission line from SR 12 would reduce all visual contrasts and impacts to meet the USFS-designated Moderate scenic management objectives to the north and northwest of the viewpoint. Under this scenic integrity objective level, the impacts of transmission line construction may be visible, but be subordinate to the landscape character. To ensure aviation safety, the FAA may require orange balls be mounted on the transmission lines and high-intensity lights mounted on the power poles for that segment of the line that lies within the airport's flight approach. From this perspective, the proposed transmission line would potentially be visible in the middle ground to the casual viewer and present minor line contrasts with the existing landscape, but would not attract the attention of the casual viewer because of the long viewing distance from the roadway. If strobe lights are required on the spans just north of the airport, then these would cause minor adverse impacts at night, when taken in conjunction with all of the other visual intrusions of human-made structures, transmission lines, etc. in the foreground at the intersection.

An impact would be the removal of the existing 69 kV transmission line. This would have minor, beneficial, long-term impacts on the existing scenic quality because the transmission line is not presently a substantial visual intrusion within the existing viewscape, and because the loss of this feature would not likely reduce the degree of existing surface disturbances and land development in this area.

Viewpoint 10 (Park Boundary along SR 12). Similar to the discussion under Viewpoint 6, Alternative A would follow an alignment no less than approximately 2.25 miles to the north of this viewpoint (in Segment A-1), with minor, long-term impacts on scenic quality because of the viewing distance and obscuring topography. From this perspective, the transmission line would likely be visible to viewers traveling west out of Tropic Canyon and approaching the SR 12-SR 63 junction, but the viewing distance would reduce visual impacts to a low level. Similarly, for motorists traveling east along SR 12, the visual

impacts would be minor, because of the viewing distance from the roadway to the proposed line and because of topographic shielding.

The construction of this transmission line would indirectly cause the removal of the existing transmission line that lies south of this viewpoint near Bryce Canyon City, but as discussed above under Viewpoint 6, the beneficial long-term impacts to scenic quality caused by removing the line would be minor because of the existing level of other surface disturbances and visually intrusive structures present in and around the intersection.

Viewpoint 11 (SR 12 Wayside). From the wayside viewpoint, Alternative A (in Segment A-1) would have no impact on scenic quality within the Park because the proposed transmission line would follow a route well beyond the Park boundary to the northwest, through East Valley and portions of the GSENM and the Escalante Ranger District. Under this alternative, the existing 69 kV line would remain operational within the existing right-of-way and continue to have a very low (minor) impact on visual quality.

Viewpoint 12 (Fairyland Overlook). Alternative A would lie no less than 4.5 miles to the north of the Park boundary. There would be no impacts to scenic quality from this viewpoint, as the viewing distance to the proposed transmission line would obscure from casual view all contrasts with the surrounding landscape.

Under this alternative, the existing 69 kV line would not be removed from the right-of-way that lies within the Park boundary. However, there would be no impacts on scenic quality from maintaining this line because of the long viewing distance to that line and because, from this perspective, most of the existing line is and would remain topographically hidden behind foreground and middleground ridges and canyons. Therefore, it is unlikely that scenic quality within the Park from this viewpoint would be degraded and/or impaired, either in the short-term or long-term.

Viewpoint 13 (Mossy Cave Trail). There would be no impacts on scenic quality along the Mossy Cave Trail from Alternative A (in Segment A-1). All short-term and long-term landscape contrasts created by line construction would not be visible within this area because the high, steep canyon walls would block all contrasts from view.

Under this alternative, the existing 69 kV transmission line in this area would not be removed. However, the existing line is not obviously visible to the casual trail hiker, so there would be no impacts on visual quality from either the existing line or Alternative A.

Viewpoint 14 (North of Tropic along SR 12). From this viewpoint, Alternative A (in Segment A-1) would have minor, adverse, long-term impacts on existing scenic quality. The proposed transmission line would be constructed in an area topographically hidden from viewers traveling north and south along SR 12 between Tropic Canyon and the town of Tropic. Prominent landscape features in this viewshed are the Backbone ridge and cliffs, and adjacent cliffs and canyons. The proposed line would lie behind these tall, view-obscuring formations in the middleground. Those portions of the Segment A-1 that lie south of these cliffs and ranges, within the GSENM, in East Valley, would potentially be visible from SR 12. However, the line is no less than approximately 3.5 miles from the roadway, which would reduce potential line and form contrasts to a minor degree because the viewing distance would substantially diminish these contrasts for the casual viewer traveling along SR 12.

Under this alternative, the existing 69 kV transmission line that presently crosses East Valley, converges on and crosses SR 12, and proceeds northwest into BRCA would remain operational. The line presently creates a moderately strong, adverse visual impact on scenic quality because it becomes increasingly visible and is directly in view of northbound motorists as it converges on and then crosses SR 12.

Viewpoint 15 (GSENM Primitive Road). Under this alternative, Alternative A would be constructed adjacent to the existing transmission line and primitive access road. The impacts on scenic quality would be adverse, but minor, because scenic quality from this perspective is already adversely impacted by the existing transmission line and an additional, adjacent transmission line would not substantially change the view. The GSENM Management Plan requires the use of non-specular conductor and this would reduce

visibility of transmission line within this area of the Monument. Also, surface disturbances would be minimized by creating spur roads to the new line from the existing primitive access road, and it is unlikely that right-of-way vegetation clearing would be conducted within the viewscape because the low-lying shrubs and grasses in this locale would not constitute a danger tree or hazard tree clearing zone. This level of impact would not likely meet VRM Class II objectives to retain the existing character of the landscape and not attract the attention of the casual observer. However, Alternative A would likely meet VRM Class III objectives as it would not dominate the view of the casual observer, given the existence of the Rocky Mountain Power/PacifiCorp 230 kV transmission line right-of-way that it would follow.

Alternative B: Parallel Line Route Alternative

Simulations for selected viewpoints are included in **Appendix A**.

Construction

Viewpoint 1 (U.S. 89 Scenic Byway). From this viewpoint, Alternative B would have minor impacts on visual resources because of the long viewing distance. The transmission line may attract the attention of the casual viewer because of its additional height and size (when compared to the existing line), but it would not dominate the view because the proposed line would be constructed approximately 4 miles to the north. This viewing distance would reduce the construction and structural visual contrasts to a degree that would likely meet the designated VRM Class III objectives in the KFO RMP.

The removal of the 69 kV line would have negligible impacts on scenic quality when seen from this viewpoint, as Alternative B would follow the existing right-of-way, with the same impacts to scenic quality as discussed above under Alternative A.

Viewpoint 2 (SR 12/U.S. 89 Junction). Under this alternative, the transmission line would follow the existing transmission line route right-of-way that lies to the south of SR 12. From this perspective, there would be increased moderately adverse line and color contrasts in the short-term from increased surface disturbance activities that would expose more soil, remove more vegetation, and create stronger line contrasts from more visible soil-vegetation edge effects from an expanded right-of-way. Short-term form contrasts would be created by visually intrusive construction vehicles and equipment within a naturally flat and uniformly vegetated landscape. Long-term form and texture contrasts would be created by the erection of the transmission line towers and lines that would project above the generally flat landscape. However, the visual impacts would be consistent with the viewscape in and around the junction because of the existing surface disturbances and landscape development to the south and east.

The long-term impacts would be moderately adverse, but would likely meet existing and proposed VRM class objectives because of the presence of existing road signs, tall light posts, and commercial development that lie between the viewer traveling south or east and the proposed transmission line.

Viewpoint 3 (Red Canyon Eastbound). The Alternative B route would be constructed along the existing 69 kV transmission line route, within the area designated as VRM Class III. From this perspective, the right-of-way clearing would be visible on lands within the KFO on the west-facing slopes at the entrance to Red Canyon, but would likely not be visible within the Powell Ranger District because of topographic shielding behind the foreground ridges. Construction of this line would adversely widen and intensify the color and line contrasts that already exist along the transmission line clearing in the wooded slopes approaching Red Canyon to a moderate degree. This would be somewhat mitigated by the proposed vegetation removal along the edge of the right-of-way to create ragged, more natural-appearing patterns.

Stronger line, form, and texture contrasts in the long-term would be created on the sagebrush flats below the slopes from the increased height and larger structural supports than are presently visible. Short-term, adverse color and form contrasts would be created by construction equipment, vehicles, and structures in the right-of-way during removal of the existing line. Short-term, adverse, disturbance-related impacts would also be caused by construction of the new line adjacent to the existing transmission line, effectively doubling the right-of-way disturbance width that would be visible from this viewpoint.

In the long term, the visual disturbances would be as described above because the existing line would be removed and the existing right-of-way reclaimed; however, the removal of dangerous and hazardous trees within the new, expanded right-of-way would adversely increase the visual contrasts and impacts to scenic quality to a moderate degree from this viewpoint. The increased long-term visual impacts from construction of the larger Alternative B line (and reclamation of the existing line) would likely meet VRM Class III objectives because (1) the line would be located approximately 0.5 mile south of SR 12 so there would be a loss of visual contrasts caused by the viewing distance, and (2) the increased visual contrasts would likely attract casual viewer attention but not dominate the view because of the more visually interesting and scenically attractive views at the entrance to Red Canyon directly in front of viewers traveling east along SR 12. So, the long-term impacts of replacing the existing line with the Alternative B line would likely meet VRM Class III objectives when viewed from this viewpoint along SR 12.

Viewpoint 4 (Red Canyon Westbound). Alternative B would be constructed along the existing line right-of-way. From this viewpoint perspective, looking south and west into the KFO-designated VRM Class III areas, the impacts on scenic quality would be moderately adverse. The larger, taller line support structures and expanded right-of-way would heighten the existing line and color contrasts in the forested slope clearing; the proposed line construction would also heighten line and form contrasts along the right-of-way parallel to SR 12. There would be heightened line and color contrasts along the cleared areas to the west of U.S. 89 in the middleground from the expanded right-of-way where vegetation clearing would be required to remove hazardous and dangerous trees within the right-of-way. However, the increased visual contrasts would meet VRM class objectives because (1) the area has existing surface disturbances and visual intrusions from an existing transmission line, and (2) the viewing distances to the existing and proposed line would tend to reduce visual contrasts to a degree that, while potentially attracting the attention of the casual viewer, would not dominate the view.

Viewpoint 5 (Golden Wall Trail). Alternative B would be constructed along the existing 69 kV line route, which passes directly overhead and along stretches of the trail. Short-term impacts from construction of the line would create increased color and form contrasts from exposed soil, disturbed vegetation, and power pole construction equipment during erection of the new line and removal of the older, existing line. The proposed line would be constructed adjacent to the existing line, doubling the right-of-way width and creating color and form contrasts that would be clearly visible in the short-term until the existing line was removed and the right-of-way was successfully reclaimed. The trail lies within an area designated for High SIO; however, the long-term impacts to existing scenic quality from construction of larger, taller transmission line structures within the canyon, a maintained 100-foot-wide right-of-way across the canyon floor and slopes, and visual intrusions from periodic maintenance and/or repair would likely exceed the designated High objectives for this area. The larger structure and greater right-of-way surface disturbance would introduce long-term texture impacts from increased power pole height; greater form contrasts would be produced by larger support structures; and color and line contrasts would be intensified by a wider, obviously maintained right-of-way. Non-specular conductor would be used in this area and would help reduce visual impacts in the middleground and background. These introduced visual contrasts would likely exceed High scenic integrity management objectives that allow deviations from the natural landscape, but also require that these deviations should not be evident.

Viewpoint 6 (USFS Boundary along SR 12). Construction of Alternative B along the existing transmission line right-of-way would have minor to moderate, adverse impacts on scenic quality from this viewpoint perspective. The proposed transmission line would run generally parallel to the roadway, approximately 0.50 to 0.75 mile to the south of SR 12 in an area designated as Moderate SIO. The amended LRMP designates the SR 12 Travelway as Concern Level 1 (with High SIO) up to 0.5 mile from the highway, meaning that a small portion of the line would traverse the High SIO Travelway Zone and require the use of non-specular conductor. At that distance, this would reduce the visual impact of the transmission line. There would be short-term, minor form contrasts from visually intrusive construction equipment and vehicles in the foreground; minor to moderate form, line, and texture contrasts would be created by the larger transmission line structures in the long-term. However, the densely wooded, conifer slopes in the

middleground would tend to absorb these contrasts and reduce the impacts, causing the structures and lines to remain visually subordinate to the existing landscape and meet the Moderate scenic integrity level of the area. It should also be noted that as this proposed transmission line route approaches the area of High scenic integrity to the west of the viewpoint, the line becomes hidden behind conifers and then topographically hidden behind a ridge, thus having no impacts in this area.

Viewpoint 7 (USFS Scenic Backway [East Fork of the Sevier River Road]). The Alternative B route would be constructed along the existing transmission line route, south of SR 12. The proposed line would be constructed along and adjacent to the existing right-of-way, with moderate short- and long-term impacts to scenic quality from this perspective because the viewing distance to this larger transmission line (a distance of approximately 1 mile) would likely reduce the line and form contrasts to a level that could attract casual viewer attention, but not dominate the view.

Viewpoint 8 (Bryce Airport Wayside). The Alternative B route would be constructed to the south of SR 12, adjacent to the existing transmission line, and beyond the wayside viewscape. It should be noted that the wayside information/interpretive signs direct the viewer's attention toward the historic Bryce Airport and geologic features to the north. There would be no impacts to viewpoint scenic quality because (1) the line would not be constructed within the viewpoint's area of scenic interest and focus, and (2) the proposed line would be constructed approximately 1 mile to the south of the viewpoint and along an existing transmission line route.

Viewpoint 9 (Junction of SR 12/SR 63). The Alternative B route would follow an existing transmission line right-of-way that lies to the southeast of the junction. This line would have no impacts on scenic quality at this viewpoint because the short-term and long-term line and form contrasts created by construction would not be obviously visible to the casual viewer: the viewscape to the south of the junction is of low scenic quality caused by visually intrusive commercial development near Ruby's Inn.

Viewpoint 10 (Park Boundary along SR 12). The construction of Alternative B along the existing transmission line right-of-way would have no impacts on scenic quality from this viewpoint as the line would not be visible.

Viewpoint 11 (SR 12 Wayside). Alternative B would be constructed adjacent to the existing 69 kV line through Tropic Canyon. The short-term impacts to scenic quality would be adverse and moderate because helicopter activity and line structures and lines would be visible to and attract the attention of wayside viewers during the period of line construction. The long-term impacts of line construction on scenic quality would also be moderately adverse because the larger power poles would be more clearly visible (and visually intrusive) as the line rises out of the canyon to the west and onto the Pink Cliffs rim and the Paunsaugunt Plateau, which would likely attract the attention of the casual viewer studying the landscape at this wayside. Right-of-way clearing for the proposed line would likely have adverse, but minor, impacts on scenic quality because of the opportunities for topographically hiding the zone of vegetation clearing within the canyon.

An indirect impact of this alternative would be the removal of the existing line and reclamation of the existing right-of-way. There would be short-term, minor, adverse impacts from visually intrusive line removal equipment and vehicles within the wayside viewscape. There would be minor, long-term beneficial impacts to scenic quality from removal of the existing transmission line and the visible power pole at the canyon rim, and reclamation of the right-of-way.

Viewpoint 12 (Fairyland Overlook). Under this alternative, Alternative B would follow the existing transmission line route. There would be minor impacts to scenic quality from construction of the proposed transmission line because (1) the viewing distance to the proposed line is approximately 1.75 miles to the north, so form and line contrasts would be substantially reduced, with the dark, wooden support structures tending to blend in with the middleground conifers, and (2) from this perspective, most of the proposed line would be topographically hidden behind foreground and middleground ridges and canyons. Therefore, it is unlikely that the surface disturbances and visual intrusions caused by construction would attract the attention of the unaided casual viewer. Overlook visitors using binoculars

would likely be able to see segments of the proposed line; however, it is unlikely that scenic quality within the Park from this viewpoint would be noticeably degraded and impaired for the casual viewer and Park visitor because topographic shielding, the viewing distance, and the angle of view would diminish transmission line contrasts with the existing landscape.

Viewpoint 13 (Mossy Cave Trail). The impacts of constructing the larger, taller Alternative B support structures adjacent to the existing 69 kV transmission line right-of-way would have no impacts in the long-term because the proposed right-of-way and transmission line would lie to the south of the trail, and be topographically hidden from the view of trail hikers and other Park visitors. Short-term adverse impacts would likely be created by visually intrusive helicopter activity and line-stretching activities near and overhead of the Mossy Cave hiking destination and along the lower portions of the trail where the power pole and lines are also visible. There would also be short-term, adverse impacts to visual quality from removal of the existing 69 kV line, caused by vehicles, helicopters, and personnel during this phase of the project. There would be a beneficial and minor impact from the removal of the existing 69 kV line as some of the existing structures are visible from the trail and near the mouth of the cave.

Viewpoint 14 (North of Tropic along SR 12). The impacts to scenic quality and visual resources from construction of Alternative B along the existing 69 kV transmission line right-of-way would have long-term, moderate, adverse impacts on the existing viewscape because of the heightened line and form contrasts created by the larger, taller transmission support structures. Short-term visually intrusive form and color impacts would be produced by construction equipment and vehicles.

Viewpoint 15 (GSENM Primitive Road). Under Alternative B, the transmission line would be constructed outside of the GSENM boundary. The proposed line would originate at a substation on private land within the East Valley and proceed westward across the valley and thence into BRCA. Therefore, there would be no impacts to scenic quality within the Monument.

Alternative C: Cedar Fork Southern Route Alternative

Simulations for selected viewpoints are included in **Appendix A**.

Impacts as a Result of Amending the GSENM Management Plan

Alternative C would require the amendment of the GSENM Management Plan (2000) by designating a 300-foot-wide Passage Zone through a designated Primitive Zone, and changing the existing VRM Management Class designation from Class II to Class III within the Passage Zone. The existing Rocky Mountain Power/PacifiCorp 230 kV transmission line right-of-way would be consistent with VRM Management Class III objectives. By extension, the proposed 138 kV line would be consistent with the Class III objectives as well.

Construction

Viewpoint 1 (U.S. 89 Scenic Byway). The impacts would be the same as discussed for Alternative A because the transmission line alignment, location, and dimensions would be the same along Segment C-3.

Viewpoint 2 (SR 12/U.S.89 Junction). The impacts would be the same as discussed for Alternative A because the transmission line alignment, location, and dimensions would be the same (along Segment C-3).

Viewpoint 3 (Red Canyon Eastbound). The impacts would be the same as discussed for Alternative A because the transmission line alignment and dimensions would be similar, with some portions of Segment C-3 further away from this viewpoint than Alternative A.

Viewpoint 4 (Red Canyon Westbound). The impacts on visual quality would be the same as discussed above for Alternative A because the alignments, dimensions, and construction activities would be the same.

Viewpoint 5 (Golden Wall Trail). The impacts would be the same as discussed for Alternative A because the transmission line alignment and dimensions would be the same, with most portions of this alignment (in Segments C-2 and C-3) further away from this viewpoint than the Proposed Action route.

Viewpoint 6 (USFS Boundary along SR 12). The impacts would be similar to those discussed above for Alternative B because the size, right-of-way width, and construction activities (in Segment C-2) would also be similar.

Viewpoint 7 (USFS Scenic Backway [East Fork of the Sevier River Road]). The landscape surrounding this viewpoint has been designated as and is managed for High scenic integrity. The existing transmission line that lies across the backway (and runs from east of Bryce Canyon City to Wilson Peak) meets the objectives of this scenic integrity level because, while evident to the majority of backway travelers, it is subordinate to the natural landscape: the power poles are low in comparison to the surrounding forest and both lines and poles blend in with the dense middleground and background conifer stands. Segment C-2 would have short-term and long-term, adverse impacts on scenic quality and would likely not meet the High scenic integrity level of the surrounding landscape which requires that it appear "natural to the majority of viewers; the landscape character appears intact, and while deviations may be present, they are not evident." This is because the higher, larger support structures would present moderate to major form and line contrasts that would be evident in the foreground to travelers along the backway, and would be particularly visible where the line crosses the backway. Non-specular conductor would be used in the High SIO area, which would reduce visibility of the transmission line in the middleground and background.

Viewpoint 8 (Bryce Airport Wayside). Under this alternative, the transmission line would be constructed to the east of the wayside viewpoint, from the USFS Escalante Ranger District to CR 22 and then south along the BRCA boundary. The impacts would be the same as discussed for Alternative A because the transmission line would be clearly in view from the waypoint as it crosses Johns Valley, follows the CR 22 roadway south, and crosses SR 12 as it follows the Park boundary.

Viewpoint 9 (Junction of SR 12 and SR 63). From this perspective, Alternative C would be visible along the Park boundary to motorists traveling east along SR 12 and traveling north along SR 63 to the intersection. The short- and long-term impacts to scenic quality would be moderately adverse, but consistent with the level of existing surface disturbances, structures, and landscape modifications. Short-term impacts would be caused by construction vehicles, heavy equipment, and the potential production of fugitive dust; long-term impacts would be caused by right-of-way clearing and the presence of the power poles and lines. The impacts would likely attract casual viewer attention, but the proposed line would not dominate the view nor would it substantially detract from existing scenic quality because of the existing surface disturbances and structures.

Viewpoint 10 (Park Boundary along SR 12). Construction of Alternative C would have short- and long-term, moderate line and form contrast-related impacts on scenic quality. When viewed from the west toward the east along SR 12, strong line and form contrasts and their landscape impacts, created by the highly visible poles and transmission lines, would be visible to motorists traveling along SR 12 as they approach the head of Tropic Canyon. Similarly strong line and form contrasts would also be visible to motorists traveling west on SR 12 as they exit Tropic Canyon and travel toward the SR 12/SR 63 junction and the Park entrance.

Short-term impacts would be caused by right-of-way surface disturbances and power pole construction activities visible in the foreground. Long-term impacts (and potential impairments to Park scenic quality) would be produced by (1) the highly visible transmission lines and poles on either side of the roadway as motorists emerge from Tropic Canyon, and (2) by the abrupt change from a relatively undisturbed viewscape with high scenic quality visible within Tropic Canyon to visually intrusive structures and surface disturbances within the viewscape as motorists emerge from the canyon. A visual simulation is recommended for this viewpoint because of visual sensitivity within the Park.

It should be noted, however, that most travelers westbound along this roadway would pass the area of disturbance quickly, so the effect on viewers would be brief: the transmission line would not likely be visible to westbound motorists until vehicles exit Tropic Canyon at the top of the road slope. Also, it should be noted that scenic quality approaching the SR 12/SR 63 junction is of low quality, caused by road infrastructure near the junction and by commercial structures related to Bryce Canyon City development south of the junction. These conditions would tend to reduce the likelihood of Park resource impairment, when viewed from the west.

Viewpoint 11 (SR 12 Wayside). The impacts of the proposed Cedar Fork Southern Route (in Segment C-1) on scenic quality at this viewpoint would be similar to the impacts described for Alternative A because the alternatives would follow similar right-of-way alignments, with a portion of Segment C-1 being approximately 1 mile closer to the viewpoint. It is assumed that the same FAA requirements for runway approach safety would be applicable to this alignment, with the same impacts to night sky viewing and light pollution as discussed under Alternative A.

Viewpoint 12 (Fairyland Overlook). The impacts for Alternative C would be the same as Alternative A for the same reasons: the viewing distance and topography between this line and the Fairyland viewpoint would obscure or reduce visual contrasts to a level that would not be noticeable by the casual viewer. There would be no impacts to scenic quality from this perspective.

Viewpoint 13 (Mossy Cave Trail). Alternative C would have no impacts on scenic quality along the trail for the same reasons as discussed for Alternative A: all impacts to the viewscape and to scenic quality would be topographically hidden from view by the high canyon walls that border the trail.

Viewpoint 14 (North of Tropic along SR 12). The impacts would be the same as those discussed above under Alternative A because the alignments, transmission line dimensions, and construction activities would be the same within this easternmost portion of the Project Area.

Viewpoint 15 (GSENM Primitive Road). The impacts to the primitive road area within the GSENM would be the same as discussed under Alternative A because the proposed transmission line route alignments would be the same.

Interconnect Options

The interconnect areas were determined to have low visibility to the casual viewer, based on the GIS viewshed analysis and on the relative remoteness of Segments A-2 and C-2. Therefore, it is likely that there would be no impacts to scenic quality within the interconnect portions of the Project Area.

Alternative D: No Action

Viewpoint 1 (U.S. 89 Scenic Byway)

Under the No Action Alternative, there would be no impacts to visual resources, and the viewscape would remain, subject to existing trends and conditions, as no existing transmission line is present within the viewscape.

Viewpoint 2 (SR 12-89 Junction)

The impacts would be the same as Viewpoint 1, as the existing line is not obviously in view.

Viewpoint 3 (Red Canyon Eastbound)

The existing right-of-way line clearing would continue to be visible on the westward-facing lower slopes leading into Red Canyon, and would attract viewer attention with moderately adverse impacts on scenic quality, but would meet designated VRM Class III objectives.

Viewpoint 4 (Red Canyon Westbound)

The existing transmission line is visible to westbound motorists on SR 12, and would continue to have moderately adverse impacts on scenic quality because of the obvious visibility of the right-of-way clearing on the landscape. The impacts, however, do not dominate the view.

Viewpoint 5 (Golden Wall Trail)

The impacts of the existing transmission line would continue to have moderately adverse impacts on scenic quality because of its high visibility from the trail in an area designated for High scenic quality.

Viewpoint 6 (USFS Boundary along SR 12)

The existing transmission line would remain along its present route south of SR 12 and continue to have no impacts on scenic quality for motorists traveling along this roadway. There would be no impacts because the line does not attract viewer attention.

Viewpoint 7 (USFS Scenic Backway [East Fork of the Sevier River Road])

The existing transmission line, crossing the backway and running to Wilson Peak, would remain along its present route south of SR 12 and continue to have minor adverse impacts on scenic quality for motorists traveling along this backway designated for High scenic quality. The impacts would be minor because the line is visible to the casual viewer, but is generally well screened by background vegetation.

Viewpoint 8 (Bryce Airport Wayside)

Under this alternative, there would be no change from existing conditions and trends, and no impacts to day time scenic quality. Views to the north of historic Bryce Canyon Airport and the highly scenic geologic formations would be unaffected. Night sky and lighting conditions would remain under current conditions, adversely affected by existing lighting conditions at the airport, the SR 12-Route 63 intersection, and Bryce Canyon City development.

Viewpoint 9 (Junction of SR 12 and Route 63)

The existing transmission line would remain along its present alignment within the Park, and continue to have no impacts on scenic quality for motorists traveling along this roadway. There would be no impacts to scenic quality from transmission line because it blends in with the existing roadway structures, surface disturbances, advertising billboards, and existing commercial development north of Bryce Canyon City and along the approach to the Park.

Viewpoint 10 (Park Boundary along SR 12)

The impacts would be the same as for Viewpoint 1.

Viewpoint 11 (SR 12 Wayside)

Under this alternative, the existing line would remain in its current conditions and continue to have minimal (minor) adverse impacts on scenic quality. As described under the Affected Environment section, the existing line is only visible at the point where the line rises out of the canyon onto the Pink Cliffs rim. The visibility of the line at this point is indistinct and not likely to be obvious to most casual viewers.

Viewpoint 12 (Fairyland Overlook)

The existing transmission line would remain along its present alignment to the south of Tropic Canyon, and continue to have no impacts on scenic quality for viewers experiencing the high scenic quality along the Pink Cliffs because the existing transmission line cannot be seen by the casual viewer.

Viewpoint 13 (Mossy Cave Trail)

The impacts would be the same as for Viewpoint 1. A small portion of the existing transmission line and a single power pole is visible, but not likely to be visible to the casual viewer hiking along the trail.

Viewpoint 14 (North of Tropic along SR 12)

Under the No Action Alternative, there would be no change from existing conditions and trends. The existing transmission line would remain along its present alignment, crossing East and Tropic Valley, and SR 12 before proceeding into BRCA. The existing line and structures would continue to have minor to moderately adverse visual impacts on scenic quality for motorists traveling north from Tropic into Tropic Canyon.

Viewpoint 15 (GSENM Primitive Road)

The existing transmission line within the Monument would continue to have no impacts on scenic quality because the line is in a remote location, and not visible to the casual viewer, and along an undesignated roadway that is not open for general public use.

1.3.1.3. Summary

The following table summarizes the impacts discussed above. Analyses of impacts to the interconnect options, the far eastern portion of the Project Area, and the southernmost portions of Segments A-3 and C-3 were not done because the results of the viewshed analysis showed that these areas would not be visible from the major thoroughfares within the Project Area.

Table 1.3-3. Visual Resources Summary of Impacts

VIEWPOINTS	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
1 – U.S. 89 Scenic Byway	Short-term adverse impacts from construction; long-term, adverse impacts that would likely exceed VRM Class objectives at and near the U.S. 89 Byway crossing. Minor, short-term, adverse impacts from removal of existing line.	Minor, long-term, adverse impacts. Minor, indirect, beneficial long-term impacts from existing line removal.	Same as Proposed Action.	No impact.
2 - SR 12/U.S. 89 Junction	Minor, adverse short-term and long-term impacts that would meet VRM Class III objectives. Minor, beneficial impacts from removal of existing line.	Short-term and long-term, moderately adverse impacts, but consistent with VRM objectives because of existing disturbances in the area.	Same as Proposed Action.	No impact.
3 – Red Canyon Eastbound	No impacts because of viewing distance. Short-term, minor	Short-term and long-term, moderate impacts, but would meet	Same as Proposed Action.	Moderately adverse impacts from existing line visibility.

VIEWPOINTS	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	adverse impacts from existing line removal; long-term, minor beneficial impact to scenic quality.	VRM Class III objectives.		
4 – Red Canyon Westbound	No impacts from line construction west of Red Canyon. Minor, beneficial long-term impacts from existing line removal.	Moderate, adverse, long-term impacts from line construction along existing route.	Same as Proposed Action.	Moderately adverse impacts from line visibility.
5 – Golden Wall Trail	No impacts to scenic quality within Red Canyon. Long-term, beneficial impacts from existing line removal.	Short-term and long-term, adverse, substantial impacts from line construction, which would likely exceed High SIO level.	Same as Proposed Action.	Moderately adverse impacts from existing line visibility.
6 – USFS Boundary at SR 12	Short-term and long-term, adverse impacts to High SIO along SR 12. This would likely exceed USFS management objectives. Beneficial, minor impacts from existing line removal.	Minor to moderate, adverse impacts on scenic quality.	Same as Alternative B	No impact.
7 – USFS Scenic Backway	No impacts. Long-term, minor, beneficial impacts from existing line removal.	Moderate short-term and long-term, adverse impacts from line construction.	Short-term and long-term, moderate, adverse impacts from construction in High SIO area along scenic backway.	Minor, adverse impacts on scenic quality along existing line near scenic backway in High SIO area.
8 – Bryce Airport Wayside	Moderate, adverse, long-term scenic quality impacts. Minor, adverse long-term impacts to night sky from FAA safety devices.	No impacts.	Same as Proposed Action.	No scenic quality impacts. Continued adverse impacts to night sky impacts from Airport, Bryce Canyon City, and SR 12-Route 63

VIEWPOINTS	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
				intersection development.
9 – SR 12/SR 63 Junction	Minor, adverse long-term impacts. Minor, beneficial long-term, indirect impacts from existing line removal.	No impacts.	Moderately adverse impacts, but consistent with existing level of scenic quality.	No impact.
10 – Park Boundary at SR 12	Minor, long-term, adverse impacts. Minor, long-term, beneficial indirect impacts from existing line removal.	No impacts.	Moderate, adverse short-term and long-term impacts from line construction.	No impact.
11 – SR 12 Wayside	No impacts. Long-term, minor, adverse impacts from maintained existing line.	Moderate, adverse short-term and long-term impacts.	Same as Proposed Action.	Minor impacts from maintained existing line.
12 – Fairyland Overlook	No impacts to scenic quality from Park overlook.	Minor, adverse impacts on scenic quality.	Same as Proposed Action.	No impact.
13 – Mossy Cave Trail	No impacts along Mossy Cave Trail.	Short-term, adverse impacts from line construction and removal across trail. No impacts in the long-term.	Same as Proposed Action.	No impact.
14 – North of Tropic	Minor, adverse long-term impacts on scenic quality. Moderate, adverse, impacts from maintenance of existing line.	Long-term, moderate, adverse impacts from increased visual contrasts within the viewscape.	Same as Proposed Action.	Minor to moderate, adverse impacts from existing line impacts on the viewscape.
15 – GSENM Primitive Road	Minor, long-term, adverse impacts.	No impacts.	Same as Proposed Action.	No impact.

1.3.2. Cumulative Effects

This section addresses potential cumulative effects that would result from the effects of the Proposed Action or Action Alternatives when combined with the effects of other past, present, and reasonably foreseeable future projects. Cumulative effects are incremental in nature. They can result from individually minor, but collectively significant, actions taken over a period of time.

1.3.2.1. Cumulative Effects Area

The general cumulative effects area (**Figure 1.3-1**) for the project for all resources except wildlife, special status species, and socioeconomics includes all HUC 12 (6^{th} level) watersheds that come within 0.5 mile of the project components. The cumulative effects area encompasses 237,010 acres (**Table 1.3-4**). Land management agencies responsible for managing a range of uses on 204,559 acres of public land are the DNF Powell and Escalante Ranger Districts, the KFO and GSENM, BRCA, and SITLA. Private land ownership accounts for 13.7 percent (32,451 acres) of land within the cumulative effects area.

Table 1.3-4. Cumulative Effects Area – Acreage by Land Ownership/Management

LAND OWNERSHIP/MANAGEMENT	ACRES
U. S. Forest Service - DNF	121,852.4
Bureau of Land Management – KFO	35,133.9
Bureau of Land Management – GSENM	11,981.5
National Park Service – BRCA	17,067.3
SITLA	18,524.1
Private	32,450.9
Total	***237,010.1***

1.3.2.2. Past, Present, and Reasonably Foreseeable Actions

National Forest lands and BLM lands administered by KFO are managed for multiple resource values and uses. In the cumulative effects area, past and present uses include timber and woodland product harvest; livestock grazing; and recreation uses including hunting, fishing, camping, picnicking, hiking, back country driving, and mountain biking. Lands are also available for mining, oil and gas development, and production of mineral materials (building stone and sand and gravel). Roads, transmission lines, pipelines, and communication sites are located on National Forest and other public lands. While these types of uses have resulted in an unknown amount of surface or subsurface disturbance and placement of human-made structures on the landscape, the National Forest and public lands still retain a largely undeveloped appearance. These lands are not characterized by urban or commercial development that is typical of cities and towns.

The GSENM is managed for a variety of resource values and uses, with a mandate from the Presidential Proclamation that established the Monument to protect myriad historic and scientific resources. To meet this objective, BLM manages the Monument to protect its primitive frontier state and safeguard its remote and undeveloped character. Further, BLM manages the Monument to provide opportunities for study of scientific and historic resources. Within this management focus, past and present uses of public lands in the Monument include livestock grazing, recreation, and realty actions. While the Monument is closed to mining and oil and gas development, roads, transmission lines, pipelines, and communication sites are located on these public lands. These uses have resulted in an undetermined amount of surface and subsurface disturbance and placement of human-made structures on the landscape, but public lands in the Monument still retain a largely undeveloped appearance.

Figure 1.3-1. General Cumulative Effects Area

BRCA, on the other hand, is managed with an emphasis on protection and enhancement of its unusual scenic beauty and its value for science and education, and for the benefit and enjoyment of the public. Even with this focus on protection and preservation, some past and present development has occurred in the Park for management of visitor use and the protection of Park resources. A paved access road runs the length of the Park, providing access to many sites and facilities, including administrative offices and buildings, Bryce Canyon Lodge, campgrounds, trails, interpretive sites, and others. Other infrastructure, including transmission lines, is also present. Garkane's existing 69 kV transmission line crosses the northern end of the park, as does SR 12. However, even with this development, the vast majority of the Park in the cumulative effects area is undeveloped, and presents a natural landscape.

State lands in the cumulative effects area are managed by SITLA to produce revenue for the State school system. State lands are managed for a variety of uses that produce revenue, and past and present uses include livestock grazing, recreation uses, roads, highways, utility lines, and other commercial uses. Lands are occasionally sold for private development. As with federal lands, these uses result in surface disturbances, but generally, State lands retain an undeveloped appearance. The current amount of surface and subsurface disturbance is unknown.

Private lands in the cumulative effects area are used and developed for a variety of purposes, including residential, commercial, and industrial development in and adjacent to cities and towns. Many acres of private land are in farmland production, including irrigated pastures, range pastures, and hay, grain, and alfalfa.

Reasonably foreseeable future actions within the cumulative effects area that are currently planned or under review include activities that fall into several broad categories:

- Energy and communications
- Transportation
- Vegetation and fire fuels management
- Habitat improvement
- Land use and management
- Recreation
- Mining
- Miscellaneous

Table 1.3-5 shows activities currently planned, under review, or in permitting in Garfield County that may be pertinent to cumulative effects for one or more resource areas. Projects within Garfield County but outside the cumulative effects area for all resources (except socioeconomics) are labeled "socio only." The table is organized generally by project type (energy, transportation, forest fuels management, etc.), but many of the entries could easily fit into more than one classification.

Table 1.3-5. Reasonably Foreseeable Future Actions in the Cumulative Effects Areas

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
Energy & Communications			
Designation of Energy Corridors (USFS)	Forest-wide	Would designate energy corridors on the DNF and other federal land in 11 western states. Corridor 116-206 would be west of U.S. 89 in the cumulative effects area.	
Geothermal Leasing Programmatic EIS (USFS)	Forest-wide	USFS and BLM are preparing a joint programmatic EIS to analyze leasing of federal lands with moderate to high potential for geothermal resources in 11 western states	
Oil and Gas Leasing Analysis (USFS)	Forest-wide	EIS to evaluate all BLM and USFS administered lands for oil and gas leasing	
Panguitch Lake Power Line Realignment (DNF)	Cedar City RD (Socio only)	Authorization to PacifiCorp for the relocation of 1.2 miles of 12.5 kV power line. Work would involve construction of a new overhead power line and removal of the old line. Area is approximately 17 miles southwest of Panguitch.	
South Central Utah Telephone Association (SCSRA) I-15 to U.S. 89 Fiber Optic Line (BLM)	(Socio only)	Fiber optic line from I-15 in Iron County to U.S. 89 in Garfield County 7.5 miles north of Panguitch requiring BLM right-of-way	
Oil and Gas Lease Sales (BLM)	BLM	Ongoing BLM program to lease lands suitable for oil and gas development, including lands in Garfield County classified as having high potential for oil & gas development	
Transportation			
DNF Motorized Travel Plan (DNF)	Forest-wide	To identify changes to the motorized travel system (roads) to meet administrative, fire, recreational, and resource needs; will generally prohibit cross-country (off-road) motorized travel on the Forest, but would remain open to hiking, horseback riding, cross-country skiing, and snowmobile use.	
Mammoth Highway Easement (DNF)	Cedar City RD (Socio only)	Issuance of a right-of-way easement to Garfield and Kane Counties for Mammoth Highway (Forest Road 068), northeast of Duck Creek Village, between State Highways 14 and 143.	

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
Tropic Canyon Highway Stabilization Project (BRCA)	BRCA	Repair and stabilize SR 12 and introduce water diversion into Tropic Wash, west of Tropic	210 linear feet of road shoulder; 5 stream barbs in Tropic Wash
SR-12 Environmental Study (UDOT, FHWA, GSENM)	Escalante to Boulder (Socio only)	EA for project to obtain over 14 miles of right-of-way from BLM and generally upgrade SR 12	
SR-12 Scenic Byway Improvements (UDOT, GSENM)	SR 12 throughout Garfield County	Improve overlooks, interpretive sites, and gateway features	
SR-12 Corridor Management Plan Implementation (UDOT, GSENM)	SR 12 throughout Garfield County	Corridor Management Plan Implementation	
US-89 from SR-14 to Hatch (UDOT)	SR-14 to Hatch	Bituminous pavement, reconstruction, widen shoulders	
Notom Road (UDOT)	(Socio only)	Engineering and environmental study, preparatory to road improvements	
Vegetation and Fire Fuels Management			
Aerial application of fire retardant (DNF, KFO, GSENM)	Forest-wide	The USFS proposes to continue the aerial application of fire retardant to fight fires on National Forest System lands, including the DNF.	
Right-of-way Lakes Timber Management (DNF)	Freemont River RD (Socio only)	Fuels Management Reduction on approximately 600 acres of forested land to reduce the impacts of insects and disease	600 acres
Stump Springs Fire Treatments (DNF)	Escalante RD (Socio only)	Project uses prescribed fire treatments to disturb vegetation, slowly moving heterogeneous patches towards a fine-grained landscape that is more resistant and resilient to fire and other disturbance.	Approximately 5,400 acres over 9 years
Clayton Salvage (DNF)	Escalante RD (Socio only)	Timber salvage of 248 acres of dead and dying spruce on the Griffin Top Plateau.	248 acres (2008)

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
Pockets Vegetation Management (DNF)	Escalante RD (Socio only)	The Project is designed to reduce bark beetle risk and improve habitat for northern goshawk. It would include commercial timber harvest, pre-commercial stand treatment, fencing, and travel management. The Project covers an area of 8,564 acres and would include commercial timber harvest on 4,721 acres of conifers and 2,647 acres of aspen, including 82 acres along the Antimony Creek drainage. Smaller areas would receive additional treatments. In addition, 9 miles of new roads would be required, 7.0 miles of unauthorized roads would be designated NFS roads, and 13.4 miles of existing NFS roads would be improved.	8,564 acres 9 miles of new roads 7.0 miles added to system roads
Toad Salvage (DNF)	Escalante RD (Socio only)	Salvage of dead and dying ponderosa pine within the perimeter of a Wildland Fire Use burn area. September 2007, 1400 acres burned.	230 acres
Boulder Town Fire Protection (DNF)	Escalante RD (Socio only)	Boulder was identified as a community at risk and a Community Wildland Fire Protection Plan was developed. 65 acres of prescribed burns and 186 acres of vegetative treatments are planned to provide community protection.	251 acres
Bug Lake Salvage Project (DNF)	Escalante RD (Socio only)	Timber Salvage of dead and dying spruce on the Aquarius plateau will use existing Forest roads with approximately 1 mile of road reconstruction.	228 acres (2007)
Dugout/Tarantula Mesa Veg. Project (BLM)	Richfield FO (Socio only)	Utilize mechanical (chainsaw, handsaws, etc.) to cut, lop, and scatter the pinyon and juniper trees that have encroached into the existing chainings that were established in the 1960s	
North Wash Tamarisk Control Project (BLM)	Richfield FO (Socio only)	Removal and chemical control of 20 acres of tamarisk (salt cedar) approximately 30 miles southeast of Hanksville in the Fiddler Butte Wilderness Study Area	
Bear Creek Fire Salvage and Reforestation, DNF, CE	Garfield County (Socio cumulative effects area only)	Salvage fire killed and damaged trees within the 1400-acre Bear Creek burn area	
Corn Creek Salvage and Reforestation, DNF, EA	Garfield County (Socio cumulative effects area only)	Salvage dead and dying timber and reforest areas within burn with inadequate stocking in a 2270-acre burn	

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
Paunsaugunt Aspen Vegetation Management, DNF, EA	Powell Ranger District	Manage aspen stands to increase aspen regeneration, reduce conifer encroachment, and develop multi-aged aspen stands	
GSENM Plan Amendment & Rangeland Health EIS	GSENM	The GSENM Management Plan Amendment and Rangeland Health EIS describes and analyzes alternatives for management of livestock grazing on public lands administered by the BLM.	2,168,726 acres (GSENM, Glen Canyon NRA, & KFO)
Habitat Improvement			
Cooperative Fisheries Enhancement Projects (DNF)	Powell RD	In cooperation with UDWR, re-establish native trout populations in 2 streams on the DNF (also 8 streams on the Fishlake National Forest)	
Marshall Canyon Pinyon-Juniper Removal (DNF)	Powell RD (Socio only)	The Proposed Action is to treat up to 900 acres within an existing chained area to improve wildlife habitat on the western portion of the Sevier Plateau (Mt. Dutton). The Proposed Action consists of the following actions: Remove pinyon pine and juniper mechanically on approximately 900 acres using a skid steer (bobcat) or other tractor type device, or through hand thinning with chainsaws. Broadcast seed into seedbed using forbs and grass mixture. Where needed, native seed will be part of this mixture.	900 acres
Antelope Springs Draw Sagebrush Steppe Habitat Enhancement (DNF)	Escalante RD[1] (Socio only)	Mow or brushbeat 500 acres of dense even-aged sagebrush and interseed a native grass and forb mixture.	500 acres
Dipping Vat Habitat Improvement Project (DNF)	Escalante RD	Project would include the thinning of pine forests and the mechanical treatment of sagebrush for habitat improvement and fuels reduction in Johns Valley, approximately 7 miles north of Tropic. The Project would affect approximately 1,132 acres.	1,132 acres (2010)
Boulder Creek Wildlife Habitat Improvement (DNF)	Escalante RD (Socio only)	Removing encroaching conifers to restore Aspen Grove wildlife habitat	
Aquatic Monitoring Amendment, DNF	Forest-wide	Proposal to amend the Aquatic Management Indicator Species (MIS) in the DNF LRMP	

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
East Fork Boulder Creek Fish Passage Improvement DNF, CE	Garfield County (Socio cumulative effects area only)	Replace a culvert that is inhibiting fish passage on Road 166 with a new span designed for high and low flow maintenance of all aquatic species	
Land Use and Management			
Resources Management Plan (BLM)	Richfield Field Office BLM (Socio only)	Comprehensive Resource Management Plan for public lands and resources managed by the BLM Richfield Field Office	
Resources Management Plan (KFO)	KFO	FEIS and Resource Management Plan for public lands and resources managed by the KFO	
First Annual Centennial Strategy for Bryce Canyon National Park (BRCA)	BRCA	Reduce private vehicle use by providing public transportation for park visitors; planning addition of a bicycle transportation system in park; restore historic buildings; treat 193 acres of exotic weed infestation; inventory and assess condition of 224 identified archaeological sites	
Panguitch Lake Resort	Panguitch Lake (Socio only)	RV timeshare resort around Panguitch Lake that is under development	
Incorporation of Ruby's Inn	Ruby's Inn	Ruby's Inn was incorporated as Bryce Canyon City. Ruby's Inn has a single land owner. The intention of incorporating is to prepare for subdivision and growth.	
Recreation			
Red Canyon bike trail extension (DNF)	Powell RD	Extend existing bike trail along SR 12 3.1 miles east to the East Fork of the Sevier River Road.	
Canaan Mountain Reroute (DNF)	Escalante RD (Socio only)	The Canaan Mountain Loop Trail approximately 14.5 miles southwest of Escalante would be rerouted to move it off a waterline, reduce its grade, and provide for improved maintenance.	
Mossy Cave Trail Rehabilitation and Resource Protection (BRCA)	BRCA	Large boulders from Water Canyon adjacent to the trail will be moved to stabilize areas where the trail has eroded and footbridge abutments	
Grandview Trail Re-route (DNF)	Powell Ranger District	Construct several sections of non-motorized trail to eliminate dual use by motorized and non-motorized recreationists	

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
King Creek Campground Non-commercial Thinning DNF, CE	Powell Ranger District	Thin heavily stocked ponderosa pine to improve vigor and forest health in a developed recreation area	
Mining			
Boulder Gravel Pit (DNF)	Escalante RD (Socio only)	A gravel pit will be developed and managed to provide gravel for county and Forest needs.	< 5 acres
Troy M Mine Phase Two (BLM)	Richfield FO, near Ticaboo (Socio only)	Extend existing underground workings; construct mine shaft and waste rock storage area; construct ventilation shafts and expand existing evaporation pond for mine dewatering	
Phase II, Abandoned Mine Reclamation, (GSENM)	GSENM	EA to address potential environmental impacts associated with the Phase II Abandoned Mine Reclamation Project, which includes the Henrieville Prospect Site east of Tropic	
Reopening of Ticaboo uranium mill and mine	Ticaboo/Bullfrog (Socio only)	Garkane has been contacted regarding service to the Ticaboo/Bullfrog area for planned re-opening of the uranium mill; the mine has been re-opened and is supplying its own power with diesel generators	
Miscellaneous			
Wild and Scenic River Suitability Study – Utah (USFS)	Pine Valley, Cedar City, and Escalante RDs	A draft EIS has been prepared analyzing the suitability of 86 Utah river segments, including 8 on the DNF in Garfield County, for inclusion in the National Wild and Scenic River System	
West Dixie Water Improvement (DNF)	Powell RD	No Information	3,000 acres (2007) 2,000 acres (2008) 2,000 acres (2009) 2,000 acres (2010)
West Deer Creek Grazing Allotment (DNF)	Escalante RD (Socio only)	Proposal to re-authorize livestock grazing on the West Deer Creek Allotment north of Boulder, Utah east of SR 12	

PROJECT (LEAD AGENCY)	LOCATION	DESCRIPTION	ESTIMATED DISTURBANCE (IF AVAILABLE)
Ohio University Dinosaur Collection (GSENM)	GSENM	Proposal to excavate and remove remains of a horned dinosaur from GSENM.	
McGath Lake Dam (DNF)	Escalante RD (Socio only)	The McGath Lake Dam is deteriorating and in need of repair. Without action the dam is likely to fail and destroy an important fishery. McGath Lake is located approximately 16 miles north of Escalante.	
Dinosaur Documentary Film (BLM)	GSENM & BLM	Various locations within the GSENM, Wolverine Petrified Forest, The Blues Area, Red Canyon, Cocks Comb Road, etc,	

1.3.2.3. Cumulative Effects on Visual Resources

Cumulative visual effects would be similar for all alternatives within the viewsheds of the cumulative effects area. Under the Proposed Action and Action Alternatives, there would likely be adverse impacts to viewsheds if visually intrusive transmission lines were constructed and vegetation was cleared in the rights-of-way in addition to the proposed Garkane transmission line. The addition of another cleared right-of-way would have a cumulative impact on the visual landscape within the cumulative effect area.

Proposed UDOT scenic byway improvements would have beneficial impacts if improvements were made to scenic overlooks and roadside interpretive sites. Prohibitions placed on cross-country travel within the Forest would also be beneficial to scenic resources because surface disturbances from motorized OHV travel would be reduced. Proposed vegetation and fire fuels management projects would potentially have short-term, adverse impacts on scenic quality from color and line contrasts between unburned and burned areas on visibly exposed slopes. However, there would be no long-term impacts because of vegetation re-growth within the disturbed areas. Abandoned mining reclamation would have short-term, adverse impacts in areas visible from travelways and/or recreation areas because of vehicles, equipment, and activities required for mine reclamation. However, the long-term impacts would be negligible because slope re-contouring, re-vegetation, and visual mitigation would reduce visual impacts and contrasts to a very low level. These past, present, and reasonably foreseeable effects would be minimal when combined with visual impacts from any of the Action Alternatives.

Under the No Action Alternative, the potential cumulative impacts to scenic quality would be beneficially reduced when compared to the Action Alternatives because the existing 69 kV transmission line would be overhauled in the existing right-of-way. Alternative D would not be anticipated to contribute long-term visual impacts as the existing transmission line components (such as poles) would be replaced in kind.

1.4. PLAN CONSISTENCY

Impacts from constructing a new, larger transmission line in Red Canyon along an existing line right-of-way, to replace an existing line that was constructed before the area was designated Retention under the current 1986 Forest Plan (and currently managed for High scenic integrity objectives under the amended 2000 Forest Plan), would be inconsistent with the current scenic integrity level within Red Canyon.

Constructing a new transmission line that approaches and then crosses the Highway 89 Scenic Byway (within a proposed VRM Class III area) would likely not be consistent with the proposed Kanab FO RMP VRM objectives in this area.

Constructing a new transmission line across a DNF scenic backway (in an area designated for High scenic integrity management) would likely not be consistent with the revised Forest Plan.

Constructing the Proposed Action transmission line across the Highway 12 Scenic Byway in a designated High scenic integrity level area of the DNF would likely be inconsistent with the amended Dixie Forest Plan.

Constructing the proposed Parallel Line Route across Bryce National Park would be inconsistent with the Park's land use management. The Park's "natural environmental subzone" land management, consisting of undeveloped land that is not classified as wilderness (most of which is above the escarpment rim) is based on preservation (NPS 1987).

1.5. COMPLIANCE WITH OTHER LAWS AND REGULATIONS

1.5.1. Federal Laws

NEPA requires that measures be taken to "…assure for all Americans…aesthetically pleasing surroundings." The Garkane EIS process (of which this document is a part) ensures that the project is in compliance with this law.

Prevention of Significant Deterioration (PSD) Program (regulated under the Clean Air Act) – BRCA is classified as a PSD I area for air quality and visibility, including long-distance-viewing scenic quality. Mitigation applied under the Proposed Action and alternatives would ensure that project-related impacts to air quality would not impair scenic viewing.

BLM Manual 8400 (VRM) – dictates policy and procedures for the VRM system, establishes a framework for visual mitigation, describes the steps for characterizing the visual landscape, and the requirement to determine whether a project can meet acceptable limits of impacts on visual resources. This visual resource specialist report maintains project compliance with those guidelines and stipulations.

BLM Information Bulletin 98-135 – Restates the BLM policy on the use of VRM in decision-making and environmental documents: that "visual design considerations shall be incorporated into all surface-disturbing projects occurring on public lands regardless of the size or potential visual impacts of the projects." This document assists project compliance with established BLM policy on visual resources.

1.5.2. State Laws

Utah Smoke Management Plan – the goal of this state plan is to "minimize or prevent smoke impacts to such a degree as possible to protect visibility in mandatory PSD Class I areas." As discussed above for the PSD Program, mitigation by project proponents, as stipulated in the EIS, would ensure compliance with state air pollution goals.

1.6. LITERATURE CITED

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NPS, 2006b. Bryce Canyon Management. Internet Website: [accessed November 2008]:

http://www.nps.gov/brca/parkmgmt/index.htm

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Appendix A

Visual Simulations

Viewpoint 1 – Alternatives A-3 and C-3

This viewpoint along U.S. 89 is located north of Hatch approximately 0.25 mile north of the highway crossing of Segment A-3 of the Proposed Action or Segment C-3 of the Cedar Fork Southern Route Alternative. This photo panorama looks to the east of the highway toward KFO land and the DNF in the distance.

The simulation (under the base image) shows the implementation of **Alternative Segments A-3 or C-3** in the middleground and background (distant poles are circled).

Viewpoint 2

This viewpoint lies at the intersection of U.S. 89 and SR 12, where visitors to Red Canyon, BRCA, and the GSENM would turn onto the SR 12 Scenic Byway and leave the U.S. 89 State Scenic Byway. No simulation was completed for this viewpoint.

Viewpoint 3 – Alternative B

The viewpoint is located on Eastbound UT 12 as it approaches Red Canyon. The view is looking to the Southeast. The existing 69 kV transmission line can be faintly seen traveling up the forested hill to the left of the photo.

The simulation shows the implementation of **Alternative B**, including the eventual removal of the existing 69 kV transmission line. The red circled portion of the simulation shows the location of the transmission lines before it reaches the hillside and the widened right-of-way clearing.

Viewpoint 4 – Alternative B

The viewpoint (above) is located on Westbound UT 12 as it leaves Red Canyon. The view is looking to the West across U.S. 89. The right-of-way for the existing 69 kV transmission line can be seen in the distance.

The simulation (right) shows the implementation of **Alternative B** to the left of the road, including the eventual removal of the existing 69 kV transmission line. The red circled area shows the location of the transmission line as it travels to the west, across U.S. 89.

Viewpoint 5 – Alternative B

The viewpoint (above) is located along the Golden Wall Trail in Red Canyon. The view is looking from the trail.

The simulation (right) shows the implementation of **Alternative B**, including the eventual removal of the existing 69 kV transmission line.

Viewpoint 5 – Alternatives A and C

The viewpoint (above) is located along the Golden Wall Trail in Red Canyon. The view is looking from the trail.

The simulation (right) shows the implementation of either **Alternative A or C**. Both of these alternative alignments would be located to the south of Red Canyon and not be visible from this viewpoint. The existing 69 kV transmission line would be removed.

Viewpoint 6 – Alternative A

This viewpoint is located near the eastern boundary of the DNF along SR 12. The DNF has designated this area as having a High scenic integrity objective in the foreground along the highway corridor. Segment A-2 would cross SR 12 just to the west of this viewpoint.

The simulation shows the implementation of **Alternative Segment A-2**.

Viewpoint 7 – Alternative C

The viewpoint lies between the DNF boundary to the north and the proposed Cedar Fork Southern Route Alternative (in Segment C-2) to the south, along a USFS Scenic Backway (East Fork of the Sevier River Road, Forest Road 30087).

The simulation (right) shows the implementation of **Alternative Segment C-2.**

Viewpoint 8 – Alternative A

This viewpoint is located along SR 12 at an interpretive wayside, southwest of the Bryce Canyon Airport. The panorama in the photo is to the north, ranging from the north to the northeast.

The simulation shows the implementation of **Alternative A**. The red circled areas show where the proposed transmission line would be located beyond the airport.

Viewpoint 9

The viewpoint is at the junction of SR 12 and SR 63 at the turnoff to BRCA. At this point, all eastbound motorists on SR 12 would have views of **Alternative Segment C-1** as it runs north-south along the Park boundary. No simulation was completed for this viewpoint.

Viewpoint 10 – Alternative C

The viewpoint (above) is located along SR 12 at the western Park boundary. The photo is looking toward the northwest from the highway.

The simulation (right) shows the implementation of **Alternative C** as this segment would travel from the north to the south along the Park boundary.

Viewpoint 10 – Alternative C

This photo (above) is taken from the same location as the previous photo, but is looking west along SR 12.

The simulation (right) shows the implementation of **Alternative C** as this segment would travel from the north to the south along the Park boundary and crosses SR 12.

Viewpoint 11

The viewpoint is located at a scenic pullout along SR 12, near the mid-point of Tropic Canyon. It provides unobstructed views within the Park of the existing 69 kV transmission line and right-of-way between lower Tropic Canyon and the rim of the Pink Cliffs. No simulation was completed for this viewpoint.

Viewpoint 12

This viewpoint is at the Fairyland Overlook within BRCA. The viewpoint lies at the edge of the Pink Cliffs, and the view extends from north to east along the existing transmission line route. No simulation was completed for this viewpoint.

Viewpoint 13 – Alternatives A and C

The viewpoint (above) is located at the Mossy Cave Trail within BRCA and near the cave and trail end, at a point where the existing transmission line passes directly overhead.

The simulation (right) shows the implementation of **Alternative B**. Because Alternative B would be slightly offset from the existing line in this area, the new line would not be visible from this viewpoint and the existing line would be removed.

Viewpoint 13 – Alternatives A and C

This photo is taken from the Mossy Cave Trail in the same vicinity as the previous photo.

The simulation (right) shows the implementation of **Alternative B**. Because Alternative B would be slightly offset from the existing line in this area, the new line would not be visible from this viewpoint and the existing line would be removed.

Viewpoint 14 – Alternative B

This viewpoint is on SR 12 north of Tropic. The view in the photo looks north along the highway and to the east.

The simulation shows the implementation of **Alternative B**, where Alternative B would approach and cross SR 12.

Viewpoint 15

The viewpoint is located along the within the Primitive Zone of the GSENM. The transmission line in the photo is an existing Rocky Mountain Power/PacifiCorp 230 kV line that traverses the Primitive Zone. The proposed transmission line for **Alternative A or C** would parallel this one. No simulation was prepared for this viewpoint.

Appendix B

BLM Contrast Rating Sheets

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 8 JULY 2008

District KANAB

Resource Area SCENIC HWY 89

Activity (program) TRANSMISSION LINE

SECTION A. PROJECT INFORMATION

1. Project Name: GARKANE EIS

2. Key Observation Point (#1): US 89 - NORTH OF HATCH

3. VRM Class: III

4. Location
Township 36 S
Range 5 W
Section 10

5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION FOR RIB 49

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	ROLLING, UNDULATING; FLAT; VERTICAL, BOLD; DIVERSE	COMPLEX, LINEAR, SOLID TO PATCHY	REGULAR, SHORT, FEW
LINE	DISTINCT, STRONG, HORIZONTAL	BANDED, DIFFUSE	VERTICAL, REGULAR
COLOR	TAN TO BUFF, RED	LIGHT TO DARK GREEN, GRAY-GREEN	INDISTINCT
TEXTURE	COARSE TO FINE	MEDIUM TO FINE	FINE

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT TO ROLLING	LINEAR, PATCHY, COMPLEX	DISTINCT, REGULAR, VERTICAL, HORIZONTAL
LINE	HORIZONTAL,	BANDED EDGE, DIFFUSE	BANDED (FROM CLEARING) CURVING, REGULAR
COLOR	TAN-BUFF, RED	GRAY, L. TO DARK GREEN	DISTINCT, DARK
TEXTURE	FINE TO COARSE	MEDIUM	REGULAR, DIRECTIONAL

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS: Form			✓				✓		✓			
Line			✓			✓					✓	
Color			✓				✓				✓	
Texture												

2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: DAVID HARRIS

Date: JULY 9, 08

SECTION D. (Continued)

Comments from item 2.

STRONG form contrasts as it approaches US 89 scenic byway, dominating the view of southbound passengers. Silhouette effects would be obvious to casual viewer

Additional Mitigating Measures (See item 3)

(1) edge feathering to reduce line + color contrasts from transmission line cleared areas;

(2) preserve low-lying vegetation within line safety area to reduce line + color contrasts

(3) topographic hiding wherever possible within ROW to reduce form contrasts

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 8 JULY 2008

District: KANAB

Resource Area: RED CYN, US 89 SCENIC BWY

Activity (program): TRANSMISSION LINE

SECTION A. PROJECT INFORMATION

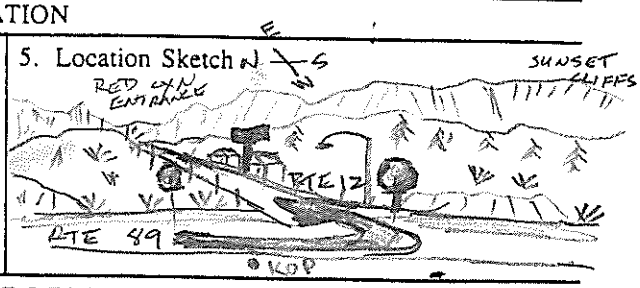
1. Project Name: GARKANE EIS

2. Key Observation Point (#2): US 89 + SR 12 INTERSECTION

3. VRM Class: III

4. Location
Township: 35S
Range: 5W
Section: 24

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT TO ROLLING, STEEP to VERTICAL	STEEP TO ROLLING, CLUMPED	VERTICAL, SOLID, REGULAR
LINE	UNDULATING, SOFT TO HARD, COMPLEX	IRREGULAR to CONTINUOUS	HARD, BOLD, HORIZONTAL AND VERTICAL
COLOR	BUFF TO RED, GRAY ROCK ASPHALT AND ROCK	LIGHT TO DARK GREEN	VARIABLE GREEN, GRAY, BROWN
TEXTURE	FINE TO COARSE, UNEVEN	FINE, DENSE TO SPARSE, MOTTLED	MEDIUM TO FINE, REGULAR, DENSE TO SPARSE

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, ROLLING, STEEP	STEEP TO ROLLING	SOLID, REGULAR, DISTINCT
LINE	COMPLEX, UNDULATING	IRREGULAR, CONTINUOUS	HORIZONTAL, VERTICAL
COLOR	BUFF, RED, GRAY	L. to D. GREEN	GREEN, GRAY, BROWN, BLACK
TEXTURE	FINE TO COARSE	DENSE TO SPARSE	FINE TO COARSE

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form			✓				✓			✓		
Line			✓				✓			✓		
Color			✓				✓			✓		
Texture			✓				✓			✓		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: DAVID HARRIS

Date: JULY 9, 08

SECTION D. (Continued)

Comments from item 2.

The longer parallel line would be more visible to motorists, with moderate form, line, color, texture contrasts. The existing disturbances + other structures would make the additional visual impact consistent w/ the surrounding landscape and not dominate viewer attention.

Additional Mitigating Measures (See item 3)

The existing disturbances and visual contrasts at the intersection would offset any powerline mitigation, or probably neutralize visual mitigation of the proposed powerline.

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 8 JULY 2008

District: KANAB

Resource Area: RED CYN ENTRANCE, SR12 SCENIC BYWAY

Activity (program): TRANSMISSION LINE

SECTION A. PROJECT INFORMATION

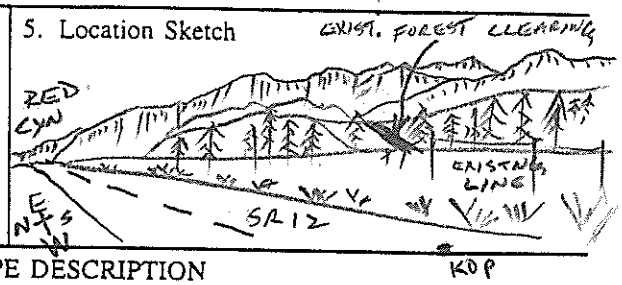
1. Project Name: GARKANE EIS

2. Key Observation Point: SR 12 + EASTWARD VIEW OF RED CYN (#3)

3. VRM Class: III

4. Location
Township: 35 S
Range: 4½ W
Section: 19

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT TO STEEP;	BOLD, DISTINCT TO INDISTINCT, CONTRASTING, DIVERSE	VERTICAL, INDISTINCT
LINE	CONTINUOUS TO BROKEN, STRAIGHT TO UNDULATING,	BUTT TO TRANSITION/DIFFUSE EDGES, BOLD, FLAT TO UNDULATING	VERTICAL, REGULAR
COLOR	GRAY (ROAD), RED TO TAN, GRAY (SOIL)	LIGHT TO DARK GREEN	DARK, INDISTINCT
TEXTURE	FINE TO COARSE	FINE TO MEDIUM, SPARSE TO DENSE	FINE

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, STEEP	DIVERSE, CONTRASTING, DISTINCT	VERTICAL, DISTINCT
LINE	STRAIGHT, BROKEN, UNDULATING	BUTT/TRANSITION/DIFFUSE EDGES, UNDULATING	REGULAR, DISTINCT, BOLD
COLOR	RED-TAN, GRAY	L. TO D. GREEN	BROWN, BLACK
TEXTURE	FINE - COARSE	FINE TO MED.	FINE TO COARSE

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form			✓				✓			✓		
Line			✓				✓			✓		
Color			✓				✓			✓		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: DAVID HARRIS

Date: 10 JULY 2008

SECTION D. (Continued)

Comments from item 2.

Stronger line, form, color, texture contrasts from a more visible line on the sage flats and on forested slopes because of larger structures + expanded ROW.

Additional Mitigating Measures (See item 3)

(1) edge-feathering on west-facing forest slopes
(2) retention of woody debris + low vegetation in ROW

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 11 JULY 2008

District KANAB

Resource Area RED CYN + SR12 SCENIC BYWAY

Activity (program)

SECTION A. PROJECT INFORMATION

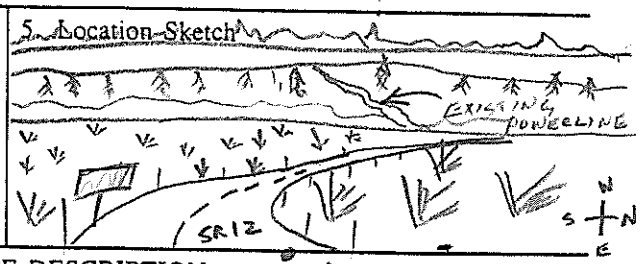
1. Project Name
GARKANE EIS

2. Key Observation Point (#4)
SR 12 + WESTWARD VIEWS OF KANAB FO

3. VRM Class
III

4. Location
Township 35S
Range 4½W
Section 28

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT TO SLOPING, SMOOTH, CONCAVE	DISTINCT, LINEAR, STRIP to BLOCKY	INDISTINCT
LINE	BAND, DISTINCT TO INDISTINCT, HORIZONTAL, SILHOUETTE	BOLD, DISTINCT, BUTT EDGE	INDISTINCT
COLOR	GRAY (ROAD), YELLOW, TAN	LIGHT TO DARK GREEN	—
TEXTURE	FINE TO MEDIUM, SMOOTH TO ROUGH	FINE, EVEN, CONTRASTING, UNIFORM TO PATCHY	—

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, SLOPING, CONCAVE	STRIP - BLOCKY, DISTINCT	DISTINCT, REGULAR VERTICAL, HORIZONTAL
LINE	BAND EDGE, HORIZONTAL, SILHOUETTE	BUTT + BAND EDGES, BOLD, DISTINCT	DISTINCT, BOLD
COLOR	GRAY, YELLOW, TAN	L. TO D. GREEN	BROWN, BLACK
TEXTURE	FINE - MEDIUM	PATCHY TO UNIFORM	COARSE - FINE

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form			✓				✓			✓		
Line			✓			✓				✓		
Color			✓			✓				✓		
Texture			✓			✓				✓		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names
DAVID HARRIS

Date
12 JULY 2008

SECTION D. (Continued)

Comments from item 2.

Existing surface disturbances would reduce impacts of new disturbance, the viewing distance to new ROW + line would mitigate some line, form, color, texture impacts along SR 12. Probably attract attention, but not dominate the view

Additional Mitigating Measures (See item 3)

edge - feathering, irregular thinning and low, visually debris left on distant ROW cut would reduce impacts on the forested slope

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 9 JULY 2008

District: GSENM

Resource Area: SR 12 SCENIC BYWAY; CAPE CYNT BACKBONE

Activity (program):

SECTION A. PROJECT INFORMATION

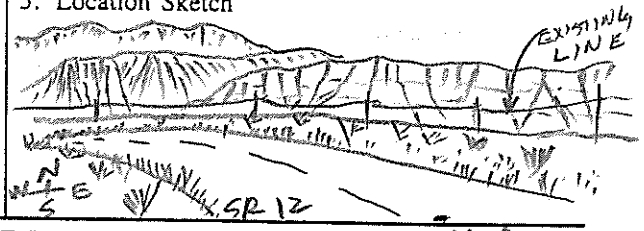
1. Project Name:

2. Key Observation Point (#14)
SR 12 - NORTH OF TROPIC

3. VRM Class: II

4. Location
Township: 36S
Range: 3W
Section: 26

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT TO ROLLING, LOW HILLS, STEEP TO VERTICAL CLIFFS	IRREGULAR, LOW, NON-DIRECTIONAL TO RECTANGULAR + REGULAR	DEFINITE, SIMPLE, REGULAR
LINE	SILHOUETTE, UNDULATING, DIGITATE TO BUTT EDGES HORIZONTAL TO VERTICAL	IRREGULAR TO REGULAR, BROKEN TO CONTINUOUS	VERTICAL, WEAK, STRAIGHT
COLOR	GRAY, TAN, BUFF, BROWN	TAN, BUFF, LIGHT + DARK GREEN	DARK BROWN/BLACK
TEXTURE	FINE TO COARSE, STRIATED, DISCONTINUOUS	FINE TO MEDIUM, EVEN, SPARSE TO DENSE, RANDOM	DIRECTIONAL, CONTRAST)

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, ROLLING, STEEP	LOW, NON-DIRECTIONAL, REG. TO IRREGULAR	DISTINCT, REGULAR, VERTICAL
LINE	SILHOUETTE, DIGITATE - BUTT EDGES	BROKEN - CONTINUOUS IRREGULAR TO DEFINITE EDGE	BAND/BUTT EDGE
COLOR	GRAY, TAN-BUFF, BROWN	TAN-BUFF, LT D. GREEN	BROWN, BLACK
TEXTURE	FINE - COARSE	FINE TO MEDIUM	REGULAR, DIRECTIONAL, MEDIUM

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form												
Line												
Color												
Texture												

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: DAVID HARRIS

Date: 10 JULY 2008

SECTION D. (Continued)

Comments from item 2.

larger, taller structures + wider ROW clearing would lighten contrasts for form + line.

Additional Mitigating Measures (See item 3)

1) feather ROW edge

3) leave or place rocks, debris, brush in ROW to reduce disturbed surface/soil contrasts

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 24 OCT 2008

District GSENM

Resource Area EAST VALLEY / CEDAR FORK

Activity (program)

SECTION A. PROJECT INFORMATION

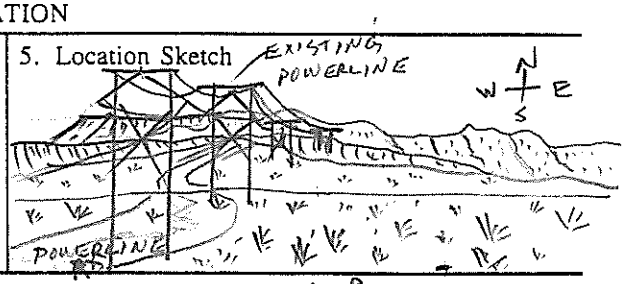
1. Project Name: GARKANE EIS

2. Key Observation Point (# 15)
GSENM PRIMITIVE RD. / POWERLINE RD.

3. VRM Class: II / III

4. Location
Township 36S
Range 2W
Section 28

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION • KOP

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, SLOPING TO STEEP, SMOOTH TO ROUGH, BOLD RUGGED	REGULAR TO IRREGULAR, NUMEROUS TO FEW, PATCHY TO BLOCKY	BOLD, DEFINITE, PROMINENT SYMMETRICAL, VERTICAL + HORIZONTAL
LINE	BANDED (ROAD), LINEAR, BROKEN TO CONTINOUS, UNDULATING	TRANSITION TO BUTT EDGES, DIFFUSE	PARALLEL, PERPENDICULAR, REGULAR, ANGULAR
COLOR	TAN, REDDISH-PINK, BUFF	BROWN, REDDISH, GREEN	DARK BROWN
TEXTURE	FINE TO COARSE, SMOOTH TO ROUGH	UNIFORM, DENSE TO PATCHY, FINE	COARSE, ORDERED,

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FLAT, SLOPING, STEEP	PATCHY - BLOCKY REGULAR - IRREGULAR	BOLD, VERTICAL + HORIZONTAL
LINE	BAND EDGE, UNDULATING, BROKEN	BUTT/TRANSITION EDGE	REGULAR, CONTRASTY
COLOR	TAN-RED, BUFF, PINK	BROWN-RED, GREEN	DARK BROWN, BLACK
TEXTURE	FINE-COARSE	FINE, PATCHY - DENSE	COARSE

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form			✓				✓				✓	
Line			✓				✓				✓	
Color			✓				✓				✓	
Texture			✓				✓				✓	

2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: DAVID HARRIS

Date: 23 OCTOBER 2008

SECTION D. (Continued)

Comments from item 2.

the additional ROW + line would likely meet VRM III because the new line would be located adjacent to the existing line; but wouldn't meet VRM II because the large structures would likely attract attention and dominate the view, and wouldn't retain existing landscape character in VRM II designated areas.

Additional Mitigating Measures (See item 3)

no mitigation recommended because the proposed line would parallel an existing line, no mitigation to reduce visibility would have a substantial effect on visual quality.

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Addendum to

Visual Resources Specialist Report

dated December 2009

Prepared For:

US Forest Service – Dixie National Forest
National Park Service – Bryce Canyon National Park
Bureau of Land Management – Kanab Field Office
Bureau of Land Management – Grand Staircase-Escalante National Monument

Prepared By:

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Sandy, Utah 84093

This addendum updates the Visual Resources Specialist Report dated December 2009 by expanding the report to include the Agency Preferred Alternative and providing errata to expand on or correct data previously presented.

Agency Preferred Alternative

The Agency Preferred Alternative was developed through a joint effort of all agencies (USFS, BLM, and NPS) taking into consideration the impacts of all of the resources along the Action Alternatives. Alternative E is the Agency Preferred Alternative because it attains the project's purpose and need while still being sensitive to other resource concerns within the Project Area, and the missions and management objectives of the various land management agencies responsible for the public lands that would be crossed by the Agency Preferred Alternative.

The 100-foot-wide right-of-way for Alternative E, the Agency Preferred Alternative route (**Figure 1**) would begin with Segment C1 (17.36 miles), the East-West Interconnect option (3.70 miles), and a combination of portions of Segments A-3 and C-3 (referred to as E-3). Alternative E contains the segment combining portions of Alternatives A and C called E-3. Segment E-3 begins where the East-West Interconnect joins the Alternative A route and terminates at the Hatch Substation. Segment E-3 would follow Segment A-3 for 1.6 miles to the point where it intersects Segment C-3 and would follow the remainder of Segment C-3, terminating at the Hatch Substation for 6.76 miles. The total length of the preferred route would be 29.41 miles.

Approximately 16.23 miles of the existing 69 kV transmission line infrastructure from the Bryce Canyon Substation to the Hatch Mountain Substation would be removed.

Alternative E, the Agency Preferred Alternative, would also require the amendment of the GSENM MP (BLM 2000) by changing the designation of a 300-foot-wide 3.68-mile stretch (133.74 acres) of the Primitive Zone to Passage Zone, and within this area, changing the existing VRM Management Class designation from Class II to Class III.

Figure 1. Alternative E, Agency Preferred Alternative Route

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Resource Impacts

Alternative E, the Agency Preferred Alternative route, is comprised of segments or portions of segments analyzed under Alternatives A and C, which are fully analyzed in the original Specialist Report dated December 2009. Resource specific disturbance acreages and other data specific to Alternative E, the Agency Preferred Alternative, are provided in the table below.

VISUAL RESOURCES	ALTERNATIVE E: PREFERRED ALTERNATIVE	69 KV LINE REMOVAL, ALTERNATIVE E
Viewpoint 1	Short-term adverse impacts from construction; long-term, adverse impacts that would likely exceed VRM Class III objectives at and near the U.S. 89 Byway crossing.	Minor, short-term, adverse impacts from removal of existing line.because of the long viewing distance.
Viewpoint 2	Minor, adverse short-term and long-term impacts that would meet VRM Class III objectives.	Minor, beneficial impacts from removal of existing line.
Viewpoint 3	No impacts because of viewing distance.	Short-term, minor adverse impacts from existing line removal; long-term, minor beneficial impact to scenic quality.
Viewpoint 4	No impacts from line construction west of Red Canyon.	Minor, beneficial long-term impacts from existing line removal.
Viewpoint 5	No impacts to scenic quality within Red Canyon.	Long-term, beneficial impacts from existing line removal.
Viewpoint 6	Minor to moderate, adverse impacts on scenic quality.	Beneficial, minor impacts from existing line removal.
Viewpoint 7	Short-term and long-term, moderate, adverse impacts from construction in High SIO area along scenic backway.	Long-term, minor, beneficial impacts from existing line removal.
Viewpoint 8	Moderate, adverse, long-term scenic quality impacts. Minor, adverse long-term impacts to night sky from FAA safety devices.	Minor, beneficial long-term, indirect impacts from existing line removal.
Viewpoint 9	Moderately adverse impacts, but consistent with existing level of scenic quality.	Minor, beneficial long-term, indirect impacts from existing line removal.

VISUAL RESOURCES	ALTERNATIVE E: PREFERRED ALTERNATIVE	69 KV LINE REMOVAL, ALTERNATIVE E
Viewpoint 10	Moderate, adverse short-term and long-term impacts from line construction.	Minor, long-term, beneficial indirect impacts from existing line removal.
Viewpoint 11	No impacts. Long-term, minor, adverse impacts from maintained existing line.	No effect
Viewpoint 12	No impacts to scenic quality from Park overlook.	Minor, long-term, beneficial indirect impacts from existing line removal.
Viewpoint 13	No impacts along Mossy Cave Trail.	Moderate, long-term, beneficial impacts from existing line removal.
Viewpoint 14	Minor, adverse long-term impacts on scenic quality. Moderate, adverse, impacts from maintenance of existing line.	No effect
Viewpoint 15	Minor, long-term, adverse impacts.	No effect
GSENM Plan Amendment	Would amend GSENM Management Plan to designating a 300-foot-wide Passage Zone corridor through a designated Primitive Zone, and to change the existing VRM Class designation from Class II to Class III within the Passage Zone.	N/A
General	Clearing of right-of-way in forested areas would leave noticeable linear element in landscape. This would be somewhat mitigated by selected clearing of vegetation at periphery of right-of-way to mimic natural vegetative patterns. Two-track access route would be noticeable outside of limited access areas along centerline of route. Consistency with agency visual resource management guidance is assumed, unless otherwise noted.	Removal of a portion of the existing 69 kV line would eliminate the visual intrusion of the line infrastructure. The cleared right-of-way would continue to be visible for many years, however after it fully revegetates there would be a long-term beneficial impact on visual resources.

Errata

Some changes, clarification and updates to resource-specific data and analysis were made as a result of the comments received on the Draft Environmental Impact Statement. The errata below update the original Specialist Report dated December 2009.

Page 3

The second paragraph under the heading **1.1.2.2 Alternative B: Parallel Existing 69 kV Route** should read:

The Alternative B Route would generally parallel the existing 69 kV line right-of-way, but must be separated from the existing 69 kV line right-of-way for constructability and safety reason, in order to safely build and energize the line prior to removal of the existing line. Alternative B would extend 29.11 miles. This alternative route would begin at the proposed East Valley Substation located east of Tropic and extend west through the Tropic Substation (the Tropic Substation would be decommissioned) and then cross SR 12 and continue across BRCA (deviating slightly from the existing right-of-way for approximately 1.5 miles) to a point near the current Bryce Canyon Substation near Bryce Canyon City. For this Alternative, the Bryce Canyon Substation would be decommissioned and a new replacement substation would be built at a new location approximately 1 mile to the west to allow for needed expansion. The route would extend approximately 0.5 mile to the north around Bryce Canyon City, west across SR 63 and then parallel Garkane's existing 69 kV line right-of-way predominately across private and SITLA lands. The alternative route would parallel the existing right-of-way just to the south across the plateau in a northwest direction to Red Canyon, where it would generally follow the existing right-of-way through Red Canyon into Long Valley where it would cross U.S. 89 and continue to the Hatch Mountain Substation. From there the route would follow the existing line south to the Hatch Substation. This route would cross 5.58 miles of DNF, 8.29 miles of KFO, 2.81 miles of BRCA, 3.63 miles of SITLA, and 8.80 miles of private lands.

Consideration of Best Available Science

The techniques and methodologies used in this analysis consider the best available science. The analysis includes a summary of the credible scientific evidence that is relevant to evaluating reasonably foreseeable impacts. In addition, the analysis also identifies the methods used and references the scientific sources relied on. When appropriate, the conclusions are based on a scientific analysis that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

Joseph A. Bechsteiner

Name (Printed)

Signature

1/11/2011

Date