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Figure 3.18-1:	Overall Visual Assessment Process
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Figure 3.18-3:	Landscape Category/Key Observation Points
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3.18 Visual Resources

This section describes the affected environment and assesses the impact of the Project on visual resources, which are defined as visible features of the landscape (e.g., land, water, vegetation, animals, structures, and other features) (BLM 2010).

The methodology used to identify and assess the potential impacts of the Project on visual resources is based on the Bureau of Land Management (BLM) Visual Resource Management (VRM) inventory and contrast rating systems although the Project does not cross lands administered by the BLM. The BLM VRM system provides a systematic approach for evaluating the potential changes to visual resources that may result from the Project. The major concepts of the BLM VRM methodologies that this visual resource analysis follows are described below:

- Establish an understanding of the existing visual character and qualities of the landscape environment of the Project area
- Determine areas from which the Project would be visible
- Estimate the visual expectations and response of the viewers to visual changes resulting from the Project
- Identify the visual contrast resulting from changes to the existing landscape character and qualities in the Project area as a result of the Project

The overall visual resource assessment methodology is graphically shown in a flowchart in Figure 3.18-1 (located in Appendix A). The methodologies for conducting the visual resources inventory and impact assessment are described in more detail in Sections 3.18.4 and Section 3.18.6, respectively.

3.18.1 Regulatory Background

Goals, objectives, policies, implementation strategies, and guidance for visual resources are typically contained in resource management plans, and comprehensive plans. Regulations and guidance documents that focused the analysis presented in this section are identified in Table 3.18-1.

Table 3.18-1:
Visual Laws and Regulations Applicable to the Project

Statute/Regulation	Agency	Applicability to the Project
Federal		
National Environmental Policy Act of 1969, as amended (NEPA)	Council of Environmental Quality (CEQ)	The CEQ implementing regulations for NEPA require that EISs (including DEISs) discuss the environmental consequences to aesthetic resources (40 CFR 1508.8). Aesthetic resources under NEPA include park lands, wild and scenic rivers and other ecologically critical areas that may be affected by major federal actions that may include activities entirely or partially financed, assisted, conducted, or approved by federal agencies. NEPA's focus is on the environment of the area(s) to be affected by the alternatives under consideration. In December 2012, DOE published the NOI to prepare an EIS to analyze the potential environmental impacts of the Project. Several of the scoping comments received in response to this NOI addressed potential effects of the Project on specific aesthetic resources including impacts on scenic vistas such as Gloss Mountain and the Mississippi River, Ozark Mountains, Ozark National Forest, Trail of Tears, Honey Springs Battlefield/State Park, scenic highways, and National Scenic Byways.

**Table 3.18-1:
Visual Laws and Regulations Applicable to the Project**

Statute/Regulation	Agency	Applicability to the Project
<p>Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC § 1701 et. seq.)</p>	<p>National Forest Service (NFS)</p>	<p>FLPMA was enacted for the purpose of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands in way that protects “the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values.” In the context of FLPMA, public lands consist of federally-owned lands (i.e., BLM, NPS, and USFS lands). The following sections of FLPMA are applicable to visual resources:</p> <p>Section 102 (a)(8). States that “...the public lands be managed in a manner that will protect the quality of the ...scenic...values...”</p> <p>Section 103(c). Identifies “scenic values” as one of the resources for which public land should be managed.</p> <p>Section 505(a). Requires that “Each right-of-way shall contain terms and conditions which will...minimize damage to the scenic and aesthetic values...”</p> <p>HVDC Alternative Route 4-B crosses the Ozark-St. Francis National Forest (Figure 3.10-1 in Appendix A). The Ozark-St. Francis National Forests Revised Land and Resource Management Plan was updated in 2005 to provide a framework for managing the forests’ natural resources by establishing long-range goals and management areas with specific objectives. The Land and Resource Management Plan identifies the following scenery management priorities (USFS 2005a):</p> <ul style="list-style-type: none"> • Maintain or enhance the visual character of the forests by using the USFS Scenery Management System (SMS) to achieve Scenic Integrity Objectives (SIO) • Manage landscapes and built elements in order to achieve scenic integrity objectives • Promote the planning and improvement of infrastructure along scenic travel routes. Use the best environmental design practices to harmonize changes in the landscape and to advance environmentally sustainable design solutions • Restore landscapes to reduce visual effects of nonconforming features • Manage scenic restoration to be consistent with other management area objectives • Maintain the integrity of the expansive, natural landscapes, and traditional cultural features that provide the distinctive character of places <p>Maintain the character of key places in order to maintain their valued attributes.</p>
<p>National Historic Preservation Act of 1966, as amended (NHPA) (16 USC § 470 et seq.) (implementing regulations at 36 CFR 800.5)</p>		<p>The NHPA includes language protecting the visual integrity of sites listed or eligible for the NRHP: “Examples of adverse effects...include...introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features...” (36 CFR 800.5). Visual resources protected by the NHPA are discussed in Section 3.9.6.</p>
<p>The National Trails System Act (16 USC § 1241)</p>	<p>National Park Service (NPS)</p>	<p>National Trails were established under the National Trail System Act of 1968 (16 USC §§ 1241–51), designating and protecting national scenic trails, national historic trails, and national recreational trails. National trails are administered by the BLM, NPS, and USFS. These agencies provide coordination and oversight for the entire length of a trail. However, because these trails traverse both public and private lands as well as lands controlled by various agencies, on-site management activities are performed by the jurisdictional agency, the state, or the landowner (16 USC §§ 1241–51, as amended 2009).</p> <p>Portions of the Applicant Proposed Route and HVDC Alternative Routes 4-A, 4-B, 4-C, 4-D, 4-E, and 7-A in Regions 4 and 7 cross the Trail of Tears. The Trail of Tears in Region 4 is a multi-branched linear resource management corridor and was used during the forced relocation of Native American peoples indigenous to the</p>

**Table 3.18-1:
Visual Laws and Regulations Applicable to the Project**

Statute/Regulation	Agency	Applicability to the Project
		<p>southeastern United States to Indian Territory (now Oklahoma) in the 1830s. Greatly expanded in 2009, the Trail of Tears National Historic Trail consists of several separate branches that cross, and in one case terminate in, Arkansas. The ROI for the Project (see Section 3.18.3) intersects the branch of the Trail of Tears now called the Bell-Drane Route between western Crawford County and south-central Johnson County. Generally following the old Little Rock-to-Fort Gibson Road up the northern side of the Arkansas Valley as far west as Fort Smith, this trail segment is typically described as approximating the present route of U.S. Route 64. From the vicinity of Fort Smith, the Bell-Drane Route turns north and approximates State Route 59 to Evansville, in southwestern Washington County near the Arkansas-Oklahoma line.</p> <p>The NPS does not exercise regulatory authority over any portion of Trail of Tears crossed by the Project. The role of the NPS is to lead a group of federal, state, local, non-governmental, and private stakeholders with interests in the identification, preservation, interpretation, and promotion of the Trail of Tears National Historic Trail and associated properties.</p>
<p>National Scenic Byways Program (23 USC § 162) Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA; Public Law 102-240).</p>	<p>The Federal Highway Administration (FHWA)</p>	<p>A scenic byway is a public road with special scenic, historic, recreational, cultural, archaeological, and/or natural qualities that have been recognized as such through legislation or official declaration. Easements associated with scenic byway ROWs may prohibit construction of transmission structures or other structures that degrade the scenic quality of the road.</p> <p>The National Scenic Byways Program establishes the framework for identifying and managing highways that have “outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities.” Additionally, the FHWA’s May 18, 1995, interim policy (60 FR 26759, May 18, 1995 [FHWA Docket No. 95-15]) sets forth the procedures for the designation of certain roads as National Scenic Byways or All-American Roads by the U.S. Secretary of Transportation. The interim policy also requires the preparation of a corridor management plan to provide guidance for the conservation and enhancement of the byways’ intrinsic qualities.</p>
State		
<p>Oklahoma Scenic Rivers Act (Oklahoma Statute 82-1451–1471)</p>	<p>Oklahoma Water Resources Board (OWRB)</p>	<p>In Oklahoma, state scenic rivers were established under the Oklahoma Scenic Rivers Act designating certain free-flowing rivers that possess unique natural scenic beauty and outdoor recreational values for the benefit of present and future inhabitants of the state. The intent of this act is to preserve state-designated scenic rivers in their natural scenic state.</p> <p>There are five streams protected under the program in Oklahoma, including Lee Creek and Little Lee Creek. No other rivers designated under the Oklahoma Scenic Rivers Act occur within the ROI.</p>
<p>Arkansas Natural and Scenic Rivers Act (Arkansas Code Annotated 15-23-301)</p>	<p>Arkansas</p>	<p>In Arkansas, state scenic rivers are established under the Arkansas Natural and Scenic Rivers System Act, designating certain rivers of the state that possess “outstanding natural, scenic, educational, geological, recreational, historical, fish and wildlife, scientific, and cultural values of great present and future benefit to the people”. The intent of this act is to balance the alterations of man and the protection of the natural landscape along certain rivers. The act establishes a process for designating and managing state-designated scenic rivers.</p>
<p>Scenic Highway Designations (Arkansas Code Annotated 27-67-203)</p>	<p>Arkansas Highway Commission</p>	<p>State-designated scenic highways are established under the Arkansas Code Title 27-67-203. Byways are nominated for scenic status and are officially designated by the State General Assembly (AHTD 2007). For a highway to be declared scenic, a group interested in preserving the scenic, cultural, recreational, and historic qualities of the route must be created. Once a scenic highway has been designated, the Arkansas State Highway, Transportation Department, and respective counties must place appropriate signs indicating these highways have been designated; however, the state does not identify additional regulations for protecting state-designated scenic highways.</p>

**Table 3.18-1:
Visual Laws and Regulations Applicable to the Project**

Statute/Regulation	Agency	Applicability to the Project
Tennessee Scenic Rivers Act (Tennessee Administrative Code 11-13)	Tennessee Department of Environment and Conservation— Division of Natural Areas	In Tennessee, state scenic rivers are established under the Tennessee Scenic Rivers Act of 1968, designating certain rivers that “possess outstanding scenic, recreational, geological, fish and wildlife, botanical, historical, archaeological, and other scientific values of great present and future benefit to the people” as scenic rivers. This act establishes three classes of scenic rivers and the management requirements for each classification, including permitted land uses. The intent of this act is to protect scenic, historic, archaeological, and scientific features of state-designated scenic rivers, regardless of classification.
Tennessee Scenic Highway System Act of 1971 (Tennessee Administrative Code 54-17)	Tennessee Department of Transportation (TNDOT)	The Tennessee Scenic Highway System Act of 1971 establishes the criteria to designate, recover, and conserve natural scenic beauty along designated scenic highways, and preserve routes of historical significance. This act recommends designation of specific highways, and provides strategies for promoting the scenic highway system.

1

2 **3.18.2 Data Sources**

3 Potential visual resources were identified through a desktop analysis of readily available information, research, and
 4 reports; information received directly from regulatory agencies and other stakeholders during the DOE scoping
 5 process and stakeholder outreach; and data obtained through GIS databases. Table 3.18-2 lists the GIS databases
 6 that were used to compile visual resource data. GIS source data included federal, state, and municipal governments,
 7 and non-governmental organizations.

**Table 3.18-2:
Summary of GIS Data Sources**

Information/Resources	Data Sources	Region of Influence Extent of Data Collection ¹
Existing Visual Character of the Landscape		
Land Type, including Forest, Grassland, Barren (rock/sand/clay)	GIS Data Sources: Jin et al. (2013), Tetra Tech (2014b)	Within 15 miles
Water, including state-identified as Outstanding, Exceptional, or Extraordinary Resource Waters, or other state-specific designations that may relate to aesthetics or recreational use	Oklahoma Water Resource Board Appendix B Waters (High Quality Waters) Outstanding Resource Waters (Extraordinary Resource Waters, Natural and Scenic Waterways) (ADEQ 2012) Tennessee Division of Water Pollution Control Exceptional Tennessee Waters and Outstanding National Resource Waters (TDEC 2013) Texas Water Development Board High Water Quality/Exceptional Aquatic Life/High Aesthetic Value Designated Streams (GIS Data Source: TWDB 2013)	Within 15 miles
Digital Elevation Data	GIS Data Sources: USGS (1999), Tetra Tech (2014b)	Within 15 miles
Land Use (Developed, Residential, Agriculture, Parks, Roads, Railroads)	GIS Data Sources: Jin et al. (2013), Clean Line (2013a)	Within 15 miles
Potential Visual Resources/Viewpoints		
National Wild and Scenic Rivers	GIS Data Source: IWSRCC (1999), National Wild and Scenic Rivers dataset	Within 15 miles

**Table 3.18-2:
Summary of GIS Data Sources**

Information/Resources	Data Sources	Region of Influence Extent of Data Collection ¹
Schools	GIS Data Sources: Clean Line (2013a, 2013b); Tetra Tech (2014a)	Within 3 miles
Churches	GIS Data Sources: Clean Line (2013a, 2013b), Tetra Tech (2014a)	Within 3 miles
Cemeteries	GIS Data Sources: Clean Line (2013a, 2013b); Tetra Tech (2014a), ESRI (2013)	Within 3 miles
Federal Lands and Wilderness Areas	USFWS (2012), ESRI (2010); GIS Data Sources: ESRI (2013), USFS (2014a, 2014b, 2014c)	Within 15 miles
State Parks (Oklahoma Tourism and Recreation Department, Arkansas Department of Parks and Tourism, Tennessee Department of Environment and Conservation [TDEC], Division of Parks and Conservation, and Texas Parks and Wildlife Department [TPWD])	ESRI (2010), TDEC (2011), TPWD (2011); GIS Data Source: AHTD (2006c)	Within 15 miles
State-Owned WMAs (owned by ODWC, AGFC, Tennessee Wildlife Resources Agency, and TPWD)	GIS Data Sources: OSU (2003), AGFC (2005) (ongoing), TWRA (2007)	Within 15 miles
Arkansas WMAs (leased by AGFC)	AGFC (2013)	Within 3 miles
Cities and Town Boundaries	ESRI (2010)	Within 3 miles
County, City, and Town owned Lands that are managed for conservation or recreation	ESRI (2010); DOE Scoping Comments (Appendix E)	Within 3 miles
Scenic Byways and Trails	GIS Data Sources: NPS (2013), Clean Line (2013f)	Within 15 miles
National Register of Historic Places Sites	GIS Data Source: NPS (2013)	Within 3 miles
Residential Structures	GIS Data Sources: Tetra Tech (2014), Clean Line (2013a, 2013b)	Within 0.5 mile on either side of the referenced centerline of the Applicant Proposed Route and HVDC Alternative Routes).

- 1 1 Measured from representative centerlines of transmission line routes or the boundary of the converter station siting areas.
- 2 Structures within 0.5 mile of the transmission line routes were digitized and categorized from aerial photography, and
- 3 a structure data layer was created (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech 2014a). These data
- 4 were field verified and updated accordingly. Aerial reconnaissance was also conducted following development of the
- 5 Applicant Proposed Route and HVDC alternative routes to verify the feasibility of the routes. Additional structures
- 6 noted during the aerial reconnaissance were also included in the structure inventory.
- 7 In addition to the desktop research and initial field reconnaissance, field investigation at Key Observation Point (KOP)
- 8 locations was conducted in February and March 2014 to assess contrast and visual impacts and provide
- 9 photographs for visual simulations.

3.18.3 *Region of Influence*

3.18.3.1 **Region of Influence for the Project**

The ROI for visual resources was established through a combination of field reconnaissance and in consideration of the BLM distance zones. For the purpose of this analysis, a 1,000-foot-wide corridor was identified by Clean Line (Clean Line 2013). A representative ROW (a 200-foot-wide corridor associated with the transmission lines) was created within this 1,000-foot-wide corridor. Although theoretically the transmission line and associated ROW could be located anywhere within these corridors, it would be difficult to assess the transmission line from an infinite number of possibilities. Assessment of the line from the center of the corridors (referenced centerline), therefore, provides consistency throughout the assessment. The ROI for visual resources for the transmission line is defined as 6 miles (3 miles on either side of the referenced centerline of the Applicant Proposed Route, HVDC alternative routes, AC interconnection lines, and AC collection system). The reference centerlines are located within the 1,000-foot-wide corridor (which is the “standard” ROI for the Applicant Proposed Route and HVDC alternative routes) and within the center of each corridor identified for the AC interconnection routes and AC collection system. The ROI for visual resources also includes the converter station siting areas and the interconnection siting areas and a 3-mile buffer from the boundaries of those siting areas.

These visual resource ROIs encompass the 3 miles on either side of the reference centerline for the transmission lines and from the boundary of the converter station siting areas, encompasses the foreground/midground (FG/MG) as defined by the BLM VRM system. In the FG/MG, Project components might be viewed in detail. Some viewing locations may occur outside the defined ROI (between 3 and 15 miles) and may include areas such as communities, scenic vistas from a national or state park, trails, etc. that were identified during agency consultation and/or the public scoping process.

Based on the foregoing, the ROI for visual resources is as follows:

- Applicant Proposed Project
 - Oklahoma Converter Station Siting Area: A 620-acre siting area and a 3-mile buffer from the boundary of the siting area in Texas County, Oklahoma.
 - Texas County AC Interconnection Siting Area: A 3-mile buffer from the boundary of an approximate 870-acre corridor.
 - AC Collection System Corridors: Six miles (3 miles either side) of the referenced centerline (explained above). The referenced centerlines for the AC Collection System are located in the center of thirteen 2-mile-wide corridors in Oklahoma (Beaver, Cimarron, and Texas counties) and Texas (Hansford, Ochiltree, and Sherman counties).
 - Tennessee Converter Station Siting Area: A 740-acre siting area and a 3-mile buffer from the boundary of the siting area in Shelby County and Tipton County, Tennessee.
 - Applicant Proposed Route: Six miles (3 miles either side) of the referenced centerline (explained above).
- DOE Alternatives
 - Arkansas Converter Station Alternative Siting Area: A 20,000-acre siting area and a 3-mile buffer from the boundary of the siting area in Pope County and Conway County, Arkansas.
 - Arkansas Converter Station Alternative AC Interconnection Siting Area: Six miles (3 miles either side) of the referenced centerline. The referenced centerline is located in the center of a 2-mile-wide corridor.

- 1 ○ HVDC alternative routes: Six miles (3 miles either side) of the referenced centerline (explained above).
- 2 Region of Influence for Connected Actions

3 **3.18.3.1.1 Wind Energy Generation**

4 The WDZs are areas that have been identified within a 40-mile radius of the Oklahoma Converter Station Siting Area
5 with adequate wind resources and within which future development of wind energy facilities could occur. The ROI for
6 wind energy generation has been set at 30 miles from the boundary of each WDZ.; The ROI for wind energy
7 generation includes approximately 1,700 square miles, or 1,385,000 acres in Oklahoma (Beaver, Cimarron, and
8 Texas counties) and Texas (Hansford, Ochiltree, and Sherman counties). Sensitive visual resources in the ROI for
9 WDZs G, H, and I also include communities in Kansas.

10 **3.18.3.1.2 Optima Substation**

11 The ROI for the future Optima Substation includes a 3-mile buffer around the boundary of the substation site. The
12 future Optima Substation would be constructed within 160 acres and is located approximately 2.3 miles east of the
13 Oklahoma Converter Station Siting Area in Texas County, Oklahoma.

14 **3.18.3.1.3 TVA Upgrades**

15 As described in Section 3.1.1, a precise ROI has not been identified for the TVA upgrades.

16 **3.18.4 Affected Environment**

17 The affected environment includes the visual resources described for the ROI in Regions 1 through 7. The
18 methodology for conducting the visual resources inventory is graphically shown in a flowchart in Figure 3.18-2 in
19 Appendix A.

20 To inventory and characterize the affected environment for visual resources, scenery and viewing locations, including
21 KOPs, were considered. The following tasks were undertaken to inventory visual resources in the ROI:

- 22 • Documentation of existing landform, vegetation and water features (scenery) at the regional scale (see
23 Ecoregion descriptions sections 3.18.4.1 through 3.18.4.10) and at the project-specific scale (see Regional
24 descriptions section 3.18.5.1 through 3.18.5.7)
- 25 • Identification of viewing locations including KOPs (viewing locations)

26 **Scenery**

27 Scenery is the aggregate of features that give character to the landscape (BLM 1984). Landscapes encompass
28 varying levels of landform, vegetation, existence of water, color, scarcity, adjacent scenery, and cultural
29 modifications. Cultural modifications are defined as human modifications to the landscape. All of these elements
30 combine to form landscape character (BLM 2010). The existing landscape character provides the context for
31 assessing the effects of changes to the landscape caused by the Project. Regional-level landscape character creates
32 a sense of place and describes the generalized visual image of a specific geographic area. To assess impacts to the
33 landscape's visual character, it is important to establish the context for the visual environment at both a regional level
34 and at a project-specific level.

1 **Regional Level Scenery**

2 EPA Level III ecoregions were used to develop a description of the existing landscape character in Regions 1
3 through 7 (EPA 2012). Ecoregions provide an appropriate foundation for describing visual character at the regional
4 level because they are defined based on elements similar to those used in the BLM's VRM for inventorying and
5 assessing scenic quality (BLM 2010). These factors include physiographic elements of landform, vegetation, water,
6 and cultural modifications. Level III ecoregions that cross the Project ROI include the Arkansas Valley, Boston
7 Mountains, Central Great Plains, Central Irregular Plains, Cross Timbers, High Plains, Mississippi Alluvial Plain,
8 Mississippi Valley Loess Plains, Ozark Highlands, and Southwestern Tablelands. Level III ecoregions are depicted in
9 Figure 3.17-1 in Appendix A and detailed descriptions are provided in Sections 3.18.4.1 through 3.18.4.10.

10 **Project-Specific Level Scenery**

11 An inventory of the existing landscape character within the ROI was conducted to provide the context for assessing
12 the effects of changes to the landscape at a level of detail consistent with the scale and dimensions of the Project
13 and gain a broad understanding of the types of landscapes potentially crossed by the Project. The factors used to
14 describe the visual character of the Level III ecoregions (topography, vegetation, water, and cultural modifications)
15 were reviewed in further detail within the ROI and mapped using GIS. The factors were ranked and combined into
16 3 categories that were determined based on the frequency of occurrence of the factor in the Project area and the
17 anticipated impacts to each type:

- 18 • Distinct—Landscapes where characteristic features of landform, water, and vegetation are distinctive or unique
19 in the context of the surrounding areas. These features occur infrequently within the ROI and are typically
20 associated with intact natural landscapes with minimal cultural modifications.
- 21 • Common—Landscapes where characteristic features of landform, water, and vegetation occur frequently within
22 the ROI. These features are typically associated with croplands and rangelands with cultural modifications
23 limited primarily to rural residential structures and ancillary facilities associated with farms (e.g., barns, silos,
24 fences).
- 25 • Developed—Landscapes with a greater occurrence of cultural modifications than the surrounding areas. Cultural
26 modifications in the landscape include roads, buildings (residential, commercial, industrial), utility lines, and other
27 infrastructure and are typically associated with villages, towns, and cities.

28 To map the three categories within the ROI the landscape factors (topography, vegetation, water, and cultural
29 modifications) were assigned a numeric value based on the criteria included in Table 3.18-3.

Table 3.18-3:
Landscape Category Inventory and Evaluation Rating

Landscape Inventory Factor	Rating Criteria and Score		
Landform	Terrain with slopes 26 percent or greater. High vertical relief as expressed in prominent hills, mountains, cliffs, or rock outcrops; or severe surface variation or highly eroded formations. Terrain features which are dominant or are exceptional. Score 5	Terrain with slopes ranging from 11-25 percent. Hills, canyons, ravines, or terrain with interesting erosional patterns. Terrain features that are interesting but not dominant or exceptional. Score 3	Terrain with slopes ranging from 0 to 10 percent. Flat gently rolling terrain with few or no interesting landscape features. Score 1

**Table 3.18-3:
Landscape Category Inventory and Evaluation Rating**

Landscape Inventory Factor	Rating Criteria and Score		
Vegetation	Forests, wetlands and National Forest lands. Exhibit a variety of vegetation types and are relatively untouched, natural/intact landscapes. Score 5	Crops/pasturelands. Vegetation types which occur most often in the landscape. Variety of vegetation is limited to only one or two major types. Score 3	Developed and barren land. Vegetation is either absent due to development or little or no variety of vegetation types. Score 1
Water	Lakes, reservoirs, and rivers. Features that are present and are a dominant factor in the landscape. Score 8 (derived from combination of landform, vegetation, and cultural modification rankings)	None	None
Cultural Modifications	Protected/scenic lands, parks, and trails. Cultural modifications add favorably to visual variety while promoting visual harmony. Cultural modifications may include picnic areas, trailheads, boat launches, trails and trail signage. Score 2	Cultural modifications add little or no visual variety to the area; and introduce no discordant elements. Score 0	Developed lands. Cultural modifications dominate the landscape; and may include moderate and high-density residential, commercial and/or industrial development or infrastructure such as roadways and utilities. Score -4

1

2 The sum of the numeric values for these factors determines the landscape category. Lands categorized as Distinct
 3 received a score of 9 or more, lands categorized as Common received a score of 3 to 8, and Developed lands
 4 received a score of 2 or less. Landscape categories are depicted in Figure 3.18-3 in Appendix A.

5 KOPs are viewing locations that are representative of visually sensitive areas used to assess visual impacts. The
 6 description of landscape categories from each KOP focuses on the view from the KOP out over the landscape;
 7 therefore, a KOP may be located within a certain landscape category but the view might be towards another. For
 8 example, a KOP located in a town would be in a landscape categorized as Developed, but the view from the KOP
 9 could a landscape categorized as Common. Descriptions of the landscape category for each KOP are included in
 10 Sections 3.18.5.1 through Section 3.18.5.7.

11 **Visual Sensitivity**

12 BLM defines visual sensitivity as a measure of viewer concern for the scenic resource and potential changes to the
 13 resource. The level of viewer concern relates to the importance of maintaining the scenic quality or viewshed from a
 14 specific viewing location; and varies for different viewers or groups of viewers depending on viewer activities (Clean
 15 Line 2014). For example, scenic routes are typically associated with viewers who have a high degree of concern for
 16 maintaining the scenic quality or viewshed because the landscape setting is a key component to the scenic
 17 designation. In contrast, viewing locations associated with a state route would have a lower sensitivity because
 18 viewers travel at a higher rate of speed and concern for aesthetics is generally secondary to commuting.

1 Viewing locations are defined as public and private areas (including KOPs) within the landscape where the Project
2 could be visible, and where concern for changes to the landscape exists. Viewing locations are typically associated
3 with residences, travel routes, and recreation areas; however, other viewers can have concern for changes to the
4 landscape and include public facilities, such as schools and religious institutions and resorts. DOE and Clean Line
5 identified viewing locations within the ROI through a desktop analysis of relevant, publicly available information and
6 GIS databases. Additional viewing locations were identified outside the ROI and included viewing locations identified
7 during agency consultation, stakeholder meetings, or public scoping (Clean Line 2014). These additional viewing
8 locations were included in the visual analysis.

9 Visual sensitivity for each identified viewing location was based on the following factors: (1) volume of use,
10 (2) frequency of views (i.e., how often the view is experienced), and (3) viewing duration.

11 **Key Observation Points**

12 KOPs represent a critical or representative viewpoint within or along an identified viewing location, used to assess
13 visual impacts of a proposed project. A process for ranking all potential visual resources was developed to help
14 select the most appropriate KOPs to complete the visual impact analysis. The process for ranking visual resources to
15 identify KOPs involved the following steps:

- 16 • Identifying all visual resources in the ROI.
- 17 • Ranking visual resources using the KOP ranking criteria and formula described below, including resources
18 identified through agency consultation, public scoping, or stakeholder outreach (Clean Line 2014).
- 19 • Selecting visual resources with values ranging from moderate high to high (Clean Line 2014).
- 20 • Reviewing Google Earth aerial imagery in combination with Google Earth Streetview and line-of-site tools (i.e.,
21 using .kmz files) to identify more precise locations of the selected visual resources, evaluate their potential
22 visibility, and identify the best typical or representative views, as well as views from sensitive resources. Using
23 these tools and professional judgment, the list of resources was narrowed to identify the best potential KOPs for
24 field investigations (Clean Line 2014).

25 DOE and Clean Line identified KOPs for the Project from the list of visual resources by applying the following
26 selection criteria:

- 27 • Visibility: If any portion of the Project is potentially visible from the KOP based on terrain.
- 28 • Distance: If the Project would potentially be visible within FG or MG distance zones (i.e., within 3 miles) of the
29 KOP. The Project may be visible in the BG distance zone for some unique KOPs that receive high use and have
30 high visual sensitivity and/or were identified during scoping or public or stakeholder outreach (e.g., an overlook
31 at a state park within 15 miles of the Project).
- 32 • Visual Sensitivity: If the KOP is identified to have moderate–high visual sensitivity (Clean Line 2014).

33 KOPs are depicted in Figures 3.18-3 in Appendix A. To document the existing conditions of the landscape viewed
34 from the selected KOPs consistently, inventory forms were used for KOPs on federal, state, and private lands (see
35 Visual Contrast Rating Worksheets in Appendix K).

1 **3.18.4.1 Arkansas Valley**

2 The Arkansas Valley ecoregion is characterized by undulating plains with scattered hills, open low mountains, ridges,
3 cuesta, and level to undulating floodplains and terraces associated with the Arkansas River. The broad floodplain
4 valley of the Arkansas River includes low terraces, meander scars, oxbows, swales and natural levees. This
5 ecoregion also contains perennial and intermittent streams and several large reservoirs and lakes. Elevations range
6 from 100 to 1,500 feet AMSL. Vegetation types consist of oak savanna and oak-hickory-pine forests with maple,
7 beech, elm and red cedar in upland areas. Dense deciduous forests occupy broad areas along streams and within
8 floodplains and consist largely of bottomland oaks, sycamore, sweetgum, willow, eastern cottonwood, green ash and
9 elm. Cultural features in this ecoregion consist primarily of croplands and pasturelands. Cropland occurs extensively
10 in floodplain areas and consists largely of soybeans, grain sorghum, wheat, alfalfa, and corn. Poultry and livestock
11 farming also occur within this ecoregion. Other cultural modifications include coal mining, natural gas production
12 facilities, distribution and high-voltage transmission lines, paved and unpaved roadways, scattered rural residences,
13 and farms and associated appurtenances (e.g., barns, silos, fences, other out buildings, etc.).

14 The ROI in Regions 4 and 5 crosses the Arkansas Valley ecoregion (Figure 3.17-1 in Appendix A).

15 **3.18.4.2 Boston Mountains**

16 The Boston Mountains ecoregion is characterized by low rugged mountains typically capped by sandstone, high
17 rounded hills, and deeply dissected mountainous plateaus. Outcrops are common within this ecoregion. The area
18 contains a high density of intermittent and perennial streams, several of which are designated as wild and scenic.
19 Elevations range from 475 to 1,700 feet AMSL. Vegetation types consist primarily of oak-hickory forests with
20 shortleaf pine and red cedar found in many lower areas. On north-facing slopes and in ravines, dominant vegetation
21 includes sugar maple, beech, red oak, basswood and hickory. Bottomlands contain riparian hardwood forests
22 dominated by birch, sycamore, cottonwood, elm, and willow. This region is sparsely populated and recreation and
23 forestry are the primary land uses. The Ozark National Forest occupies much of this ecoregion and logging and
24 recreation are common activities. Livestock farming, pastures and hayland occupy some of the flatter areas.
25 Croplands are rare within this ecoregion. Other cultural modifications include electric distribution lines, paved and
26 unpaved roads, and rural residences.

27 The ROI in Regions 4 and 5 crosses the Boston Mountains ecoregion (Figure 3.17-1 in Appendix A).

28 **3.18.4.3 Central Great Plains**

29 The Central Great Plains ecoregion is characterized by broad alluvial valleys, level to gently rolling plains, dissected
30 gently to steeply rolling hills, ravines, low escarpments, and some sand dunes. Water is generally limited to
31 ephemeral and intermittent streams, often with incised channels, that occur in the area. Some larger rivers with
32 braided sandy channels also cross the ecoregion including Beaver River/North Canadian River and Cimarron River.
33 Elevations range from 750 to 2,700 feet AMSL. Much of the vegetation within this ecoregion has been converted to
34 croplands. Natural vegetation that occurs within the ecoregion includes scattered grasslands consisting of short-,
35 mixed-, and tallgrass prairie; oak savanna and eastern red cedar in some upland areas; and cottonwood, willow,
36 walnut, ash, and elm in scattered riparian areas. Cultural features in this ecoregion consist mostly of dryland and
37 irrigated croplands, including corn, grain sorghum, alfalfa, and cotton. Other cultural modifications common to this
38 ecoregion include natural gas and oil fields, distribution and high-voltage transmission lines, paved and unpaved
39 roadways, scattered rural residences, and farms and associated appurtenances.

1 The ROI in Regions 1, 2, and 3 crosses the Central Great Plains ecoregion (Figure 3.17-1 in Appendix A).

2 **3.18.4.4 Central Irregular Plains**

3 The Central Irregular Plains ecoregion is characterized by rolling and irregular plains with intermittent low hills and
4 cuerdas, which are ridges with a steep face on one side (usually on the eastern side) and a gentle slope on the other.
5 Perennial streams are common within this ecoregion and in some areas many are channelized. Some larger
6 streams, reservoirs, and rivers, such as the Arkansas River, occur in this ecoregion. Elevations range from 500 to
7 1,050 feet AMSL. Vegetation types consist of tall grass prairie with oak-hickory woodlands in upland and more
8 rugged areas. Wooded riparian areas occur in wet bottomlands and consist largely of box elder, maple, oak,
9 cottonwood, willow, walnut, pecan, hackberry, elm, and sycamore. Cultural features in this ecoregion consist of a
10 mosaic of cropland, woodland, and grassland. Croplands consist largely of wheat, soybeans, grain sorghum, and
11 alfalfa. Other cultural modifications include oil and gas and coal mining production facilities, distribution and high-
12 voltage transmission lines, paved and unpaved roadways, scattered rural residences, and farms and associated
13 appurtenances.

14 The ROI in Region 3 crosses the Central Irregular Plains ecoregion (Figure 3.17-1 in Appendix A).

15 **3.18.4.5 Cross Timbers**

16 The Cross Timbers ecoregion is characterized by gently rolling hills with some ridges and ledges. Small perennial
17 streams are common and in some areas many are channelized. Some larger streams, reservoirs, and lakes also
18 occur within this ecoregion. Elevations range from 600 to 1,300 feet AMSL. Vegetation types consist of oak savanna,
19 oak-hickory woodlands, and eastern red cedar interspersed with openings of tall grass prairie in upland areas.
20 Scattered riparian areas consist of cottonwood, willow, walnut, ash, elm, and sycamore. Cultural features in this
21 ecoregion consist primarily of rangeland and pastureland with some croplands. Where cropland occurs, it consists
22 largely of corn, soybeans, hay, and grain sorghum. Other cultural modifications include natural gas and oil fields with
23 associated facilities, distribution and high-voltage transmission lines, paved and unpaved roadways, scattered rural
24 residences, and farms and associated appurtenances.

25 The ROI in Region 3 crosses the Cross Timbers ecoregion (Figure 3.17-1 in Appendix A).

26 **3.18.4.6 High Plains**

27 The High Plains ecoregion is characterized by nearly level gently rolling terrain, with some sand plains and hills and
28 scattered playa depressions. Playas are flat-bottom depressions typically found in arid and semiarid regions that are
29 seasonally covered by water. In addition to playas, other water sources that occur within this ecoregion primarily
30 include intermittent and ephemeral streams. Elevations range from 2,400 to 4,800 feet AMSL. Vegetation types are
31 mostly short and midgrass prairie, with other types of vegetation including Harvard shin oak, fourwing saltbush, sand
32 sagebush, and yucca. Riparian vegetation such as cottonwood and willow can be found scattered along riparian
33 areas. Cultural features in this ecoregion include cropland and grazing land. Croplands largely consist of winter
34 wheat and grain sorghum. Center-pivot irrigation is widely used. Concentrated hog feeding operations and natural
35 gas and oil development facilities are common within this ecoregion. Other cultural modifications include distribution
36 and high-voltage transmission lines, wind farms, paved and unpaved roadways, scattered rural residences, and
37 farms and associated appurtenances

1 The ROI in Region 1 crosses the High Plains ecoregion (Figure 3.17-1 in Appendix A).

2 **3.18.4.7 Mississippi Alluvial Plain**

3 The Mississippi Alluvial Plain ecoregion is characterized primarily by broad, flat to nearly flat floodplains and river
4 terraces threaded with numerous drainages. Several large streams and rivers flow and wind generally south,
5 including the White, Cache, and Mississippi rivers. Many of the waterways have been channelized and several flood-
6 control levees installed. Elevations range from 100 to 275 feet AMSL. Vegetation consist primarily deciduous
7 hardwood forest, forested wetlands, and wetlands. Forests are comprised of hickory, maple, oak, ash and bald
8 cypress, tupelo, sweetgum, sycamore in wetter areas. Cropland occurs extensively in floodplain areas and consists
9 largely of soybeans, rice, grain sorghum, corn, cotton, and wheat. Other cultural modifications include distribution and
10 high-voltage transmission lines, paved and unpaved roads, scattered rural residences, and farms and associated
11 appurtenances, and commercial catfish and crawfish farms.

12 The ROI in Regions 5, 6, and 7 crosses the Mississippi Alluvial Plain ecoregion (Figure 3.17-1 in Appendix A).

13 **3.18.4.8 Mississippi Valley Loess Plains**

14 The Mississippi Valley Loess Plains ecoregion is characterized primarily by low, steeply to gently sloping ridges and
15 low terraces dissected by numerous small ravines and intermittent streams. Few lakes occur within this ecoregion.
16 Elevations range from 200 to 500 feet AMSL. Vegetation types consist of mixed deciduous forests consisting of oaks,
17 hickories and loblolly and shortleaf pines. Crops include soybeans, cotton, corn, and wheat. Other cultural
18 modifications that occur within this ecoregion include distribution and high-voltage transmission lines, paved and
19 unpaved roads, rural residences, and farms and associated appurtenances.

20 The ROI in Regions 6 and 7 crosses the Mississippi Valley Loess Plains ecoregion (Figure 3.17-1 in Appendix A).

21 **3.18.4.9 Ozark Highlands**

22 The Ozark Highlands ecoregion is characterized by gently rolling plains to moderate and highly dissected hilly
23 plateaus, small steep valley, and sharp narrow ridges. Perennial and intermittent streams are common in this
24 ecoregion as are ponds, lakes, and reservoirs. Elevations range from 300 to 1,850 feet AMSL. Vegetation types
25 consist of upland forest dominated by oak, hickory, and pine. Forests are most common and dense on north-facing
26 slopes and ravines. Cultural modifications in this ecoregion include pasturelands, typically found in flatter areas at the
27 periphery of the ecoregion. Grazing, logging and recreation are common activities in this ecoregion. Croplands are
28 not prevalent in this ecoregion. Other cultural modifications include mining facilities, distribution and high-voltage
29 transmission lines, paved and unpaved roads, and scattered rural residences.

30 The ROI in Region 4 crosses the Ozark Highlands ecoregion (Figure 3.17-1 in Appendix A).

31 **3.18.4.10 Southwestern Tablelands**

32 The Southwestern Tablelands ecoregion is characterized by broad, flat elevated tablelands with red-hued shallow
33 canyons, mesas, badlands, gorges, and dissected river breaks. Water is generally scarce, limited mostly to
34 ephemeral and intermittent streams. Elevations range from 1,900 to 3,450 feet AMSL. Vegetation types consist
35 mostly of shortgrass prairie, wheat grass, western wheatgrass, bluestem, and dropseed, with some occurrences of
36 sagebrush, yucca, and cholla. Juniper-pinyon woodlands occur in some areas. Scattered riparian areas consist of

1 cottonwoods, willow, elm, and hackberry. Cultural features in this ecoregion consists mostly of semiarid range land
2 with some cropland areas. Croplands largely consist of winter wheat, grain sorghum, corn, and alfalfa. Other cultural
3 modifications include natural gas and oil fields with associated facilities such as pump jacks, storage tanks, and
4 piping, wind farms, distribution and high-voltage transmission lines, paved and unpaved roadways, scattered rural
5 residences, and farms and associated appurtenances.

6 The ROI in Region 1 crosses the Southwestern Tablelands ecoregion (Figure 3.17-1 in Appendix A).

7 **3.18.5 Regional Description**

8 **3.18.5.1 Region 1**

9 Region 1 is referred to as the Oklahoma Panhandle Region and includes the Applicant Proposed Route Links 1
10 through 5, HVDC Alternative Routes I-A through I-D, Oklahoma converter station siting area and associated AC
11 interconnection siting area, and AC collection system. The ROI in Region 1 crosses the following Level III
12 ecoregions: High Plains, found within the western portion of the region; Southwestern Tablelands, found in the
13 central and eastern portion; and Central Great Plains, found in the far eastern portion of the region. The landscape
14 character within the ROI is predominantly agricultural and rural with open rangeland, grassland, and some cropland.
15 The flat, open terrain allows for expansive views across the landscape (GIS Data Sources: Clean Line 2013a, 2013b;
16 Tetra Tech 2014a). Other topographic features found within the ROI include small canyons, ravines, low
17 escarpments, bluffs and rocky outcrops; however these features are scarce. The ROI traverses the Beaver
18 River/North Canadian River and several intermittent streams, creeks, and dry washes. Vegetation consists primarily
19 of grasses with riparian species found along rivers and other drainageways and in wetland areas. In addition, trees
20 associated with residential development are common within the landscape and can be seen clustered around rural
21 residential homes and along fields and roads. Cultural modifications include agriculture and croplands, farms and
22 associated appurtenances, local roads and highways, wind farms, and high-voltage transmission lines. Several small
23 communities are located within and/or adjacent to the ROI including the towns of Hardesty, Laverne, May, and Fort
24 Supply, and the communities of Balko, Bryans Corner, and Elmwood.

25 Visual resources identified in the ROI include rural residences and residential areas associated with the towns and
26 other small communities, Lake Schultz State Park, Beaver Dune State Park, several NWRs, Palo Duro and Kiowa
27 creeks and Beaver River/North Canadian River, and historic landmarks.

28 **3.18.5.1.1 Landscape Character Description by KOP**

29 **Fort Supply WMA Recreation Area Applicant Proposed Route (identified as Proposed Route [PR] in**
30 **Appendix K).** This KOP represents views from recreational users near the northern edge of the Fort Supply
31 Reservoir. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
32 durations from a community recreation area. The strong concern refers to the public concern for the state of the
33 environment as defined in environmental aesthetic philosophy. The landscape viewed from this KOP is characterized
34 by gently rolling terrain and dense deciduous and evergreen forest. In addition, a large reservoir dominates many
35 views from within the recreation area. Given the variation in vegetation and the dominant water feature, this
36 landscape is categorized as Distinct. Cultural modifications include recreational facilities associated with the Fort
37 Supply WMA Recreation Area, including playground equipment and picnic shelters.

1 **Hardesty Alternative Route (AR).** This KOP represents views from residential areas along the southern boundary of
2 Hardesty, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
3 viewing durations from residential areas. The landscape viewed from this KOP consists primarily of grasslands and
4 cultivated croplands with scattered rural residences; and was therefore categorized as Common. Cultural
5 modifications include chain-link fences and electric distribution lines associated with scattered rural residences.

6 **Lake Schultz State Park AR.** This KOP represents views to the north from recreational users near the west
7 entrance to the Lake Schultz State Park and WMA. Visual sensitivity at this KOP is high because of the strong
8 concern for aesthetics and long viewing durations from a public park and WMA. The landscape viewed from this KOP
9 consists of level to gently rolling terrain, sloping down towards Shultz Lake, a shallow depression in the landscape.
10 Vegetation includes low grasses and shrubs, including Yucca, with dense stands of trees concentrated in the bottom
11 of the depression. Water is not present year round within the lake. Given the variation in vegetation, presence of
12 water and the State Park designation, this landscape is categorized as Distinct. Cultural modifications that are visible
13 to the north include scattered rural residential structures in the BG.

14 **Lake Schultz State Park PR.** This KOP represents views to the south from recreational users near the west
15 entrance to the Lake Schultz State Park and WMA. Similar to the Lake Schultz State Park AR KOP, visual sensitivity
16 at this KOP is also high and was categorized as Distinct given the variation in vegetation, presence of water, and the
17 State Park designation. Cultural modifications that are visible from this KOP include fences and a high-voltage
18 transmission line in the FG/MG.

19 **Laverne AR.** This KOP represents views from a residential neighborhood in Laverne, Oklahoma. Visual sensitivity at
20 this KOP is high because of the strong concern for aesthetics and long viewing durations from residential areas. The
21 landscape viewed from this KOP is characterized by flat terrain with vegetation consisting primarily of low grasses.
22 Vegetation includes trees planted along roadways and around rural residential structures. Croplands and grasslands
23 are typical within the region; therefore, this landscape is categorized as Common. Cultural modifications include light
24 poles, electric distribution lines, and residential structures.

25 **Local Historical Marker AR/PR.** This KOP represents views to the south from a local historical marker located on
26 the northern side of Route 3/270. Visual sensitivity at this KOP is moderate because of the low level of use and short
27 viewing durations and the fact that, besides the historical markers, there are no other facilities. The landscape viewed
28 from this KOP is characterized by relatively level to gently rolling terrain covered primarily with grasses and scattered
29 trees; therefore, this landscape is categorized as Common. Cultural modifications visible from this KOP include low
30 wire fences, unpaved roads, and distribution and high voltage transmission lines. The lack of variation in terrain
31 allows panoramic views of the surrounding landscape to the south. Cultural modifications visible from this KOP
32 include electric distribution lines.

33 **May PR.** This KOP represents residential views to the south from the community of May, Oklahoma. Visual
34 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
35 residential areas. The landscape viewed from this KOP is characterized by relatively level to gently rolling terrain with
36 stands of deciduous trees clustered around rural residential structures or dense stands within open fields. Grasslands
37 and scattered rural residential developments are typical within the region; therefore, this landscape is categorized as
38 Common. Cultural modifications include scattered residential structures, sheds and storage buildings, low fences,
39 and electric distribution lines.

1 **Optima NWR AR.** This KOP represents views from the southern edge of the Optima NWR, which primarily serves as
2 an access point for hunters. Visual sensitivity at this KOP is high because of the long viewing durations from a
3 National Wildlife Refuge. The landscape viewed from this KOP is characterized as gently rolling to low hills with
4 vegetation consisting primarily of grasses. Although there is some variation in the terrain, there is very little variation
5 in vegetation and the area is primarily grasslands that are typical within the region; therefore, this landscape is
6 categorized as Common. Cultural modifications include multiple electric distribution lines in the FG/MG.

7 **3.18.5.2 Region 2**

8 Region 2 is referred to as the Oklahoma Central Great Plains Region and includes the Applicant Proposed Route
9 Links 1 through 3 and HVDC Alternative Routes 2-A and 2-B. The ROI in Region 2 traverses Woodward, Major, and
10 Garfield counties in Oklahoma. The ROI crosses only one Level III ecoregion, Central Great Plains. The landscape
11 character within the ROI in Region 2 is predominantly rangeland and cropland. The relatively flat to gently rolling
12 terrain allows for expansive views across much of the landscape (GIS Data Sources: Clean Line 2013a, 2013b; Tetra
13 Tech 2014a). Other topographic features found within the ROI include low escarpments, terraced buttes, ravines,
14 sand dunes, and rocky outcrops, although these features are scarce. The Cimarron River and Turkey Creek traverse
15 the ROI along with several smaller creeks, drainages, and washes. Several man-made impoundment ponds occur
16 along drainages in the ROI. Vegetation consists primarily of grasses, low shrubs, oak savanna, and riparian species
17 scattered along streams, washes, and other drainageways and wetlands. In addition, trees associated with
18 residential development are common within the landscape and can be seen clustered around rural residential homes
19 and along fields and roads. Cultural modifications include agriculture, croplands, farms and associated
20 appurtenances, wind farms, natural gas and oil facilities, hog and poultry operations, feed lots, roads, highways, high-
21 voltage transmission lines, and rural residences. Several communities are located within and/or adjacent to the ROI
22 including the cities of Fairview and Woodward; the towns of Ames, Cleo Springs, and Mooreland; and the
23 communities of Bison and Waukomis.

24 Visual resources identified in the ROI include rural residences and residences associated with cities, towns, and
25 other small communities; Gloss Mountain State Park; Boiling Springs State Park; several State Conservation Areas,
26 and Cimarron River and Turkey Creek.

27 **3.18.5.2.1 Landscape Character Description by KOP**

28 **Ames PR/AR.** The Ames KOP represents residential views in Ames, Oklahoma, as well as representative views from
29 the historic Cimarron River Branch Cattle Trail. Visual sensitivity at this KOP is high because of the strong concern
30 for aesthetics and long viewing durations from residential areas and the historical designation and long viewing
31 duration of visitors and tourists engaged in leisure activities of the trail. The landscape viewed from this KOP is
32 characterized by nearly level to low rolling hills covered with grasses and with scattered trees and grasses in the
33 FG/MG and denser stands of trees in the BG. Grasslands are typical within the region; therefore, this landscape is
34 categorized as Common. Cultural modifications include electric distribution lines.

35 **Bison AR.** This Bison AR KOP is located on the northern side of Bison, Oklahoma and represents typical residential
36 views. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations
37 from residential areas. The landscape viewed from this KOP is categorized as Developed in the FG because of
38 cultural modifications associated with Bison and the landscape in the MG is characterized as Common because of

1 the level terrain and lack of vegetation. Cultural modifications include fences, residential structures, storage sheds,
2 silos, street lights and electric distribution lines.

3 **Bison PR.** This Bison AR KOP is located on the southern side of Bison, Oklahoma and represents typical residential
4 views. The landscape viewed from this KOP is categorized as Developed in the FG because of cultural modifications
5 associated with Bison and the landscape in the MG is categorized as Common because it consists of grasslands and
6 croplands with scattered rural residences typical within the region. Cultural modifications include fences and
7 residential structures, storage structures, and electric distribution lines.

8 **Boiling Springs State Park PR.** This KOP represents views from the Boiling Springs State Park recreation area.
9 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
10 state park recreation area. The landscape viewed from this KOP consists of level to gently rolling terrain with grasses
11 and scattered areas of dense trees and shrubs. Small lakes occur within the park but are not dominant features.
12 Given the variation in vegetation, presence of water and the State Park designation, this landscape is categorized as
13 Unique.

14 **Canton WMA and Lake Recreation Area PR.** This KOP represents views from a Canton Lake. Visual sensitivity at
15 this KOP is high because of the strong concern for aesthetics and long viewing durations from a community
16 recreation area. The landscape viewed from this KOP is characterized by level terrain in the immediate FG, a large
17 expansive lake in the FG/MG, and dense vegetation along the northern edge of the lake in the BG. Given the
18 dominance of the water feature and variation in vegetation around the lake, this landscape is categorized as Distinct.
19 Cultural modifications include recreational elements associated with Canton Lake Recreation Area.

20 **Cimarron River Crossing AR.** This KOP represents the crossing of a major river. Visual sensitivity at this KOP is
21 moderate because a concern for aesthetics is generally secondary to commuting from this location, even though it
22 represents a major water body. The landscape viewed from this KOP consists of level terrain sloping down to a wide,
23 flat sandy river bottom. Water meanders along the sandy bottom creating a braided pattern. Dense stands of riparian
24 species occur along the banks of the river. Due to the dense stands and variety of vegetation and presence of water,
25 this landscape is categorized as Distinct. Cultural modifications include a bridge and guard rails, fences and a
26 distribution line in the FG and a transmission line in the MG.

27 **Cimarron River Crossing PR.** This KOP represents views of the Cimarron River crossing from a local road. Visual
28 sensitivity at this KOP is moderate because a concern for aesthetics is generally secondary to commuting from this
29 location, even though it represents a major water body. The landscape viewed from this KOP consists of a wide, flat
30 sandy river bottom. When the river is not flowing full, water meanders along the sandy bottom creating a braided
31 pattern. Dense stands of riparian vegetation occur along the banks of the river. Cultural modifications are limited to
32 the road and bridge crossing the river, guardrails and road signs. Due to the presence of water, the variety of
33 vegetation and lack of cultural modifications, this landscape is categorized as Distinct.

34 **Cleo Springs AR.** This KOP represents views to the south from residential areas along the southern boundary of
35 Cleo Springs, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
36 viewing durations from residential areas. From this KOP the landscape in the FG is categorized as Developed
37 because of cultural modifications associated with Cleo Springs, and the landscape in the MG is categorized as
38 Common because it consists primarily of grasslands, rural residences, and scattered stands of trees. Cultural

1 modifications include residential structures, outbuildings (e.g., sheds, barns) associated with farms, communications
2 structures, and transmission lines.

3 **Fairview PR.** This KOP represents a view looking south from along the southern boundary of Fairview, Oklahoma.
4 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
5 residential areas and a public park. From this KOP, the landscape in the FG is categorized as Developed because of
6 cultural modifications associated with Fairview, and the landscape in the MG is categorized as Common because it
7 consists primarily of croplands, rural residences, and scattered stands of trees. Cultural modifications include ball
8 fields, fences, light poles, and electric distribution lines in the FG and residential structures, electric distribution lines,
9 and a communication tower in the MG.

10 **Gloss Mountain State Park AR.** This KOP is representative of the view looking northeast from the north overlook at
11 Gloss Mountain State Park. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and
12 long viewing durations from a state park. The landscape viewed from this KOP consists of mesas, with steep slopes
13 and flat tops surrounded by level to gently rolling terrain. Erosion over time has caused the sides of the mesas to
14 erode, leaving v-shaped slopes that are deep red/rust in color. Vegetation is limited to grasses and shrubs on the
15 mesas and the adjacent area. Dense stands of trees are visible in the MG/BG and are associated with the Cimarron
16 River to the north. This landscape is categorized as Distinct due to the tall, steep rugged landforms and color, which
17 are not typical features in the region. Cultural modifications include scattered oil and gas facilities and transmission
18 structures.

19 **Gloss Mountain State Park APR.** This KOP is representative of the view looking southwest from an overlook in
20 Gloss Mountain State Park. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and
21 long viewing durations from a state park. The landscape viewed from this KOP consists of mesas, with steep slopes
22 and flat tops surrounded by level to gently rolling terrain. Erosion over time has caused the sides of the mesas to
23 erode, leaving v-shaped slopes that are deep red/rust in color. Vegetation is limited to grasses on the mesas; the
24 surrounding plains are covered with grasses and scattered shrubs and trees. This landscape is categorized as
25 Distinct. Cultural modifications are limited to primarily roads within the FG/MG.

26 **Mooreland PR.** This KOP is representative of the view from a ball field on the southern edge of the community of
27 Mooreland, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
28 viewing durations from a community park and residential areas. The landscape viewed from this KOP is
29 characterized by gently rolling terrain with grasses and scattered evergreen and deciduous trees. This landscape is
30 categorized as Developed because of cultural modifications associated with Mooreland including fences, light poles,
31 structures associated with the ball field, and residential structures. The rolling terrain and vegetation surrounding the
32 ball field obstructs views beyond the MG.

33 **State Road (SR) 60 West of Fairview PR.** This KOP represents views from along eastbound SR 60 west of
34 Fairview, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
35 viewing durations from residential areas along the roadway and because it was identified as an important resource
36 during public scoping (Clean Line 2014). This landscape is characterized by gently rolling terrain, grasslands, and
37 large fields cleared for agricultural activities, with evergreen and deciduous trees clustered around rural residences.
38 This type of landscape is typical within the region and was therefore categorized as Common. Cultural modifications
39 visible from this KOP include residential structures and outbuildings associated with an adjacent farm, wood H-frame

1 transmission structures, a distribution line that parallels the southern side of SR 60, and a communication tower in
2 the BG. Views of the surrounding landscape are open due to the lack of variation in terrain and vegetation.

3 **Waukomis AR.** This KOP represents typical views from a residential area along the southern edge of Waukomis,
4 Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
5 durations from residential areas. The landscape viewed from this KOP consists primarily of cultivated croplands with
6 evergreen and deciduous trees clustered around rural residences; therefore this landscape was categorized as
7 Common. Cultural modifications include short wire fences around fields, a distribution line and residential structure in
8 the FG and a communication tower and transmission lines in the MG.

9 **3.18.5.3 Region 3**

10 Region 3 is referred to as the Oklahoma Cross Timbers Region and includes the Applicant Proposed Route Links 1
11 through 6 and HVDC Alternative Routes 3-A through 3-E. The ROI in Region 3 traverses Garfield, Kingfisher, Logan,
12 Payne, Lincoln, Creek, Okmulgee, and Muskogee counties in Oklahoma. The ROI crosses three Level III ecoregions:
13 Central Irregular Plains, found within the western portion of the region; Cross Timbers, found in the central portion;
14 and Central Great Plains, found within the eastern portion of the region. The landscape character within the ROI is
15 predominantly rangeland, cropland, and pastureland with some woodland and grassland areas. The relatively flat to
16 gently rolling terrain found primarily in the western portion of the region allows for expansive views across much of
17 the landscape (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech 2014a). The terrain transitions to more
18 steeply rolling hills interspersed with ravines, low escarpments, sand dunes, and cuestas in the central and eastern
19 portion of the ROI. In these areas, the varied terrain and forested areas limit distant views. The ROI traverses the
20 Cimarron and Arkansas rivers and several small ephemeral streams. Other surface waters in the region include
21 wetlands, impoundment ponds, reservoirs, and lakes (i.e., Lake Carl Blackwell, Lake McMurtry, Lake Perry,
22 Okmulgee Lake, and Lake Cushing). Vegetation consists primarily of grasses and shrubs, oak savanna, oak-hickory
23 woodland, eastern red cedar, and riparian species along streams, at the edges of lakes and reservoirs and in wetland
24 areas. In addition, rows of trees along fields and roadways are common within this region. Cultural modifications
25 include agriculture, croplands, farms and associated appurtenances, wind farms, natural gas and oil facilities, hog
26 and poultry operations, feed lots, roads, highways, high-voltage transmission lines, and rural residences. Several
27 large and small communities occur within and/or adjacent to the ROI including the cities of Crescent, Stillwater,
28 Perkins, Cushing, Drumright, Bristow, Stroud, Beggs, Okmulgee, and Muskogee and the towns of Marshall, Ripley,
29 Shamrock, Winchester, Haskell, Wainwright, Oktaha, Summit, Rentiesville, and Webbers Fall.

30 Visual resources identified in the ROI include rural residences and residences associated with towns and cities,
31 several state and National Wildlife Conservation areas, Robert S. Kerr Reservoir, Cimarron and Arkansas rivers, and
32 several historic landmarks, such as Tank Farm Loop Route 66 Roadbed, Irvings Castle, and Little Deep Fork Creek
33 Bridge.

34 **3.18.5.3.1 Landscape Character Description by KOP**

35 **Agra AR.** This KOP represents views from a residential area near the southern boundary of Agra, Oklahoma. Visual
36 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
37 residential areas. The landscape viewed from this KOP is characterized by gently rolling terrain with grasses and
38 dense stands of evergreen and deciduous trees. This landscape is categorized as Developed because of cultural

1 modifications associated with Agra including wood and chain-link fences, light poles, electric distribution lines and
2 commercial structures.

3 **Beggs AR.** This KOP represents residential views from the southern edge of the Beggs, Oklahoma. Visual sensitivity
4 at this KOP is high because of the strong concern for aesthetics and long viewing durations from residential areas.
5 The landscape viewed from this KOP is characterized by gently to moderately rolling terrain in the FG with larger,
6 steeper hills in the MG. Large dense stands of evergreen and deciduous trees cover the landscape in the FG and
7 MG. Given the variation in terrain and vegetation, this KOP is categorized as Distinct. Cultural modifications include
8 residential structures, low wire fences and a distribution line. Views from this KOP are limited by the rolling terrain
9 and dense stands of trees.

10 **Beggs PR.** This KOP represents views from a school and an environmental education facility located near the
11 northern boundary of Beggs, Oklahoma. Visual sensitivity at this KOP is moderate because of the low level of use
12 and activities are directed inward to the wetlands features within the environmental education facility. The view from
13 this KOP consists of grasslands with dense stands of evergreen and deciduous trees clustered around rural
14 residences and man-made retention ponds. Grasslands are typical within the region, so this landscape was
15 categorized as Common. Cultural modifications include a boardwalk and picnic pavilion associated with the
16 environmental interpretive center and a chain-link fence around the facility in the FG and residential structures in the
17 MG.

18 **Boynton AR.** Views from this KOP represent residential views from the western edge of Boynton, Oklahoma. Visual
19 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
20 residential areas. The landscape viewed from this KOP is categorized as Common because it consists of grasslands
21 and croplands with scattered rural residences with deciduous and evergreen trees clustered around residences and
22 along roadways. Cultural modifications include residential structures, low wire fences, and a distribution line. The
23 level terrain allows for open views of the MG/BG; however, views may be limited by dense stands of trees.

24 **Bristow and Route 66 AR.** This KOP represents views from residences located along the southern edge of the town
25 of Bristow, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
26 viewing durations from residential areas. The view from this KOP is categorized as Common within the FG because it
27 consists of grasslands with pockets of wooded areas interspersed around cleared fields typical within the region.
28 Cultural modifications include electric distribution lines and existing wood H-frame transmission line structures. Views
29 from this KOP are limited by a dense wooded area within the FG.

30 **Cimarron River Crossing PR.** This KOP represents the crossing of a major river from a local roadway. Visual
31 sensitivity at this KOP is moderate because from this route, concern for aesthetics is generally secondary to
32 commuting. The landscape viewed from this KOP consists of a wide flat sandy river bottom with riparian vegetation
33 along the banks of the river in the FG and grasslands with scattered trees and small pockets of wooded areas in the
34 MG. Due to the presence of water and variety of vegetation, this landscape is categorized as Distinct. Cultural
35 modifications include a transmission line in the FG (crossing the river) and the MG, and structures associated with
36 agricultural activities. Views from along this roadway are partially limited by the dense riparian vegetation along the
37 banks of the river.

1 **Council Hill AR.** This KOP represents views to the north from a residential area along the northern boundary of
2 Council Hill, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
3 viewing durations from residential areas. From this KOP, the landscape in the immediate FG is categorized as
4 Developed because of cultural modifications associated with Council Hill, and the landscape in the MG is categorized
5 as Common because it consists primarily of grasslands with small pockets of wooded areas. Cultural modifications
6 include fences, barn structures and a distribution line. Views are limited due to the small wooded areas and
7 vegetation along roadways.

8 **Cushing PR.** This KOP represents views from a rural residential area northwest of Cushing, Oklahoma. Visual
9 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
10 residential areas. The view from this KOP is characterized as gently to moderately rolling grasslands and croplands
11 with pockets of wooded areas and small man-made retention areas typical within this region, so this landscape is
12 categorized as Common. Cultural modifications include fences, residential structures, out structures associated with
13 farms (e.g., barns, sheds, corrals), in the FG and a communication tower and transmission line in the MG.

14 **Depew and Route 66 AR.** This KOP represents views to the northeast from a rural residential area near the northern
15 boundary of Depew, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics
16 and long viewing durations from residential areas. From this KOP the landscape in the immediate FG is categorized
17 as Developed because of cultural modifications associated with Depew, and the landscape in the MG is categorized
18 as Common because it consists of grasslands/agricultural fields, rolling hills, and pockets of wooded areas. Cultural
19 modifications include residential and commercial buildings. Vegetation screens much of the view past the immediate
20 FG from this KOP, with intermittent views of the MG.

21 **Heyburn Lake PR.** This KOP represents views to the southwest from recreational users on the northern side of
22 Heyburn Lake. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
23 durations from a public park and recreational area. The landscape viewed from this KOP is characterized by a large
24 lake surrounded by riparian vegetation along the edge of the lake. Given the variation in vegetation and the dominant
25 water feature, this landscape is categorized as Distinct. Cultural modifications include recreational facilities
26 associated with the recreation area, including playground equipment and picnic and camping areas. Views from this
27 KOP are limited by the dense vegetation along the southern side of the lake.

28 **Honey Springs Battlefield Historic Site and Rentiesville AR South.** This KOP represents views north from the
29 southern boundary of the historic Honey Springs Battlefield site. Visual sensitivity at this KOP is high due to the
30 historic designation of the site. The landscape viewed from this KOP is characterized by level terrain—open fields
31 with pockets of wooded areas. There is a small, narrow stream that meanders through the landscape; however, this
32 water feature does not dominate the landscape. This type of landscape is typical within this region, so this landscape
33 is categorized as Common. Cultural modifications include structures associated with the interpretive facilities
34 including a small bridge, rock interpretive shelter and several stone monuments, and a distribution line.

35 **Honey Springs Battlefield Historic Site AR North.** This KOP represents views north from the northern boundary of
36 the historic Honey Springs Battlefield site. Visual sensitivity at this KOP is high due to the historic designation of the
37 site. The landscape viewed from this KOP is characterized by level open fields with pockets of wooded areas around
38 the fields typical within this region, so this landscape is categorized as Common. Cultural modifications include small
39 interpretive signs and a transmission line.

1 **Lake Carl Blackwell AR.** This KOP represents views south from the southern side of Lake Carl Blackwell. Visual
2 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
3 recreational area. The landscape viewed from this KOP is characterized by level to gently rolling terrain and a large
4 lake with dense stands of riparian vegetation along the banks. Given the variation in vegetation and the dominant
5 water feature, this landscape is categorized as Distinct. Cultural modifications include recreational facilities
6 associated with the recreation area, including picnic shelters, campers, and docks; and a communication tower, cell
7 phone tower and transmission line in the MG.

8 **Marshall AR.** This KOP represents a view looking north from a residential area near the northern edge of Marshall,
9 Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
10 durations from residential areas. The view from this KOP is characterized as flat croplands with vegetation along the
11 edge of fields and clustered around residential development typical within this region, so this landscape is
12 categorized as Common. Cultural modifications include small wire fences, residential structures, and a distribution
13 line.

14 **Marshall PR.** This KOP represents a view southwest from the southern edge of Marshall, Oklahoma. Visual
15 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
16 residential areas. The view from this KOP is characterized as level to gently rolling terrain and croplands with
17 vegetation along the edge of fields and clustered around residential structures and along small streams that traverse
18 the landscape. Croplands and rural residences are typical within this region, so this landscape is categorized as
19 Common. Cultural modifications consist of residential structures, electric distribution lines, and oil and gas features
20 (i.e., tanks and pump jacks) in the MG and a communication tower in the BG.

21 **McLain AR.** This KOP represents the view south from a rural country road near the community of McLain,
22 Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
23 durations from residential areas. The view from this KOP is characterized as level to gently rolling terrain in the FG
24 transitioning to larger hills in the MG. Vegetation includes evergreen and deciduous trees along the edge of fields and
25 clustered around residential structures. The landscape is categorized as Common because it consists primarily of
26 grasslands with small pockets of wooded areas, typical within the region. Cultural modifications include wire fences,
27 residential structures and storage sheds, and a wood H-frame transmission line.

28 **McLain PR.** This KOP represents a view east from a rural country road near the community of McLain, Oklahoma.
29 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
30 residential area. The view from this KOP is characterized as moderately rolling terrain with open fields and patches of
31 wooded areas typical in the region, so this landscape is categorized as Common. Cultural modifications include wire
32 fences, residential structures, a distribution line paralleling the road and a high-voltage transmission line.

33 **Mehan AR.** This KOP represents views north from the eastern edge of Mehan, Oklahoma. Visual sensitivity at this
34 KOP is high because of the strong concern for aesthetics and long viewing durations from residential areas. The
35 landscape viewed from this KOP is categorized as Common as it consists of open and agricultural fields with pockets
36 of wooded areas and vegetation clustered around rural residences. Cultural modifications include rural residential
37 structures, oil rigs, and transmission lines in the MG.

1 **Mehan PR.** This KOP represents views south from the eastern edge of Mehan, Oklahoma. Visual sensitivity at this
2 KOP is high because of the strong concern for aesthetics and long viewing durations from residential areas. The
3 landscape viewed from this KOP is categorized as Common, because it consists of open and agricultural fields with
4 pockets of wooded areas and vegetation clustered around rural residences. In addition there is a small man-made
5 retention pond. Cultural modifications include rural residential structures, oil rigs and tanks, and a distribution line.

6 **Mulhall AR.** This KOP represents views north from the center of Mulhall on the main road through town (Highway
7 77). Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations
8 from residences in and near the town center. The landscape viewed from this KOP is categorized as Developed
9 because of the cultural modifications associated with Mulhall, including commercial and residential structures, light
10 poles, a railroad, and distribution line. Views are limited to the FG by the existing buildings and vegetation in and
11 around the town center.

12 **Mulhall PR.** This KOP represents views south-southwest from the southern edge of Mulhall, Oklahoma. Visual
13 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
14 residential area. The landscape viewed from this KOP is categorized as Common because it consists of gently to
15 moderately rolling grasslands/croplands with pockets of wooded areas, typical within the region. Cultural
16 modifications include short wire fences, residential structures, and structures associated with farming (e.g., barns,
17 storage sheds), and a distribution line.

18 **Okmulgee AR.** This KOP represents views to the north from the northern edge of Okmulgee, Oklahoma. Visual
19 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
20 residential areas. The landscape viewed from this KOP is characterized by level terrain in the immediate FG
21 transitioning to moderately rolling in the MG. Agricultural fields with trees lined around the perimeter are visible in the
22 FG and forested hills are visible in the MG. This landscape is typical within the region, so it is categorized as
23 Common. Cultural modifications include low wire fences, gas and oil facilities (pumps and tanks), and a distribution
24 line.

25 **Oktaha School AR.** This KOP represents views southeast from a school and baseball field located on the eastern
26 edge of Oktaha, Oklahoma. Visual sensitivity at this KOP is moderate because concern for aesthetics is not the
27 primary focus of viewers associated with the school or ball field, where activities are focused more internally in the
28 park. The landscape viewed from this KOP is categorized as Common because it consists of open grassy fields with
29 small pockets of wooded area and vegetation along drainageways. Cultural modifications include a low wire fence,
30 light poles, gravel parking area, and a transmission line.

31 **Orlando AR.** This KOP represents views looking south from the southern edge of Orlando, Oklahoma. Visual
32 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
33 residential areas. Views from this KOP are open due to the level terrain and lack of vegetation. The landscape is
34 categorized as Common because it consists of open fields and croplands with vegetation occurring along roadways
35 and clustered along drainageways; which is typical within the region. Cultural modifications include low wire fences
36 around fields, residential structures, and electric distribution lines in the FG and a transmission line in the MG.

37 **Perkins AR.** This KOP represents views looking east from the southeastern edge of Perkins, Oklahoma. Visual
38 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from

1 residential areas. The landscape viewed from this KOP is characterized by level open fields in the FG transitioning to
2 moderately rolling wooded hills in the MG. This landscape is typical within the region, so it is categorized as
3 Common. Cultural modifications include low wire fences around fields, residential structures, and electric distribution
4 lines.

5 **Preston AR.** This KOP represents views south from the Jim Waller Sports Complex in Preston, Oklahoma. Visual
6 sensitivity at this KOP is moderate because concern for aesthetics is not the primary focus of viewers associated with
7 the sports complex, where activities are focused internally within the complex. The landscape viewed from this KOP
8 is characterized by open fields and small pockets of wooded areas, typical within the region, so this landscape is
9 categorized as Common. Cultural modifications include low fences, residential structures, sheds, and electric
10 distribution lines.

11 **Ripley PR.** This KOP represents a view looking northeast from the eastern edge of Ripley, Oklahoma. Visual
12 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
13 residential areas. The landscape viewed from this KOP is characterized by level rangelands and scattered trees in
14 the FG and rolling forested hills in the MG, typical within the region, so this landscape is categorized as Common.
15 Cultural modifications include low fences around rangelands and a distribution line. Views from this KOP are open
16 due to the level terrain and lack of vegetation in the FG.

17 **Shamrock AR.** This KOP represents views to the southwest from the western edge of Shamrock, Oklahoma. Visual
18 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
19 residential areas. The landscape from this view is characterized by open fields and scattered trees in the FG and
20 dense wooded areas in the MG. Typical of the region, this landscape setting is categorized as Common. Cultural
21 modifications include low wire fences, residential structures, and electric distribution lines. Views from this KOP are
22 open due to the level terrain and lack of vegetation in the FG.

23 **Shamrock PR.** This KOP represents views to the northwest from the western edge of Shamrock, Oklahoma. Visual
24 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
25 residential areas. The landscape from this view is characterized by open fields and scattered trees in the FG and
26 dense wooded areas in the MG. Typical to the region, this landscape setting is categorized as Common. Cultural
27 modifications include low fences. Views from this KOP are open due to the level terrain and lack of vegetation in the
28 FG.

29 **Stillwater PR/AR.** This KOP represents views looking south from a residential subdivision in the southern portion of
30 Stillwater, Oklahoma. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
31 viewing durations from a residential area. From this KOP the landscape is categorized as Developed because of
32 cultural modifications associated with Stillwater. Cultural modifications include residential structures and a
33 communication tower. Views from this KOP are limited because of the dense vegetation surrounding the residential
34 development in the FG.

35 **Summit PR.** This KOP represents views southwest from the southern edge of Summit, Oklahoma. Visual sensitivity
36 at this KOP is high because of the strong concern for aesthetics and long viewing durations from a residential area.
37 The landscape viewed from this KOP is characterized by open fields and scattered trees, which are typical in this
38 region, so this landscape setting is categorized as Common. Cultural modifications include low wire fences around

1 fields, residential structures, storage buildings, and a transmission line that is a dominant feature in the immediate
2 FG. Views from this KOP are open due to the level terrain and lack of vegetation in the FG.

3 **Taft PR.** This KOP represents views south from the southern edge of Taft, Oklahoma. Visual sensitivity at this KOP
4 is high because of the strong concern for aesthetics and long viewing durations from a residential area. From this
5 KOP, the landscape is categorized as Developed because of cultural modifications associated with Taft, including a
6 church, commercial and residential structures, light poles, and electric distribution lines. Views from this KOP are
7 limited to the immediate FG by dense wooded areas along the southern edge of the community.

8 **Webbers Falls Reservoir PR/AR.** This KOP represents views looking south from the southern side of the Webbers
9 Falls Reservoir. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
10 durations from a recreation area. The landscape viewed from this KOP is characterized by level terrain and a portion
11 of the reservoir and is surrounded by dense vegetation. Because of variation in vegetation and the presence of the
12 reservoir, this landscape is categorized as Distinct. Cultural modifications are limited to features associated with the
13 recreation area including a playground, road and shelters. Views from this KOP are limited by the dense vegetation in
14 the immediate FG.

15 **3.18.5.4 Region 4**

16 Region 4 is referred to as the Arkansas River Valley Region and includes the Applicant Proposed Route Links 1
17 through 9 and HVDC Alternative Routes 4-A through 4-E as well as the Lee Creek Variation. The ROI in Region 4
18 traverses Muskogee and Sequoyah counties in Oklahoma and Crawford, Franklin, Johnson, and Pope counties in
19 Arkansas. The ROI crosses three Level III ecoregions: Arkansas Valley, found primarily along the southern portion of
20 the region; Boston Mountains, found primarily along the northern portion; and a small portion of the Ozark Highlands,
21 located within the northwestern portion of the region. The landscape character within the ROI is predominantly
22 rugged natural areas, mountains, and forested land in the northern portion, which transitions to undulating plains,
23 terraces, cuestas and floodplains associated with the Arkansas River in the southern portion. The rugged hills,
24 mountains, rolling hills, and forested landscapes in the northern portion of the ROI limit distant views, whereas in the
25 southern portion of the ROI the less varied terrain and lack of vegetation allow for expansive view across the
26 landscape (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech 2014a). The ROI traverses the Arkansas and
27 Illinois rivers and intermittent and perennial streams such as Little Lee Creek, Lee Creek, Frog Bayou, Illinois Bayou,
28 Mulberry River and Big Penny Creek. Other surface waters in the region include wetlands, impoundment ponds,
29 reservoirs, and several lakes (i.e., Tenkiller Lake, Marble City Lake, Brushy Lake, Reagan Lake, and Ozark Lake).
30 Vegetation consists primarily of oak-hickory forests in the hills to the north and oak-hickory forest, dense deciduous
31 hardwood riparian forest, and scattered prairies in the bottomlands to the south. Cultural modifications include
32 agriculture, croplands, farms and associated appurtenances, natural gas and oil facilities, mining operations, poultry
33 and livestock operations, recreation development, roads, highways, high-voltage transmission lines, and rural
34 residences. Several communities occur within and/or adjacent to the ROI including the towns of Gore and Vain and
35 cities of Marble City and Sallisaw in Oklahoma, the town of Dyer, and the cities of Cedarville, Van Buren, Alma,
36 Kibler, Mulberry, Ozark, Wiederkehr Village, Clarksville, and Lamar in Arkansas.

37 Visual resources identified in the ROI include rural residences and residences associated with towns and cities,
38 Tenkiller Ferry and Pine Creek Cove State Parks, Sallisaw State Park, Ozark National Forest, Trail of Tears,
39 Arkansas River, Mulberry and Big Piney Creek (both designated as an Arkansas Wild and Scenic River), Little Lee
40 Creek and Lee Creek (both designated as an Oklahoma Scenic River), scenic byways (i.e., Route 21, 23, 71, and

1 220, State Routes 59 and 282, and Interstates 40 and 540), and several state and national wildlife conservation
2 areas, local and municipal parks, and historic landmarks. Other recreation areas identified within this region include
3 Frog Bayou, Illinois Bayou, Robert S. Kerr, Webbers Fall and Brushy Creek reservoirs, and Marble, Brushy, and
4 Tenkiller lakes.

5 **3.18.5.4.1 Landscape Character Description by KOP**

6 **Alma AR.** This KOP represents views to the southwest from residences in Alma, Arkansas. Visual sensitivity at this
7 KOP is high because of the strong concern for aesthetics and long viewing durations from residential areas. The
8 landscape viewed from this location includes wood power poles, wetlands, scattered trees and a low ridge with dense
9 forest in the distance (BG?. Because of the vegetation and terrain visible from this location, this landscape is
10 categorized as common.

11 **Arkansas River at Gore PR/AR.** This KOP is the view northwest from a historic ferry crossing and boat launch ramp
12 at Summers Ferry Park Historical Site on the eastern side of the Arkansas River. Visual sensitivity at this KOP is high
13 due to the extended viewing times associated with the historic site and recreational use of the river. Nearby cultural
14 modifications include a picnic and recreation area, parking lot, and boat launch. Looking across the river the dense
15 vegetation along the river banks can be seen as well as a low ridge in the distance. Because the landscape presents
16 unobstructed views of open water, and because of the historic designation and recreational use of the area, this
17 landscape is categorized as Distinct.

18 **Arkansas River PR/AR.** This KOP represents the view from the east bank for the Arkansas River west of Gore. The
19 visual sensitivity at this KOP is moderate because, while it represents a major water body, the landscape has already
20 been heavily impacted by cultural modifications. Looking across the river, dense vegetation is visible on the other
21 side with a low bluff in the BG. Cultural modifications in this view include several large existing transmission
22 structures in view. While the river itself has high scenic integrity, due to the proximity to cultural modifications such as
23 nearby dam and existing transmission structures in view, this area is categorized as Common.

24 **Aux Arc Park PR.** This KOP represents the view from Aux Arc Park and campground along the southwestern edge
25 of the Arkansas River. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
26 viewing durations from a public park. The landscape viewed from this location includes open water with low hills and
27 ridges and dense tree growth along the river bank. Cultural modifications include numerous buildings and other
28 structures are visible on the far shore. Open water is dominant from this view and since this represents a scarce
29 resource in the area this landscape is categorized as Distinct.

30 **Big Piney Creek PR.** This KOP represents the view looking northeast from a recreation and access point at Big
31 Piney Creek just downstream from the Highway 164 crossing. Visual sensitivity at this KOP is high because of the
32 strong concern for aesthetics and long viewing durations from a public recreation area. The landscape viewed from
33 this KOP consists of open water and dense vegetation on either side of the river with a low ridgeline in the distance.
34 From this view, the bridge where Highway 164 crosses Big Piney Creek is also visible, but the landscape is generally
35 free of cultural modifications. Because this area has been primarily left in its natural form and water is a dominant
36 element in view, this landscape is categorized as Distinct.

37 **Bluff Hole Park PR/AR.** This KOP represents views looking north from the entrance to Bluff Hole park and picnic
38 area. The visual sensitivity at this KOP is considered high because of the concern for aesthetics and generally long

1 viewing durations associated with a public park and recreation area. While the surrounding park is relatively natural,
2 the landscape being viewed at this KOP contains cultural modifications including various signs and fences as well as
3 both wood and metal power poles with an elevated roadway in the MG. Although this is a recreation area, this
4 particular view contains several cultural modifications and is categorized as Common.

5 **Boys and Girls Camp AR.** This KOP represents the view looking north from a youth camp. Since this is a recreation
6 area, the visual sensitivity is high because of the concern for aesthetics and long viewing durations associated with
7 this type of use. The landscape viewed from this location consists of an open field with tall grasses bordered by
8 dense forest. Cultural modifications in view include an existing transmission line and low barbed-wire fence. Because
9 of the vegetation in the area and existing cultural modifications, this landscape is categorized as common.

10 **Brushy Creek Reservoir and Sallisaw State Park PR/AR.** This KOP represents the view from the recreational area
11 at Brushy Creek Reservoir. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and
12 long viewing durations from a recreation area. The FG view contains picnic benches and grills along the shore of the
13 reservoir. The MG consists of open water bordered by a low ridge with dense trees in the BG. This area has a
14 relatively low amount of cultural modifications, and because water is present and the area is used recreationally, it is
15 categorized as a Distinct landscape.

16 **Cedarville AR.** This KOP represents views looking southeast from a partially developed subdivision in Cedarville,
17 Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
18 durations associated with residences. The view from this KOP is of a small open field in the FG enclosed by rolling
19 hills with dense vegetation in the MG and BG. This KOP is located near developed land, but looks out to a more
20 typical landscape for the region, so the landscape at this KOP is classified as Common.

21 **City Park/Ball Fields and Rudy PR/AR.** This KOP is representative of views from a community ball field in Rudy,
22 Arkansas. Visual sensitivity is high from this KOP because of the long viewing durations associated with a public park
23 and recreation area. Looking north, the FG landscape consists of a small open field with several residential
24 structures, garages and utility poles. Large trees are mixed in with the residential area in the MG. Looking southwest
25 from this KOP, the FG views are dominated by various structures and cultural modifications associated with the park.
26 Because this area contains numerous cultural modifications and residential structures, the landscape is classified as
27 Developed.

28 **Clarksville PR/AR.** This KOP represents the view looking southeast from the northern edge of the community of
29 Clarksville, Arkansas. Visual sensitivity is high from this KOP because of the long viewing durations associated with
30 residential areas. The landscape viewed from this KOP includes open grassy fields and barbed wire fences in the
31 FG. The MG and BG consist primarily of low, rolling hills with scattered residences. Additional cultural modifications
32 visible on the landscape include several existing transmission structures. Because of vegetation and the agricultural
33 nature of the landscape at this KOP, it is categorized as Common.

34 **Clear Creek Park PR.** This KOP represents views from the Clear Creek Park and boat launch area. Visual sensitivity
35 at this KOP is high because of the strong concern for aesthetics and long viewing durations from a recreation area.
36 The view looking to the north and northeast looks out across a parking lot in the FG with open water, scattered trees
37 and shrubs in the MG. Beyond that, a dense line of trees can be seen on the far side of the stream bank. Although
38 there are cultural modifications such as picnic areas, signs, and light poles, the surrounding area is in its natural

1 state. These modifications, combined with the presence of a large body of water, resulted in a classification of
2 Distinct.

3 **Coal Hill AR.** The KOP at Coal Hill represents views from the northern edge of the community. Visual sensitivity is
4 high from this KOP because of the long viewing durations associated with residential areas to the north. The FG
5 views contain cultural modifications including wood power poles, several residences and outbuildings, and a school
6 bus parking area. In the MG and BG, the landscape consists of rolling hills with scattered trees and residences. The
7 landscape in this area contains some cultural modifications in the FG, but the MG and BG landscape is typical of the
8 area, so it is categorized as Common.

9 **Dyer PR.** This KOP represents views from the southeastern edge of the town of Dyer, Arkansas. Visual sensitivity is
10 high from this KOP because of the concern for aesthetics and typically long viewing durations associated with
11 residential areas. This view is looking out over a large, open agricultural field with a dense line of trees and forested
12 ridge in the distance. Also in the vicinity of the KOP are single-family residences. The rural landscape free of heavy
13 cultural modification visible from this KOP is typical of the area and categorized as Common.

14 **East Side City Park PR.** This KOP represents views from a community park on the bank of a small body of water.
15 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
16 with a community park. Standing on the bank, the view of the landscape consists of open water in the FG and
17 residences and densely forested banks in the MG. Cultural modifications in view include metal power poles and
18 residential structures. There are cultural modifications in view, but because of the presence of water and natural
19 surroundings of the area, the landscape is classified as Distinct.

20 **Field of Dreams PR/AR.** This KOP represents views from the Field of Dreams ball field. Visual sensitivity is high
21 from this KOP because of the concern for aesthetics and long viewing durations associated with a recreation area. In
22 the FG view, the landscape contains multiple fences and tall metal light poles are visible along with wood H-frame
23 transmission structures. Also present are wood shelters and structures associated with the baseball fields. This is a
24 heavily modified area and is categorized as Developed.

25 **Fire Tower Lookout AR.** This KOP is representative of views from a recreational area in a National Forest. Visual
26 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
27 National Forest and recreation area. Looking out from here the landscape consists of a small field surrounded by
28 dense vegetation and varied terrain creating very enclosed views. Because this area is free of cultural modifications
29 and in an area designated as National Forest, it is categorized as Distinct.

30 **Frog Bayou Creek AR.** This KOP represents the view looking west from Highway 282, overlooking Frog Bayou
31 Creek. Visual sensitivity is high at this location because it represents a major water body being viewed from a scenic
32 byway. Looking out from an elevated viewing location, the landscape is primarily rolling hills covered in dense trees in
33 the BG, and dense riparian vegetation in the FG/MG. In the MG is a creek that winds through open fields with very
34 few cultural modifications. Because of the elevated viewing location, views are nearly panoramic and bordered by
35 rolling hills covered in dense trees. Immediately behind this viewpoint is Interstate 540, a designated scenic byway.
36 The landscape in this area has been left mostly natural; combined with the presence of a major water body, it is
37 categorized as Distinct.

- 1 **Hagarville PR/AR.** This KOP represents views from the southern edge of Hagarville, Arkansas. Visual sensitivity is
2 high from this KOP because of the concern for aesthetics and long viewing durations associated with a residential
3 area. The landscape viewed from this location consists of an open field in the FG with multiple large metal buildings
4 and scattered residences. In the MG and BG the landscape turns to high, rolling hills covered in dense vegetation.
5 Because the landscape in this area is not highly developed and contains vegetation and terrain typical for the region,
6 it is categorized as Common.
- 7 **Highway 10 PR.** This KOP is representative of views from a well-traveled highway used by recreationists travelling to
8 and from recreation areas along the Arkansas River. Visual sensitivity is moderate from this location because of the
9 relatively short viewing durations associated with traveling along a highway. Looking to the northwest, the landscape
10 consists of open fields with rolling hills covered in dense trees. The landscape being viewed from this location
11 contains vegetation and landform typical to the area and is categorized as common. Visible cultural modifications are
12 limited to wood transmission poles and the paved road.
- 13 **Highway 21 Scenic Byway AR.** This KOP represents views from Highway 21. Visual sensitivity at this KOP is
14 moderate because from this route, concern for aesthetics is generally secondary to commuting. The landscape
15 viewed to the south/southwest consists of a tall chain-link fence, wood power poles lining the road, and nearby
16 residences in the FG. The MG contains large stands of trees transitioning to rolling hills covered in dense vegetation.
17 The landscape viewed from this location contains typical terrain and vegetation for the area and few cultural
18 modifications and is categorized as Common. It should be noted that this particular section of Highway 21 is not
19 designated as a Scenic Byway.
- 20 **Highway 82 PR/AR.** This KOP represents the views from a highway that is well travelled by recreationist traveling to
21 and from Tenkiller Reservoir and nearby parks. Visual sensitivity at this KOP is moderate because from this route,
22 concern for aesthetics is generally secondary to travelling to a destination. The landscape viewed from this KOP
23 consists of dense vegetation on either side of the highway that traverses the rolling hills. Vegetation and terrain is
24 consistent with the region and this landscape is categorized as Common.
- 25 **Highway 82 AR 4-B.** This KOP represents the views from a highway that is well travelled by recreationalists traveling
26 to and from Tenkiller Reservoir and nearby parks. Visual sensitivity at this KOP is moderate because from this route,
27 concern for aesthetics is generally secondary to travelling to a destination. The landscape viewed from this KOP
28 consists of dense vegetation on either side of the highway that traverses the rolling hills. The landscape viewed in the
29 BG consists of low rolling hills covered in dense tree growth. Vegetation and terrain is consistent with the region and
30 this landscape is categorized as Common. Cultural modifications consist of rural residences and wood power poles.
- 31 **Horsehead Lake Recreation Area PR.** This KOP is representative of the view looking south near the boundary of
32 the Ozark National Forest. Visual sensitivity is high from this KOP because of the concern for aesthetics and long
33 viewing durations associated with a recreational area in a national forest. The landscape viewed from this location is
34 rolling hills in the MG and a meandering stream surrounded by riparian vegetation in the FG. Because this is national
35 forest land and has been left in its natural state is categorized as Distinct.
- 36 **Hunt PR.** This KOP represents the view looking southeast from the town of Hunt, Arkansas. Visual sensitivity is high
37 from this KOP because of the concern for aesthetics and long viewing durations associated with a residential area.
38 The landscape being viewed from this location consists of single family residences in the FG and rolling hills with tall

1 stands of trees in the MG and BG. The only cultural modifications in view are the residential structures and the terrain
2 and vegetation is consistent with the region, so the landscape at this KOP is categorized as Common.

3 **Interstate 40 (Scenic Highway) Rest Stop PR.** This KOP represents the view looking north from a developed rest
4 stop on westbound Interstate 40, which is a state-designated scenic highway. The visual sensitivity at this KOP is
5 moderate due to the relatively short viewing duration associated with a highway rest area and associated travel. In
6 the FG, the landscape being viewed is a large, open grassy field enclosed in the MG by tall trees. Because the
7 vegetation and landform at this KOP is typical for the region, the landscape is categorized as Common.

8 **Lake Ludwig PR.** This KOP represents the view looking south from a recreation area at Lake Ludwig. Visual
9 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
10 recreation area. The immediate FG includes open water surrounded by dense tree growth that rises to low densely
11 vegetated trees in the MG. Because the view from this KOP is free from any cultural modifications combined with the
12 presence of a large body of water, the landscape is categorized as Distinct.

13 **Lamar AR.** This KOP represents a view near the southern edge of the community of Lamar, Arkansas. Visual
14 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
15 residential area. The landscape in the FG of this view is of agricultural fields with scattered trees and residential
16 structures and barns. Other cultural modifications in the FG are a small church and metal sheds. The BG of this view
17 is rolling hills with dense trees. Although there are some cultural modifications present in view, the landscape is
18 primarily agricultural fields with grasses and pockets of wooded areas and is therefore categorized as Common.

19 **Lee Creek PR.** This KOP represents the view from a boat launch and fishing pier at a lake on Lee Creek. Visual
20 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
21 recreation area. Looking to the north, the landscape consists of open water with a dock leading to a parking lot in the
22 FG surrounded by dense forest creating enclosed views in the MG. Several cultural modifications are present
23 including a dock, light poles and a restroom facility, but because this area is adjacent to open water, which is a
24 unique landscape feature in the area, the landscape is categorized as Distinct.

25 **Little Lee Creek (Scenic River) AR.** This KOP represents a view looking northeast from a bridge crossing Little Lee
26 Creek, a designated scenic river. Visual sensitivity from this KOP is high because of long viewing durations
27 associated with the viewing of a scenic river. The landscape viewed from here consists of the river and riparian
28 vegetation covering the banks on either side. In the BG, a ridgeline covered in dense trees is visible. The landscape
29 in this area is in its natural state and the presence of water represents a scarce resource; therefore, the landscape is
30 categorized as Distinct.

31 **Marble City AR.** This KOP represents a view from the edge of Marble City, Oklahoma. Visual sensitivity is high from
32 this KOP because of the concern for aesthetics and long viewing durations associated with a residential area.
33 Looking to the southeast, the FG view consists of single family residences surrounded by open fields with scattered
34 trees in the FG. The MG and BG views consist of rolling hills covered in dense vegetation. Because the landscape
35 being viewed from this KOP consists of vegetation and terrain typical for the region and does not contain cultural
36 modifications other than a few residential structures, the landscape is categorized as Common.

1 **Mulberry.** This KOP represents views looking west from a park in Mulberry, Arkansas. Visual sensitivity is high from
2 this KOP because of the concern for aesthetics and long viewing durations associated with a public park and
3 recreation area. The immediate FG contains playground equipment and an open field bordered by a line of scattered
4 trees. Beyond the trees is an open agricultural field with a line of dense tree growth in the distance. This landscape is
5 categorized as Common because it consists of vegetation and terrain consistent with the region and is free of cultural
6 modifications other than park equipment.

7 **Mulberry River and Trail of Tears PR/AR.** This KOP represents views of the Mulberry River from the Trail of Tears.
8 Visual sensitivity at this KOP is high because of the strong concern for aesthetics due to the historical designation.
9 The landscape in the FG view consists of a rocky bank sloping down into open water bordered by riparian vegetation
10 on either side. Looking out to the MG is an open field bordered by a dense line of trees with low rolling hills covered
11 in dense trees. Cultural modifications are limited to a transmission line that crosses the river in the MG. Because the
12 water that is dominant in view represents a scarce resource combined with the lack of cultural modification, the
13 landscape in this area is categorized as Distinct.

14 **Mulberry River AR.** This KOP represents a view from the east bank of the Mulberry River. Visual sensitivity is high
15 from this KOP because of the concern for aesthetics and long viewing durations associated with a public recreation
16 area. The view is dominated by open water in the FG with banks covered in dense trees on either side. A low ridge
17 covered in dense trees is visible in the MG/BG. This is an area free of cultural modification with views of open water
18 and interesting terrain and is therefore categorized as Distinct.

19 **Ozark City Boat Launch PR.** This KOP represents the view from the boat launch ramp at the northwestern corner of
20 Ozark City Lake. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
21 durations associated with a public recreation area. The FG of the landscape being viewed is dominated by open
22 water with the vegetated berm of the dam clearly visible. Across the lake the terrain rises into a low ridge covered in
23 dense trees. This landscape is categorized as Distinct because of the presence of open water and varied vegetation.

24 **Ozark AR.** This KOP represents views from the northern edge of the community of Ozark, Arkansas. Visual
25 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
26 residential area. The landscape being viewed consists of agricultural land in the FG with low forested hills in the MG
27 and BG. Cultural modifications in view are a rural dirt road bordered by wood power poles and scattered rural
28 residences. This landscape consists of agricultural land and vegetation consistent with the region, so it is categorized
29 as Common.

30 **Robert S. Kerr Reservoir PR.** This KOP represents views from the Sallisaw Creek Public Use Area at the Robert S.
31 Kerr Reservoir. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
32 durations associated with a public recreation area. The landscape viewed from the KOP includes picnic structures
33 and scattered trees in the FG. Beyond that, the terrain slopes down slightly to the edge of the water, providing views
34 across open water to forested hills in the MG. Because this landscape is in an area free of major cultural modification
35 and adjacent to a major water body, it is classified as Distinct.

36 **Route 21 (Scenic Byway).** This KOP represents views along the scenic byway of Route 21. Visual sensitivity is high
37 from this KOP because of the concern for aesthetics associated with a scenic byway. Looking north, the landscape
38 being viewed from this point consists of a rural road with a few single family residences and small power poles

1 paralleling the road. Dense trees line the road as it transitions to densely vegetated rolling hills in the MG and BG.
2 This landscape is classified as Distinct because it consists of varied terrain and vegetation and has a low number of
3 cultural modifications. Route 21 is also a scenic byway that is used to access a National Forest.

4 **Route 71 (Scenic Byway) AR.** This KOP represents views along the scenic byway of Route 71. Visual sensitivity is
5 high from this KOP because of the concern for aesthetics associated with a scenic byway. The landscape being
6 viewed looking south is an agricultural landscape with groupings of trees and slightly rolling terrain. Cultural
7 modifications in the area include wood power poles and scattered residences with surrounding agricultural use
8 buildings. Because this landscape contains vegetation, terrain, and cultural modifications consistent with the region, it
9 is categorized as Common.

10 **Route 220 (Scenic Byway) AR.** This KOP represents views looking north along the Route 220 scenic byway. Visual
11 sensitivity is high from this KOP because of the concern for aesthetics associated with a scenic byway. In the FG, a
12 rural road winds through a dense forest with views of rolling hills in the BG. The dense vegetation and rolling terrain
13 create enclosed views of the landscape. Because this landscape consists of a variety of vegetation and interesting
14 terrain with few cultural modifications, it is categorized as Distinct.

15 **Sallisaw PR.** This KOP represents the view looking north-northeast along Highway 59 in the community of Sallisaw.
16 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
17 with a residential area. The landscape being viewed from here consists of gently rolling terrain with open fields and
18 agricultural lands scattered with groupings of large trees in the FG and MG. In the BG, the landscape consists of
19 rolling hills covered in dense vegetation. Cultural modifications in view include wood power poles, small fences and
20 scattered residences. Because the landscape and vegetation features at this KOP are consistent with the region, it is
21 categorized as Common.

22 **Scott Farm AR.** This KOP represents a view from the Scott Farm subdivision near Highway 59. Visual sensitivity is
23 high from this KOP because of the concern for aesthetics and long viewing durations associated with a residential
24 area. The landscape being viewed to the south consists of gently rolling grassy terrain with cultural modifications
25 including a large wrought iron fence and several residences in the FG and MG. In the BG, a high bluff covered in
26 dense vegetation is visible. Although there are several cultural modifications in view from this KOP, the terrain is
27 somewhat unique to the region, so the landscape is categorized as Common.

28 **Scott Farm PR.** This KOP represents a view from the Scott Farm subdivision near Highway 59. Visual sensitivity is
29 high from this KOP because of the concern for aesthetics and long viewing durations associated with a residential
30 area. The landscape being viewed to the north consists of gently rolling grassy terrain with cultural modifications
31 including a large wrought iron fence and several residences in the FG and MG. In the BG, the landscape consists of
32 rolling hills covered in tall trees. Cultural modifications including communications towers and residences are also
33 visible. Although there are several cultural modifications in view from this KOP, the terrain is somewhat unique to the
34 region, so the landscape is categorized as Common.

35 **Sequoyah NWR Boat Launch PR.** This KOP represents views from the boat launch area at the Sequoyah National
36 Wildlife Refuge. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
37 durations associated with a wildlife refuge. Looking to the north, the landscape being viewed includes open
38 grasslands, wetlands and agricultural fields bordered by dense trees in the BG. This area contains few cultural

1 modifications and the vegetation and terrain are consistent with the region, so the landscape is categorized as
2 Common.

3 **Sequoyah’s Cabin.** This KOP represents the view looking to the south from Sequoyah’s Cabin historic site. Visual
4 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
5 historic site. The grounds contain interpretive exhibits and historic features including a historic cabin, offices,
6 classrooms, information and gift center and picnic facilities. The view beyond the FG is mostly screened by large
7 trees. Because of the sensitive nature of a historic site, this landscape is categorized as Distinct.

8 **Tenkiller State Park PR/AR.** This KOP is located in the southern end of Tenkiller State Park near the water’s edge.
9 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
10 with a state park and recreation area. Looking out over the open water in the FG, low ridges with dense vegetation
11 are visible in the distance. There are no noticeable cultural modifications in view. Because of the lack of cultural
12 modifications to the landscape, the unique presence of water in the region, and the state park designation, this
13 landscape is categorized as Distinct.

14 **Trail of Tears (Highway 352) PR/AR.** This KOP represents views from Highway 352 and the Trail of Tears. Visual
15 sensitivity is high from this KOP because of the sensitive nature of the Trail of Tears. The landscape being viewed
16 includes open agricultural fields and scattered groupings of trees. The landscape in the BG consists of rolling hills
17 covered in dense vegetation. Crossing the road in the FG is an existing wood H-frame transmission line. The rural
18 agricultural nature of this landscape combined with few cultural modifications categorizes this landscape as
19 Common.

20 **Trail of Tears (Route 59) AR.** This KOP is representative of the Trail of Tears along Route 59. Visual sensitivity is
21 high from this KOP because of the sensitive nature of the Trail of Tears. Looking north, the landscape consists of
22 open fields with groupings of dense trees in the FG. Densely forested hills rise up in the BG. Cultural modifications
23 present are limited to wood power poles and the highway. The landscape here contains few modifications and has a
24 variety of vegetation and interesting terrain features and is therefore categorized as Distinct.

25 **Trail of Tears and Scenic Highway 220 AR.** This KOP represents views from Scenic Highway 220. Visual
26 sensitivity is high from this KOP because of the concern for aesthetics associated with a scenic highway. The
27 landscape being viewed consists of agricultural fields in the FG bordered by a line of dense trees. Cultural
28 modifications include a low fence and wood power poles. In the MG and BG, the landscape consists of rolling hills
29 covered in tall dense trees. Because the terrain and vegetation in view are consistent with the region, the landscape
30 is categorized as Common.

31 **Trail of Tears Route 100 PR.** This KOP represents views from the Trail of Tears along SR 100. Visual sensitivity is
32 high from this KOP because of the concern for aesthetics associated with a scenic highway and historic trail. The
33 view from here is dominated by a road lined with dense trees and wood power poles. There are limited cultural
34 modifications to the landscape and the terrain and vegetation are consistent with the region, so the landscape is
35 categorized as Common.

36 **Trail of Tears Wire Road PR.** This KOP represents views from the Trail of Tears along Wire Road. Visual sensitivity
37 is high from this KOP because of the concern for aesthetics associated with an historic trail. The landscape being

1 viewed from this KOP consists of open agricultural fields bordered by scattered trees. Cultural modifications present
2 are limited to wood power poles and rural residences and associated agricultural buildings. Because the landscape is
3 made up of elements typical of the region, it is categorized as Common.

4 **Uniontown Highway (Scenic Highway) AR.** This KOP is representative of views looking south from Uniontown
5 Highway. Visual sensitivity is high from this KOP because of the concern for aesthetics associated with a scenic
6 highway. The landscape being viewed in this area is of open agricultural fields with scattered trees in the FG
7 transitioning into rolling hills covered in dense vegetation in the MG. The vegetation and terrain at this KOP is typical
8 to the region and cultural modifications visible are limited to a low fence, so the landscape is categorized as
9 Common.

10 **Van Buren PR/AR.** This KOP represents views looking northwest from nearby residences in the community of Van
11 Buren, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
12 durations associated with a residential area. The landscape viewed from this location consists of grassy fields
13 bordered by stands of tall deciduous trees. Cultural modifications include wood power poles and scattered
14 residences and associated outbuildings. Because the landscape elements in this area are typical to the region, the
15 landscape is categorized as Common.

16 **Vian AR.** This KOP represents views looking north and northeast from the edge to the community of Vian,
17 Oklahoma. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations
18 associated with a residential area. The landscape being viewed in the FG consists of open agricultural fields with
19 scattered trees and low shrubs. In the BG, the landscape consists of low rolling hills covered in dense vegetation.
20 Cultural modifications present include low, barbed wire fences and wood H-frame transmission structures. Because
21 the agricultural landscape in this area is typical of the region, it is categorized as Common.

22 **Vian Lake PR.** This KOP represents views from the western edge of Vian Lake. Visual sensitivity is high from this
23 KOP because of the concern for aesthetics and long viewing durations associated with a recreation area. Looking to
24 the northeast, views are of open water with densely vegetated rolling hills on the opposite side. Cultural modifications
25 present on the landscape include a lattice structure transmission line. The presence of water in this region represents
26 a scarce resource, so this landscape is categorized as Distinct.

27 **Vine Prairie Park PR.** This KOP represents views from a park and boat launch area. Visual sensitivity is high from
28 this KOP because of the concern for aesthetics and long viewing durations associated with a recreation area. The FG
29 view includes a parking area and open water with tall trees and riparian vegetation bordering the banks. In the MG
30 and BG are low, rolling hills covered in dense tree growth. This area is free from cultural modifications other than
31 those associated with the park and the presence of water is a scarce resource, so the landscape is categorized as
32 Distinct.

33 **West Side City Park APR.** This KOP represents the view from West Side City Park in Ozark. Visual sensitivity is
34 high from this KOP because of the concern for aesthetics and long viewing durations associated with a public park
35 and recreation area. Looking north, the FG landscape consists of an open, grassy field bordered by tall coniferous
36 and deciduous trees. Cultural modifications in view include a small shed, metal bleachers and a wood H-frame
37 transmission line. The landscape at this KOP is typical for the region and is therefore categorized as Common.

1 **White Oak AR.** This KOP represents views from a small rural road running between the communities of Cravens and
2 White Oak, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
3 durations associated with a residential area. Looking north, the landscape consists of an open field in the FG
4 bordered by tall trees in the MG and BG. Cultural modifications present consist of a few small structures and a low
5 barbed-wire fence. Because the vegetation, landform, and cultural modifications are typical of the region, this
6 landscape is categorized as Common.

7 **White Oak PR.** This KOP represents views from a small rural road running between the communities of Cravens and
8 White Oak, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
9 durations associated with a residential area. Looking south, views are enclosed by large trees in the FG. Cultural
10 modifications present consist of a few small structures visible through the trees. Because the vegetation, landform,
11 and cultural modifications are typical of the region, this landscape is categorized as Common.

12 **White Oak Park PR.** This KOP represents views from the edge of a lake. Visual sensitivity is high from this KOP
13 because of the concern for aesthetics and long viewing durations associated with a public park and recreation area.
14 The landscape being viewed in the FG consists of a small dock leading out into a large, open water body. In the MG,
15 the lake is bordered by dense tree growth. The BG landscape consists of low, rolling hills with dense vegetation.
16 Because this area represents a recreation area and water body and is free of heavy cultural modification, it is
17 categorized as Distinct.

18 **Wiederkehr Village and Highway 186 PR/AR.** This KOP represents the view along Highway 186 looking northwest.
19 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
20 with a residential area. The landscape viewed consists of an open, agricultural field in the FG. In the MG, there are
21 residential and agricultural structures with scattered trees. The BG landscape consists of rolling hills with dense
22 vegetation. The landscape and vegetation features at this KOP are typical for the region, so the landscape is
23 categorized as Common.

24 **3.18.5.5 Region 5**

25 Region 5 is referred to as the Central Arkansas Region and includes the Applicant Proposed Route Links 1 through
26 9, HVDC Alternative Routes 5-A through 5-F, and the Arkansas Converter Station Alternative Siting Area and AC
27 interconnection siting area. The ROI in Region 5 traverses Pope, Conway, Van Buren, Faulkner, Cleburne, White,
28 and Jackson counties in Arkansas. The ROI crosses three Level III ecoregions: Arkansas Valley, which covers the
29 majority of the region; Boston Mountains, which covers a small portion of the region in the north; and a small portion
30 of the Mississippi Alluvial Plain, which covers the southeastern portion of the region. The landscape character within
31 the ROI consists of varied terrain with low rugged hills, mountains, and benches in the northern portion transitioning
32 to undulating plains, terraces, cuestas, and floodplains associated with the Arkansas River in the south. Generally,
33 views are restricted in the northern portion of the ROI because of the rugged terrain and forested landscapes. In the
34 southern portion of the ROI, the level to nearly level floodplains and pastureland and agricultural fields allow more
35 expansive views in some areas. Views are limited primarily by rows of trees planted along fields and roads and
36 riparian vegetation along waterways and drainages (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech
37 2014a). The southwestern portion of the ROI crosses the Arkansas River, and the eastern portion of the ROI crosses
38 the Little Red River and White River along with several smaller rivers and creeks such as Illinois Bayou and Cadron
39 Creek. Other surface waters in the region include wetlands, impoundment ponds, and some small lakes and
40 reservoirs, and the larger Greers Ferry Lake to the north. Vegetation consists primarily of oak-hickory forests, dense

1 deciduous hardwood riparian forest, and scattered prairies and oaks in the south. Cultural modifications include
2 croplands, poultry and livestock operations, farms and associated appurtenances, recreation development, natural
3 gas facilities, logging and mining operations, roads and highways, electric distribution lines and several high-voltage
4 transmission lines, and rural residences and suburban residential developments. Several communities occur within
5 and/or adjacent to the ROI including the towns of Dover, Hector, Damascus, Guy, Twin Groves, Rose Bud, and
6 Letona and the cities of Quitman and Bradford.

7 Visual resources identified in the ROI include rural residences and residences associated with towns and cities,
8 Ozark National Forest, Woody Hollow State Park, Bald Knob NWR, Greers Ferry Lake, scenic byways (i.e., Applicant
9 Proposed Route Links 5, 7, 9, 16, 25, 27, and 65), several state wildlife conservation areas, local and municipal
10 parks, and historic landmarks.

11 **3.18.5.5.1 Landscape Character Description by KOP**

12 **Boy Scout Campground PR/AR.** This KOP represents the view from the eastern side of a Boy Scout campground.
13 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
14 with a public park and recreation area. The landscape in this area is a mostly natural area with rolling terrain and
15 dense trees. Views are enclosed due to the dense vegetation in the FG. Nearby cultural modifications include a
16 campground and recreational facilities associated with the Boy Scout camp. This landscape consists of vegetation
17 and terrain features typical to the region and is categorized as Common.

18 **Bradford.** This KOP represents views looking northwest from a residential area north of the community of Bradford,
19 Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations
20 associated with a residential area. The landscape being viewed from this KOP consists of grassy open areas with
21 scattered trees and residential structures in the FG and groupings of dense trees in the MG and BG. Because the
22 vegetation and cultural modifications at this KOP consist of vegetation and terrain typical for the region, it is
23 categorized as Common.

24 **Damascus AR.** This KOP is representative of views from a residential area near the southern edge of the community
25 of Damascus, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long
26 viewing durations associated with a residential area. Looking to the southwest, views of the landscape consist of
27 open fields with groupings of dense tree growth and scattered rural, single family homes. The terrain and vegetation
28 is consistent with the region, so the landscape is categorized as Common.

29 **Damascus PR.** This KOP is representative of views from a residential area near southern edge of the community of
30 Damascus, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
31 durations associated with a residential area. Looking to the north/northwest, views of the landscape consist of open
32 agricultural fields in the FG with scattered trees and rural, single family homes. The BG landscape consists of rolling
33 hills covered in dense vegetation. The terrain and vegetation is consistent with the region, so the landscape is
34 categorized as Common.

35 **Dover and J.P. Lovelady Ball Park PR/AR.** This KOP represents views from a park on the northern side of the rural
36 community of Dover. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
37 durations associated with a public park and recreation area. The landscape viewed in the FG includes agricultural
38 fields with groupings of trees. Cultural modifications to the landscape include residences, wood power poles, fences,

1 and a roadway. In the BG are low, forested ridges. Since the vegetation, landform and cultural modifications in view
2 from this KOP are typical to the region, the landscape is categorized as Common.

3 **Guy PR/AR.** This KOP represents typical views from the north central part of the community of Guy, Arkansas.
4 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
5 with a residential area. The landscape viewed consists of rolling hills with dense trees and multiple residences.
6 Cultural modifications include wood power poles and residential structures. The vegetation and landform in this area
7 is consistent with the region, so the landscape is categorized as Common.

8 **Hector PR/AR.** This KOP represents views from a residential area on the southern edge of Hector, Arkansas. Visual
9 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
10 residential area. The landscape viewed from this KOP consists of a road lined with tall, densely growing trees.
11 Cultural modifications in view include wood power poles and scattered residential and commercial structures. The
12 landscape in this area contains landform and vegetation typical of the region and so is categorized as Common.

13 **Highway 7 (Scenic Byway) AR.** This KOP represents the view looking north from the Highway 7 Scenic Byway.
14 Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a Scenic
15 Byway. Views are of scattered rural residences surrounded by small agricultural fields and rolling hills with dense
16 trees. Cultural modifications to the landscape include small power poles, barbed-wire fences, and scattered
17 residential homes. The landscape at this KOP consists of vegetation and landform consistent with the region and is
18 categorized as Common.

19 **Highway 7 (Scenic Byway) PR.** This KOP represents the view looking north from the Highway 7 Scenic Byway.
20 Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a Scenic
21 Byway. The landscape being viewed consists of a rural highway lined with tall trees and dense vegetation. The views
22 are mostly enclosed, but a low ridgeline can be seen in the distance through breaks in the trees. Because the
23 vegetation, landform and cultural modifications are consistent with the region, this landscape is categorized as
24 Common.

25 **Highway 9 (Scenic Highway) AR.** This KOP represents the view looking south from the Highway 9 Scenic Highway.
26 Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a scenic
27 highway. Views are of low rolling terrain consisting of open agricultural fields and scattered groupings of trees with a
28 forested ridge in the BG. Cultural modifications visible include scattered residences, barns, sheds and commercial
29 business structures. The landscape viewed from this KOP consists of vegetation and terrain typical to the region and
30 without extensive cultural modification, and is therefore categorized as Common.

31 **Highway 9 (Scenic Highway) PR.** This KOP represents the view looking south from the Highway 9 Scenic Highway.
32 Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a scenic
33 highway. Views are of low rolling terrain consisting of open agricultural fields with groupings of dense trees. Cultural
34 modifications are limited to a low fence and wood power poles. The landscape viewed from this KOP consists of
35 vegetation and terrain typical to the region without extensive cultural modification, and is therefore categorized as
36 Common.

- 1 **Highway 16 (Scenic Highway) AR.** This KOP represents a view looking south from the Highway 16 Scenic
2 Highway. Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a
3 scenic highway. Views are of flat, open agricultural fields with dense patches of trees. This landscape has vegetation
4 and terrain typical to the region and so is categorized as Common.
- 5 **Highway 16 (Scenic Highway) AR/PR.** This KOP represents views looking south from the Highway 16 scenic
6 highway. Visual sensitivity is high from this KOP because of the high level of concern for aesthetics associated with a
7 scenic highway. Views include a rural landscape with rolling hills, low ridges, open fields, and dense trees. Cultural
8 modifications include residential structures and metal barns visible in the FG. The landscape viewed from this KOP
9 consists of vegetation and terrain typical of the region without extensive cultural modification, and is therefore
10 categorized as Common.
- 11 **Highway 25 Scenic Highway.** This KOP represents views looking south from Highway 25. Visual sensitivity is high
12 from this KOP because of the high level of concern for aesthetics associated with a scenic highway. The landscape
13 viewed from this KOP contains cultural modifications including scattered residences and commercial buildings in the
14 FG. Vegetation in the FG consists of scattered trees and a low ridgeline with dense trees is visible in the BG.
15 Because the landscape elements are typical for the region, this landscape is categorized as Common.
- 16 **Letona PR.** This KOP represents views looking from the community of Letona, Arkansas. Visual sensitivity is high
17 from this KOP because of the concern for aesthetics and long viewing durations associated with a residential area. In
18 the FG view are numerous cultural modifications including scattered residences, roads, and wood power poles.
19 Vegetation in the FG consists primarily of scattered trees. In the MG/BG, dense trees and ridgelines are visible. The
20 landscape in this area has considerable cultural modifications when compared to the rest of the region and so is
21 categorized as Developed.
- 22 **Pope County Residential Cluster PR/AR.** This KOP represents views looking north/northwest from a cluster of
23 residences in Pope County, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics
24 and long viewing durations associated with a residential area. Views are of a small open field with groupings of trees
25 in the FG bordered by residences and a small church. In the MG, there is a high ridge covered in dense trees.
26 Because the landscape being viewed from this KOP contains interesting terrain features and a low number of cultural
27 modifications, it is categorized as Distinct.
- 28 **Quitman PR/AR.** This KOP is the view looking south from the southern edge of the community of Quitman,
29 Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations
30 associated with a residential area. The landscape being viewed in the FG consists of an open agricultural field and a
31 road lined with wood power poles. In the MG, several residences and scattered trees are visible. The landscape in
32 the BG is low hills covered in dense vegetation. Because the landform and vegetation are typical for this region, the
33 landscape is categorized as Common.
- 34 **Rose Bud City Park PR/AR.** This KOP represents the view looking north from a city park near the southern edge of
35 the community of Rose Bud, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics
36 and long viewing durations associated with a public park and recreation area. The landscape in view consists of an
37 open field with scattered trees and contains cultural modifications including a small picnic pavilion and a chain-link
38 fence. Beyond the park in the MG, residential and commercial structures with scattered trees and shrubs are visible.

1 The views are enclosed in the BG by a line of dense trees. The landscape at this KOP contains a high number of
2 cultural modifications not typical in this region and is categorized as Developed.

3 **Steprock PR/AR.** This KOP represents views looking south-southeast from the community of Steprock, Arkansas.
4 Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated
5 with a residential area. The FG views consist of gently rolling terrain with scattered groupings of trees. Cultural
6 modifications in view include several residences, sheds, and an existing high-voltage 500kV lattice structure
7 transmission line. Because of the existing cultural modifications, this landscape is characterized as Developed.

8 **Twin Groves PR/AR.** This KOP represents views from rural residences near the edge of the community of Twin
9 Groves, Arkansas. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing
10 durations associated with a residential area. The views from this location are enclosed by dense trees that line a
11 small road. Cultural modifications are limited to street signage and wood power poles. This type of terrain and
12 vegetation is typical of the region and so is characterized as Common.

13 **White River AR.** This KOP represents views looking northeast from the south bank of the White River, near Jackson
14 Road 177. Visual sensitivity is high from this KOP because of the concern for aesthetics associated with a scarce
15 resource such as a major water body. The FG view is dominated by open water with dense riparian vegetation lining
16 each bank. This is a major water body and is not typical for this region. Because of the uniqueness of the vegetation
17 and the presence of water, combined with no cultural modifications in view, this landscape is categorized as Distinct.

18 **White River PR.** This KOP is representative of views looking southeast from the Highway 67 bridge crossing the
19 White River. Visual sensitivity is high from this KOP because of the concern for aesthetics associated with a scarce
20 resource such as a major water body. Views are of a flat landscape with open water bordered by a mix of low
21 vegetation and trees. In the MG, an open field is visible with a row of dense trees in the BG. Because water
22 represents a unique landscape in this region, and the area is free of cultural modifications, this landscape is
23 categorized as Distinct.

24 **Wonderview School AR.** This KOP represents the view looking south-southwest from the school and nearby
25 residences. Visual sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations
26 associated with a residential area. Views of the BG include dense trees and gently rolling hills with scattered
27 residences. The view includes open agricultural fields in the FG with scattered groupings of trees. Cultural
28 modifications in view include wood power poles, street signs, and structures associated with rural residences. The
29 terrain and vegetation viewed from this KOP are typical of the region and it is categorized as Common.

30 **Wonderview School PR.** This KOP represents views looking north from the school and nearby residences. Visual
31 sensitivity is high from this KOP because of the concern for aesthetics and long viewing durations associated with a
32 residential area. The view from this KOP consists of a row of tall trees in the FG that provide some screening, but
33 looking through the trees gives views of a broad valley in the MG with rolling hills and dense trees. In the BG, the
34 landscape consists of rolling hills covered in dense vegetation. The variety of vegetation and somewhat unique
35 terrain for the region, combined with the low number of cultural modifications, gives this landscape the categorization
36 of Distinct.

3.18.5.6 Region 6

Region 6 is referred to as the Cache River and Crowley's Ridge Region and includes the Applicant Proposed Route Links 1 through 8 and HVDC Alternative Routes 6-A through 6-D. The ROI in Region 6 traverses Jackson, Cross, and Poinsett counties in Arkansas. The ROI crosses two Level III ecoregions: Mississippi Alluvial Plain, which covers the majority of the region, and Mississippi Valley Loess Plains, which run north and south through the central portion of the ROI and are associated with the South Francis River. The landscape character within the ROI is predominately agricultural, croplands, and natural areas including riparian woodlands and wetlands. The terrain is relatively flat to gently undulating with several meandering streams, branching channels, and other drainages. Views are generally open given the level terrain, although wooded areas and trees planted along the edges of field and roadways can limit expansive views in some areas (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech 2014a). In the western portion of the region, the ROI crosses the White and Cache rivers, and in the east, the ROI crosses the Little River. The ROI crosses other surface waters including oxbow lakes, wetlands, impoundment ponds, lakes, reservoirs, and several small intermittent and perennial streams. Many of the streams are channelized and flood-control structures are common in this region. Vegetation consists of oak-hickory forests in the northern portion of the ROI and deciduous hardwood riparian forest and tall grass prairies and oaks to the south. Cultural modifications include croplands, poultry and livestock operations, farms and associated appurtenances, residential and commercial development, natural gas facilities, logging and mining operations, roads and highways, electric distribution lines and several high-voltage transmission lines, and rural residences and suburban residential developments. Several communities occur within and/or adjacent to the ROI including the towns of Fisher, Weldon, and Amagon and the cities of Cherry Valley and Marked Tree.

Visual resources identified in the ROI include rural residences and residences associated with towns and cities, Lake Poinsett State Park, Cache River NWR, Crowley's Ridge Parkway National Scenic Byway (State Route 163), and several state conservation areas and historic landmarks.

3.18.5.6.1 Landscape Character Description by KOP

Amagon AR. This KOP represents views west and southwest from the center of Amagon, Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from commercial and residences in and near the town center. The landscape viewed from this KOP is categorized as Developed because of cultural modifications associated with Amagon, including commercial buildings and residential structures, light poles, and electric distribution lines. Views are limited to the FG by the existing buildings and vegetation in and around the town center.

Cherry Valley PR. This KOP represents views north from the northern edge of Cherry Valley, Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a residential area. From this KOP, the landscape is categorized as Common because it consists of agricultural fields lined with deciduous trees, typical within the region. Cultural modifications include storage buildings associated with agricultural lands and electric distribution lines.

Crowley's Ridge Scenic Byway AR. This KOP represents views southeast from Crowley's Ridge Scenic Byway (southbound). Visual sensitivity at this KOP is high due to the road's scenic designation. The landscape viewed from this KOP is categorized as Common because it consists of open fields lined with vegetation and pockets of wooded areas (such as the one that borders the roadway to the west), typical within the region. Cultural modifications include

1 electric distribution lines. Views to the east and southeast from this KOP are open in the FG/MG due to the level
2 terrain and lack of vegetation; views are limited to the west due to the dense wooded area in the immediate FG.

3 **Crowley's Ridge Scenic Byway PR.** This KOP represents the view looking north from the Crowley's Ridge Scenic
4 Byway. Visual sensitivity at this KOP is high due to the road's scenic designation. The roadway is adjacent to a ridge
5 and winds through dense forests on both sides. The landscape viewed from this KOP is not typical within the area;
6 therefore it is categorized as Distinct. Cultural modifications include a distribution line. Views in this area are enclosed
7 and limited to the immediate FG due to the terrain and dense vegetation.

8 **Fisher and Park AR.** This KOP represents views looking south from the entrance of a community park near the
9 southern edge of Fisher, Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics
10 and long viewing durations from residences. The landscape viewed in the immediate FG from this KOP is
11 categorized as Developed because of cultural modifications associated with Fisher; views in the MG are categorized
12 as Common because they consist of open fields and pockets of wooded areas. Cultural modifications include
13 residential structures, light poles, and electric distribution lines.

14 **Fisher and Park PR.** This KOP represents views looking east from the entrance of a community park near the
15 southern edge of Fisher, Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics
16 and long viewing durations from residences. The landscape viewed from this KOP is categorized as Developed
17 because of cultural modifications associated with Fisher. Cultural modifications include residential and commercial
18 structures, storage structures, chain-link fences, a playground, and electric distribution lines.

19 **Highway 14 Scenic Highway AR.** This KOP represents the view looking east along Highway 14 west of Amagon,
20 Arkansas. Visual sensitivity at this KOP is high due to the roads scenic designation. The landscape viewed from this
21 KOP is categorized as Common because it consists of open fields and scattered rural residences and wooded areas
22 typical within the region. Cultural modifications include residential structures and electric distribution lines in the
23 FG/MG, and a communication tower in the BG. Views are open due to the level terrain and lack of vegetation in the
24 FG.

25 **Weldon PR/AR.** The Weldon KOP represents views looking north from Highway 17 near the northern edge of
26 Weldon, Arkansas. The view consists primarily of flat agricultural land with few cultural modifications such as wood
27 power poles and an existing steel monopole transmission line. Scattered trees dot the landscape with a row of dense
28 trees in the distance. This landscape has some modification and is categorized as Developed.

29 **3.18.5.7 Region 7**

30 Region 7 is referred to as the Arkansas Mississippi River Delta and Tennessee Region and includes the Applicant
31 Proposed Route Links 1 through 5, HVDC Alternative Routes 7-A through 7-D, and the Tennessee converter station
32 siting area. The ROI in Region 7 traverses Poinsett and Mississippi counties in Arkansas and Tipton and Shelby
33 counties in Tennessee. The ROI crosses two Level III ecoregions: Mississippi Alluvial Plain, which covers the eastern
34 portion of the region, and Mississippi Valley Loess Plains, which cover the western portion of the region. The
35 landscape character within the ROI is predominantly agricultural and natural with some developed areas in
36 Tennessee. The terrain primarily consists of flat, level floodplains associated with the Mississippi River in the western
37 and central portion of the ROI that transition to gently undulating plains and low hills in the eastern portion of the ROI.
38 Although the terrain is primarily flat within this region, views are typically limited given the numerous forested areas,

1 vegetation associated with surface waters, waterways, drainages, wetlands, and trees planted along agricultural
2 fields and along roadways (GIS Data Sources: Clean Line 2013a, 2013b; Tetra Tech 2014a). The ROI traverses the
3 Mississippi River and its tributaries from north to south. The ROI crosses other surface waters including wetlands,
4 several small streams, levees, drainage channels, and impoundment ponds. Vegetation consists primarily of riparian
5 woodland and wetland species with smaller patches of hardwood forests dispersed throughout the region. Cultural
6 modifications include croplands, pastures, agricultural operations, roads and highways, electric distribution lines and
7 several high-voltage transmission lines, and rural residences and suburban residential developments. Dispersed rural
8 residence and several small communities in Arkansas occur within and adjacent to the ROI in the western and
9 eastern portion of Region 7 including towns of Tyrone, Dyess, Bassett, Birdsong, Marie, and Wilson and the cities of
10 Joiner and Marked Tree. In the eastern portion of the ROI in Tennessee, larger communities are concentrated closer
11 to one another and there is more dense mixed development including the town of Atoka and Tipton and cities of
12 Millington and Munford. In addition, large private estates are common in the eastern portion of the ROI. The Naval Air
13 Station Memphis at Millington is also located within the eastern portion of the ROI.

14 Visual resources identified in the ROI include rural residences and residences associated with towns and cities,
15 Hampson-Archeological Museum State Park, Meeman-Shelby Forest State Park, Mississippi River (including a
16 scenic trail), St. Francis River, Lower Hatchie NWR, Trail of Tears, Scenic Route 61, Scenic Byway 63, and several
17 state wildlife conservation areas and municipal parks.

18 **3.18.5.7.1 Landscape Character Description by KOP**

19 **Atoka PR/AR.** This KOP represents views from the edge of a residential neighborhood in Atoka, Tennessee. Visual
20 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
21 residences. The landscape viewed from this KOP is categorized as Common because it consists of agricultural fields
22 surrounded by wooded areas, typical within the region. Cultural modifications include a lattice communication tower
23 in the MG.

24 **Atoka Community Park PR/AR.** This KOP represents views from a community park and recreation area in Atoka,
25 Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
26 durations from a community recreation area and nearby residences. From this KOP, the landscape in the FG is
27 categorized as Developed because of cultural modifications associated with the recreation facility. Cultural
28 modifications include ball fields, light poles, fences, and covered picnic areas, and a playground. Views from this
29 KOP are limited to the immediate FG due to the dense wooded area surrounding the park.

30 **Aycock Park and Millington AR.** This KOP represents views from a community park and recreation area in
31 Millington, Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
32 viewing durations from a community recreation area and nearby residences. The landscape viewed from this KOP is
33 categorized as Developed because of the cultural modifications associated with Millington. Cultural modifications
34 include ball fields and backstops, playground fences, electric distribution lines, light poles, a church, and a highway.
35 Views from this KOP are limited to the immediate FG because a dense wooded area surrounds the park.

36 **Birdsong PR.** This KOP represents views from the northern edge of the small rural community of Birdsong,
37 Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
38 durations from a residential area. The landscape viewed from this KOP is characterized by agricultural fields lined

1 with trees and pockets of wooded areas. This type of landscape is typical within the region and was therefore
2 categorized as Common. Cultural modifications are limited to residential structures and electric distribution lines.

3 **Dyess AR.** This KOP represents views looking south from the southern edge Dyess, Arkansas. Visual sensitivity at
4 this KOP is high because of the strong concern for aesthetics and long viewing durations from a residential area. The
5 landscape viewed from this KOP is characterized by agricultural fields lined with trees and scattered residences. This
6 type of landscape is typical within the region and was therefore categorized as Common. Cultural modifications
7 include residential structures and electric distribution lines. Views from this KOP are open due to lack of vegetation in
8 the FG/MG.

9 **Edmund Orgill Park PR/AR.** This KOP represents views from the southern edge of a lake in Edmund Orgill Park.
10 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
11 community park and recreation area. The landscape viewed from this KOP is characterized by level terrain in the
12 immediate FG and a large expansive lake in the FG/MG and dense vegetation along the northern edge of the lake.
13 Given the dominance of the water feature and the variation in vegetation around the lake, this landscape is
14 categorized as Distinct. Cultural modifications include recreational elements associated with the park, including a
15 boat launch, a small picnic shelter and low wood fences.

16 **Harold Park and Millington AR.** This KOP represents views west from a park in the town of Millington, Tennessee.
17 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
18 community park and residential area. The landscape viewed from this KOP is categorized as Developed because of
19 cultural modifications associated with Millington. Cultural modifications include residential structures and electric
20 distribution lines. Views from this KOP are limited to the FG by the vegetation that surrounds residences and wooded
21 areas in the MG.

22 **Harold Park and Millington PR/AR.** This KOP represents views north from a park in the town of Millington,
23 Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
24 durations from a community park and residential area. The landscape viewed from this KOP is categorized as
25 Developed because of cultural modifications associated with Millington. Views are similar to those described from the
26 Harold Park and Millington AR KOP above.

27 **Highway 61 (Scenic Byway) PR.** This KOP represents views looking northeast from Highway 61 Scenic Byway near
28 the northern edge of Frenchmans Bayou, Arkansas. Visual sensitivity at this KOP is high due to the scenic
29 designation of the roadway. The landscape viewed from this KOP is categorized as Common, as the area consists of
30 agricultural fields surrounded by trees, rural residents, and small pockets of wooded areas. Cultural modifications
31 include residential structures and electric distribution lines.

32 **Johnny Cash Home AR.** This KOP represents the view looking south from Johnny Cash's childhood home near
33 Dyess, Arkansas. The house is an Arkansas State University Heritage site. Visual sensitivity at this KOP is high due
34 to the historic designation. The landscape viewed from this KOP is categorized as Common, as the area consists of
35 agricultural fields surrounded by trees and small pockets of wooded areas. Cultural modifications include the historic
36 home and electric distribution lines. Views from this KOP are open due to the lack of vegetation in the FG/MG.

- 1 **Joiner PR.** This KOP represents views looking south from the southern edge of Joiner, Arkansas. Visual sensitivity
2 at this KOP is high because of the strong concern for aesthetics and long viewing durations from a residential area.
3 The landscape viewed from this KOP is categorized as Common, as the area consists of agricultural fields
4 surrounded by trees and small pockets of wooded areas. Cultural modifications include residential structures and
5 electric distribution lines. Views from this KOP are open due to the lack of vegetation in the FG/MG.
- 6 **Lower Hatchie NWR AR.** This KOP represents views to the southeast from the Lower Hatchie NWR just east of the
7 Mississippi River in Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics
8 and long viewing durations from national wildlife refuge. The landscape viewed from this KOP is characterized by
9 gently to moderately rolling terrain and small ponds in the FG, wooded areas in the MG, and low forested hills in the
10 BG. Given the variation in vegetation, landform, and the presence of water; this landscape is categorized as Distinct.
11 Views are open due to limited vegetation in the FG/MG.
- 12 **Marked Tree PR/AR.** This KOP represents views from a municipal park in the community of Marked Tree, Arkansas.
13 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
14 community park and nearby residential area. The landscape viewed from this KOP is categorized as Developed
15 because of cultural modifications associated with Marked Tree. Cultural modifications include residential and
16 commercial structures, ball fields, chain-link fences, light poles, and electric distribution lines. Views from this KOP
17 are limited by development and vegetation in the immediate FG.
- 18 **McGavock-Grider Park AR.** This KOP represents the view from a small memorial park on State Route 61 south of
19 Osceola, Arkansas. Visual sensitivity at this KOP is moderate because this is a small park with no recreational
20 facilities; viewing durations are not anticipated to be very long. The landscape viewed from this KOP is categorized
21 as Common, because the area consists of agricultural fields surrounded by trees and wooded areas. Cultural
22 modifications include electric distribution lines and transmission lines in the MG. Views are generally open due to the
23 lack of vegetation in the FG/MG.
- 24 **Millington East AR.** This KOP represents views looking southeast from the edge of a residential neighborhood in
25 Millington, Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
26 viewing durations from residential areas. The landscape viewed from this KOP is categorized as Common because it
27 consists of agricultural fields surrounded by trees and small pockets of wooded areas. Cultural modifications include
28 a transmission line in the MG. Views are typically limited to the FG due to the dense vegetation around agricultural
29 fields.
- 30 **Millington USA Baseball Stadium AR.** This KOP represents views south and west from a large baseball park
31 complex in Millington, Tennessee. Visual sensitivity at this KOP is moderate because concern for aesthetics is not
32 the primary focus of viewers associated with the ball field, where activities are focused inside the park. The
33 landscape viewed from this KOP is categorized as Developed because of cultural modifications associated with
34 Millington. Cultural modifications include ball fields, dugouts, restroom facilities, light poles, chain-link fences,
35 commercial and residential structures, and electric distribution lines; a communication tower is visible in the MG.
36 Views from this KOP are limited to the FG due to development, dense wooded areas to the south and vegetation
37 surrounding residential homes to the west.

1 **Mississippi River and Trail of Tears AR.** This KOP represents views from the southern bank of the Mississippi
2 River looking northeast. Visual sensitivity at this KOP is high as it represents a view from a scenic recreation area
3 and national historic trail. The landscape viewed from this KOP consists of the Mississippi River, a dominant water
4 feature in the landscape, bordered by dense vegetation along the northern bank. Due to the presence of water, the
5 variety of vegetation this landscape is categorized as Distinct. Cultural modifications include a transmission line that
6 crosses the river.

7 **Mississippi River and Trail of Tears PR.** This KOP represents views looking northwest from a local road near the
8 Mississippi River and Trail of Tears. Visual sensitivity at this KOP is high as it represents a view from a scenic
9 recreation area and historic trail. The view is dominated by open agricultural fields bordered by wooded areas, typical
10 within the region, so this landscape is categorized as Common. The Mississippi River is visible in the distance but is
11 not a dominant feature in the landscape. Cultural modifications include irrigation equipment silos and storage garage
12 for farming equipment. Views from this KOP are open due to the lack of vegetation in the FG/MG.

13 **Munford PR/AR.** This KOP represents views southwest from a mixed residential and commercial area in southern
14 Munford, Tennessee. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long
15 viewing durations from residents in the area. The landscape viewed from this KOP is categorized as Developed
16 because of cultural modifications associated with Munford including residential and commercial structures, chain-link
17 fences, electric distribution lines and a transmission line. Views from this KOP are limited to the FG due to dense
18 wooded areas surrounding the community.

19 **Rhodes Estates AR.** This KOP represents views northeast from a residential area near Tipton, Tennessee. Visual
20 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from residents
21 in the area. The landscape viewed from this KOP is categorized as Developed because of cultural modifications
22 associated with Rhodes Estates including residential structures, wooden fences, electric distribution lines and a
23 transmission line. Views from this KOP are limited due to trees clustered around residences and wooded areas in the
24 MG.

25 **Rhodes Estates PR.** This KOP represents views southeast from a residential area near Tipton, Tennessee. Visual
26 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from residents
27 in the area. The landscape viewed from this KOP is similar to the landscape viewed for the Rhodes Estates AR KOP
28 in that it is categorized as Developed because of cultural modifications associated with Rhodes Estates including
29 residential structures, wooden fences, and electric distribution lines. Views from this KOP are also limited due to
30 trees clustered around residences and wooded areas in the MG.

31 **Rockyford Park AR.** This KOP represents views from a neighborhood park in a residential area in northern Bartlett,
32 Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
33 durations from residents and park users. The landscape viewed from this KOP is categorized as Developed because
34 of cultural modifications associated with the Rockyford subdivision including a man-made pond, residential
35 structures, benches, signs, a trail, light poles, and electric distribution lines. Views from this KOP are limited to the FG
36 due to residential structures, scattered trees and wooded areas surrounding the subdivision.

37 **Tyronza AR.** This KOP represents views looking northwest from the western edge of Tyronza, Arkansas. Visual
38 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a

1 residential area. The view from this KOP consists of croplands with vegetation along the edge of fields and wooded
2 areas. Croplands are typical within this region, so this landscape is categorized as Common. Cultural modifications
3 include electric distribution lines. Views from this KOP are open due to the level terrain and lack of vegetation in the
4 FG/MG.

5 **Tyronza PR.** This KOP represents views looking northwest from the western edge of Tyronza, Arkansas. Visual
6 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from a
7 residential area. The landscape viewed from this KOP is categorized as Developed because of cultural modifications
8 associated Tyronza, including residential and commercial structures, fence posts, chain-link fences, and electric
9 distribution lines. Views are open due to open fields and the lack of vegetation in the immediate FG.

10 **Wilkinsville AR.** This KOP represents views south-southeast from the southern edge of Wilkinsville, Tennessee.
11 Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
12 residential areas. The landscape viewed from this KOP is categorized as Common, because the area consists of
13 agricultural fields with pockets of wooded areas in the MG. Cultural modifications include irrigation equipment. Views
14 from this KOP are open due to lack of vegetation in the immediate FG.

15 **Wilkinsville AR.** This KOP represents views southeast from the eastern edge of Wilkinsville, Tennessee. Visual
16 sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing durations from
17 residential areas. The landscape viewed from this KOP is categorized as Common, because the area consists of
18 agricultural fields with small clumps of vegetation in the FG and pockets of wooded areas in the MG. Cultural
19 modifications include residential structures, irrigation equipment, electric distribution lines and communication towers.
20 Views are partially obstructed due to scattered vegetation in the immediate FG.

21 **Wilson Park AR.** This KOP represents views from Hudson Wren Memorial Park near the northwestern edge of
22 Wilson, Arkansas. Visual sensitivity at this KOP is high because of the strong concern for aesthetics and long viewing
23 durations from nearby residential areas and this public park. The landscape viewed from this KOP is categorized as
24 Common, as the area consists of agricultural fields with pockets of wooded areas in the MG/BG and vegetation
25 concentrated around scattered rural residences. Cultural modifications include electric distribution lines and
26 residential structures in the MG. Views from this KOP are open due to the lack of vegetation in the FG.

27 **3.18.5.8 Connected Actions**

28 **3.18.5.8.1 Wind Energy Generation**

29 Wind energy development is a connected action to the Project. To assist in evaluating the potential environmental
30 impacts of that wind energy development, the Applicant attempted to identify the likely locations of the wind energy
31 development that would utilize the capacity on the HVDC transmission line. The Applicant identified thirteen WDZs,
32 each within a 40-mile-radius of the Texas County Converter Station Siting Area with adequate wind resource and
33 within which future development of wind energy facilities could occur. (see Figure 3.17-1 in Appendix A). The WDZs
34 include approximately 1,700 square miles, or 1,082,000 acres in Oklahoma (Beaver, Cimarron, and Texas counties)
35 and Texas (Hansford, Ochiltree, and Sherman counties). According to the BLM sponsored study “Wind Turbine
36 Visibility and Visual Impact Threshold Distances in Western Landscapes” (Sullivan et al. 2011), given the right
37 conditions, wind turbines can be visible at more than 36 miles and may be noticeable to the casual observer at
38 distances up to 20 miles. Because of these findings, the ROI for the wind energy generation has been set at 30 miles

1 from the boundary of each WDZ. Consistent with the Project, EPA Level III ecoregions were used to develop a
2 description of the existing landscape character.

3 **3.18.5.8.1.1 WDZ-A**

4 WDZ-A falls primarily within the High Plains ecoregion. This ecoregion is characterized by gently rolling terrain with
5 occasional sand plains and hills along with scattered playa depressions. Vegetation is primarily short and midgrass
6 prairie scattered with other types of vegetation including Harvard shin oak, fourwing saltbush, sand sagebrush, and
7 yucca. The generally flat, open landscape provides largely unobstructed panoramic views and the horizontal lines of
8 the landform are occasionally interrupted with vertical elements such as grain silos, transmission structures, and
9 scattered rural residences and farms, which can be visible from long distances.

10 The far western portion of WDZ-A transitions in the Southwestern Tablelands ecoregion and is characterized by
11 broad, elevated tablelands with shallow canyons, mesas, badlands, gorges, and dissected river breaks. Vegetation in
12 the region consists primarily of shortgrass prairie with some scattered riparian areas. The open landscape of this
13 ecoregion offers broad panoramic views with strong horizontal lines and provides typical views similar to the High
14 Plains ecoregion.

15 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings and that is
16 occasionally interrupted with paved and unpaved roads. In addition, livestock feeding operations and oil and natural
17 gas facilities are common.

18 Sensitive visual resources in the ROI include Perryton, Texas; Spearman, Texas; Hardesty Oklahoma and other
19 small communities, Optima NWR, Schultz WMA, Lake Schultz State Park, as well as various local parks and
20 recreation areas.

21 **3.18.5.8.1.2 WDZ-B**

22 WDZ-B is characterized primarily by the High Plains ecoregion transitioning into the Southwestern Tablelands
23 ecoregion on the eastern edge and has similar landscape and vegetation characteristics as WDZ-A. The open
24 landscape of both ecoregions offers largely unobstructed panoramic views and the horizontal lines of the landform
25 are occasionally interrupted with vertical elements such as grain silos, transmission structures, and scattered rural
26 residences and farms, which can be visible from long distances.

27 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings and large
28 areas utilizing center pivot irrigation and scattered paved and unpaved roads. In addition, livestock feeding
29 operations and oil and natural gas facilities are common.

30 Sensitive visual resources in the ROI include Gruver Texas; Perryton, Texas; Spearman, Texas; Hardesty, Oklahoma
31 and other small communities, Optima NWR, Schultz WMA as well as various local parks and recreation areas.

32 **3.18.5.8.1.3 WDZ-C**

33 WDZ-C is characterized primarily by the High Plains ecoregion transitioning into the Southwestern Tablelands
34 ecoregion and has similar landscape and vegetation characteristics as the previous WDZs. As described previously,
35 the open landscape of both of these ecoregions offers largely unobstructed panoramic views and the horizontal lines

1 of the landform are occasionally interrupted with vertical elements such as grain silos, center pivots, transmission
2 structures, and scattered rural residences and farms, which can be visible from long distances.

3 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings and large
4 areas utilizing center pivot irrigation. Scattered paved and unpaved roads, concentrated livestock feeding operations,
5 and oil and natural gas facilities are common.

6 Sensitive visual resources in the ROI include Rita Blanca National Grassland (administered by Cibola National
7 Forest), Lake Schultz State Park, Schultz Wildlife Management area, Optima NWR, local parks and recreation areas,
8 and the towns of Cactus, Texas; Goodwell, Oklahoma; Guymon, Oklahoma; Hardesty, Oklahoma; Sunray, Texas
9 and Texahoma, Oklahoma.

10 **3.18.5.8.1.4 W D Z - D**

11 WDZ-D falls within the Southwestern Tablelands ecoregion and is characterized by broad, elevated tablelands with
12 shallow canyons, mesas, badlands, gorges, and dissected river breaks. Vegetation in the region consists primarily of
13 shortgrass prairie with some scattered riparian areas. The open landscape offers largely unobstructed panoramic
14 views and the horizontal lines of the landform are occasionally interrupted with vertical elements such as wind
15 turbines, steel and wood transmission and distribution structures, center pivots, and scattered rural residences and
16 farms, which can be visible from long distances.

17 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings, scattered
18 paved and unpaved roads, livestock feeding operations, and oil and natural gas facilities are common and groupings
19 of wind turbines can be found the southwestern area of the ROI.

20 Sensitive visual resources in the ROI include Hardesty, Texas; Goodwell, Oklahoma; Guymon, Oklahoma; Optima,
21 Oklahoma; Lake Schultz State Park, Optima NWR, Optima WMA, Schultz WMA and local parks and recreation
22 areas.

23 **3.18.5.8.1.5 W D Z - E**

24 WDZ-E is primarily within the High Plains ecoregion transitioning to Southwestern Tablelands along the southern and
25 northeastern edges. Vegetation and landscape characteristics are as described in WDZ-A, and similar to the
26 previously described WDZs the open landscape offers largely unobstructed panoramic views and the horizontal lines
27 of the landform are occasionally interrupted with vertical elements such as center pivots, transmission structures,
28 scattered rural residences and farms, as well as wind turbines, which can be visible from long distances.

29 Cultural modifications within the ROI are primarily grazing land and cropland with center pivot irrigation and
30 associated buildings, scattered paved and unpaved roads, livestock feeding operations, oil and natural gas facilities
31 are common and groupings of wind turbines can be found the southern portion of the WDZ.

32 Sensitive visual resources in the ROI include Guymon, Texas; Hardesty, Texas; Optima, Oklahoma; Goodwell
33 Oklahoma, Hooker, Oklahoma; Optima NWR, Optima WMA, Lake Schultz State Park, Schultz WMA, Rita Blanca
34 National Grassland (administered by Cibola National Forest), Cimarron National Grassland, local parks and
35 recreation areas.

1 **3.18.5.8.1.6 WDZ-F**

2 WDZ-F is primarily within the High Plains ecoregion transitioning to Southwestern Tablelands along the boundary of
3 the WDZ. Vegetation and landscape characteristics are as described in WDZ-A, and similar to the previously
4 described WDZs the gently rolling terrain and open landscape offers largely unobstructed panoramic views and the
5 horizontal lines of the landform are occasionally interrupted with vertical elements such as center pivots, transmission
6 structures, and scattered rural residences and farms, which can be visible from long distances.

7 Cultural modifications within the ROI are primarily grazing land and cropland with center pivot irrigation and
8 associated buildings, scattered paved and unpaved roads, transmission structures, livestock feeding operations, and
9 oil and natural gas facilities are common.

10 Sensitive visual resources in the ROI include Goodwell, Oklahoma; Guymon Texas; Texhoma, Oklahoma; Optima,
11 Oklahoma, Optima NWR, Rita Blanca National Grassland (administered by Cibola National Forest), and Cimarron
12 National Grassland and local parks and recreation areas.

13 **3.18.5.8.1.7 WDZ-G**

14 WDZ-G is characterized primarily by the High Plains ecoregion which is characterized by gently rolling terrain with
15 occasional sand plains and hills along with scattered playa depressions. Vegetation is primarily short and midgrass
16 prairie scattered with other types of vegetation including Harvard shin oak, fourwing saltbush, sand sagebrush, and
17 yucca. The generally flat, open landscape provides largely unobstructed panoramic views and the horizontal lines of
18 the landform is intermixed with occasional vertical elements such as transmission structures, grain silos, and
19 scattered rural residences and farms, which can be visible from long distances.

20 Cultural modifications within the ROI are primarily grazing land and cropland with associated buildings, scattered
21 paved and unpaved roads, transmission structures, livestock feeding operations, and oil and natural gas facilities are
22 common.

23 Sensitive visual resources in the ROI include Cimarron National Grassland, Comanche National Grassland, Rita
24 Blanca National Grassland (administered by Cibola National Forest), and the communities of Elkhart, Kansas; Keyes,
25 Oklahoma; Boise City, Oklahoma; and local parks and recreation areas.

26 **3.18.5.8.1.8 WDZ-H**

27 WDZ-H consists of the High Plains ecoregion transitioning into the Southwestern Tablelands ecoregion near the
28 southeastern and northern borders and has similar landscape and vegetation characteristics as previously described
29 WDZs. The open landscape of both of these ecoregions offers largely unobstructed panoramic views and the
30 horizontal lines of the landform are mixed with vertical elements such as grain silos, transmission structures, and
31 scattered rural residences and farms, which can be visible from long distances.

32 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings and large
33 areas utilizing center pivot irrigation and scattered paved and unpaved roads. In addition, livestock feeding
34 operations and oil and natural gas facilities are common.

1 Sensitive visual resources in the ROI include Rita Blanca National Grassland (administered by Cibola National
2 Forest), Cimarron National Grassland, Comanche National Grassland, local parks and recreation areas, and the
3 communities of Elkhart, Kansas; Goodwell, Oklahoma; Guymon, Oklahoma; and Texhoma, Oklahoma.

4 **3.18.5.8.1.9 WDZ-I**

5 WDZ-I is characterized primarily by the High Plains ecoregion which is characterized by gently rolling terrain with
6 occasional sand plains and hills along with scattered playa depressions. Vegetation is primarily short and midgrass
7 prairie scattered with other types of vegetation including Harvard shin oak, fourwing saltbush, sand sagebrush, and
8 yucca. The generally level, open landscape provides unobstructed panoramic views and the horizontal lines of the
9 landform is intermixed with occasional vertical elements such as transmission structures, grain silos, and scattered
10 rural residences and farms, which can be visible from long distances.

11 Cultural modifications within the ROI are primarily grazing land and cropland with associated buildings, scattered
12 paved and unpaved roads, transmission structures, livestock feeding operations, and oil and natural gas facilities are
13 common.

14 Sensitive visual resources in the ROI include with the communities of Hooker, Texas; Optima, Oklahoma; Hardesty,
15 Oklahoma; Liberal, Kansas; Tyrone, Oklahoma; Optima NWR, Optima WMA, Beaver River WMA, Lake Schultz State
16 Park, Schultz WMA, and Rita Blanca National Grassland (administered by Cibola National Forest), and local parks
17 and recreation areas.

18 **3.18.5.8.1.10 WDZ-J**

19 WDZ-J is characterized by the Southwestern Tablelands ecoregion in the west and the High Plains ecoregion to the
20 east. The landscape and vegetation in these regions is similar to that described in previous WDZs. The open
21 landscape of both of these ecoregions offers unobstructed panoramic views and the horizontal lines of the landform
22 are occasionally interrupted with vertical elements such as grain silos, transmission structures, and scattered rural
23 residences and farms, which are visible from long distances.

24 Cultural modifications within the ROI are primarily grazing land and cropland with associated buildings, scattered
25 paved and unpaved roads, transmission structures, livestock feeding operations, and oil and natural gas facilities are
26 common.

27 Sensitive visual resources in the ROI include the Beaver River WMA, Lake Schultz State Park, Schultz WMA, Beaver
28 Dunes State Park, Optima WMA, Optima NWR, local parks and recreation areas, and the communities of Beaver,
29 Oklahoma; Forgan, Oklahoma; and Perryton, Texas.

30 **3.18.5.8.1.11 WDZ-K**

31 WDZ-K is characterized by the Southwestern Tablelands ecoregion in the southern portion and transitioning to the
32 High Plains ecoregion in the north. The landscape and vegetation in these regions is similar to that described in
33 previous WDZs. The open landscape of both of these ecoregions offers unobstructed panoramic views and the
34 horizontal lines of the landform are occasionally interrupted with vertical elements such as grain silos, transmission
35 structures, and scattered rural residences and farms, which are visible from long distances.

1 Cultural modifications within the ROI are primarily grazing land and cropland with associated buildings, scattered
2 paved and unpaved roads, transmission structures, livestock feeding operations, and oil and natural gas facilities are
3 common.

4 Sensitive visual resources in the ROI include the communities of Booker, Texas; Beaver, Oklahoma; Darrouzett,
5 Texas; Perryton, Texas; Beaver Dunes State Park, Beaver River WMA, and local parks and recreation areas.

6 **3.18.5.8.1.12 WDZ-L**

7 WDZ-L falls within the High Plains ecoregion to the west, transitioning into the Southwestern Tablelands ecoregion
8 on towards the eastern border of the WDZ, and has similar landscape and vegetation characteristics as WDZ-A. The
9 open landscape of both of these ecoregions offers largely unobstructed panoramic views and the horizontal lines of
10 the landform are occasionally interrupted with vertical elements such as grain silos, transmission structures, and
11 scattered rural residences and farms, which can be visible from long distances.

12 Cultural modifications within the ROI are primarily cropland and grazing land with associated buildings and large
13 areas utilizing center pivot irrigation and scattered paved and unpaved roads. In addition, livestock feeding
14 operations and oil and natural gas facilities are common.

15 Sensitive visual resources in the ROI include with the communities of Spearman, Texas; Gruver, Texas; Perryton,
16 Texas; Booker, Texas; Borger, Texas; Canadian, Texas; Darrouzett, Texas; Stinnet, Texas, Gene Howe WMA. Pat
17 Murphy Unit, Lake Meredith National Recreation Area, Lake Schultz State Park, Optima NWR, Optima WMA, Schultz
18 WMA, Lake Fryer/Wolf Creek Park and various local parks and recreation areas.

19 **3.18.5.8.2 Optima Substation**

20 The ROI for the future Optima Substation is located entirely within the Southwestern Tablelands ecoregion and is
21 characterized by relatively flat terrain that is bisected by drainages in the northern portion of the ROI, causing the
22 landscape to appear gently rolling. Vegetation consists primarily of grasses and low shrubs with some scattered
23 riparian vegetation occurring along drainages in the northern portion of the ROI and croplands in the southern
24 portion. The level terrain and low vegetation allows for unobstructed panoramic views across the landscape.

25 Cultural modifications within the ROI for the future Optima Substation are primarily cropland and grazing land with
26 associated buildings, paved and unpaved roads, oil and natural gas facilities, transmission lines, electric distribution
27 lines, and several turbines located in the southwestern portion of the ROI.

28 Sensitive visual resources within the ROI include travelers along Highway 207 and local roads; however, visual
29 sensitivity is low because concern for aesthetics is generally secondary to commuting to and from work or work
30 activities. No other sensitive visual resources are identified with the ROI. The closest sensitive visual resource with
31 moderate or high sensitivity includes recreational users associated with the Optima National Wildlife Refuge, located
32 approximately 2.5 miles northeast of the substation ROI.

33 **3.18.5.8.3 TVA Upgrades**

34 A precise ROI has not been identified for the TVA upgrades. Where possible, general impacts associated with the
35 required TVA upgrades are discussed in the impact sections that follow.

3.18.6 *Impacts to Visual Resources*

3.18.6.1 Methodology

This section describes the methods used to assess impacts to visual resources as a result of the construction and operations and maintenance of the Project. The methodology for assessing impacts is graphically shown in a flowchart in Figure 3.18-4 in Appendix A.

Regulations or guidance for managing visual resources that is applicable to all lands (federal, state, and municipal) within the ROI were not found during initial research efforts. Therefore, the visual impact assessment methodology was developed using concepts from the BLM VRM system. The BLM VRM system outlines a systematic process for analyzing potential visual impacts of proposed projects and activities by analyzing the visual contrast created between the existing landscape without the Project, and the same landscape after a proposed project has been implemented (BLM 1986). The concept of contrast, the process for analyzing contrast, and the methodology employed to identify impacts to visual resources are described in the subsequent section.

To conduct the impact assessment for visual resources, information collected in the inventory process (see Section 3.18.4 and Figure 3.18.1 in Appendix A) was used to perform a contrast analysis for the Project and identify initial impacts to scenery and viewers from KOPs.

3.18.6.1.1 *Assessing Contrast*

Contrast is the degree of visual change that occurs in the landscape due to the construction and operations and maintenance of a project (BLM 1986). Visual contrast introduced by the Project would result from (1) landform modifications that are necessary to prepare ROWs for construction, (2) removal of vegetation to construct and maintain transmission lines, roads, and converter stations, (3) construction of temporary and permanent access roads required to erect and maintain transmission lines and converter stations, and (4) introduction of transmission lines and converter station facilities into the landscape setting. Contrast in the landscape is determined by comparing visual elements (form, line, color, and texture) of the existing landscape with the visual elements of the Project (i.e., transmission structures, converter stations, access road, etc.). The following are descriptions of each of the visual elements:

- Form—the shape and mass of landforms or structures which appear unified
- Line—the edge of shapes or masses in the landscape (edges, bands, silhouettes)
- Color—the property of reflecting light of a particular intensity and wavelength that the eye can see
- Texture—the aggregation of small forms or color mixture into a continuous surface pattern

Using this method for each KOP, Project components (transmission line alternatives and converter station siting areas) were assigned one of the following five contrast levels:

- Strong—contrast demands attention and is dominant in the landscape
- Moderate-Strong—contrast begins to demand attention and is still moderately dominant in the landscape
- Moderate—contrast attracts attention but is co-dominant in the landscape
- Moderate-Weak—contrast begins to attract attention and is moderately subordinate in the landscape
- Weak—contrast can be seen but does not attract attention

1 Modified BLM Contrast Rating Worksheets (Form 8400-4) were used to document and assess the existing
2 conditions, the proposed changes, and potential impacts for each KOP (Appendix K). The contrast level was then
3 used when considering impacts to scenery and viewers depending on the distance of the viewer from the Project
4 (FG, MG, or BG distance zones).

5 Impacts were identified based on the Project description and the associated EPMs (Appendix F). The primary effects
6 to visual resources that are described throughout this section are assessed and disclosed based on the assumption
7 that the EPMs would be implemented and over time they would reduce impacts to scenery and viewers.

8 Environmental Protection Measures applicable to minimizing impacts on visual resources were identified in the Visual
9 Resource Technical Report (Clean Line 2014) and include the following:

- 10 • GE-3: Clean Line will minimize clearing vegetation within the ROW, consistent with a Transmission Vegetation
11 Management Plan (TVMP) filed with the NERC and applicable federal, state, and local regulations.
- 12 • GE-6: Clean Line will restrict vehicular travel to the ROW and other established areas within the construction,
13 access, or maintenance easement(s).
- 14 • GE-7: Roads not otherwise needed for maintenance and operations will be restored to preconstruction
15 conditions. Restoration practices may include decompacting, recontouring, and re-seeding. Roads needed for
16 maintenance and operations will be retained.
- 17 • GE-10: Clean Line will work with landowners to repair damage caused by construction, operation, or
18 maintenance activities of the Project. Repairs will take place in a timely manner, weather and landowner
19 permitting.
- 20 • GE-11: Clean Line will conduct construction, operation, and maintenance activities to minimize the creation of
21 dust. This may include measures such as limitations on equipment, speed, and/or travel routes utilized. Water,
22 dust palliative, gravel, combinations of these, or similar control measures may be used. Clean Line will
23 implement measures to minimize the transfer of mud onto public roads.
- 24 • LU-3: Clean Line will work with landowners to avoid and minimize impacts to residential landscaping.
- 25 • LU-4: Clean Line will coordinate with landowners to site access roads and temporary work areas to avoid and/or
26 minimize impacts to existing operations and structures.
- 27 • LU-5: Clean Line will make reasonable efforts, consistent with design criteria, to accommodate requests from
28 individual landowners to adjust the siting of the ROW on their properties. These adjustments may include
29 consideration of routes along or parallel to existing divisions of land (e.g., agricultural fields and parcel
30 boundaries) and existing compatible linear infrastructure (e.g., roads, transmission lines, and pipelines), with the
31 intent of reducing the impact of the ROW on private properties.

32 The anticipated visual impacts that would result from construction and operation of the Project are described as
33 follows:

- 34 • High Impacts—Where Project components are dominant or readily apparent from KOPs. Project components
35 would introduce form, line, color, and texture changes that are inconsistent with the existing landscape.
- 36 • Moderate Impacts—Where Project components are co-dominant with existing landscape features, and
37 moderately apparent from viewing KOPs. Project components would mimic form, line, color, and texture of
38 similar features within the existing landscape.

- Low Impacts—Project components are subordinate in the landscape and not readily apparent from KOPs. Project components would parallel existing high-voltage transmission lines or features with similar form, line, color, and texture.

3.18.6.1.2 Impacts to Scenery

Impacts to scenery were determined based on the comparison of the contrast associated with the Project (e.g., transmission lines, converter stations, access roads, etc.) and the factors that compose the existing landscape (e.g., vegetation, landform, water, and cultural modifications) as described in section 3.18.4. Impacts to the existing landscape were assessed by reviewing the landscape category (Distinct, Common, Developed) combined with the anticipated Project contrast. It is anticipated that Distinct or Common landscapes that would be substantially altered by the Project (i.e., where similar facilities do not exist in the landscape) would result in high impacts. Moderate to low impacts are anticipated in Common or Developed landscapes where similar features may be present and the introduction of Project features would result in low levels of modification to the existing landscape. Landscape Scenery Impact ratings are shown in Table 3.18-4.

Table 3.18-4:
Landscape Scenery Impacts Matrix

Landscape Category	Project Contrast				
	Strong	Moderate–Strong	Moderate	Moderate–Weak	Weak
Distinct	High	High	Moderate–High	Moderate	Moderate
Common	High	Moderate–High	Moderate	Moderate	Moderate–Low
Developed	Moderate	Moderate	Moderate–Low	Low	Low

3.18.6.1.3 Impacts to Sensitive Viewers

Impacts to sensitive viewers were determined based on an assessment of contrast, sensitive/user concern level (moderate or high), distance from the Project (0 to 0.5 mile, 0.5 to 3 miles, greater than 3 miles), and visibility of the Project. Table 3.18-5 summarizes how user concern impacts were assessed and demonstrates how concern levels vary depending on how close the viewer is to the Project. High impacts are anticipated to occur where the Project is dominant within a view and highly noticeable by the casual observer, or where the Project introduces a high level of contrast to the existing landscape. Low impacts are anticipated to occur in the BG distance zone where, because of the distance of the viewer from the Project, Project components would be subordinate in the landscape and not readily apparent to the casual observer.

Table 3.18-5:
Viewer Concern Impacts Matrix

Viewer Concern Level	Distance Zones								
	Foreground (FG) (0–0.5 mile) Contrast Level			Middleground (MG) (0.5–3 miles) Contrast Level			Background (BG) (3–15 miles) Contrast Level		
	Strong	Moderate	Weak	Strong	Moderate	Weak	Strong	Moderate	Weak
High	High	Moderate–High	Moderate	Moderate–High	Moderate	Low	Moderate–High	Moderate	Low
Moderate	Moderate–High	Low	Moderate–Low	Moderate	Moderate–Low	Low	Moderate	Moderate–Low	Low
Low	Moderate	Moderate–Low	Low	Low	Low	Low	Low	Low	Low

1

2 **3.18.6.1.4 Overall Project Impacts**

3 The landscape scenery impacts were combined with the viewer concern impacts, resulting in overall Project impact.
4 Table 3.18-6 summarizes how the overall impacts from the Project were assessed. Overall Project impacts are
5 described for each KOP in Sections 3.18.6.2 and 3.18.6.3.

Table 3.18-6:
Overall Project Impacts Matrix

Landscape Scenery Impacts	Viewer Concern Impacts				
	High	High-Moderate	Moderate	Moderate–High	Low
High	High	High	Moderate–High	Moderate	Moderate
Moderate–High	High	Moderate–High	Moderate–High	Moderate	Moderate
Moderate	Moderate–High	Moderate–High	Moderate	Moderate–Low	Moderate–Low
Moderate-Low	Moderate	Moderate	Moderate–Low	Moderate–Low	Low
Low	Moderate	Moderate	Moderate–Low	Low	Low

6

7 **3.18.6.1.5 Photographic Simulations**

8 Photographic simulations were created to depict impacts resulting from the Project at specific viewing locations. DOE
9 and Clean Line selected 56 KOPs to represent each viewing location type (residences, recreation areas, and travel
10 routes), associated concern level, and distance from the Project. Photographic simulations were developed to
11 support the contrast rating and impact analysis by simulating changes associated with the Project and to disclose
12 anticipated representative effects of the Project. Photographic simulations are included in Appendix K.

13 **3.18.6.2 Impacts Associated with the Applicant Proposed Project**

14 **3.18.6.2.1 Converter Stations and AC Interconnection Siting Areas**

15 **3.18.6.2.1.1 Construction Impacts**

16 Construction would result in the short-term visual intrusion of construction vehicles, equipment, materials, and a work
17 force in staging areas, and final converter station location. Vehicles, heavy equipment, structure components,
18 ancillary facility components and materials, and workers would be visible during converter station construction and

1 modification, clearing and grading, structure erection, and cleanup and restoration would create short-term and local
2 contrast within the areas of the ROW for the AC interconnection where construction is taking place. It should also be
3 noted that lighting of construction yards and work areas would create temporary visual impacts to night skies where
4 construction is taking place. Affected viewers would be aware of the temporary nature of the Project construction
5 impacts, which should decrease their concern about the impact.

6 **3.18.6.2.1.2 Operations and Maintenance Impacts**

7 **3.18.6.2.1.2.1 Oklahoma Converter Station Siting Area and AC Interconnection Siting Area**

8 The Oklahoma Converter Station Siting Area would be located southwest of Hardesty. The surrounding area is
9 primarily flat, open agricultural lands that offer panoramic views. The converter station and associated structures
10 would contrast the rural landscape and be visible on the horizon from large distances. This area is already impacted
11 by numerous vertical structures such as wind turbines and existing transmission lines, and there are no notable
12 visual resources, so visual concern is low. The converter station and associated structures would add additional
13 contrast to the landscape, but in this area overall visual impacts would be low due to existing modification to the
14 landscape and low number of sensitive viewers.

15 **3.18.6.2.1.2.2 Tennessee Converter Station Siting Area and AC Interconnection Siting Area**

16 The Tennessee Converter Station Siting Area would be located northeast of the existing Shelby Substation. The area
17 is primarily rural and undeveloped in nature with flat to rolling terrain and areas of dense vegetation. Most of the
18 existing development is residential, and the residents in the developments would represent most of the sensitive
19 viewers. While the region is largely undeveloped, there is an existing substation in close proximity that would reduce
20 the overall visual contrast and impacts of the Project. Two KOPs were identified for this converter station, Shelby 1
21 and Shelby 2, as described below and detailed in Table 3.18-7.

Table 3.18-7:
Visual Impact Summary of KOPS—AC Interconnection Siting Areas

KOP	Converter Station	Distance (Miles)	Viewer Sensitivity	Landscape Category	Visibility	Contrast	Overall Impact
Shelby 1	TN	0.2	High	Developed	Yes	Strong	Moderate-High
Shelby 2	TN	0.5	High	Common	Yes	Moderate	Moderate -High

22

23 **Shelby 1.** Looking southwest from this KOP, the Tennessee converter station would be located 0.2 mile away in the
24 FG. Terrain may screen portions of the converter station, but at this distance it would become a dominant feature on
25 the landscape. The form and line of the converter station would be similar to the existing substation, but appearing at
26 a larger scale because it is closer to the viewer. The Project would result in strong contrast at this location; however,
27 due to the existing substation, which has introduced similar modifications to the landscape setting, the overall visual
28 impact would be moderate-high.

29 **Shelby 2.** Depending on final siting decisions, the Tennessee converter station would be located 0.5 mile to the north
30 of this location. The broad profile of the substation would be visible in the FG and contrast with the existing
31 environment. Some elements of the substation may be visible above the tree line, silhouetted against the sky, but
32 appearing similar in form as existing structures. The Project would result in moderate contrast and moderate-high
33 overall visual impacts at this location.

3.18.6.2.1.3 Decommissioning Impacts

Project facilities would be removed at the end of the operational life of the converter station. Structures and related facilities would be removed and foundations removed to below the ground surface level. There would be residual visual impacts for many years after the Project has been decommissioned and structures removed such as vegetative cutbacks, cut-and-fill scars from construction activities, and access roads, all of which would have added to the visual impact, though these impacts would be at ground level. There would also be temporary visual impacts during decommissioning. These impacts would diminish over time as vegetation returned to the ROW or as redevelopment occurred.

3.18.6.2.2 AC Collection System

3.18.6.2.2.1 Construction Impacts

Construction would result in the short-term visual intrusion of construction vehicles, equipment, materials, and a work force in staging areas, along access roads, and along the new transmission line ROW. Vehicles, heavy equipment, structure components, and workers would be visible during transmission line construction and modification, access and spur road clearing and grading, structure erection, conductor stringing, and cleanup and restoration. However, disturbance from construction activities would be transient and of short duration as activities progress along the transmission line route. Affected viewers would be aware of the temporary nature of Project construction impacts, which may decrease their concern to the impact. The structures and cables (transmission lines) would cause the major long-term change in scenery.

3.18.6.2.2.2 Operations and Maintenance Impacts

The AC collection system routes are located in a sparsely populated area in a landscape that is primarily flat agricultural lands offering open panoramic views. The region does not contain a high number of sensitive viewers or sensitive resources, so impacts would be expected to be low-moderate. The AC collection system routes are located in a largely open and undeveloped landscape, and the introduction of large vertical elements such as a transmission line, would have the potential to affect viewers over a large viewing area. Thirteen viewing locations/KOPs were identified for the AC collection system routes as summarized in Table 3.18-8.

**Table 3.18-8:
Visual Impact Summary of KOPS—AC Collection System Routes**

KOP	Route	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Farnsworth	SE-3	4	High	Common	Yes	Weak	Low
Goodwell	W-1	1.3	High	Common	Yes	Moderate	Moderate
Guymon East	NE-1, NW-2	3.7	High	Developed	Yes	Weak	Low
Guymon West	NW-1	3.2	High	Common	Yes	Weak	Low
Hardesty	E-1	0.5	High	Common	Yes	Moderate	Moderate
Hooker	NE-1, NE-2	2.5	High	Developed	Yes	Weak	Low
Lake Schultz State Park	E-3	1.2	High	Distinct	Yes	Strong	High
Lake Schultz State Park South	E-2, SE-1, SE-3	1	High	Distinct	Yes	Moderate	Moderate-High
Optima	NE-1, NW-2	2.4	High	Developed	Yes	Weak	Low
Optima NWR	E-1	1.3	High	Common	Yes	Moderate	Moderate
Perryton-Leatherman Park	SE-3	5	High	Common	Yes	Weak	Low

**Table 3.18-8:
Visual Impact Summary of KOPS—AC Collection System Routes**

KOP	Route	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Spearman	SE-1	5.6	High	Developed	Yes	Weak	Low
Waka	SE-1	2	High	Common	Yes	Weak	Low

- 1
- 2 **Farnsworth.** This KOP is located on the southeastern edge of the community of Farnsworth, Texas. Looking to the
3 east, AC Collection System Route SE-3 would be located 4 miles away. The transmission line would be faintly visible
4 and would appear as a pattern of vertical elements spaced across the horizon. The transmission line structures
5 would result in weak contrast at this location and the overall visual impact would be low.
- 6 **Goodwell.** AC Collection System Route W-1 would be located 1.3 miles south of this KOP. The landscape in this
7 area is open, providing panoramic views and the transmission line structures would appear as vertical objects on the
8 horizon, when not screened by FG trees and elements. At this distance, the structures would appear small, but there
9 is not a lot of development in this area, so the introduction of additional vertical elements on the landscape would
10 result in moderate visual contrast and Moderate overall visual impact.
- 11 **Guymon East.** AC Collection System Routes NE-1 and NW-2 would be located 3.7 miles to the east of this KOP.
12 Transmission line Structures may be visible on the horizon, but at this distance they would appear as small objects
13 on the horizon and would add to the irregular line of the horizon, resulting in weak contrast and low overall visual
14 impacts.
- 15 **Guymon West.** AC Collection System Route NW-1 would be located 3.2 miles to the southwest of this KOP. At this
16 distance, the structures would appear as small vertical objects on the horizon and would have a similar impact as the
17 existing structures in view, resulting in weak visual contrast and low overall visual impacts.
- 18 **Hardesty.** AC Collection System Route E-1 would be located 0.5 mile to the northwest of this KOP. The structures in
19 the open field would be visible and introduce a repeating pattern of tall vertical elements on the landscape. The
20 structures would be a dominant feature on the open landscape and visual contrast would be moderate. The overall
21 visual impact would be moderate.
- 22 **Hooker.** AC Collection System Route NE-1 and NE-2 would be located 2.5 miles south of the town of Hooker.
23 Transmission line structures would be visible on the horizon and appear as vertical elements similar to existing
24 structures in view. The overall visual contrast would be weak and overall visual impact low.
- 25 **Lake Schultz State Park.** AC Collection System Route E-3 would be located 1.2 miles to the northwest of Lake
26 Schultz State Park. The transmission line structures would introduce vertical elements to the landscape that is
27 currently very natural and intact. At this distance, they would not be a dominate feature, but they would result in
28 strong contrast and high overall visual impact because of the existing scenic integrity of the area.
- 29 **Lake Schultz State Park South.** AC Collection System Routes E-2, SE-1, and SE-3 would be located 1 mile to the
30 south of this KOP. The transmission line structure would be parallel to the existing 345kV line and would introduce

1 additional vertical structures to the environment. The proposed structures would be slightly larger in scale than the
2 existing and would result in moderate visual contrast and moderate-high overall visual impact.

3 **Optima.** From the Optima KOP, AC Collection System Routes NE-1 and NW-2 would be located 2.4 miles to the
4 west. The transmission line structures would appear on the horizon as a row of vertical objects, but would not attract
5 attention at this distance, resulting in weak contrast. AC Collection System Route NE-2 would be located 3.5 miles to
6 the east and have similar visual impacts.

7 **Optima NWR.** AC Collection System Route E-1 would be located 1.3 miles southwest of the Optima NWR. The
8 transmission line structures would be visible on the open landscape and add additional vertical structures to the
9 existing transmission line in view. The addition of these structures would add moderate visual contrast and result in
10 moderate overall visual impact.

11 **Perryton-Leatherman Park.** AC Collection System Route SE-3 would be 5 miles to the west of this KOP. At this
12 distance, the transmission line structures would be barely visible and would not be distinguishable as structures, but
13 they would add to the irregular line of the horizon and existing vertical elements and resulting in weak contrast and
14 low visual impact.

15 **Spearman.** AC Collection System Route SE-1 would be located 5.6 miles to the east and would be barely visible on
16 the horizon. The transmission line structures would add small vertical elements to the horizon line similar to existing
17 structures resulting in weak contrast and low visual impact.

18 **Waka.** AC Collection System Route SE-1 would be located 2 miles to the west of this KOP. The transmission line
19 structures would appear as vertical objects on the horizon that add to the existing elements in view and resulting in
20 weak contrast. The overall visual impact at this location would be low.

21 **3.18.6.2.2.3 Decommissioning Impacts**

22 Project facilities would be removed at the end of the operational life of the transmission line. Conductors, structures,
23 and related facilities would be removed. Foundations would be removed to below the ground surface level. There
24 would be residual visual impacts for many years after the Project has been decommissioned and structures removed
25 such as vegetative cutbacks, cut and fill scars from construction activities, and access roads, which all add to the
26 visual impact, though these impacts would be at ground level. These areas would be apparent after the removal of
27 structures but are expected to diminish over time as vegetation returns to the ROW.

28 **3.18.6.2.3 HVDC Applicant Proposed Route**

29 **3.18.6.2.3.1 Construction Impacts**

30 Construction would result in the short-term visual intrusion of construction vehicles, equipment, materials, and a work
31 force in staging areas, along access roads, and along the new transmission line ROW. Vehicles, heavy equipment,
32 structure components, and workers would be visible during transmission line construction and modification, access
33 and spur road clearing and grading, structure erection, conductor stringing, and cleanup and restoration. However,
34 disturbance from construction activities would be transient and of short duration as activities progress along the
35 transmission line route. Affected viewers would be aware of the temporary nature of Project construction impacts as
36 well as existing structures in the area adjacent to the Project, which may decrease their concern to the impact. It

1 should be noted that there would be short term impacts during the decommissioning of the Project which are similar
2 in nature to the construction impacts described above.

3 **3.18.6.2.3.2 Operations and Maintenance Impacts**

4 **3.18.6.2.3.2.1 Region 1**

5 The landscape category in Region 1 is primarily Common, categorized by agricultural and grasslands and broad
6 panoramic views. A portion of the Applicant Proposed Route in this region would parallel an existing 345kV
7 transmission line, a 138kV transmission line, and several small electric distribution lines in other areas. The tall
8 vertical geometric form of the proposed structures would result in strong contrast with the horizontal lines of the
9 relatively flat landscape. Contrast would be reduced in areas where the Applicant Proposed Route would parallel or
10 be seen in context with existing transmission and electric distribution lines; the level of contrast would depend on the
11 form, line, color and texture of the existing structures and the distance the existing structures are from the Applicant
12 Proposed Route. In addition, transmission lines in this landscape category are typically visible for long distances
13 because the terrain lacks variation and dense stands of trees and the structures are silhouetted against the sky.
14 Changes to the landscape and vegetation due to construction of access roads and ROW clearing may be visible, but
15 changes would generally not be noticeable in the MG and BG; changes may, however, be noticeable to viewers
16 where the Applicant Proposed Route is located in the FG and where the line crosses areas of varied terrain or dense
17 vegetation. Contrast could be reduced in areas where existing access roads would be used and where the Applicant
18 Proposed Route would parallel an existing transmission line corridor where vegetation clearing has previously
19 occurred.

20 The visual impacts for the Region 1 KOPs are listed in Table 3.18-9 described below.

**Table 3.18-9:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 1**

KOP	APR Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Lake Schultz State Park PR	2	1	High	Distinct	Yes	Moderate	Moderate-High
Local Historical Marker PR	4	0.6	Moderate	Common	Yes	Moderate	Moderate-Low
Fort Supply WMA Recreation Area	5	6.4	High	Distinct	No	No Contrast/Not Visible	No Impact
May	5	0.6	High	Common	Yes	Moderate	Moderate

21

22 **3.18.6.2.3.2.1.1 Applicant Proposed Route Link 2**

23 **Lake Schultz State Park.** Applicant Proposed Route Link 2 would be located 1 mile to the south and would appear
24 in the MG just beyond the nearest tree line. Applicant Proposed Route Link 2 would be seen in the context of the
25 existing Hitchland to Woodward 345kV transmission line, which would parallel the Applicant Proposed Route Link 2.
26 Proposed structures would appear wider and taller than existing structures; however, since the existing transmission
27 line has already introduced vertical elements similar in form, line, color, and texture into the landscape setting
28 contrast would be moderate. Overall visual impacts to high sensitivity viewers associated with this KOP would be
29 moderate-high.

1 **3.18.6.2.3.2.1.2 Applicant Proposed Route Link 4**

2 **Local Historical Marker.** Applicant Proposed Route Link 4 would be located 0.6 mile to the south and would parallel
3 an existing 345kV transmission line. Although the existing transmission line has introduced vertical elements into the
4 landscape setting, the taller, wider lattice structures of the Applicant Proposed Route Link 4 would result in moderate
5 contrast in form, line, and texture to the existing structures. Overall impacts to moderate sensitive viewers associated
6 with this KOP would be moderate–low.

7 **3.18.6.2.3.2.1.3 Applicant Proposed Route Link 5**

8 **Fort Supply WMA Recreation Area.** Applicant Proposed Route Link 5 would be located 6.4 miles north of this KOP.
9 Overall visual impacts are not anticipated at this location because the Project would be completely screened by
10 terrain and vegetation.

11 **May.** The Applicant Proposed Route Link 5 would be located 0.6 miles to the south and would appear on the horizon
12 as a row of vertical elements. Applicant Proposed Route Link 5 would be seen in the context of existing electric
13 distribution lines in the FG and transmission lines in the BG, which have already introduced vertical elements into the
14 landscape setting. However, the taller, wider lattice structures of the Applicant Proposed Route Link 5 would result in
15 moderate contrast in form, line, and texture to the existing structures, creating moderate contrast. Moderate contrast
16 to high sensitivity viewers associated with this KOP would result in moderate impacts.

17 **3.18.6.2.3.2.2 Region 1 Conclusion**

18 Region 1 contains a low density of sensitive viewers and is primarily associated with small rural communities and
19 scattered rural residences. Visual impacts are anticipated to be mostly moderate to moderate-low for high sensitivity
20 viewers where the Project is visible in the MG or BG and would be seen in the context of existing vertical structures.
21 Moderate–high impacts are anticipated for high sensitivity viewers associated with Lake Schultz State Park where the
22 Applicant Proposed Route would cross a landscape categorized as Distinct in the MG.

23 **3.18.6.2.3.2.3 Region 2**

24 The landscape category in Region 2 is primarily Common, and similar to Region 1, is characterized by agricultural
25 and grasslands and broad panoramic views. In Region 2, the Applicant Proposed Route is located near several
26 existing transmission lines near Mooreland and Boiling Springs State Park. In addition, the Applicant Proposed Route
27 would parallel 30 miles of the existing Okeene to Mooreland 115kV transmission line. The contrast introduced by the
28 Applicant Proposed Route and visibility are similar to those described in Region 1 (see Section 3.18.6.2.3.2). The
29 visual impacts for the Region 2 KOPs are listed in Table 3.18-10 and described below.

**Table 3.18-10:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 2**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Boiling Springs State Park	1	0.9	High	Distinct	Yes	Moderate	Moderate–High
Mooreland	1	1.8	High	Developed	No	No Contrast/Not Visible	No Impact
Canton WMA and Lake Recreation Area	2	6.5	High	Distinct	No	No Contrast/Not Visible	No Impact
Cimarron River Crossing	2	0	Moderate	Distinct	Yes	Strong	High
Fairview	2	3.3	High	Common	Yes	Weak	Low

**Table 3.18-10:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 2**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Gloss Mountain State Park	2	11	High	Distinct	No	No Contrast/Not Visible	No Impact
SR 60 West of Fairview	2	1	High	Common	Yes	Strong	High
Ames	3	2.5	High	Common	Yes	Weak	Moderate-Low
Bison	3	1.4	High	Common	Yes	Weak	Low

1
2 **3.18.6.2.3.2.3.1 Applicant Proposed Route Link 1**
3 **Boiling Springs State Park.** Applicant Proposed Route Link 1 would be located 0.9 mile to the northeast. The rolling
4 terrain and vegetation in the area would only offer visitors to the park sporadic views of the transmission line
5 structures through breaks in the vegetation. There are existing vertical elements in the landscape, and the additional
6 transmission line structures would result moderate contrast. Because Boiling Springs is a state park, it is considered
7 a sensitive area, so the overall visual impact would be moderate-high.

8 **Mooreland.** Applicant Proposed Route Link 1 would be located 1.8 miles to the north, but terrain would block
9 potential views from this location, so there would be no contrast and no overall visual impact would occur at this
10 location.

11 **3.18.6.2.3.2.3.2 Applicant Proposed Route Link 2**

12 **Canton WMA and Lake Recreation Area.** Applicant Proposed Route Link 2 would be located 6.5 miles to the north
13 of this KOP. Looking across the lake, the Project would most likely not be visible because of the large distance and
14 dense vegetation on the other side of the lake. With no visibility, there would be no contrast and no overall visual
15 impacts would occur at this location.

16 **Cimarron River Crossing.** Applicant Proposed Route Link 2 would cross the Cimarron River in the immediate FG.
17 Viewers at this location would see the transmission line running parallel to the road, crossing the river in a very rural
18 area with little development and has moderate visual concern due to low numbers of viewers. The transmission line
19 would be highly visible and dominant in view at this location. The large metal structures would be the only vertical
20 elements on the landscape, resulting in strong contrast. The overall visual impact would be high. A visual simulation
21 for this KOP is provided in Appendix K.

22 **Fairview.** Applicant Proposed Route Link 2 would be located 3.3 miles to the south. Visitors to the park and
23 fairgrounds may be able to see the transmission line structures appearing as a row of vertical objects on the distant
24 horizon, where it is not blocked by vegetation. Because of the large distance, these proposed structures would
25 appear smaller than the existing structures in view and there would be no change to landform or vegetation, resulting
26 in weak visual contrast. The overall visual impact at this location would be low.

27 **Gloss Mountain State Park.** The HVDC Applicant Proposed Route Link 2 would be located 11 miles to the south
28 and would not be visible to park visitors without the use of binoculars or other magnification resulting in no contrast.
29 For this reason, there would be no overall visual impact. A visual simulation for this KOP is provided in Appendix K.

1 **SR 60 West of Fairview.** Applicant Proposed Route Link 2 would run parallel to the existing 115kV line as it crosses
2 the landscape at a distance of 1 mile. The proposed transmission line structures would be larger in scale and differ in
3 form, color, and texture than the existing wood structures of the 115kV line, and be dominant in FG views becoming
4 less visible as it recedes in into the BG zone. This KOP represents residential viewers, so visual concern is high.
5 Modifications to vegetation would also be visible as the line crosses the highway and would result in strong visual
6 contrast. The overall visual impacts at this location would be high.

7 **3.18.6.2.3.2.3.3 Applicant Proposed Route Link 3**

8 **Ames.** Applicant Proposed Route Link 3 would be visible and appear as small objects 2.5 miles to the southwest
9 where it is not blocked by vegetation or terrain. The tall structures would introduce a new vertical element to the
10 landscape, but at this distance, the transmission line would only introduce a weak level of contrast and the overall
11 visual impact is low.

12 **Bison.** Applicant Proposed Route Link 3 would appear as small vertical elements on the horizon 1.4 miles to the
13 south. The added structures would be taller and larger in form than the existing structures (as described in Section
14 3.18.5.2.1) in view, but would result in weak visual contrast due to existing cultural modifications to the landscape.
15 The overall visual impact would be low.

16 **3.18.6.2.3.2.4 Region 2 Conclusion**

17 Region 2 contains a low density of sensitive viewers primarily associated with small rural communities and scattered
18 rural residences. Visual impacts are anticipated to be mostly moderate–low to low for high sensitivity viewers where
19 the Project is visible in the MG or BG distance zone. Higher impacts could occur for high sensitivity viewers
20 associated with the community of Fairview where the Applicant Proposed Route would be located in the FG. Higher
21 impacts could also occur for high sensitivity viewers associated with State Parks and other recreation areas (such as
22 Boiling Springs State Park and the Cimarron River) within the region; however, views from some recreation areas,
23 like Gloss Mountain State Park, would be obstructed due to variation in terrain and/or existing vegetation associated
24 with these facilities.

25 **3.18.6.2.3.2.5 Region 3**

26 The landscape category in Region 3 is primarily Common, and is characterized by relatively level terrain in the
27 western portion of the region transitioning to gently and moderately rolling hills in the western portion of the region.
28 Vegetation also becomes varied transitioning from primarily grasses with low shrubs and scattered trees to wooded
29 areas in the eastern portion of the region. Views are generally open within the western portion of the region where
30 there is little variation in terrain and vegetation; and become more limited when hilly terrain and wooded areas
31 become more prevalent in the eastern portion. In Region 3, the Applicant Proposed Route would parallel several
32 medium and large transmission lines including a 69kV line (approximately 7 miles); 115kV line (approximately 4.5
33 miles); three 138kV lines (approximately 11 miles, 4 miles, and 30 miles); and a 345kV line (approximately 10 miles).
34 The Applicant Proposed Route would also cross several transmission lines (138kV and 345kV) located throughout
35 the region. The contrast introduced by the Applicant Proposed Route and visibility are similar to those described in
36 Region 1 for the western portion of Region 3 (see Region 1 Conclusions Section 3.18.6.2.3.2). As noted above,
37 visibility within the eastern portion of Region 3 becomes more limited with the increasing variation in terrain and
38 wooded areas which can screen (partially or completely) transmission structures from viewers. The visual impacts for
39 the Region 3 KOPs are listed in Table 3.18-11 and described below.

**Table 3.18-11:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 3**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Marshall	1	3.1	High	Common	Yes	Weak	Low
Mullhall	1	1	High	Common	Yes	Moderate	Moderate
Stillwater	1	2	High	Developed	No	No Contrast/Not Visible	No Impact
Meehan	3	0.4	High	Common	Yes	Strong	High
Beggs	4	1.6	High	Common	Yes	Moderate	Moderate
Cimarron River Crossing	4	0	Moderate	Distinct	Yes	Strong	High
Cushing	4	1.4	High	Common	Yes	Moderate	Moderate
Heyburn Lake	4	4.3	High	Distinct	No	No Contrast/Not Visible	No Impact
Ripley	4	0.7	High	Common	Yes	Moderate	Moderate
Shamrock	4	1.2	High	Common	Yes	Moderate	Moderate
Summit	5	0.15	High	Common	Yes	Moderate	Moderate-High
Taft	5	3.5	High	Common	No	No Contrast/Not Visible	No Impact
McLain	6	0.2	High	Common	Yes	Weak	Low
Webbers Falls	6	1.5	High	Distinct	No	No Contrast/Not Visible	No Impact

1

2 **3.18.6.2.3.2.5.1 Applicant Proposed Route Link 1**

3 **Marshall.** Applicant Proposed Route Link 1 would be faintly visible on the horizon 3.1 miles to the south and would
4 appear smaller in scale than existing vertical elements. Because of the distance, the proposed structures would
5 highly noticeable resulting in weak contrast and low overall visual impact.

6 **Mulhall.** Applicant Proposed Route Link 1 would be located 1 mile to the south-southwest and would be visible as
7 the transmission structures extend above the horizon line. Portions of the transmission line structures not screened
8 by vegetation would appear as vertical elements spaced across the distant horizon above the vegetation, resulting in
9 a moderate increase in contrast. This KOP represents a residential area with high visual concern and the overall
10 visual impacts for this landscape would be moderate.

11 **Stillwater.** Applicant Proposed Route Link 1 would be located 2 miles to the south, but views would be screened by
12 vegetation and houses in the FG, resulting in no visual impact. A visual simulation for this KOP is provided in
13 Appendix K.

14 **3.18.6.2.3.2.5.2 Applicant Proposed Route Link 3**

15 **Meehan.** Applicant Proposed Route Link 3 would be located 0.4 mile to the south, just on the other side of the
16 transmission line of trees in the FG. The height of the proposed structures would cause the upper portion to be
17 clearly visible above the horizon line and larger in scale than the existing vertical elements, creating strong contrast
18 and a high overall visual impact.

19 **3.18.6.2.3.2.5.3 Applicant Proposed Route Link 4**

20 **Beggs.** The transmission line would be located Visitors to this site would have views of Applicant Proposed Route
21 Link 4, 1.6 miles to the north. Where the transmission line structures are not screened by FG vegetation, they would

1 be visible on the horizon and would add moderate contrast to the landscape. The overall visual impacts would be
2 moderate.

3 **Cimarron River Crossing.** Applicant Proposed Route Link 4 would cross the river at this point, running parallel to
4 the existing line in view, but would be much larger in scale and highly visible in the FG. This KOP represents a major
5 water body, but the number viewers in this location would be low, so there would be moderate visual concern. In
6 addition, vegetation would need to be cleared for the ROW, which would add to the strong visual contrast on the
7 landscape. The overall visual impact at this location would be high.

8 **Cushing.** Applicant Proposed Route Link 4 would be located 1.4 miles to the southwest. The visual concern in this
9 location is high because it represents a residential area. Portions of the transmission line structures would be visible
10 on the horizon and would appear as dark vertical elements, resulting in moderate contrast. The visual impacts at this
11 location would be moderate.

12 **Heyburn Lake.** Applicant Proposed Route Link 4 would be located 4.3 miles from this KOP. Because of distance and
13 existing vegetation and terrain, structures would not be visible. There would be no visual impact at this location.

14 **Ripley.** Applicant Proposed Route Link 4 would be visible 0.7 mile to the northeast in the MG and appear as a row of
15 objects on the horizon. Portions of the transmission line would be screened by vegetation and existing structures.
16 Transmission line structures that are visible would be noticeably different from the existing landscape and result in
17 moderate contrast. This KOP represents a residential area with high visual concern and the overall visual impact on
18 the landscape would be moderate.

19 **Shamrock.** Applicant Proposed Route Link 4 would be located 1.2 miles to the northwest of this KOP. The visible
20 transmission line structures would appear as dark objects, creating a repeating pattern across the forested ridgeline
21 on the horizon. This is a residential area and visual concern is high and the vertical elements of the transmission line
22 would be noticeable with no other existing vertical features, resulting in moderate contrast. Overall visual impacts
23 would also be moderate.

24 **3.18.6.2.3.2.5.4 Applicant Proposed Route Link 5**

25 **Summit.** Applicant Proposed Route Link 5 would be 0.15 mile to the south and would run parallel to the existing
26 lattice transmission structure. From this view, the transmission line structures would be located and the near side of
27 the existing line, so it would appear larger in scale and be more prominent in view, but with similar form. When added
28 to the landscape, the additional structures would result in moderate contrast due to existing structures in view and the
29 overall visual impact would be moderate-high.

30 **Taft.** Applicant Proposed Route Link 5 is located 3.5 miles to the south and would be screened by vegetation and
31 terrain resulting in no visual impact at this location.

32 **3.18.6.2.3.2.5.5 Applicant Proposed Route Link 6**

33 **McLain.** Applicant Proposed Route Link 6 would run parallel to the existing 345kV line in view from this location and
34 would first come into view about 0.7 mile to the east. The transmission line would have similar form and visibility as
35 the existing lattice structures, adding weak visual contrast and low overall visual impacts.

1 **Webbers Falls.** The Applicant Proposed Route Link 6 would be located 1.5 miles to the southwest. Given the
2 distance and existing vegetation, the transmission line structures would not be visible from this location and there
3 would be no visual impact.

4 **3.18.6.2.3.2.6 Region 3 Conclusion**

5 Region 3 contains a moderate density of sensitive viewers primarily associated with rural communities, scattered
6 rural residences, and recreation areas. Visual impacts are anticipated to be mostly moderate for high sensitivity
7 viewers where the Project is visible in the MG distance zone. The Applicant Proposed Route may be partially
8 screened by vegetation and/or seen within the context of existing transmission lines. Low or no impacts are
9 anticipated for high sensitivity viewers where the Project is located in the BG distance zone, where contrast would be
10 weak due to viewing distance or the Project would be completely screened by existing terrain and/or vegetation.
11 Higher impacts are anticipated for high sensitivity viewers associated with communities or recreation areas where the
12 Project is located within the FG and is not seen in the context of other transmission lines.

13 **3.18.6.2.3.2.7 Region 4**

14 The landscape category in Region 4 is primarily Common and is characterized by varied terrain including undulating
15 plains, rolling hills and terraces in the southern portion of the region. Landscapes categorized as Distinct occur
16 throughout the region and are associated with more natural rugged terrain in the northern portion of the region and
17 near water features (such as the Arkansas River, lakes and reservoirs). The rugged hills, mountains, rolling hills, and
18 forested landscapes in the northern portion of the region limits distant views, whereas in the southern portion of the
19 region the less varied terrain and lack of vegetation allows for expansive view across the landscape. In Region 4, the
20 Applicant Proposed Route would parallel several medium and large existing transmission lines, including a 345kV
21 line for approximately 5.5 miles north of Vian; a 138kV line for approximately 5 miles near the Oklahoma-Arkansas
22 border; a 138kV line for approximately 5 miles northeast of Widerkerhr Village; a 138kV line for approximately 25
23 miles between Hunt and Big Piney Creek (this line would be between 0.25 and 0.5 miles away from the Applicant
24 Proposed Route); and a 138kV line for approximately 3 miles north of Big Piney Creek. The Applicant Proposed
25 Route would also cross or be located near several medium and large existing transmission lines that vary in size
26 between 115kV and 345kV transmission lines.

27 The tall vertical geometric forms of the proposed structures would result in strong contrast with the horizontal lines of
28 the relatively flat landscape found within the southern portion of the region. Contrast would be reduced in areas
29 where the Applicant Proposed Route would parallel or be seen in context with existing transmission and electric
30 distribution lines; the level of contrast would depend on the form, line, color and texture of the existing structures and
31 the distance the existing structures are from the Applicant Proposed Route. In the northern region, transmission
32 structures are often only visible in the FG/MG and tend to be partially obstructed by terrain and vegetation; however,
33 structures often protrude above the terrain and trees and are silhouetted against the sky drawing viewer's attention.
34 The presence of other similar structures would reduce the contrast. Changes to the landscape and vegetation due to
35 construction of access roads and ROW clearing may be visible but changes would generally not be noticeable in the
36 MG and BG where terrain and vegetation may obscure these changes. In some instances, however, the Project may
37 become visible as the viewer is elevated or as the transmission line traverses hilly terrain, ridges, or open spaces.
38 Changes may also be noticeable to viewers where the Applicant Proposed Route is located in the FG in relatively flat
39 terrain with minimal vegetation to obscure views. Contrast could be reduced in areas where existing access roads
40 would be used and where the Applicant Proposed Route would parallel an existing transmission line corridor where

- 1 vegetation clearing has previously occurred and additional clearing for the Project would make an existing corridor
- 2 look wider. The visual impacts for the Region 4 KOPs are listed in Table 3.18-12 and described below.

**Table 3.18-12:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 4**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Arkansas River	1	0.2	Moderate	Common	Yes	Moderate	Moderate
Arkansas River and Gore	1	3	High	Distinct	Yes	Weak	Moderate-Low
Highway 10	1	0.2	Moderate	Common	Yes	Strong	High
Tenkiller State Park	1	4	High	Distinct	No	No Contrast/Not visible	No Impact
Trail of Tears State Route 100	1	0.2	High	Common	Yes	Strong	High
Brushy Creek Reservoir and Sallisaw State Park	3	2.8	High	Distinct	No	No Contrast/Not Visible	No Impact
Field of Dreams	3	2.6	High	Developed	No	No Contrast/Not Visible	No Impact
Highway 82	3	0.3	Moderate	Common	Yes	Weak	Moderate-Low
Lee Creek	3	0.5	High	Common	Yes	Strong	High
Robert S Kerr Reservoir	3	7	High	Distinct	No	No Contrast/Not Visible	No Impact
Sallisaw	3	0.5	High	Common	Yes	Moderate	Moderate
Sequoyah NWR Boat Launch	3	5	High	Common	No	No Contrast/Not Visible	No Impact
Sequoyah's Cabin	3	1.2	High	Distinct	Yes	Weak	Moderate-Low
Van Buren PR	3	1.8	High	Common	Yes	Weak	Low
Vian	3	0.7	High	Common	Yes	Moderate	Moderate
Vian Lake	3	0.2	High	Distinct	Yes	Strong	High
Van Buren AR/PR	4, 5	2	High	Common	No	No Contrast/Not Visible	No Impact
Scott Farm	5	0.3	High	Common	Yes	Moderately High	Moderate-High
Alma	6	0.5	High	Common	Yes	Moderate	Moderate
Bluff Hole Park	6	1.7	High	Common	Yes	Weak	Low
City Park/Ball Fields and Rudy	6	2	High	Developed	No	No Contrast/Not Visible	No Impact
Clear Creek Park	6	1.4	High	Distinct	No	No Contrast/Not Visible	No Impact
Dyer	6	0.3	High	Common	Yes	Strong	High
Mulberry Park	6	0.3	High	Common	Yes	Strong	High
Mulberry River and Trail of Tears	6	0.4	High	Distinct	Yes	Strong	High
Trail of Tears Wire Road	6	0.2	High	Common	Yes	Strong	High
Vine Prairie Park	6	1.5	High	Distinct	Yes	Weak	Moderate-Low
Aux Arc Park	7	2.8	High	Distinct	Yes	Weak	Moderate-Low
East Side City Park	7	2.1	High	Distinct	No	No Contrast/Not Visible	No Impact
Interstate 40 Rest Stop	7	0.04	Moderate	Common	Yes	Strong	Moderate-High
Ozark	7	0.8	High	Common	Yes	Weak	Low
Ozark City Boat Launch	7	0.6	High	Distinct	No	No Contrast/Not Visible	No Impact
West Side City Park	7	2	High	Common	No	No Contrast/Not Visible	No Impact
White Oak	7	1.5	High	Common	No	No Contrast/Not Visible	No Impact
White Oak Park	7	3	High	Distinct	No	No Contrast/Not Visible	No Impact
Trail of Tears (Highway 352)	8	0.028	High	Common	Yes	Strong	High

**Table 3.18-12:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 4**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Wiederkehr Village and Highway 186	8	0.7	High	Common	Yes	Weak	Low
Big Piney Creek	9	0.2	High	Distinct	Yes	Moderate	Moderate-High
Clarksville	9	2.5	High	Common	No	No Contrast/Not Visible	No Impact
Hagarville	9	1	High	Common	Yes	Moderate	Moderate
Horsehead Lake Recreation Area	9	2.1	High	Distinct	No	No Contrast/Not Visible	No Impact
Hunt	9	0.2	High	Common	Yes	Strong	High
Lake Ludwig	9	0.9	High	Distinct	Yes	Weak	Moderate-Low
Route 21 (Scenic Byway)	9	0.1	High	Distinct	Yes	Strong	High

1

2 **3.18.6.2.3.2.7.1 Applicant Proposed Route Link 1**

3 **Arkansas River.** Applicant Proposed Route Link 1 would be located 0.2 mile away, running parallel to the existing
4 transmission. Viewers at this location would be able to clearly see the lattice structures as well as a ROW cleared of
5 vegetation on the river banks. The proposed transmission line structures would be located on the near side of the
6 existing structures, and would appear more dominant in view. Since this is already a heavily impacted site, the
7 proposed structures would be repeating form, line, color and texture and result in moderate contrast. The overall
8 visual impacts at this location would be moderate.

9 **Arkansas River and Gore.** Applicant Proposed Route Link 1 would be located 3 miles to the northwest. Portions of
10 the structures may appear above the tree line in the distant MG, but would only be faintly noticeable, producing weak
11 contrast. This KOP represents a major waterbody and recreation area with high visual concern. Overall visual
12 impacts at this location would be moderate-low. A visual simulation for this KOP is provided in Appendix K.

13 **Highway 10.** Applicant Proposed Route Link 1 would be clearly visible as the line crosses the open field to the
14 northwest and spans the highway. The structures would be a dominant element on the landscape and introduce new
15 line, form, color, and texture. In addition, the clearing of vegetation near the sides of the highway would be clearly
16 visible to motorists, introducing additional contrast. This view represents a scenic highway, so visual concern is high.
17 The transmission line structures would result in strong contrast and high overall visual impact at this location. A visual
18 simulation for this KOP is provided in Appendix K.

19 **Tenkiller State Park.** Applicant Proposed Route Link 1 would be located about 4 miles to the south of this location.
20 From this vantage point, terrain and vegetation would screen all views of the transmission line and would result in no
21 visual impact.

22 **Trail of Tears State Route 100.** Applicant Proposed Route Link 1 would be located 0.2 mile from this KOP.
23 Transmission line structures would be clearly visible above tree line as the route crosses the highway and Trail of
24 Tears. The Trail of Tears locations mapped by the NPS are representative of the historic location of the trail and the
25 extent of the trail at each crossing location is not known. Transmission line structures would introduce new vertical
26 elements into the landscape, becoming dominant as motorists approach, and the transmission line conductors would

1 be visible crossing over the highway, resulting in strong contrast. In addition, ROW clearing would be visible to
2 motorists as they approach the crossing, resulting in additional contrast. The overall visual impact at this location
3 would be high.

4 **3.18.6.2.3.2.7.2 Applicant Proposed Route Link 3**

5 **Brushy Creek Reservoir and Sallisaw State Park.** Applicant Proposed Route Link 3 would be located 2.8 miles to
6 the south, but would not be visible due to distance, terrain, and vegetation. There would be no visual impact.

7 **Field of Dreams.** Proposed Route Link 3 would be located 2.6 miles to the north of the Field of Dreams ball field.
8 Dense trees in the FG would obscure views of the Project from this location, resulting in no visual impact.

9 **Highway 82.** Applicant Proposed Route Link 3 would cross the highway 0.3 mile to the southwest. The Project would
10 run parallel to an existing transmission line and the proposed transmission line would repeat the line, form, scale, and
11 color. The proposed structures would be noticeable to viewers at this location, but since they would be additions to
12 the existing structures, the contrast would be weak. The visual concern in this area is moderate and the overall visual
13 impact would be moderate-low.

14 **Lee Creek.** Applicant Proposed Route Link 3 would be located 0.5 mile to the north of this location. Recreationists
15 standing at the boat launch or on the docks would most likely not see any of the structures due to vegetation and
16 terrain. Once visitors were out on the lake, however, both the structures and vegetation clearing for the ROW would
17 be clearly visible. The transmission line structures would introduce new vertical elements that would be visible above
18 tree line and a cleared ROW would introduce lines in the vegetation inconsistent with the current natural landscape.
19 The visual contrast from many areas on or around the lake would be strong and the overall visual impact would be
20 high.

21 **Robert S. Kerr Reservoir.** Applicant Proposed Route Link 3 would be located 7 miles to the north. From this
22 location, the line would not be visible due to distance and FG terrain and vegetation. There would be no visual impact
23 from this location.

24 **Sallisaw.** Applicant Proposed Route Link 3 would be located 0.5 mile to the north-northeast and be visible crossing
25 the open field in the MG. Some of the structures would extend above tree line and be prominent in view. There are
26 existing vertical elements, so the additional structures would result in moderate contrast. This KOP represents a
27 residential area with high visual concern and the overall visual impact would be moderate.

28 **Sequoyah NWR Boat Launch.** Applicant Proposed Route Link 3 would be located 5 miles to the north, but would
29 not be visible given the dense vegetation. There would be no overall visual impact at this location.

30 **Sequoyah's Cabin.** Applicant Proposed Route Link 3 would be located 1.2 miles to the south. The majority of the
31 views from the historic site grounds would be screened by FG vegetation, but some transmission line structures
32 would be visible on the horizon, extending above the trees. The transmission line structures would introduce some
33 vertical elements to the landscape, but they would not be dominant elements. The visual contrast would be weak and
34 overall visual impact would be moderate–Low, since it is a sensitive historic site. A visual simulation for this KOP is
35 provided in Appendix K.

1 **Van Buren.** Applicant Proposed Route Link 3 would be located about 1.8 miles to the northwest from this residential
2 area with high visual concern. The rolling terrain and dense vegetation would screen views of the transmission line
3 structures. If visible through breaks in the FG vegetation, the structures would appear as small dark objects
4 extending above the trees on the horizon and would result in weak contrast. The overall visual impact would be low.

5 **Vian.** Applicant Proposed Route Link 3 would be located about 0.7 mile to the north-northeast. There are several
6 transmission line structures visible from this location, and the Project would be located parallel to the existing lattice
7 structures that are just barely visible in the MG. The proposed structures would be similar in form to the existing
8 lattice, but larger in scale introducing weak moderate contrast to the scene. This is a residential area, so visual
9 concern is high and the overall visual impact would be moderate.

10 **Vian Lake.** Applicant Proposed Route Link 3 would be visible running parallel to the existing transmission line on the
11 far side of the lake, 0.2 mile away. Because of the dense vegetation in the area, large amounts of trees would be
12 cleared for the ROW, leaving open views of the existing structures as well as the proposed. This KOP represents a
13 view from a recreational area and has high visual concern and extended viewing times. The combination of
14 vegetation clearing and introduction of new vertical elements in the landscape would result in strong contrast and
15 high overall visual impact. A visual simulation for this KOP is provided in Appendix K.

16 **3.18.6.2.3.2.7.3 Applicant Proposed Route Link 4**

17 **Van Buren.** Applicant Proposed Route Link 4 would be located 2 miles to the north of this KOP. Large trees and
18 rolling terrain would obscure views of the transmission line structures from this location, resulting in no visual impact.

19 **3.18.6.2.3.2.7.4 Applicant Proposed Route Link 5**

20 **Scott Farm.** Applicant Proposed Route Link 5 would be located 0.3 mile to the north. Residents of the subdivision
21 would be able to see the transmission line structures clearly from both the entrance and several of the residences.
22 The subdivision is on high ground, so residents looking down towards the transmission line structures would see the
23 structures at a reduced contract because of the backdrop of existing vegetation. There are several other vertical
24 structures such as communications structures and antennas on the existing landscape that reduce the impact of the
25 added contrast, resulting in a moderate contrast overall. This is a residential area with high visual concern and the
26 visual impact at this location would be moderate-high. A visual simulation for this KOP is provided in Appendix K.

27 **Van Buren.** See description for Applicant Proposed Route Link 4.

28 **3.18.6.2.3.2.7.5 Applicant Proposed Route Link 6**

29 **Alma.** Applicant Proposed Route Link 6 would be visible crossing the open field 0.5 mile to the north. The
30 transmission line structures would be visible just in front of the dense line of trees in the MG and would extend above
31 tree line, adding vertical elements to the irregular line of the horizon. The transmission line structures would be visible
32 to motorists and residents of Alma and would result in moderate contrast. This is a residential area with high visual
33 concern and the overall visual impact would be moderate.

34 **Bluff Hole Park.** Applicant Proposed Route Link 6 would be located about 1.7 miles to the north. Most views of the
35 transmission line structures would be screened by FG vegetation, but if they were visible, they would appear as small
36 dark objects and likely would not attract the attention of visitors to the park. This is a recreation area, so visual
37 concern is high and the overall visual contrast would be weak and visual impacts low.

1 **City Park Ball Fields and Rudy.** Applicant Proposed Route Link 6 would be located 2 miles to the southwest of the
2 City Park Ball Fields in Rudy. People at the park would not be able to see any of the structures due to vegetation and
3 terrain in the FG. There would be no visual impact at this location.

4 **Clear Creek Park.** Dense trees in the FG view from Clear Creek Park would screen all views of the Applicant
5 Proposed Route 1.4 miles to the north. There would be no visual impact at this location.

6 **Dyer.** Applicant Proposed Route Link 6 would be clearly visible in the FG as it crosses the open field 0.3 mile to the
7 southeast. The transmission line structures would introduce large vertical elements to an open landscape free of
8 heavy modification, creating a dominant feature and resulting in strong visual contrast. This is a residential area, so
9 visual concern is high and the overall visual impact would be high.

10 **Mulberry Park.** Applicant Proposed Route Link 6 would be located 0.3 mile away and be clearly visible as it crosses
11 the open field past the FG trees. The transmission line structures would be dominant in the view to the west,
12 extending above the distant tree line and introducing a new vertical form to the landscape that is currently void of
13 heavy modification. This is a public park, so visual concern is high and viewing times would be long duration. The
14 overall visual contrast would be of strong and overall visual impacts would be high at this location.

15 **Mulberry River and Trail of Tears.** Applicant Proposed Route Link 6 would cross the river 0.4 mile from this
16 location. Most of the transmission line structures would be screened because of the dense vegetation in the area, but
17 when they were visible through breaks in vegetation, they would be clearly visible across the open field to the east.
18 The proposed transmission line structures would be noticeably different than existing structures in view, introducing
19 new form and line to the landscape. Since this is a sensitive viewpoint representing a historic trail, the proposed
20 structures would result in strong contrast and high overall visual impact. A visual simulation for this KOP is provided
21 in Appendix K.

22 **Trail of Tears Wire Road.** Applicant Proposed Route Link 6 would be located 0.2 mile to the southwest. The
23 proposed transmission line would be the dominate view as the line crosses the highway and different in form than
24 existing structures as well as much larger in scale. The level of visual contrast would be strong and overall visual
25 impact high.

26 **Vine Prairie Park.** Applicant Proposed Route Link 6 would be located 1.5 miles to the northwest of this park and boat
27 launch area. Visitors using these facilities may be able to see the tops of the transmission line structures extending
28 above the tree line, but they would appear as small dark objects, adding to the already irregular line of the horizon,
29 resulting in weak contrast. This area does represent a recreational area in a scenic quality Class A landscape, so
30 overall visual impacts would be moderate–low.

31 **3.18.6.2.3.2.7.6 Applicant Proposed Route Link 7**

32 **Aux Arc Park.** Applicant Proposed Route Link 7 would be across the river, 2.8 miles to the north of Aux Arc Park.
33 The HVDC Applicant Proposed Route would be visible on the far shore by visitors to the park, but would exist with
34 multiple other cultural modifications and would only add weak visual contrast to the landscape. This KOP represents
35 a recreation area so visual concern is high, but because of distance and weak level of contrast added, overall visual
36 impacts would be low.

1 **East Side City Park.** Applicant Proposed Route Link 7 would be located 2.1 miles from East Side City Park, but
2 would not be visible due to dense vegetation in the FG. There would be no visual impact at this location.

3 **Interstate 40 Rest Stop.** Applicant Proposed Route Link 7 would be located 200 feet to the north of this location as it
4 crosses the field in the near FG. This KOP represents views from a scenic highway, so visual concern is high. The
5 transmission line would dominate the view of anyone stopping at this rest stop and the clearing of the ROW would be
6 clearly visible, resulting in strong visual contrast and high overall visual impact. A visual simulation for this KOP is
7 provided in Appendix K.

8 **Ozark.** Applicant Proposed Route Link 7 would be located 0.8 mile to the north. People in the area may be able to
9 see tops of the structures extending about the trees on the horizon, but the majority of the transmission line
10 structures would be screened by dense vegetation and the low ridgeline in the MG. Any structures extending above
11 the horizon would be visible as small dark objects adding weak contrast to the irregular line and form of the existing
12 vegetation. The overall visual impact would be low.

13 **Ozark City Lake Boat Launch.** Applicant Proposed Route Link 7 would be located 0.6 mile from the boat launch at
14 Ozark City Lake. The dense trees and ridgeline on the far side of the lake would likely block all views of the
15 transmission line structures from recreationists on the lake. Because there is no visibility, there would be no visual
16 impacts at this location.

17 **West Side City Park.** Applicant Proposed Route Link 7 would be located 2 miles from this KOP. Tall trees and
18 terrain in the FG/MG would obscure views of the transmission line structures from this park, resulting in no visual
19 impact.

20 **White Oak.** Applicant Proposed Route Link 7 would be located 1.5 miles to the south. Dense trees line the road in
21 this area and would screen all potential views of the transmission line structures, resulting in no visual impact.

22 **White Oak Park.** Applicant Proposed Route Link 7 would be located 3 miles to the north of White Oak Park. The
23 dense vegetation on the banks surrounding the lake would obscure all views of the HVDC Applicant Proposed Route,
24 resulting in no visual impact.

25 **3.18.6.2.3.2.7.7 Applicant Proposed Route Link 8**

26 **Trail of Tears (Highway 352).** Applicant Proposed Route Link 8, would cross Highway 352 and the Trail of Tears
27 150 feet to the northwest. The Trail of Tears locations mapped by the NPS are representative of the historic location
28 of the trail and the extent of the trail at each crossing location is not known. The transmission line would run parallel
29 to the existing H-frame structures and be highly visible to people in this area. This KOP represents views from a
30 historic trail and visual concern is high. The proposed structures would be much larger in scale and introduce a new
31 dominant form to the landscape that would result in strong contrast and high overall visual impacts.

32 **Wiederkehr Village and Highway 186.** Applicant Proposed Route Link 8 would be located 0.7 mile to the northwest
33 of Wiederkehr Village. Viewers in this location may be able to see the transmission line structures extending above
34 the tree line, appearing as small dark objects. The structures would not be very noticeable because of terrain and
35 vegetation, however, and would result in weak contrast. This KOP represents views from a residential area, so visual
36 concern is high and the overall visual impacts would be low.

1 **3.18.6.2.3.2.7.8 Applicant Proposed Route Link 9**

2 **Big Piney Creek.** Applicant Proposed Route Link 9 would cross Big Piney Creek 0.2 mile to the northeast.
3 Recreationists on the creek may see the tops of the structures extending about tree line, but these structures would
4 be co-dominant with the existing line that crosses in the same place. In addition to the structures, vegetation would
5 be cleared along the banks of the river, resulting in additional contrast as well as exposure to the proposed and
6 current transmission lines. This KOP represents a sensitive area in a primarily natural landscape. Because the
7 proposed transmission line structures would be adding contrast to existing, similar structures in view, the overall
8 visual contrast would be moderate. The overall visual impact would be moderate-high because it is considered a
9 Class A landscape used by recreationists with high visual concern. A visual simulation for this KOP is provided in
10 Appendix K.

11 **Clarksville.** Applicant Proposed Route Link 9 would be located 2.5 miles to the north of the Clarksville KOP. Due to
12 the large amount of dense vegetation and rolling hills between the viewer and Project, there would be no visibility
13 from this location and, therefore, no visual impact.

14 **Hagarville.** Applicant Proposed Route Link 9 would be 1 mile to the northeast, and much of the transmission line
15 would be screened by terrain and vegetation. As the transmission line crossed the open fields, the structures would
16 be highly visible and have different form than other structures in the area, resulting in moderate contrast. This KOP
17 represents views from residences and has high visual concern. The overall visual impact would be moderate.

18 **Horsehead Lake Recreation Area.** Applicant Proposed Route Link 9 would be 2.1 miles to the south. High ridges
19 and dense vegetation border this dry lake bed and would screen views of the transmission line structures. There
20 would be no visual impact at this location.

21 **Hunt.** Applicant Proposed Route Link 9 would be located 0.2 mile to the southeast. The tops of the transmission line
22 structures would be visible above the tree line in the MG and different in form and scale than the existing H-frames
23 which are barely visible through the trees. This is a residential area, so visual concern is high and the proposed
24 structures would result in strong contrast and high overall visual impact.

25 **Lake Ludwig.** Applicant Proposed Route Link 9 would be located 0.9 mile to the north. Looking out over the lake
26 from the northern side, the transmission line structures would be visible extending above the tree line, appearing as
27 dark vertical elements on the horizon. Many of the structures would be screened by the dense vegetation, and the
28 portion extending about the trees would result in weak visual contrast. This KOP represents a recreation area, so
29 visual concern is high and the overall visual impacts would be moderate–low.

30 **Route 21 (Scenic Byway).** Applicant Proposed Route Link 9 would cross this scenic byway 0.1 mile to the north.
31 The transmission line structures would be clearly visible to motorists traveling on the scenic byway. The tall
32 structures would introduce a new element to the rural landscape and dominate the view where the line crosses the
33 highway. In addition, the ROW clearing would be visible on the sides of the highway and the Project would result in
34 strong visual contrast at this location. This KOP represents views from a Scenic Byway, so visual concern is high and
35 the overall visual impact would be high.

1 **3.18.6.2.3.2.8 Region 4 Conclusion**

2 Region 4 contains a high density of visual resources primarily associated with rural and suburban communities,
3 scattered rural residences, creeks, bayous, lakes, and reservoirs associated with recreation areas, wild and scenic
4 rivers, scenic byways, NWR, national forests, state and local parks and historic landmarks. Visual impacts are
5 anticipated to be mostly moderate–low for high and moderate sensitive viewers where the Project is located in the
6 MG/BG distance zone. Typically, the Applicant Proposed Route is either seen in the context of other existing
7 transmission lines or viewers are partially to completely obstructed by terrain and/or vegetation. Higher impacts are
8 anticipated for high sensitivity viewers associated with communities or recreation areas where the Applicant
9 Proposed Route is located within the FG and is not seen in the context of other transmission lines.

10 **3.18.6.2.3.2.9 Region 5**

11 The landscape category in Region 5 is primarily Common and is characterized by varied terrain with low rugged hills,
12 mountains, and benches in the northern portion transitioning to undulating plains, terraces, cuestas, and floodplains
13 associated with the Arkansas River in the south. Landscapes categorized as Distinct occur throughout the region and
14 are associated with more natural rugged terrain in the northern portion of the region and the Arkansas River. In
15 Region 5, existing transmission lines are not common within the landscape setting; therefore, the Applicant Proposed
16 Route would cross and/or parallel fewer transmission lines than in Regions 1 through 4. The Applicant Proposed
17 Route would parallel a 138kV line for approximately 1 mile and a 500kV line for approximately 4 miles and would
18 cross two 161kV transmission lines. The contrast introduced by the Applicant Proposed Route and the visibility are
19 similar to the conditions described for Region 4 in Section 3.18.6.2.3.2.

20 The visual impacts for the Region 5 KOPs are listed in Table 3.18-13 and described below.

**Table 3.18-13:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 5**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Dover and JP Lovelady	1	2.8	High	Common	No	No Contrast/Not Visible	No Impact
Hector	1	2.5	High	Common	No	No Contrast/Not Visible	No Impact
Highway 7 (Scenic Byway)	1	0.1	High	Common	Yes	Strong	High
Pope Co. Residential Cluster	1, 2	0.8	High	Distinct	Yes	Weak	Moderate-Low
Boy Scout Campground	3	0.5	High	Common	No	No Contrast/Not Visible	No Impact
Damascus	3	0.7	High	Common	Yes	Moderate	Moderate
Guy	3	2.8	High	Common	No	No Contrast/Not Visible	No Impact
Highway 9 Scenic Highway	3	0.2	High	Common	Yes	Strong	High
Twin Groves	3	3	High	Common	No	No Contrast/Not Visible	No Impact
Wonderview School	3	1.8	High	Distinct	Yes	Weak	Moderate-Low
Quitman	4	0.2	High	Common	Yes	Strong	High
Rose Bud City Park	4	3.4	High	Developed	No	No Contrast/Not Visible	No Impact
Letona	5	0.6	High	Developed	Yes	Moderate	Moderate–High
Highway 16 (Scenic Highway)	6	0.3	High	Common	Yes	Strong	High
Steprock	7, 8	0.6	High	Developed	Yes	Weak	Low
Bradford	9	0.9	High	Common	No	No Contrast/Not Visible	No Impact
White River	9	0.06	Moderate	Distinct	Yes	Strong	High

1 **3.18.6.2.3.2.9.1 Applicant Proposed Route Link 1**

2 **Dover and JP Lovelady Ball Park.** Applicant Proposed Route Link 1 would be located 2.8 miles to the north-
3 northwest. Looking out from the ballpark in Dover, the transmission line structures would be screened from view
4 given the low forested ridges in the distance and the dense vegetation in the FG. There would be no visual impact at
5 this location.

6 **Hector.** Looking south from Hector, Applicant Proposed Route Link 1 would be located 2.5 miles away at its closest
7 point. Dense vegetation in the FG/MG would screen all views of the HVDC Applicant Proposed Route at this location,
8 resulting in no visual impact.

9 **Highway 7 (Scenic Byway).** Applicant Proposed Route Link 1 would cross the highway 0.1 mile to the north.
10 Motorists traveling on the Highway 7 would have clear views of the transmission line structures as the line crossed
11 the highway. The structures would extend above tree line and introduce large vertical elements that would differ
12 greatly from anything on the current landscape in this area. When approaching the line, motorists would have clear
13 views of the vegetation clearing for the ROW, creating additional impact. The overall visual contrast would be strong
14 and overall visual impacts high at this location.

15 **Pope County Residential Cluster.** Applicant Proposed Route Link 1 would be located 0.8 mile to the north of this
16 KOP. Views would likely be screened by terrain and vegetation, but if visible, the transmission line structures would
17 appear as dark vertical elements extending above the trees in the distance as the line goes down the ridge and into
18 the valley. This KOP represents views from a residential area, so visual concern is high, but because views would be
19 very limited, the visual contrast would be weak and overall visual impacts Moderate–Low because it is considered a
20 Distinct landscape with high visual sensitivity.

21 **3.18.6.2.3.2.9.2 Applicant Proposed Route Link 2**

22 **Pope County Residential Cluster.** Views looking north-northwest from this location, towards Applicant Proposed
23 Route Link 2, would be screened by FG vegetation, resulting in no visual contrast.

24 **3.18.6.2.3.2.9.3 Applicant Proposed Route Link 3**

25 **Boy Scout Campground.** Applicant Proposed Route Link 3 would be located 0.5 mile to the north of the Boy Scout
26 Campground. Dense vegetation in the FG and MG would screen all potential views of the Project, resulting in no
27 visual impact at this location.

28 **Damascus.** This KOP represents views looking north-northwest from the community of Damascus and represents
29 residential views, so visual concern is high. Applicant Proposed Route Link 3 would be located in the MG 0.7 mile to
30 the north. The transmission line structures would be visible crossing open fields and extending above existing
31 structures and appear as a repeating vertical element on the rural landscape. The structures would introduce a new
32 form to the existing elements of the landscape (as described in Section 3.18.5.5). The area does have some existing
33 transmission line structures and other cultural modifications, so the proposed transmission line structures would
34 result in moderate contrast and moderate overall visual impact at this location.

35 **Guy.** Applicant Proposed Route Link 3 would be located 2.8 miles to the north. A low ridge line covered in dense
36 vegetation would screen all views of the transmission line structures from this location resulting in no visual impact. A
37 visual simulation for this KOP is provided in Appendix L.

1 **Highway 9 Scenic Highway.** Applicant Proposed Route Link 3 would be located 0.2 mile to the south, where it
2 crosses over Highway 9. The transmission line structures would be highly visible above trees and where the lines
3 cross the highway. The structures would be dominant in the FG view and would introduce new form and line to the
4 landscape at a much larger scale than existing features (as described in Section 3.18.5.5.1). This KOP represents
5 views from a scenic highway, so visual concern is high and the transmission line would result in strong contrast and
6 high overall visual impact.

7 **Twin Groves.** Applicant Proposed Route Link 3 would be located 3 miles north of the Twin Groves KOP. Dense
8 vegetation and terrain features in the FG/MG would screen all views of the Project, resulting in no visual impact.

9 **Wonderview School.** Applicant Proposed Route Link 3 would be located 1.8 miles to the north. Viewers in this
10 location may be able to see the transmission line structures in the valley through breaks in the trees. The structures
11 would be mostly screened by vegetation and terrain, with the possibility of some structures extending above trees.
12 This KOP represents views from a residential area, so visual concern is high, but because the structures would not
13 be highly noticeable, the resulting contrast would be weak and overall visual impacts moderate–low.

14 **3.18.6.2.3.2.9.4 Applicant Proposed Route Link 4**

15 **Quitman.** Applicant Proposed Route Link 4 would be visible crossing the open field 0.2 mile to the south. Due to
16 scale and form, the transmission line structures would be a dominant feature in the FG. The structures would be
17 different in line and form than existing elements on the landscape (as described in Section 3.18.5.5.1 and would
18 result in strong visual contrast and high overall visual impact. A visual simulation for this KOP is provided in
19 Appendix K.

20 **Rose Bud City Park.** Applicant Proposed Route Link 4 would be located 3.4 miles north of the Rose Bud City Park
21 KOP. Views of the transmission line structures from this location would be screened by tall trees and rolling terrain,
22 resulting in no visual impact.

23 **3.18.6.2.3.2.9.5 Applicant Proposed Route Link 5**

24 **Letona.** Applicant Proposed Route Link 5 would be located 0.6 mile to the north and would be partially visible
25 through breaks in trees and extending above tree line in places. The structures would introduce a new form to the
26 landscape that is noticeably different than existing forms on the landscape (as described in Section 3.18.5.5.1),
27 resulting in moderate contrast and moderate-high overall visual impact.

28 **3.18.6.2.3.2.9.6 Applicant Proposed Route Link 6**

29 **Highway 16 (Scenic Highway).** The Applicant Proposed Route Link 6 would cross Scenic Highway 16, 0.3 mile from
30 this KOP. Transmission line structures would be clearly visible and noticeable across the open field in the FG and
31 extended above tree line introducing new, vertical elements to the landscape. This KOP represents views from a
32 scenic highway, so visual concern is high and because of the scale of the structures, at this distance they would be a
33 dominant form on the landscape and result in strong contrast and high overall visual impact.

34 **3.18.6.2.3.2.9.7 Applicant Proposed Route Link 7**

35 **Steprock.** Applicant Proposed Route Link 7 would be located 0.6 mile to the south. Dominant in the view at this
36 location is an existing 500kV transmission line. The proposed transmission line structures would be similar in form

1 and scale, but farther away and partially screened by FG trees causing them to appear subordinate on the
2 landscape, resulting in weak contrast and low overall visual impact.

3 **3.18.6.2.3.2.9.8 Applicant Proposed Route Link 8**

4 **Steprock.** See description of Steprock KOP for Applicant Proposed Route Link 7. Distance and visibility are the
5 same.

6 **3.18.6.2.3.2.9.9 Applicant Proposed Route Link 9**

7 **Bradford.** Applicant Proposed Route Link 9 would be located 0.9 mile to the north. Tall trees, dense vegetation, and
8 rolling terrain in the FG would block all potential views of the transmission line structures from this location, resulting
9 in no visual impact.

10 **White River.** Applicant Proposed Route Link 9 would be located 300 feet to the southeast and would run parallel to
11 the highway. The transmission line would be highly visible above existing FG vegetation as it crosses the river and
12 open fields. Because the transmission line would introduce new elements into a natural landscape, the large metal
13 structures would become a dominant feature. This KOP represents the crossing of a waterbody, but because of low
14 numbers of potential views, the visual concern is moderate. The Project would result in strong visual contrast and
15 high overall visual impact.

16 **3.18.6.2.3.2.10 Region 5 Conclusion**

17 Region 5 contains a moderate density of sensitive viewers primarily associated with rural communities, scattered
18 rural residences, the Ozark National Forest, recreation areas (state and local parks), scenic byways, and
19 conservation and wildlife management areas. Visual impacts are anticipated to be mostly moderate–low for high
20 sensitivity viewers where the Applicant Proposed Route is located in the MG distance zone. No visual impacts are
21 anticipated for many sensitive viewers where the Project is located in the edge of the MG and BG and views would
22 be completely obstructed given the variation in terrain and heavily wooded areas. Higher visual impacts are
23 anticipated to occur within this region though they would typically occur where the Project crosses scenic byways or
24 is located in the FG distance zone.

25 **3.18.6.2.3.2.11 Region 6**

26 The landscape category in Region 6 is primarily Common and is characterized by predominately agricultural,
27 croplands, and natural areas including riparian woodlands and wetlands. The terrain is relatively flat to gently
28 undulating with several meandering streams, branching channels, and other drainages. Views are generally open
29 given the level terrain, although wooded areas and trees planted along the edges of field, roadways, and drainages
30 and channels can limit expansive views in some areas. In Region 6, existing transmission lines are not common
31 within the landscape setting; however, the Applicant Proposed Route crosses two 161kV transmission lines and
32 parallels another 161kV transmission line for approximately 2 miles.

33 The tall vertical geometric forms of the proposed structures would result in strong contrast with the horizontal lines of
34 the relatively flat landscape found throughout most of the region. Contrast would be reduced in areas where the
35 Applicant Proposed Route would parallel or be seen in context with existing transmission and electric distribution
36 lines; the level of contrast would depend on the form, line, color and texture of the existing structures and the
37 distance the existing structures are from the Applicant Proposed Route. Views of structures in some areas are limited
38 to the upper portions that extend above tree lines and other vegetation. Changes to the landscape and vegetation

1 due to construction of access roads and ROW clearing may be visible but changes would generally not be noticeable
 2 in the MG and BG where terrain and vegetation may obscure these changes. Changes may be noticeable to viewers
 3 where the Applicant Proposed Route is located in the FG in relatively flat terrain with minimal vegetation to obscure
 4 views. Contrast could be reduced in areas where existing access roads would be used and where the Applicant
 5 Proposed Route would parallel an existing transmission line corridor where vegetation clearing has previously
 6 occurred. The visual impacts for the Region 6 KOPs are listed in Table 3.18-14 and described below.

Table 3.18-14:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 6

KOP	Link	Distance (Miles)	Viewer Concern	Scenic Quality	Visibility	Contrast	Overall Impact
Weldon	1	2.6	High	Common	Yes	Weak	Low
Crowley's Ridge Byway	3	0.1	High	Distinct	Yes	Strong	High
Fisher and Park	4	1	High	Developed	Yes	Moderate	Moderate-Low
Cherry Valley	6	0.9	High	Common	Yes	Moderate	Moderate

7

8 **3.18.6.2.3.2.11.1 Applicant Proposed Route Link 1**

9 **Weldon.** Applicant Proposed Route Link 1 would be located 2.6 miles to the north. The flat open landscape would
 10 allow for multiple visible transmission-line structures, but at a distance of 2.6 miles, they would appear as a row of
 11 dark vertical elements and would be co-dominant with the existing structures on the landscape. This KOP represents
 12 views from residential area, so visual concern is high. The overall visual contrast would be weak and result in low
 13 overall visual impact.

14 **3.18.6.2.3.2.11.2 Applicant Proposed Route Link 3**

15 **Crowley's Ridge Scenic Byway.** Applicant Proposed Route Link 3 would cross the byway 0.1 mile to the north. The
 16 large scale of the structures would make them visible above the FG trees and dominate the view. As motorists
 17 approach, ROW vegetation clearing would become visible for a short duration as they traveled past, creating sharp
 18 lines and large cleared areas in this natural environment. This KOP represents views from a Scenic Byway, so visual
 19 concern is high and the additional structures would result in strong contrast and high overall visual impact.

20 **3.18.6.2.3.2.11.3 Applicant Proposed Route Link 4**

21 **Fisher and Park.** Applicant Proposed Route Link 4 would be located 1 mile to the east. Vegetation in the FG would
 22 screen some of the transmission line structures, but the structures would be visible across the open land just on the
 23 other side of the trees. There are existing vertical elements on the landscape, so combined with the partial screening,
 24 the contrast would be moderate. This KOP represents views from a park with high visual concern and extended
 25 viewing times and the overall visual impact would be moderate-low. The impact may be higher, however, in other
 26 locations in town where there is no screening.

27 **3.18.6.2.3.2.11.4 Applicant Proposed Route Link 6**

28 **Cherry Valley.** Applicant Proposed Route Link 6 would be located 0.9 mile to the north of town. A line of dense
 29 vegetation would partially screen the transmission line structures, but due to the large scale of the structures they
 30 would be clearly visible above tree line, creating a pattern of vertical elements on the irregular line of the horizon and
 31 resulting in moderate contrast at this location and moderate overall visual impact.

3.18.6.2.3.2.12 Region 6 Conclusion

Region 6 contains a low density of sensitive viewers primarily associated with rural communities and scattered rural residences, recreation areas and scenic byways. Visual impacts are anticipated to be mostly moderate–low for high sensitivity viewers where the Project is located in the MG distance zone and would either be seen in the context of existing transmission structure or would be partially screened by existing vegetation. Higher impacts are anticipated to occur for Distinct landscapes associated with Crowley’s Ridge, where the Applicant Proposed Route would be located in the FG and would introduce vertical elements into the landscape setting creating strong contrast.

3.18.6.2.3.2.13 Region 7

The landscape category in Region 7 is primarily Common and is characterized by flat floodplains associated with the Mississippi River in the western and central portions and transitioning to gently undulating plains and low hills in the eastern portion. Although the terrain is primarily flat within this region, views are typically limited given the numerous forested areas, vegetation associated with surface waters, waterways, drainages, wetlands, and trees planted along agricultural fields and along roadways. In Region 7, the Applicant Proposed Route crosses two 161kV and one 500kV transmission lines and parallels a 161kV transmission line for approximately 2 miles.

The tall vertical geometric forms of the proposed structures would result in strong contrast with the horizontal lines of the relatively flat landscape found within the southern portion of the region. Contrast would be reduced in areas where the Applicant Proposed Route would parallel or be seen in context with existing transmission and electric distribution lines; the level of contrast would depend on the form, line, color and texture of the existing structures and the distance the existing structures are from the Applicant Proposed Route. Views of structures in some areas are limited to the upper portions that extend above tree lines and other vegetation. Changes to the landscape and vegetation due to construction of access roads and ROW clearing may be visible but changes would generally not be noticeable in the MG and BG where terrain and vegetation may obscure these changes. Changes may be noticeable to viewers where the Applicant Proposed Route is located in the FG in relatively flat terrain with minimal vegetation to obscure views. Contrast could be reduced in areas where existing access roads would be used and where the Applicant Proposed Route would parallel an existing transmission line corridor where vegetation clearing has previously occurred. The visual impacts for the Region 7 KOPs are listed in Table 3.18-15 and described below.

**Table 3.18-15:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 7**

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Birdsong	1	0.4	High	Common	Yes	Strong	High
Highway 61 (Scenic Byway)	1	0.4	High	Common	Yes	Strong	High
Joiner	1	1.7	High	Common	Yes	Weak	Low
Marked Tree	1	2.2	High	Developed	No	No Contrast/Not Visible	No Impact
Mississippi River and Trail of Tears	1	0.7	High	Common	Yes	Strong	High
Tyronza	1	2	High	Developed	Yes	Weak	Low
Wilkinsville	4	0.1	High	Common	Yes	Strong	Moderate–High
Atoka	5	0.7	High	Common	No	No Contrast/Not Visible	No Impact
Atoka Community Park	5	4	High	Developed	No	No Contrast/Not Visible	No Impact
Edmund Orgill Park	5	1	High	Distinct	Yes	Weak	Moderate-Low

Table 3.18-15:
Visual Impact Summary of KOPs—Applicant Proposed Route—Region 7

KOP	Link	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Harold Park and Millington	5	2	High	Developed	No	No Contrast/Not Visible	No Impact
Munford	5	2	High	Developed	No	No Contrast/Not Visible	No Impact
Rhodes Estates	5	0.6	High	Developed	Yes	Moderate	Moderate-Low

1

2 **3.18.6.2.3.2.13.1 Applicant Proposed Route Link 1**

3 **Birdsong.** Applicant Proposed Route Link 1 would be located 0.4 mile to the north. The transmission line structures
4 would be highly noticeable crossing the open field. The tall vertical structures would create a pattern on the
5 landscape different in form from existing structures (as described in Section 3.18.5.7.1) and much larger in scale,
6 resulting in strong visual contrast and high overall visual impact.

7 **Highway 61 Scenic Byway.** Applicant Proposed Route Link 1 would cross the Highway 61 Scenic Byway 0.4 mile to
8 the northeast. The FG vegetation would partially screen the transmission line structures in this view, but due to their
9 large scale, they would be visible extending above tree line. As motorists travelling the Scenic Byway approached the
10 highway crossing, the structures would be a dominant feature on the landscape because of their scale and form,
11 resulting in strong visual contrast and high overall visual impacts. Since most viewers in this location would be
12 traveling on the highway, views would be primarily of short duration.

13 **Joiner.** Applicant Proposed Route Link 1 would be located 1.7 miles to the south and would appear as a pattern of
14 vertical elements along the horizon, where not screened by FG vegetation. This KOP represents views from a
15 residential area, so visual concern is high and the visual contrast at this distance would be weak and overall visual
16 impact low.

17 **Marked Tree.** Applicant Proposed Route Link 1 would be located 2.2 miles to the south. Foreground vegetation and
18 structures would screen all views of the transmission line structures, resulting in no visual impact.

19 **Mississippi River and Trail of Tears.** Applicant Proposed Route Link 1 would cross the open field 0.7 mile at the
20 closest point. The transmission line structures would be highly visible and introduce a repeating geometric form to the
21 landscape. Structures on either side of the river crossing would also be visible from this location and add additional
22 contrast at night because of FAA lighting requirements. This KOP represents a major waterbody, crossing, which is
23 also identified as a water route of the Trail of Tears, but would not have a high number of viewers, so visual concern
24 is moderate. The Trail of Tears locations mapped by the NPS are representative of the historic location of the trail
25 and the extent of the trail at each crossing location is not known. At this location, the visual contrast would be strong
26 and overall visual impacts high. A visual simulation for this KOP is provided in Appendix K.

27 **Tyronza.** Applicant Proposed Route Link 1 would be located 2 miles southwest of the Tyronza KOP, which
28 represents rural residential views, so visual concern is high. The transmission line structures would be visible through
29 openings in the FG vegetation and extend above the trees in the MG. The structures would appear as dark vertical
30 objects on the horizon at this distance and would result in weak visual contrast and low overall visual impact.

1 **3.18.6.2.3.2.13.2 Applicant Proposed Route Link 4**

2 **Wilkinsville.** Applicant Proposed Route Link 4 would be visible as it traverses the open field 0.1 mile east of this
3 KOP. The structures would be prominent features on the landscape as they cross the field. The proposed structures
4 would be considerably larger than existing structures in view (as described in Section 3.18.5.7.1), and would result in
5 strong visual contrast. This KOP represents views from a residential area, so visual concern is high and overall visual
6 impacts on the landscape would be high.

7 **3.18.6.2.3.2.13.3 Applicant Proposed Route Link 5**

8 **Atoka.** Applicant Proposed Route Link 5 would be located 0.7 mile to the south from this location, but views of the
9 transmission line structures would be screened by FG vegetation and terrain, resulting in no visual impact.

10 **Atoka Community Park.** Applicant Proposed Route Link 5 would be located 4 miles to the southwest of the Atoka
11 Community Park, but views of the transmission line structures would be screened by FG vegetation resulting in no
12 visual impact.

13 **Edmund Orgill Park.** Applicant Proposed Route Link 5 would be located 1 mile to the south. From here, the
14 transmission line structures would likely be screened. If visible, the view would be a small portion of the top of the
15 structures extending above the tree line, resulting in weak contrast and moderate–low visual impact since this is a
16 natural environment.

17 **Harold Park and Millington.** Applicant Proposed Route Link 5 would be located 2 miles to the north and would be
18 screened by FG structures and trees, resulting in no visual impact.

19 **Munford.** Applicant Proposed Route Link 5 would be located 2 miles to the south. Due to existing structures and
20 dense vegetation in the FG, the proposed transmission line structures would not be visible from this location and
21 there would be no visual impact.

22 **Rhodes Estates.** Applicant Proposed Route link 5 would be located 0.6 mile to the southeast. Most of the
23 transmission line structures would be partially screened by vegetation and terrain, leaving the tops visible extending
24 above tree line. This KOP represents views from a residential area, so visual concern is high and the visible
25 structures would result in moderate contrast and moderate–low overall visual impact.

26 **3.18.6.2.3.2.14 Region 7 Conclusion**

27 Region 7 generally contains a low density of sensitive viewers in the western portion of the region (west of the
28 Mississippi) and a higher density of sensitive viewers in the eastern portion (east of the Mississippi River) near
29 Millington. Sensitive viewers are typically associated with rural and suburban communities and scattered residences
30 and recreation areas associated with the communities and the Mississippi River. Visual impacts are anticipated to be
31 mostly moderate–low to low for high sensitivity viewers where the Project is located in the MG distance zone and
32 would either be seen in the context of existing transmission structure or would be partially screened by existing
33 vegetation. Higher impacts are anticipated where the Applicant Proposed Project is located in the FG and would
34 introduce vertical elements into the landscape setting creating strong contrast and where it crosses Distinct
35 landscapes such as the Mississippi River.

1 **3.18.6.2.3.3 Decommissioning Impacts**

2 Project facilities would be removed at the end of the operational life of the transmission line. Conductors, structures,
3 and related facilities would be removed. Foundations would be removed to below the ground surface level. There
4 would be temporary visual impacts during decommissioning of the Project. There would be residual visual impacts for
5 many years after the Project has been decommissioned and structures removed such as vegetative cutbacks, cut
6 and fill scars from construction activities, and access roads, which all add to the visual impact, though these impacts
7 would be at ground level. These areas would be apparent after the removal of structures but are expected to diminish
8 over time as vegetation returns to the area.

9 **3.18.6.3 Impacts Associated with the DOE Alternatives**

10 **3.18.6.3.1 *Arkansas Converter Station Alternative Siting Area and AC***
11 ***Interconnection Siting Area***

12 **3.18.6.3.1.1 Construction Impacts**

13 Construction would result in the short-term visual intrusion of construction vehicles, equipment, materials, and a work
14 force in staging areas, and final converter station location. Vehicles, heavy equipment, structure components, and
15 workers would be visible during converter station construction and modification, access and spur road clearing and
16 grading, structure erection, and cleanup and restoration. Affected viewers would be aware of the existing structures
17 in the area adjacent to the Project and the temporary nature of Project construction impacts, which would decrease
18 both scenic quality and viewer concern to the impact. It should be noted that the converter station would be similar to
19 the proposed converter stations proposed in Oklahoma and Tennessee.

20 **3.18.6.3.1.2 Operations and Maintenance Impacts**

21 **3.18.6.3.1.2.1 *Arkansas Converter Station Siting Area and AC Interconnection Siting Area***

22 The Arkansas Converter Station Alternative Siting Area and AC Interconnection Siting Area would be located
23 northeast of Atkins. Because a specific location has not yet been selected, a large area was reviewed for the
24 Arkansas Converter Station; therefore, evaluation of visual impacts at specific KOPs is not possible at this time. The
25 surrounding landscape is primarily rural and agricultural and other than rural residences, does not contain a high
26 number of sensitive resources that would be impacted. When visible in the FG, the facilities associated with the
27 converter station would result in high contrast on the rural landscape, but given low numbers of sensitive viewers in
28 the area, it would have an overall low-moderate impact.

29 **3.18.6.3.1.3 Decommissioning Impacts**

30 Project facilities would be removed at the end of the operational life of the converter station. There would be
31 temporary visual impacts during decommissioning of the Project. Structures, and related facilities would be removed
32 and foundations removed to below the ground surface level. There would be residual visual impacts for many years
33 after the Project has been decommissioned and structures removed such as vegetation removal and access roads,
34 which all add to the visual impact, though these impacts would be at ground level. These areas would be apparent
35 after the removal of structures but are expected to diminish over time as vegetation returns to the area.

3.18.6.3.2 HVDC Alternative Routes

3.18.6.3.2.1 Construction Impacts

Construction would result in the short-term visual intrusion of construction vehicles, equipment, materials, and a work force in staging areas, along access roads, and along the new transmission line ROW. Vehicles, heavy equipment, structure components, and workers would be visible during structure erection, conductor stringing, access and spur road clearing and grading, and cleanup and restoration. However, disturbance from construction activities would be transient and of short duration as activities progress along the transmission line route. Affected viewers would be aware of the temporary nature of Project construction impacts, which should decrease their concern to the impact.

3.18.6.3.2.2 Operations and Maintenance Impacts

3.18.6.3.2.2.1 Region 1

A description for Region 1 is provided in Section 3.18.6.2.3.2.1. Additional sensitive resources in proximity to HVDC Alternative Routes in region 1 include the Lake Schultz State Park and Optima NWR. The visual impacts for the Region 1 AR KOPs are listed in Table 3.18-16 and described below.

**Table 3.18-16:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 1**

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Laverne	1-A	0.9	High	Developed	Yes	Moderate	Moderate-Low
Hardesty	1-A, 1-C	0.8	High	Common	Yes	Moderate	Moderate
Optima NWR	1-A, 1-C	2.5	High	Common	Yes	Weak	Moderate-Low
Lake Schultz State Park	1-B	0.9	High	Distinct	Yes	Strong	High
Local Historical Marker	1-D	0.8	Moderate	Common	Yes	Moderate	Moderate-Low

3.18.6.3.2.2.1.1 HVDC Alternative Route 1-A

HVDC Alternative Route 1-A corresponds to Applicant Proposed Route Links 2, 3, 4, and 5.

Laverne. DOE Alternative Route 1-A would be located 0.9 mile to the north. The transmission lines structures would be noticeable in open fields and extend above vegetation and low structures, but they would not dominate the view and there would be no change to landform or vegetation. The overall visual impact at this location would be moderate-low.

Hardesty. HVDC Alternative Route 1-A would be located 0.8 mile to the south. The transmission line structures would be a prominent feature on the flat landscape, but because of the distance, would appear at a similar scale to existing vertical elements and would be co-dominant in the view. There would be no change to landform or vegetation and visual impact at this location would be moderate. A visual simulation for this KOP is provided in Appendix K.

Optima NWR. HVDC Alternative Route 1-A would be visible about 2.5 miles to the southeast. Because of distance, transmission line structures would be faintly visible in the distance. Structures may be noticeable as they traverse open lands, but would only result in weak contrast. This KOP represents views from a wildlife refuge, so visual concern is high and the overall visual impact at this location would be moderate-low.

1 **3.18.6.3.2.2.1.2 HVDC Alternative Route 1-B**

2 HVDC Alternative Route 1-B corresponds to Applicant Proposed Route Links 2 and 3.

3 **Lake Schultz State Park.** HVDC Alternative Route 1-B would be located 0.9 mile to the north. The view from this
4 KOP is panoramic and the transmission structures would extend above the horizon line, introducing new vertical
5 elements into a very natural landscape free of cultural modifications. This KOP represents views from a public park,
6 so visual concern is high, and the overall visual impact of HVDC Alternative Route 1-B would be high.

7 **3.18.6.3.2.2.1.3 HVDC Alternative Route 1-C**

8 HVDC Alternative Route 1-C corresponds to Applicant Proposed Route Links 2 and 3.

9 **Hardesty.** See description of Hardesty KOP for HVDC Alternative Route 1-A. Distance and visibility from HVDC
10 Alternative Route 1-C are similar.

11 **Optima NWR.** See description of Optima NWR KOP for HVDC Alternative Route 1-A. Distance and visibility are the
12 same.

13 **3.18.6.3.2.2.1.4 HVDC Alternative Route 1-D**

14 HVDC Alternative Route 1-D corresponds to Applicant Proposed Route Links 3 and 4.

15 **Local Historical Marker.** HVDC Alternative Route 1-D would be located 0.8 mile to the north. HVDC Alternative
16 Route 1-D would run adjacent to the existing transmission line, which is located 0.6 mile from this location. The
17 proposed transmission line structures would result in similar impacts as corresponding Applicant Proposed Route
18 Link 4, but would have slightly less contrast due to distance. The overall visual impact of HVDC Alternative Route 1-D
19 would be moderate–low.

20 **3.18.6.3.2.2.1.5 Region 1 Alternative Comparison**

21 Table 3.18-17 provides a comparison of the visual impacts for Region 1.

Table 3.18-17:
Visual Impact Comparison Summary—Region 1

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 1-A	10.5	105.6	7.1	89
APR Links Corresponding to 1-A	5.2	101.7	8.1	95
HVDC Alternative Route 1-B	2.7	44.1	5.4	37
APR Links Corresponding to 1-B	0.1	49.1	3.9	32
HVDC Alternative Route 1-C	1.9	45.1	5.4	63
APR Links Corresponding to 1-C	0.1	49.1	3.9	32
HVDC Alternative Route 1-D	1	30.3	2.3	45
APR Links Corresponding to 1-D	1.3	32.4	1	51

22

3.18.6.3.2.2.2 *Region 2*

A description for Region 2 is provided in Section 3.18.6.2.3.2.2. Towns and residences would be the primary source of sensitive viewers in this region, although there are some additional sensitive resources such as state parks, the Cimarron River and Gloss Mountain State Park. The visual impacts for the Region 2 KOPs are listed in Table 3.18-18 and described below.

Table 3.18-18:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 2

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Cimarron River Crossing	2-A	0.7	Moderate	Common	Yes	Moderate	Moderate-Low
Cleo Springs	2-A	3	High	Common	Yes	Weak	Low
Gloss Mountain State Park	2-A	0.8	High	Distinct	Yes	Moderate	Moderate-High
Ames	2-A, 2-B	1.3, 2.6	High	Common	Yes	Weak	Moderate-Low
Bison	2-B	1.8	High	Developed	Yes	Weak	Low
Waukomis KOP	2-B	3.5	High	Common	Yes	Weak	Low

3.18.6.3.2.2.2.1 *HVDC Alternative Route 2-A*

HVDC Alternative Route 2-A corresponds to Applicant Proposed Route Link 2.

Cimarron River Crossing. HVDC Alternative Route 2-A would cross the Cimarron River 0.7 mile to the south. There are existing H-frame and T-frame structures prominent in FG in this view, and the proposed structures would appear as additional vertical elements on the horizon. The form of the proposed structures would be taller and wider than the existing monopole structures, resulting in moderate visual contrast. This is a major river crossing, visual concern is moderate, and has existing cultural modification, resulting in moderate-low overall visual impact.

Cleo Springs. HVDC Alternative Route 2-A would be located 3 miles to the south. There are two existing wood H-frame 115kV lines visible from this location and the new transmission line would be larger in form, but farther away from the view and appear as small vertical elements on the horizon, similar to the existing. Because these proposed structures would be adding to existing vertical elements and not prominent in view, they would only slightly add to visual contrast. The overall visual impacts at this location would be low.

Gloss Mountain State Park. HVDC Alternative Route 2-A would be visible 0.8 mile to the northeast. There are existing structures in view, but this line would introduce new vertical elements to the open landscape and would result in moderate visual contrast. This KOP represents sensitive views from a state park and the overall visual impacts of HVDC Alternative Route 2-A in this location would be moderate-high. A visual simulation for this KOP is provided in Appendix K.

Ames. HVDC Alternative Route 2-A would be located 1.3 miles to the south and would appear as small objects in the distance. Where the structures are not blocked by FG/MG trees and vegetation, they would appear similar in scale to existing structures and would introduce a weak level of contrast. This KOP represents views from a residential area, so visual concern is high and the overall visual impacts at this location would be low.

1 **3.18.6.3.2.2.2 HVDC Alternative Route 2-B**

2 HVDC Alternative Route 2-B corresponds to Applicant Proposed Route Link 3.

3 **Ames.** Views are similar to Ames KOP description for HVDC Alternative Route 2-A, but slightly less noticeable due to
4 greater distance (2.6 miles).

5 **Bison.** Viewers looking to the north from this location would see the transmission line structures of HVDC Alternative
6 Route 2-B appearing as small vertical objects on the horizon 1.8 miles away. Trees in the FG would obstruct the
7 majority of the views and HVDC Alternative Route 2-B in this location would result in weak contrast and overall visual
8 impacts would be low.

9 **Waukomis.** HVDC Alternative Route 2-B would be located 3.5 miles to the south. From the Waukomis KOP, the line
10 would be barely visible above the horizon, where it is not screened by FG trees. This KOP represents views from a
11 residential area with high visual concern. The overall visual impact at this location is low.

12 **3.18.6.3.2.2.3 Region 2 Alternative Comparison**

13 Table 3.18-19 provides a comparison of the visual impacts for Region 2.

Table 3.18-19:
Visual Impact Comparison Summary of KOPs—Region 2

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 2-A	9	44.4	4	66
APR Links Corresponding to Alternative 2-A	8.5	43.9	2.2	155
HVDC Alternative Route 2-B	0.2	28.7	1	71
APR Links Corresponding to Alternative 2-B	1.2	26.1	4	29

14

15 **3.18.6.3.2.2.3 Region 3**

16 A description for Region 3 is provided in Section 3.18.6.2.3.2.3. Towns and residences would continue to be the
17 majority of the sensitive viewers, but there are additional resources in proximity to the HVDC Alternative Routes in
18 this region including lakes and recreation areas that are considered sensitive resources. The visual impacts for the
19 Region 3 KOPs are listed in Table 3.18-20 and described below.

Table 3.18-20:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 3

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Lake Carl Blackwell	3-A, 3-B	2.7	High	Distinct	No	No Contrast/Not Visible	No Impact
Marshall	3-A, 3-B	1	High	Common	Yes	Weak	Low
Mullhall	3-A, 3-B	3	High	Developed	No	No Contrast/Not Visible	No Impact
Orlando	3-A, 3-B	2.7	High	Common	Yes	Weak	Low
Stillwater	3-A, 3-B	2	High	Developed	No	No Contrast/Not Visible	No Impact
Mehan	3-B	0.7	High	Common	Yes	Moderate	Moderate
Agra	3-C	1.5	High	Developed	Yes	Weak	Low

**Table 3.18-20:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 3**

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Beggs	3-C	1.5	High	Distinct	Yes	Weak	Moderate-Low
Bristow and Route 66	3-C	3.4	High	Common	No	No Contrast/Not Visible	No Impact
Depew and Route 66	3-C	1.4	High	Common	Yes	Weak	Low
Okmulgee	3-C	1.5	High	Common	Yes	Weak	Low
Perkins	3-C	0.6	High	Common	Yes	Moderate	Moderate
Preston	3-C	0.6	High	Common	Yes	Strong	High
Shamrock	3-C	3	High	Common	No	No Contrast/Not Visible	No Impact
Boynton	3-C, 3-D	1.5	High	Common	Yes	Weak	Low
Council Hill	3-C, 3-D	2.1	High	Common	Yes	Moderate	Moderate
Honey Springs Battlefield Historic Site and Rentiesville South	3-C, 3-D	2.9	High	Common	Yes	Weak	Low
Honey Springs Battlefield Historic Site North	3-C, 3-D	0.5	High	Common	Yes	Moderate	Moderate-High
McLain	3-C, 3-D, 3-E	0.7	High	Common	Yes	Moderate	Moderate
Oktaha School	3-C, 3-D	0.4	High	Common	Yes	Weak	Low
Webbers Falls	3-C, 3-D, 3-E	1.5 (APR), 2.5 (AR)	High	Distinct	No	No Contrast/Not Visible	No Impact

1

2 **3.18.6.3.2.2.3.1 HVDC Alternative Route 3-A**

3 HVDC Alternative Route 3-A corresponds to Applicant Proposed Route Link 1.

4 **Lake Carl Blackwell.** HVDC Alternative Route 3-A would be located 2.7 miles to the south. Due to distance, terrain,
5 and dense vegetation the transmission line structures are not likely to be visible from this location, resulting in no
6 visual impact.

7 **Marshall.** HVDC Alternative Route 3-A would be located 1 mile to the north and would be visible above the FG trees
8 and existing structures. The proposed structures would add to the existing vertical elements in the FG, resulting in
9 weak contrast and low overall visual impact.

10 **Mulhall.** HVDC Alternative Route 3-A would be located 3 miles to the north, but would not be noticeable given the
11 distance from the KOP and the surrounding dense vegetation. There would be no overall visual impact from this
12 location.

13 **Orlando.** HVDC Alternative Route 3-A would be located 2.7 miles to the south. Views of the structures would be
14 obscured by vegetation and terrain in many places, but where visible, the structures would have similar form to the
15 existing lattice structures in view and would introduce a weak level of contrast. The overall visual impact would be
16 low.

1 **Stillwater.** HVDC Alternative Route 3-A would be located 2 miles to the south, but views of the transmission line
2 structures would be blocked by terrain and vegetation, resulting in no visual impact. A visual simulation for this KOP
3 is provided in Appendix K.

4 **3.18.6.3.2.2.3.2 HVDC Alternative Route 3-B**

5 HVDC Alternative Route 3-B corresponds to Applicant Proposed Route Links 1, 2 and 3.

6 **Lake Carl Blackwell.** See description of Lake Carl Blackwell KOP for HVDC Alternative Route 3-A. Distance and
7 visibility are the same.

8 **Marshall.** See description of Marshall KOP for HVDC Alternative Route 3-A. Distance and visibility are the same.

9 **Mullhall.** See description of Mullhall KOP for HVDC Alternative Route 3-A. Distance and visibility are the same.

10 **Orlando.** See description of Orlando KOP for HVDC Alternative Route 3-A. Distance and visibility are the same.

11 **Stillwater.** See description of Stillwater KOP for HVDC Alternative Route 3-A. Distance and visibility are the same.

12 **Mehan.** HVDC Alternative Route 3-B would be located 0.7 mile to the northeast. Much of the transmission line would
13 be obscured by FG vegetation, but portions would likely be visible extending above tree line and through clearings in
14 vegetation. The form and line of the lattice structures would differ from existing elements in the rural landscape and
15 result in moderate contrast. This KOP represents views from a rural residential area, so visual concern is high and
16 the overall visual impacts would be moderate.

17 **3.18.6.3.2.2.3.3 HVDC Alternative Route 3-C**

18 HVDC Alternative Route 3-C corresponds to Applicant Proposed Route Links 3, 4, 5 and 6.

19 **Agra.** HVDC Alternative Route 3-C would be located 1.5 miles to the north. The transmission line structures would be
20 visible through openings in the vegetation and FG structures and would appear as dark vertical objects on the
21 horizon. There are multiple existing vertical elements on the existing landscape and these proposed structures would
22 only add a weak amount of visual contrast. This KOP represents views from a residential area, so visual concern is
23 high and the overall visual impact would be low.

24 **Beggs.** HVDC Alternative Route 3-C would be located 1.5 miles to the south of this KOP at the closest point. The
25 transmission line may be visible in the distance, but would be mostly screened by FG vegetation and terrain. This
26 KOP represents views from a residential area, so visual concern is high and the Project would result in weak contrast
27 and low-moderate overall visual impacts.

28 **Boynton.** HVDC Alternative Route 3-C would be located 1.5 miles to the west. Viewers at this location would be able
29 to see the transmission line structures through breaks in the FG vegetation and they would appear as additional
30 vertical elements. Much of HVDC Alternative Route 3-C in this location would be screened from this viewpoint,
31 resulting in weak visual contrast. This KOP represents views from a residential area, so visual concern is high and
32 the overall visual impacts would be low.

1 **Bristow and Route 66.** HVDC Alternative Route 3-C would be located 3.4 miles to the south of this KOP. The terrain
2 and dense vegetation would obscure views of the structures resulting in no visual impact.

3 **Council Hill.** HVDC Alternative Route 3-C would be located 2.1 miles to the north. An existing 345kV line is located 1
4 mile closer that is not visible from the KOP. The proposed transmission line structures would be considerably taller,
5 and portions may be visible above tree line, but much of the structures would be screened by FG elements. Due to
6 distance and screening, the visual contrast from this KOP would be low. This KOP represents views from a
7 residential area, so visual concern is high and the overall impacts would be moderate.

8 **Depew and Route 66.** HVDC Alternative Route 3-C would be located 1.4 miles away and appear as vertical
9 elements on the horizon. Views would be blocked by vegetation in many areas, but where visible the large scale of
10 the structures would be noticeable. Due to distance and FG obstructions, HVDC Alternative Route 3-C in this location
11 would result in weak contrast. This KOP represents views from a residential area, so visual concern is high and the
12 overall visual impact at this location would be low.

13 **Honey Springs Battlefield Historic Site and Rentiesville South.** HVDC Alternative Route 3-C would be located
14 2.9 miles to the north. It is unlikely that the transmission line structures would be visible from this location because of
15 terrain and vegetation screening. If visible, they would appear as small objects on the horizon and would introduce
16 weak contrast. This KOP represents a historic site, so visual concern is high and the overall visual impact would be
17 low.

18 **Honey Springs Battlefield Historic Site North.** HVDC Alternative Route 3-C would be located 0.5 mile to the north
19 and would run parallel to an existing transmission line. HVDC Alternative Route 3-C in this location would be visible
20 where not screened by FG vegetation and would repeat form similar to the existing structures. The proposed
21 structures would be located on the near side of the existing line and introduce moderate contrast. This KOP
22 represents a historic site, so visual concern is high and the overall visual impact is moderate-high.

23 **McLain.** HVDC Alternative Route 3-C would be visible appearing as vertical objects above tree line, where not
24 screened by FG elements. The proposed structures would be parallel to an existing line and would be larger in form
25 and scale, but be farther from the viewer resulting in co-dominance with existing structure in view. The proposed
26 transmission line structures would be noticeable to viewers and result in moderate contrast. This KOP represents
27 views from a residential area, so visual concern is high and the overall visual impact would be moderate.

28 **Okmulgee.** HVDC Alternative Route 3-C would be located 1.5 miles to the north. At this distance, the transmission
29 line would be partially visible on the horizon line and on top of the ridgeline and appear as dark vertical shapes
30 silhouetted against the sky. The structures however, would not distract from the view and would result in weak
31 contrast. The overall visual impact on the landscape would be low.

32 **Oktaha School.** HVDC Alternative Route 3-C would be 0.4 mile to the southeast and would be visible above tree
33 line. This is a recreational facility in a residential area, so visual concern is high. There are multiple vertical elements
34 on the existing landscape including an existing transmission line, and these structures would introduce additional
35 contrast. Since HVDC Alternative Route 3-C would be located behind an existing transmission line in this location,
36 the contrast would be weak and overall visual impacts would be low. A visual simulation for this KOP is provided in
37 Appendix K.

- 1 **Perkins.** HVDC Alternative Route 3-C would be 0.6 mile to the east of this location. The transmission line structures
2 would be visible above the trees in the MG and in the open fields to the southeast. The introduction of additional
3 vertical elements and difference in form of the proposed structures would result in moderate contrast. The overall
4 visual impacts on this landscape would be moderate.
- 5 **Preston.** HVDC Alternative Route 3-C would be visible 0.6 mile to the south. The transmission line structures would
6 be clearly visible on the horizon, above the tree line adding vertical elements to the landscape resulting in strong
7 contrast. This KOP represents views from a park in a residential area, so visual concern is high. The overall visual
8 impacts would be high.
- 9 **Shamrock.** HVDC Alternative Route 3-C would be located 3 miles to the southwest of this location. Due to
10 vegetation and terrain, the transmission line structures would not be visible from this location and there would be no
11 visual impact.
- 12 **Webbers Falls.** See the Applicant Proposed Route Link 6 description.
- 13 **3.18.6.3.2.2.3.4 HVDC Alternative Route 3-D**
14 HVDC Alternative Route 3-D corresponds to Applicant Proposed Route Links 5 and 6.
- 15 **Boynton.** See description of Boynton KOP for HVDC Alternative Route 3-C. Distance and visibility are the same.
- 16 **Council Hill.** See description of Council Hill KOP for HVDC Alternative Route 3-C. Distance and visibility are the
17 same.
- 18 **Honey Springs Battlefield Historic Site and Rentiesville South.** See description of Honey Springs Battlefield
19 Historic Site and Rentiesville South KOP for HVDC Alternative Route 3-C. Distance and visibility are the same.
- 20 **Honey Springs Battlefield Historic Site North.** See description of Honey Springs Battlefield Historic Site North
21 KOP for HVDC Alternative Route 3-C. Distance and visibility are the same.
- 22 **McLain.** See description of McLain KOP for HVDC Alternative Route 3-C. Distance and visibility are the same
- 23 **Oktaha School.** See description of Oktaha School KOP for HVDC Alternative Route 3-C. Distance and visibility are
24 the same.
- 25 **Webbers Falls.** HVDC Alternative Route 3-D would be located 2.5 miles to the southwest. Given the distance and
26 existing vegetation, the transmission line structures would not be visible from this location and there would be no
27 visual impact.
- 28 **3.18.6.3.2.2.3.5 HVDC Alternative Route 3-E**
29 **McLain.** See description of McLain KOP for HVDC Alternative Route 3-C. Distance and visibility are the same.
- 30 **Webbers Falls.** See description of Webbers Falls KOP for HVDC Alternative Route 3-D. Distance and visibility are
31 the same.

- 1 **3.18.6.3.2.2.3.6 Region 3 Alternative Comparison**
 2 Table 3.18-21 provides a comparison of the visual impacts for Region 3.

**Table 3.18-21:
Visual Impact Comparison Summary—Region 3**

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 Mile
HVDC Alternative Route 3-A	4.4	30.5	2.8	186
APR Links Corresponding to Alternative 3-A	5.5	32.5	2.1	168
HVDC Alternative Route 3-B	4.9	39.7	3.3	476
APR Links Corresponding to Alternative 3-B	18.9	41.2	2.5	520
HVDC Alternative Route 3-C	15.9	102.3	3.7	1450
APR Links Corresponding to Alternative 3-C	28.4	98.2	4.9	1545
HVDC Alternative Route 3-D	1.8	36.0	1.6	600
APR Links Corresponding to HVDC Alternative Route 3-D	1.5	32.2	1.5	552
HVDC Alternative Route 3-E	1.2	6.9	0.4	162
APR Links Corresponding to Alternative 3-E	1.2	6.1	0.5	137

- 3
 4 **3.18.6.3.2.2.4 Region 4**
 5 A description for Region 4 is provided in Section 3.18.6.2.3.5. Region 4 has multiple sensitive resources including the
 6 Arkansas River, lakes and reservoirs, state parks, and Ozark-St. Francis National Forest land that would have
 7 sensitive viewers using the resources for recreation. HVDC Alternative Route 4-B would cross the Ozark-St. Francis
 8 National Forest and visual analysis related to USFS lands would be discussed after the HVDC Alternative Route 4-B
 9 KOP analysis. The visual impacts for the Region 4 KOPs are listed in Table 3.18-22 and described below.

**Table 3.18-22:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 4**

KOP ¹	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Arkansas River	3-C, 3-D	0.5	Moderate	Common	Yes	Weak	Moderate-Low
Arkansas River and Gore PR	3-D, 3-C, 3-E, 4-B	3	High	Distinct	Yes	Weak	Moderate-Low
Brushy Creek Reservoir and Sallisaw State Park	4-A	2.2	High	Distinct	No	No Contrast/ Not Visible	No Impact
Highway 82	4-A	0.1	Moderate	Common	Yes	Strong	High
Little Lee Creek (Scenic River)	4-A	0.4	High	Distinct	Yes	Strong	High
Route 71 (Scenic Byway)	4-A	0.1	High	Common	Yes	Strong	High
Uniontown Highway (Scenic Highway)	4-A	0.1	High	Common	Yes	Strong	High
Marble City	4-A, 4-B	0.3	High	Common	Yes	Strong	High
Tenkiller State Park PR and AR	4-A, 4-B	4	High	Distinct	No	No Contrast/ Not Visible	No Impact
Vian	4-A, 4-B	1.8	High	Common	Yes	Weak	Low

Table 3.18-22:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 4

KOP ¹	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Bluff Hole Park	4-A, 4-D	2.7	High	Common	Yes	Weak	Low
Boys and Girls Camp	4-A, 4-D	0.3	High	Common	Yes	Strong	High
City Park/Ball Fields and Rudy	4-A, 4-D	3.2	High	Developed	No	No Contrast/ Not Visible	No Impact
Frog Bayou Creek	4-A, 4-D	0.1	High	Distinct	Yes	Strong	High
Mulberry River and Trail of Tears	4-A, 4-D	0.7	High	Distinct	Yes	Strong	High
Fire Tower Lookout	4-B	0.9	High	Distinct	No	No Contrast/ Not Visible	No Impact
Highway 82	4-B	0.2	High	Common	Yes	Strong	High
Little Lee Creek (Scenic River)	4-B	0.4	High	Distinct	Yes	Strong	High
Mulberry River	4-B	0.1	High	Distinct	Yes	Strong	High
Route 220 (Scenic Byway)	4-B	0.1	High	Distinct	Yes	Strong	High
Trail of Tears (Highway 352)	4-B	0.1	High	Common	Yes	Moderate	Moderate-High
Trail of Tears (Route 59)	4-B	0.1	High	Distinct	Yes	Strong	High
White Oak	4-B	0.9	High	Common	No	No Contrast/ Not Visible	No Impact
Wiederkehr Village and Highway 186	4-B	3.4	High	Common	Yes	Weak	Low
Ozark	4-B, 4-E	3.7	High	Common	No	No Contrast/ Not Visible	No Impact
Field of Dreams	4-C	2.3	High	Developed	No	No Contrast/ Not Visible	No Impact
Scott Farm	4-C	0.7	High	Common	Yes	Moderate	Moderate
Cedarville	4-D	0.8	High	Common	Yes	Strong	High
Trail of Tears and Scenic Highway 220	4-D	0.1	High	Common	Yes	Strong	High
Van Buren	4-D, 4-C	1.1	High	Common	No	No Contrast/ Not Visible	No Impact
Clarksville	4-E	0.4	High	Common	Yes	Strong	High
Coal Hill	4-E	3.2	High	Common	No	No Contrast/ Not Visible	No Impact
Hagarville	4-E	2.3	High	Common	No	No Contrast/ Not Visible	No Impact
Highway 21 Scenic Byway	4-E	0.4	High	Common	Yes	Strong	High
Lamar	4-E	3.25	High	Common	No	No Contrast/ Not Visible	No Impact
Wiederkehr Village and Highway 186	4-E	0.6	High	Common	Yes	Weak	Low

1 1 The Arkansas River and Arkansas River and Gore KOPs are located in Region 4, but HVDC Alternative Routes in Region 3 will
2 potentially be visible from these KOPs. As a result, these KOPs are discussed in the Region 4 section, and the Region 3 HVDC
3 alternative routes potentially visible from these KOPs are included in the impact analysis for Region 4.

1 **3.18.6.3.2.2.4.1 HVDC Alternative Route 3-C**

2 HVDC Alternative Route 3-C corresponds to Applicant Proposed Route Links 3, 4, 5 and 6.

3 **Arkansas River.** From this KOP, HVDC Alternative Route 3-C would be visible, extending above the tree line 0.5
4 mile away on the far side of the river. The transmission line structures would be similar in form to the existing
5 structures and would appear co-dominant on the horizon. Views represented are only of the HVDC Alternative Route
6 section not including the river crossing, and would result in weak contrast. This KOP represents a major river
7 crossing at a heavily impacted site with moderate visual concern and the overall impact would be moderate–low.

8 **Arkansas River and Gore.** See description of Arkansas River and Gore KOP for Applicant Proposed Route Link 1.
9 Distance and visibility are the same. A visual simulation for this KOP is provided in Appendix K.

10 **3.18.6.3.2.2.4.2 HVDC Alternative Route 3-D**

11 HVDC Alternative Route 3-D corresponds to Applicant Proposed Route Links 5 and 6.

12 **Arkansas River.** See description of Arkansas River KOP for HVDC Alternative Route 3-C. Distance and visibility are
13 the same.

14 **Arkansas River and Gore.** See description of Arkansas River and Gore KOP for Applicant Proposed Route Link 1.
15 Distance and visibility are the same.

16 **3.18.6.3.2.2.4.3 HVDC Alternative Route 3-E**

17 HVDC Alternative Route 3-E corresponds to Applicant Proposed Route Link 6.

18 **Arkansas River and Gore.** See description of Arkansas River and Gore KOP for Applicant Proposed Route Link 1.
19 Distance and visibility are the same.

20 **3.18.6.3.2.2.4.4 HVDC Alternative Route 4-A**

21 HVDC Alternative Route 4-A corresponds to Applicant Proposed Route Links 3, 4, 5, and 6.

22 **Bluff Hole Park.** Looking north from Bluff Hole Park, the HVDC Alternative Route 4-A would be located 2.7 miles
23 away. At this distance, the transmission line structures would be mostly screened by vegetation and terrain. If any of
24 the structures are visible, they would appear as small dark vertical elements on the irregular horizon line and result in
25 weak contrast. This KOP represents views from a park, so visual concern is high and the overall visual impact at this
26 location would be low.

27 **Boys and Girls Camp.** This KOP represents views from a youth camp in a rural landscape. HVDC Alternative Route
28 4-A would be located 0.3 mile to the north, just beyond the line of trees in the FG. The transmission line structures
29 would be clearly visible to anyone traveling to or from the camp, extending above tree line and creating a pattern of
30 vertical elements different from the existing landscape. This KOP represents views from a recreation area, so visual
31 concern is high. The resulting contrast would be strong and overall visual impacts would be high.

32 **Brushy Creek Reservoir and Sallisaw State Park.** HVDC Alternative Route 4-A would be located 2.2 miles north of
33 this recreation area at Brushy Creek Reservoir. People visiting the park would not be able to see the transmission

1 line structures in this location because hills and dense trees around the lake screening views. There would be no
2 visual impact at this location.

3 **City Park/Ball Fields and Rudy.** Looking out from the community ball field in Rudy, views of HVDC Alternative
4 Route 4-A, 3.2 miles away, would be blocked by FG structures and vegetation resulting in no visual impact.

5 **Frog Bayou Creek.** HVDC Alternative Route 4-A would be highly visible crossing the valley and continuing up over
6 the ridge in the MG. Structures would appear as tall vertical elements breaking up an otherwise mostly natural
7 environment creating strong contrast. Additional contrast would be added to the landscape with the ROW clearing
8 going up the ridge creating straight lines on the rolling hills. This KOP represents the crossing of a waterbody being
9 viewed from a scenic highway, so visual concern is high. The overall visual impact in this area would be high. A
10 visual simulation for this KOP is provided in Appendix K.

11 **Highway 82.** HVDC Alternative Route 4-A would be located 0.1 mile to the southwest of this viewpoint along
12 Highway 82. The structures would be highly visible, extending above tree line and dominating the view of motorists
13 as it crosses the highway. ROW clearing would be visible as straight lines of cleared vegetation along the sides of the
14 road, adding additional contrast to the landscape. This KOP represents views from a well-travelled highway with
15 moderate visual concern and the transmission line would result in strong contrast and high overall visual impact at
16 this location.

17 **Little Lee Creek (Scenic River).** HVDC Alternative Route 4-A would cross this scenic river 0.4 mile to the northeast.
18 Where not screened by FG vegetation, transmission line structures in this location would introduce tall vertical
19 structures, and color, line and texture different from what exists currently (as described in Section 3.18.5.4.1 in this
20 primarily natural landscape. On the sides of the river, ROW clearing of dense vegetation would create additional
21 horizontal lines in the landscape visible to people using this river for recreation with high visual concern. These
22 impacts to the landscape would result in strong contrast and high overall visual impact. A visual simulation for this
23 KOP is provided in Appendix K.

24 **Marble City.** HVDC Alternative Route 4-A would be located 0.3 mile to the southeast. The structures would be
25 screened by a ridge until crossing the open field in the MG. Through breaks in the FG vegetation and structures, the
26 transmission line structures would be prominent in view and appear as tall vertical objects much larger in scale than
27 the existing wood power poles in view. This KOP represents views from a residential area with high visual concern
28 and the transmission line would result in strong visual contrast and high visual impact in this area.

29 **Mulberry River and Trail of Tears.** HVDC Alternative Route 4-A would cross the river 0.7 mile from this location.
30 Most of the transmission line structures would be screened because of the dense vegetation in the area, but when
31 they were visible through breaks in vegetation, they would be clearly visible across the open field to the east. The
32 proposed transmission line structures would be noticeably different than existing structures in view, introducing new
33 form and line to the landscape. Since this is a sensitive viewpoint representing a historic trail, the proposed structures
34 would result in strong contrast and high overall visual impact. A visual simulation for this KOP is provided in
35 Appendix K.

36 **Route 71 (Scenic Byway).** HVDC Alternative Route 4-A would cross the scenic byway 0.1 mile to the south. The
37 scale of the transmission structures would be much larger than anything in the current landscape in this area and

1 would dominate the views of motorists traveling down the scenic byway as the transmission line crosses the road and
2 cut across the open fields in the FG. This KOP represents views from a Scenic Byway, so visual concern is high. The
3 overall contrast at this location would be strong and the overall visual impact high.

4 **Tenkiller State Park.** See the Applicant Proposed Route Link 1 description.

5 **Uniontown Highway (Scenic Byway).** HVDC Alternative Route 4-A would cross the highway 0.1 mile from this
6 point. The tall transmission line structures would dominate views in the area as they contrast the rural landscape free
7 of tall man-made vertical structures. Combined with the ROW clearing of vegetation along the highway, HVDC
8 Alternative Route 4-A would create strong contrast and a high overall visual impact in this location.

9 **Vian.** HVDC Alternative Route 4-A would be located 1.8 miles to the north. From this location, the transmission line
10 structures would appear behind the ridge in the BG and most likely not be visible. If any of the structures appeared
11 above the tree line, they would appear as dark objects on the horizon and be difficult to notice, resulting in weak
12 contrast and low overall visual impact.

13 **3.18.6.3.2.2.4.5 HVDC Alternative Route 4-B**

14 HVDC Alternative Route 4-B corresponds to Applicant Proposed Route Links 2, 3, 4, 5, 6, 7 and 8.

15 **Arkansas River and Gore.** See the Applicant Proposed Route Link 1 description.

16 **Fire Tower Lookout.** This KOP represents views from the Ozark-St. Francis National Forest and was chosen by
17 USFS staff to represent forest views. Surrounding the open field are tall trees that would block all views to HVDC
18 Alternative Route 4-B, 0.9 mile to the south. There would be no visual impact at this location.

19 **Highway 82.** HVDC Alternative Route 4-B would be located 0.2 mile to the south. The transmission line structures
20 would be highly visible in the FG and extend above tree line. The form and scale would be much different than the
21 existing landscape and create strong contrast combined with additional contrast created by the clearing of vegetation
22 in the ROW. This KOP represents views from a residential area, so visual concern is high and the overall visual
23 impact would be high.

24 **Little Lee Creek (Scenic River).** Impacts would be similar to HVDC Alternative Route 4-A. See HVDC Alternative
25 Route 4-A description.

26 **Marble City.** See description of Marble City KOP for HVDC Alternative Route 4-A. Distance and visibility are the
27 same.

28 **Mulberry River.** HVDC Alternative Route 4-B, would be located 0.1 mile to the north. The transmission line
29 structures would be highly visible on the banks of the river and as they cross over to the other side. This KOP
30 represents views from a recreation area along a river, so visual concern is high and the Project would appear in the
31 near FG. The large vertical structures would be dominant in view, and combined with the vegetation being cleared for
32 the ROW, there would be strong contrast and high overall visual impact.

33 **Ozark.** HVDC Alternative Route 4-B would be located 3.7 miles to the north and be screened by MG trees and rolling
34 hills resulting in no visual impact.

1 **Route 220 (Scenic Byway).** HVDC Alternative Route 4-B would cross the Route 220 scenic highway less than
2 0.1 mile to the north. Large amounts of vegetation would need to be cleared for the ROW, resulting in straight lines
3 cutting through the curves of the rolling hills and trees in the otherwise natural landscape. The transmission line
4 structures would be larger in scale and form than anything in the vicinity (as described in Section 3.18.5.4.1) and
5 dominate the views of motorists traveling the highway in this area. This KOP represents views from a Scenic Byway,
6 so visual concern is high and the Project would have strong visual contrast and high overall visual impact.

7 **Tenkiller State Park.** See description of Tenkiller State Park KOP for Applicant Proposed Route Link 1. Distance
8 and visibility are the same.

9 **Trail of Tears (Highway 352).** HVDC Alternative Route 4-B would cross Highway 352 and the Trail of Tears 0.1 mile
10 to the northwest of this KOP. HVDC Alternative Route 4-B would cross the open field on the other side of the existing
11 H-frame structures. The proposed transmission line structures would be larger in scale and considerably different in
12 form than the existing and result in moderate contrast. This KOP represents views from a historic trail, so visual
13 concern is high and the overall visual impacts would be moderate-high.

14 **Trail of Tears (Route 59).** HVDC Alternative Route 4-B would be located 0.1 mile to the north and be highly visible
15 to motorists traveling the route. The transmission line structures would introduce a vertical element different in form
16 and scale to the existing structures in the area, and the clearing for the ROW would create strong lines in the dense
17 vegetation, resulting in strong overall contrast and high overall visual impact.

18 **Vian.** See HVDC Alternative Route 4-A description. Views are similar, but with a slightly longer distance (2.8 miles) to
19 the transmission line structures.

20 **White Oak.** HVDC Alternative Route 4-B would be located 0.9 mile to the north of this KOP. The FG vegetation and
21 terrain would screen any views of HVDC Alternative Route 4-B from this location, resulting in no visual impacts.

22 **Wiederkehr Village and Highway 186.** HVDC Alternative Route 4-B would be located 3.4 miles to the northwest of
23 Wiederkehr Village and this KOP represents views from a residential area, so visual concern is high. The
24 transmission line structures would likely be screened by the dense vegetation and low ridge in view. If visible, the
25 tops of the structures would appear as small dark objects on the horizon resulting in weak contrast on low overall
26 visual impacts.

27 **3.18.6.3.2.2.4.6 HVDC Alternative Route 4-B USFS SMS Compliance**

28 HVDC Alternative Route 4-B was developed in response to comments received during scoping for the EIS for the
29 Project. HVDC Alternative Route 4-B is 78.89 miles in length and located in Sequoyah County, Oklahoma, and
30 Crawford and Franklin counties, Arkansas. Of this, 10.51 miles is within the Forest Service Administrative Boundary
31 of the Ozark-St. Francis National Forest, in Crawford County, Arkansas; however, less than one-half of this length
32 (4.19 miles) is on Ozark-St. Francis National Forest land within the Boston Mountains Ranger District. The remaining
33 6.32 miles is on private land inholdings.

34 The USFS provided DOE with SIOs and the land management plan for the Ozark-St. Francis National Forest. No
35 KOPs were chosen on USFS lands because no viewpoints were identified through consultation with the USFS or
36 identified during the data collection field effort. For USFS lands, consistency with SIOs involves the comparison of

1 existing landscape integrity with integrity that would occur with implementation of HVDC Alternative Route 4-B.
2 Impacts to landscape scenery were determined by measuring the extent of effects of HVDC Alternative Route 4-B on
3 the scenic landscape through USFS scenic attractiveness ratings, and scenic quality on private, state, and other
4 federal lands. Impacts to viewers were determined by measuring the extent of effects of HVDC Alternative Route 4-B
5 through USFS viewer concern levels and distances and viewer sensitivity levels. The intent of a Land and Resource
6 Management Plan (LRMP) is to provide a framework for integrated resource management and for guiding all project
7 and activity decision making on USFS lands.

8 The Ozark-St. Francis National Forests' LRMP divides the Ozark-St. Francis National Forest into management areas
9 (MAs) (USFS 2005a). The purpose of these MAs is to identify allowable uses and opportunities within certain areas
10 on the Ozark-St. Francis National Forest. HVDC Alternative Route 4-B would cross the Pine Woodland and Oak
11 Woodland MAs (see Figure 2, "Ozark National Forest Management Areas," from the Visual Resources Technical
12 Report (Clean Line 2014; Appendix F).

13 Lands within these two MAs are primarily managed for timber production. The primary emphasis for both of these
14 MAs is to restore and maintain a landscape mosaic of open woodland that approximates historical conditions. The
15 common purpose for each MA is to provide habitat for associated plants and animals, and to create a setting for
16 recreation that is different, uncommon, visually appealing, and rich in wildlife.

17 MA Standards are mandatory requirements that apply to site-specific activities such as the Project. There are no MA
18 Standards for the Pine Woodland or Oak Woodland MAs that are relevant to the Project or potential effects on
19 scenery resources.

20 **Scenic Class 1 (Extremely High) Areas.** HVDC Alternative Route 4-B crosses a total of 0.24 miles consisting of two
21 small areas the Ozark-St. Francis National Forest inventoried and classified as having Extremely High public value
22 associated with them. The first area occurs along HVDC Alternative Route 4-B approximately 0.35 mile southeast of
23 where it crosses Route 220 (scenic highway). This is an area of uninterrupted forest and rolling terrain located within
24 the Oak Woodland MA. No roads, trails, water, rock outcrops, or other distinctive landscape features are evident.
25 Their scenic attractiveness is typical. The area is classified as Scenic Class 1 because it is within the FG view of the
26 scenic highway and, consequently, also a high public concern area.

27 The second area occurs along HVDC Alternative Route 4-B approximately 0.38 mile west of where HVDC Alternative
28 Route 4-B crosses Route 59. This is a densely forested area located within the Pine Woodland MA. No distinctive
29 landscape features are evident. The area is classified as Scenic Class 1 because it is within the FG view of Route 59
30 and an area of high public concern because of its proximity to potential viewers.

31 With the introduction of Project elements, the landform, vegetation patterns, and cultural features would still combine
32 to provide ordinary or common scenic quality in these areas. Because of the landscape's ability to absorb visual
33 change (i.e., topography, tall trees, constrained views), the overall scenic attractiveness class would not change, so
34 the total acreage of land classified as Scenic Class 1 would not be affected.

35 **Scenic Class 2 (Very High) Areas.** HVDC Alternative Route 4-B crosses a total of 2.01 miles consisting of several
36 areas the Ozark-St. Francis National Forest inventoried and classified as having Very High public value. These areas
37 are characterized by rolling terrain and forested areas within both the Oak and Pine Woodland MAs. A few

1 unimproved roads or trails are evident. There are no distinctive landscape features. These areas are fairly
2 homogenous, and their scenic attractiveness would be considered typical of this part of the Ozark-St. Francis
3 National Forest. These areas are all classified as scenic Class 2 because they are within the FG view of secondary
4 roads or rural residences adjacent to the Ozark-St. Francis National Forest.

5 With the introduction of Project elements, the landform, vegetation patterns, and cultural features would still combine
6 to provide ordinary or common scenic quality in these areas. Because of the landscape's ability to absorb visual
7 change, the overall scenic attractiveness class would not change and, therefore, the total acreage of land classified
8 as Scenic Class 2 would not be affected.

9 **Scenic Class 3 (High) Areas.** HVDC Alternative Route 4-B crosses a total of 0.28 mile consisting of two small areas
10 the Ozark-St. Francis National Forest inventoried and classified as having High public value. The areas occur along
11 HVDC Alternative Route 4-B approximately 0.6 mile and 1 mile southeast of where it crosses Route 220 (scenic
12 highway). These are typical forested areas located within the Oak Woodland MA. No roads, trails, water, rock
13 outcrops, or other distinctive landscape features are evident. Their scenic attractiveness is typical. These areas are
14 classified as Scenic Class 3 because they are within the MG view of the scenic highway as well as other secondary
15 roads and are also of moderate public concern.

16 With the introduction of Project elements, the landform, vegetation patterns, and cultural features would still combine
17 to provide ordinary or common scenic quality in these areas. Because of the landscape's ability to absorb visual
18 change, the overall scenic attractiveness class would not change and, therefore, the total acreage of land classified
19 as Scenic Class 3 would not be affected.

20 **SIO Compliance.** Transmission line structures and cleared ROWs would contrast with the landscape character in
21 High, Moderate, and Low SIO areas. Gray-colored structures would extend above the tree line, disrupting the line of
22 the landscape and introducing angular and coarse cultural (human) elements into an otherwise intact and natural-
23 appearing setting. Cleared ROWs would create additional lines on the landscape that vary in terms of line, color, and
24 texture from the surrounding visual landscape. These visual deviations would be most evident to viewers from a
25 superior vantage point or areas where no vegetation was in the immediate FG. Due to their height, transmission line
26 structures may be visible in these areas from Route 220 (scenic highway). Forest projects and activities should
27 contribute to the achievement or attainment of desired conditions. The USFS desires for a certain percentage of
28 projects occurring on NFS lands to meet the intended SIO as identified in the LRMP over the long term. Transmission
29 lines cause visible disruption to the surrounding landscape from two primary actions:

- 30
- 31 • ROW clearing (visually disruptive through the removal of trees, shrubs, and ground cover, creation of unnatural
32 openings, and abnormal vegetative edges)
 - 33 • Installation of structures (utility structures typically oppose landscape forms because they are geometric, forceful,
and large)

34 The landscape character for High SIO areas should appear unaltered and intact, and any deviations must "repeat the
35 form, line, color, texture, and pattern common to the landscape character so completely and at such a scale that they
36 are not evident" (USFS 2005b). Even with avoidance and minimization measures, the implementation of HVDC
37 Alternative Route 4-B would not meet this standard and would degrade the Desired Condition for scenic resources
38 described in the LRMP. Due to DOE Action Alternative resulting in high visual impacts HVDC Alternative Route 4-B

1 would not comply with High SIOs. The HVDC Alternative Route 4-B would not be allowed to cross lands managed
2 with non-complying objectives without changing the LRMP.

3 The landscape character for Moderate SIO areas may appear slightly altered, and deviations “must remain visually
4 subordinate to the landscape character being viewed” (USFS 2005b). It may be possible, but is not likely, for Project
5 elements to meet this standard in 100 percent of locations depending on the avoidance and minimization measures
6 employed and local landscape conditions. With these measures, the implementation of HVDC Alternative Route 4-B
7 would neither enhance nor degrade the Desired Condition for scenic resources described in the LRMP. Due to the
8 DOE Alternative resulting in moderate–high and high visual impacts HVDC Alternative Route 4-B would not comply
9 with Moderate SIOs.

10 The landscape character for Low SIO areas may appear moderately altered, and deviations may “begin to dominate
11 the valued landscape character being viewed” provided they “borrow valued attributes such as size, shape, edge
12 effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being
13 viewed” (USFS 2005b). Project elements would meet this standard in 100 percent of locations depending on
14 avoidance and minimization measures and local landscape conditions. With these measures, the implementation of
15 HVDC Alternative Route 4-B would enhance the Desired Condition for scenic resources described in the LRMP. Due
16 to the DOE Action Alternative resulting in moderate–high and high visual impacts, HVDC Alternative Route 4-B would
17 comply with Low SIOs.

18 **3.18.6.3.2.2.4.7 HVDC Alternative Route 4-C**

19 HVDC Alternative Route 4-C corresponds to Applicant Proposed Route Link 5.

20 **Field of Dreams.** HVDC Alternative Route 4-C would be located 2.3 miles to the north of the Field of Dreams ball
21 field. Dense trees in the FG would obscure views of the Project from this location, resulting in no visual impact.

22 **Scott Farm.** HVDC Alternative Route 4-C would be located 0.7 mile away in the FG. The large transmission line
23 structures would be noticeable in view of the residences nearby and introduce a strong vertical element not present
24 in the existing landscape (as described in Section 3.18.4.1). Portions of the structures would be screened by the
25 rolling hills and tall vegetation, resulting in moderate contrast and moderate overall visual impact. A visual simulation
26 for this KOP is provided in Appendix K.

27 **Van Buren.** HVDC Alternative Route 4-C would be located 1.1 miles to the northeast of this KOP. Large trees and
28 rolling terrain would obscure views of the transmission line structures from this location, resulting in no visual impact.

29 **3.18.6.3.2.2.4.8 HVDC Alternative Route 4-D**

30 HVDC Alternative Route 4-D corresponds to Applicant Proposed Route Links 4, 5 and 6.

31 **Bluff Hole Park.** See description of Bluff Hole Park KOP for HVDC Alternative Route 4-A. Distance and visibility are
32 the same.

33 **Boys and Girls Camp.** See description of Boys and Girls Camp KOP for HVDC Alternative Route 4-A. Distance and
34 visibility are the same.

- 1 **Cedarville.** HVDC Alternative Route 4-D would be located 0.8 mile to the southeast. Structures would be partially
2 screened by FG vegetation and terrain, but the top portion would be clearly visible, extending above tree line. The
3 addition of the proposed transmission line structures would introduce new vertical elements to the landscape and
4 result in strong contrast and high overall visual impact in this location.
- 5 **City Park/Ball Fields and Rudy.** See description of Bluff Hole Park KOP for HVDC Alternative Route 4-A. Distance
6 and visibility are the same.
- 7 **Frog Bayou Creek.** See description of Frog Bayou Creek KOP for HVDC Alternative Route 4-A. Distance and
8 visibility are the same.
- 9 **Mulberry River and Trail of Tears.** See description of Mulberry River and Trail of Tears KOP for HVDC Alternative
10 Route 4-A. Distance and visibility are the same.
- 11 **Trail of Tears and Scenic Highway 220.** HVDC Alternative Route 4-D would cross the highway about 0.1 mile to
12 the southeast. The proposed transmission line structures would be much larger and different in form than existing
13 elements on the landscape and be dominant in the view of people traveling the scenic highway. In addition to the
14 structures, the ROW clearing would create strong lines in the landscape that would be highly visible from the
15 roadway. This KOP represents views from the Trail of Tears and scenic highway, so visual concern is high and would
16 result in strong visual contrast and high overall visual impact in this location.
- 17 **Van Buren.** See description of Van Buren KOP for Applicant Proposed Route Link 4. Distance and visibility are the
18 same.
- 19 **3.18.6.3.2.2.4.9 HVDC Alternative Route 4-E**
- 20 HVDC Alternative Route 4-E corresponds to Applicant Proposed Route Links 8 and 6.
- 21 **Clarksville.** HVDC Alternative Route 4-E would be located 0.4 mile to the southeast of the Clarksville KOP,
22 representing views from a residential area, so visual concern is high. The transmission line structures would be highly
23 noticeable and visible as they cross the open agricultural fields and would introduce a large vertical element that is
24 not currently present in the landscape. Overall visual contrast would be strong and HVDC Alternative Route 4-E
25 would result in high overall visual impacts in this location.
- 26 **Coal Hill.** HVDC Alternative Route 4-E would be located 3.2 miles to the north and would not be visible due to rolling
27 hills and dense vegetation. There would be no overall visual impact.
- 28 **Hagarville.** HVDC Alternative Route 4-E would be located 2.3 miles south. The transmission line structures of HVDC
29 Alternative Route 4-E would not be visible from this location due to FG vegetation and terrain screening, resulting in
30 no visual impact in this location.
- 31 **Highway 21 Scenic Byway.** HVDC Alternative Route 4-E would cross the highway approximately 0.4 mile to the
32 south-southeast in the MG. The transmission line structures would be much greater in scale than the existing wood
33 structures in view and introduce additional vertical elements into the landscape. The structures would be clearly
34 visible above tree line and crossing the highway, resulting in strong visual contrast. This KOP represents views from
35 a Scenic Byway, so visual concern is high. The overall visual impact would be high.

- 1 **Lamar.** HVDC Alternative Route 4-E would be located 3.25 miles to the north of this KOP, but would not be visible
 2 due to FG vegetation and terrain, resulting in no visual impact.
- 3 **Ozark.** See description of Ozark KOP for HVDC Alternative Route 4-B. Distance and visibility are the same.
- 4 **Wiederkehr Village and Highway 186.** HVDC Alternative Route 4-E would be located 0.6 mile to the northwest. The
 5 transmission line structures may be partially visible from this location and, if so, would appear as small dark vertical
 6 elements appearing above tree line on the horizon, resulting in weak visual contrast and low overall visual impact.
- 7 **3.18.6.3.2.2.4.10 Region 4 Alternative Comparison**
- 8 Table 3.18-23 provides a comparison of the visual impacts for Region 4.

Table 3.18-23:
Visual Impact Comparison Summary—Region 4

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 4-A	10.2	17.7	30.6	1030
APR Links Corresponding to Alternative 4-A	11.6	47.3	1.7	1039
HVDC Alternative Route4-B	19.6	15.1	44.2	1094
APR Links Corresponding to Alternative 4-B	15.8	58.3	7.4	1735
HVDC Alternative Route4-C	1.4	1.9	0.1	278
APR Links Corresponding to Alternative 4-C	0.9	1.2	0.1	123
HVDC Alternative Route 4-D	4.9	10.6	9.9	882
APR Links Corresponding to Alternative 4-D	3.8	20.4	1.2	719
HVDC Alternative Route 4-E	11.0	24.6	1.2	901
APR Links Corresponding to Alternative 4-E	7.6	11.0	20.3	527

9

10 **3.18.6.3.2.2.5 Region 5**

11 A description for Region 5 is provided in Section 3.18.6.2.3.2.7. This region would have residential viewers as well as
 12 several parks and recreational areas where viewers would be more sensitive due to extended viewing periods at
 13 these resources. The visual impacts for the Region 5 KOPs are listed in Table 3.18-24 and described below.

Table 3.18-24:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 5

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Dover and JP Lovelady Ball Park	5-A	3.2	High	Common	No	No Contrast/ Not Visible	No Impact
Hector	5-A	3	High	Common	No	No Contrast/ Not Visible	No Impact
Highway 7 (Scenic Byway)	5-A	0.1	High	Common	Yes	Strong	High
Pope Co. Residential Cluster	5-A	0.8	High	Distinct	Yes	Weak	Moderate- Low
Boy Scout Campground	5-B	2.1	High	Common	No	No Contrast/ Not Visible	No Impact

Table 3.18-24:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 5

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Damascus	5-B	1.5	High	Common	No	No Contrast/ Not Visible	No Impact
Highway 9 Scenic Highway	5-B	0.5	High	Common	Yes	Strong	High
Twin Groves	5-B	0.1	High	Common	Yes	Strong	High
Wonderview School	5-B	0.7	High	Common	Yes	Moderate	Moderate
Guy	5-B, 5-E	3	High	Common	No	No Contrast/ Not Visible	No Impact
Highway 25 Scenic Highway	5-B, 5-E	0.1	High	Common	Yes	Strong	High
Quitman	5-B, 5-E	1.4	High	Common	Yes	Weak	Low
Highway 16 (Scenic Highway)	5-B, 5-E, 5-F	0.2	High	Common	Yes	Strong	High
Rose Bud City Park	5-B, 5-E, 5-F	2.1	High	Developed	No	No Contrast/ Not Visible	No Impact
Highway 16 (Scenic Highway)	5-C	0.3	High	Common	Yes	Strong	High
Steprock	5-C	0.4	High	Developed	Yes	Weak	Moderate– Low
White River	5-D	1	Moderate	Distinct	Yes	Strong	High

- 1
- 2 **3.18.6.3.2.2.5.1 HVDC Alternative Route 5-A**
- 3 HVDC Alternative Route 5-A corresponds to Applicant Proposed Route Link 1.
- 4 **Dover and JP Lovelady Ball Park.** See the Applicant Proposed Route Link 1 description. HVDC Alternative Route
- 5 5-A would be located 3.2 miles to the north-northwest.
- 6 **Hector.** HVDC Alternative Route 5-A would be located 3 miles to the south. Dense vegetation in the FG/MG would
- 7 screen all views of the alternative route at this location, resulting in no visual impact.
- 8 **Highway 7 (Scenic Byway).** HVDC Alternative Route 5-A would be located 0.1 mile north in the FG of this view.
- 9 Motorists would clearly see the structures as they travel the Scenic Byway, and at this distance, the structures would
- 10 be a dominant element on the landscape. HVDC Alternative Route 5-A would also require vegetation clearing for the
- 11 ROW in this area and would be visible from the Scenic Byway, appearing as strong lines in the vegetation. The visual
- 12 concern is high because it represents views from a Scenic Byway and the overall visual contrast at this location
- 13 would be strong and there would be high overall visual impact.
- 14 **Pope County Residential Cluster.** See description of Pope County Residential Cluster for Applicant Proposed
- 15 Route Link 1. Distance and visibility are the same.
- 16 **3.18.6.3.2.2.5.2 HVDC Alternative Route 5-B**
- 17 HVDC Alternative Route 5-B corresponds to Applicant Proposed Route Links 3, 4, 5 and 6.

- 1 **Boy Scout Campground.** HVDC Alternative Route 5-B would be located 2.1 miles to the south of the Boy Scout
2 Campground. Dense vegetation in the FG would screen all views of HVDC Alternative Route 5-B in this location,
3 resulting in no visual impact.
- 4 **Damascus.** HVDC Alternative Route 5-B would be located 1.5 miles to the south, but views would be screened by
5 FG vegetation and terrain, resulting in no visual impact.
- 6 **Guy.** HVDC Alternative Route 5-B would be located 3.0 miles to the north. The rising terrain and dense vegetation in
7 the FG would screen all views of HVDC Alternative Route 5-B in this location, resulting in no visual impact. A visual
8 simulation for this KOP is provided in Appendix K.
- 9 **Highway 9 Scenic Highway.** HVDC Alternative Route 5-B would cross Highway 9, 0.5 mile to the south. The
10 structures would be highly visible as motorists approach the highway crossing and they would differ noticeably in
11 scale, form, and line, than existing elements on the landscape (as described in Section 3.18.5.4.1). ROW vegetation
12 would be noticeable along the sides of the highway, creating additional contrast. The visual concern is high because
13 it represents views from a scenic highway and the overall visual impact would be high.
- 14 **Highway 16 Scenic Highway.** HVDC Alternative Route 5-B would be located 0.2 mile away and be highly visible on
15 the landscape. Transmission line structures would be seen crossing the open field in front of a line of trees in the FG.
16 Because of their scale, the structures would be highly visible to motorists, extending above the trees and creating a
17 dominant feature on the landscape. The visual concern is high because it represents views from a scenic highway
18 and HVDC Alternative Route 5-B would introduce form and line to the landscape that is not currently present at this
19 location, resulting in strong contrast and high overall visual impact.
- 20 **Highway 25 Scenic Highway.** HVDC Alternative Route 5-B would be visible on the landscape 0.1 mile to the south
21 of this KOP. The tall vertical structures would create a repeating pattern different in form and scale than existing
22 elements on the landscape. HVDC Alternative Route 5-B would be dominant in view when motorists traveled along
23 Highway 25 in this location, and ROW clearing would become evident as motorists approached the highway
24 crossing. The visual concern is high because it represents views from a scenic highway and the resulting contrast
25 would be strong and overall visual impacts would be high.
- 26 **Quitman.** HVDC Alternative Route 5-B would be located 1.4 miles to the south. Dense vegetation in the FG would
27 screen much of transmission line structures from view, but some structures may be visible extending above the tree
28 line. The visible structures would appear as small dark objects that would add to the already irregular line of trees on
29 the horizon, resulting in weak contrast and low overall visual impact. A visual simulation for this KOP is provided in
30 Appendix K.
- 31 **Rose Bud City Park.** HVDC Alternative Route 5-B would be located 2.1 miles to the north of Rose Bud City Park,
32 but any potential views of the transmission line structures in this location would be screened by FG terrain and
33 vegetation, resulting in no visual impact.
- 34 **Twin Groves.** HVDC Alternative Route 5-B would be located 0.1 mile to the northwest. Dense trees line the road in
35 this area, but the transmission line structures would be visible through the trees and extend above the trees. The

1 form and line of HVDC Alternative Route 5-B would be noticeably different than anything in the area and would result
2 in strong contrast and high overall visual impact.

3 **Wonderview School.** HVDC Alternative Route 5-B would be visible as it crosses the highway 0.7 mile to the south
4 and the structures would be visible extending above trees. The vegetation in the FG and MG would absorb some of
5 the impact and the overall contrast would be moderate. The overall visual impact would be moderate at this KOP.

6 **3.18.6.3.2.2.5.3 HVDC Alternative Route 5-C**

7 HVDC Alternative Route 5-C corresponds to Applicant Proposed Route Links 6 and 7.

8 **Highway 16 Scenic Highway.** HVDC Alternative Route 5-C would cross Scenic Highway 16, 0.3 mile to the
9 southeast. Transmission line structures would be clearly visible and noticeable across the open field in the FG and
10 extended above tree line introducing new, vertical elements to the landscape. Because of the scale of the structures,
11 at this distance they would be a dominant form on the landscape and result in strong contrast and high overall visual
12 impact.

13 **Steprock.** See the Applicant Proposed Route Link 7 description.

14 **3.18.6.3.2.2.5.4 HVDC Alternative Route 5-D**

15 HVDC Alternative Route 5-D corresponds to Applicant Proposed Route Link 9.

16 **White River.** HVDC Alternative Route 5-D transmission line would be located 1 mile to the northeast. The structures
17 on either side of the river would be visible, extending above tree line, and the conductors would be seen stretching
18 across the river. Some vegetation clearing for the ROW may also be visible on the banks. This KOP represents views
19 from a major waterbody, but potential viewers are low, so visual concern is moderate. HVDC Alternative Route 5-D
20 would introduce large vertical structures to a very natural landscape resulting in strong contrast and high overall
21 visual impact.

22 **3.18.6.3.2.2.5.5 HVDC Alternative Route 5-E**

23 HVDC Alternative Route 5-E corresponds to Applicant Proposed Route Links 4, 5 and 6.

24 **Guy.** See description of Guy KOP for Alternative Route 5-B. Distance and visibility are the same.

25 **Highway 16 Scenic Highway.** See description of Highway 16 Scenic Highway KOP for HVDC Alternative Route 5-B.
26 Distance and visibility are the same.

27 **Highway 25 Scenic Highway.** See description of Highway 25 Scenic Highway KOP for HVDC Alternative Route 5-B.
28 Distance and visibility are the same.

29 **Quitman.** See description of Quitman KOP for HVDC Alternative Route 5-B. Distance and visibility are the same.

30 **Rose Bud City Park.** See description of Rose Bud City Park KOP for HVDC Alternative Route 5-B. Distance and
31 visibility are the same.

1 **3.18.6.3.2.2.5.6 HVDC Alternative Route 5-F**

2 HVDC Alternative Route 5-F corresponds to Applicant Proposed Route Links 5 and 6.

3 **Highway 16 Scenic Highway.** See description of Highway 16 Scenic Highway KOP for HVDC Alternative Route 5-B.

4 Distance and visibility are the same.

5 **Rose Bud City Park.** See description of Rose Bud City Park KOP for HVDC Alternative Route 5-B. Distance and

6 visibility are the same.

7 **3.18.6.3.2.2.5.7 Region 5 Alternative Comparison**

8 Table 3.18-25 provides a comparison of the visual impacts for Region 5.

**Table 3.18-25:
Visual Impact Comparison Summary—Region 5**

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 5-A	7.6	4.9	0.2	165
APR Links Corresponding to Alternative 5-A	7.9	4.3	0.2	136
HVDC Alternative Route5-B	12.2	57.2	1.8	975
APR Links Corresponding to Alternative 5-B	16.7	48.5	2.3	868
HVDC Alternative Route5-C	1.1	7.8	0.3	221
APR Links Corresponding to Alternative 5-C	1.5	7.6	0.3	175
HVDC Alternative Route5-D	3.8	17	1	382
APR Links Corresponding to Alternative 5-D	1.5	17.4	1.7	305
HVDC Alternative Route5-E	4.9	30.6	0.9	421
APR Links Corresponding to Alternative 5-E	5.2	26.6	1.4	578
HVDC Alternative Route5-F	3.0	18.7	0.6	239
APR Links Corresponding to Alternative 5-F	4.1	13.9	0.9	328

9

10 **3.18.6.3.2.2.6 Region 6**

11 A description for Region 6 is provided in section 3.18.6.2.3.2.9. Rural residences and small towns would make up
12 majority of the sensitive viewers in this location and the areas of flat, agricultural lands would increase the viewing
13 distance in many of these areas. The visual impacts for the Region 6 KOPs are listed in Table 3.18-26 and described
14 below.

**Table 3.18-26:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 6**

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Fisher and Park	6-A	0.5	High	Developed	Yes	Strong	Moderate-High
Weldon	6-A	2.8	High	Common	Yes	Weak	Low
Amagon	6-B	0.2	High	Developed	Yes	Moderate	Moderate
Highway 14 Scenic Highway	6-B	0.3	High	Common	Yes	Strong	High
Crowley's Ridge Byway	6-C	0.2	High	Common	Yes	Strong	High

1 **3.18.6.3.2.2.6.1 *HVDC Alternative Route 6-A***

2 HVDC Alternative Route 6-A corresponds to Applicant Proposed Route Links 2, 3 and 4.

3 **Fisher and Park.** HVDC Alternative Route 6-A would be visible in the open field 0.5 mile to the south. The structures
4 would be a dominate feature on the landscape and would add a pattern of vertical structures with larger form than
5 existing vertical elements. The visual contrast would be strong and overall visual impact moderate-high at this
6 location.

7 **Weldon.** HVDC Alternative Route 6-A would be located 2.8 miles to the northeast. The flat open landscape would
8 allow for multiple visible transmission-line structures, but at a distance of 2.6 miles, they would appear as a row of
9 dark vertical elements and would be co-dominant with the existing structures on the landscape. This KOP represents
10 views from residential area, so visual concern is high. The overall visual contrast would be weak and result in low
11 overall visual impact.

12 **3.18.6.3.2.2.6.2 *HVDC Alternative Route 6-B***

13 HVDC Alternative Route 6-B corresponds to Applicant Proposed Route Link 3.

14 **Amagon.** HVDC Alternative Route 6-B would be located 0.2 mile to the south/southwest, running parallel to the
15 existing H-frame structures. This KOP represents views from a residential area and the visual concern is high. The
16 proposed transmission line structures would be considerably larger and different in form than the existing structures,
17 making them visible above tree line and resulting moderate contrast and moderate overall visual impacts.

18 **Highway 14 Scenic Highway.** HVDC Alternative Route 6-B would cross Highway 14 0.3 mile from this location and
19 then run parallel to the roadway. This is a flat and open landscape and the transmission line structures would be
20 dominant features in the FG where they cross the highway and then continue as a dominant element as it follows the
21 road into the distance. This KOP represents views from a scenic highway, so visual concern is high. HVDC
22 Alternative Route 6-B would result in strong visual contrast and high overall visual impact in this location. A visual
23 simulation for this KOP is provided in Appendix K.

24 **3.18.6.3.2.2.6.3 *HVDC Alternative Route 6-C***

25 HVDC Alternative Route 6-C corresponds to Applicant Proposed Route Links 3, 4 and 5.

26 **Crowley's Ridge Scenic Byway.** HVDC Alternative Route 6-C would be located 0.2 mile to the southeast, crossing
27 the open field and Scenic Byway. Structures would be dominant features on the landscape and motorists traveling
28 the Scenic Byway would have unobstructed views. The transmission line structures would attract attention as large
29 vertical elements on an open landscape and result in strong visual contrast. Since this KOP represents views from a
30 Scenic Byway, visual concern is high and the overall visual impact would be high at this location.

31 **3.18.6.3.2.2.6.4 *Region 6 Alternative Comparison***

32 Table 3.18-27 provides a comparison of the visual impacts for Region 6.

**Table 3.18-27:
Visual Impact Comparison Summary—Region 6**

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 6-A	0.1	15.3	0.9	45
APR Links Corresponding to Alternative 6-A	0.1	16.9	0.8	64
HVDC Alternative Route 6-B	0	13.3	0.8	141
APR Links Corresponding to Alternative 6-B	0.1	9.3	0.3	24
HVDC Alternative Route 6-C	2.7	19.9	0.6	66
APR Links Corresponding to Alternative 6-C	3.9	20.5	0.53	66
HVDC Alternative Route 6-D	0.3	8.8	0.1	5
APR Links Corresponding to Alternative 6-D	0.2	8.1	0.2	0

1

2 **3.18.6.3.2.2.7 Region 7**

3 A description for Region 7 is provided in Section 3.18.6.2.3.2.11. As the Project moves east, there would be areas of
4 higher population and correspondingly higher amounts of sensitive residential viewers, although the more developed
5 areas have more structures and vertical elements that would offer a higher level of screening and reduce the viewing
6 distance for many of the sensitive viewing areas. The visual impacts for the Region 7 KOPs are listed in Table
7 3.18-28 and described below.

**Table 3.18-28:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 7**

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Dyess	7-A	2.6	High	Common	Yes	Weak	Low
Johnny Cash Home	7-A	3.5	High	Common	Yes	Weak	Low
Lower Hatchie NWR	7-A	4.7	High	Distinct	No	No Contrast/Not visible	No Impact
Marked Tree AR	7-A	1	High	Developed	Yes	Weak	Low
McGavock-Grider Park	7-A	1.8	High	Common	Yes	Weak	Low
Mississippi River and Trail of Tears	7-A	0.3	High	Distinct	Yes	Strong	High
Tyronza	7-A	2.4	High	Common	Yes	Weak	Low
Wilson Park	7-A	1.8	High	Common	Yes	Weak	Low
Harold Park and Millington	7-B	2	High	Developed	No	No Contrast/Not visible	No Impact
Wilkinsville	7-B	0.7	High	Common	Yes	Strong	Moderate-High
Atoka	7-C	0.7	High	Common	No	No Contrast/Not visible	No Impact
Aycock Park and Millington	7-C	0.2	High	Developed	Yes	Moderate	Moderate
Harold Park and Millington	7-C	0.6	High	Developed	Yes	Moderate	Moderate-Low
Millington East	7-C	0.3	High	Common	Yes	Moderate	Moderate-High
Millington USA Baseball Stadium	7-C	0.5	High	Developed	Yes	Moderately Low	Moderate-Low
Rockyford Park	7-C	2.9	High	Developed	No	No Contrast/Not visible	No Impact
Edmund Orgill Park	7-C, 7-B, 7-D	1.7	High	Distinct	No	No Contrast/Not visible	No Impact

Table 3.18-28:
Visual Impact Summary of KOPs—HVDC Alternative Routes—Region 7

KOP	AR	Distance (Miles)	Viewer Concern	Landscape Category	Visibility	Contrast	Overall Impact
Atoka	7-D	0.2	High	Common	Yes	Strong	Moderate-High
Atoka Community Park	7-D	3.2	High	Developed	No	No Contrast/Not visible	No Impact
Munford	7-D	0.4	High	Developed	Yes	Weak	Moderate-Low
Rhodes Estates	7-D	0.6	High	Developed	Yes	Weak	Low

1

2 **3.18.6.3.2.2.7.1 HVDC Alternative Route 7-A**

3 HVDC Alternative Route 7-A corresponds to Applicant Proposed Route Links 2, 3 and 4.

4 **Dyess.** HVDC Alternative Route 7-A would be located 2.6 miles to the south. Since this is a very flat landscape with
5 panoramic views, the transmission line structures may be visible in the distance and appear as a series of dark
6 vertical objects on the horizon and would result in weak contrast. The overall visual impacts of the structures would
7 be low from this location.

8 **Johnny Cash Home.** HVDC Alternative Route 7-A would be located 3.5 miles south of the Johnny Cash Boyhood
9 Home Historic site, so the visual concern is high. The flat landscape in this area provides panoramic views and the
10 transmission line structures would be faintly visible on the horizon. At this distance, the structures would appear as
11 dark vertical objects creating a pattern on the horizon resulting in weak visual contrast and low overall visual impact.

12 **Lower Hatchie NWR.** HVDC Alternative Route 7-A would be located 4.7 miles to the west. Terrain and dense
13 vegetation would screen all potential views of the transmission line structures at this location, resulting in no visual
14 impact.

15 **Marked Tree.** HVDC Alternative Route 7-A would be located 1 mile to the southeast of this location. Existing
16 structures and vegetation in view would screen most of the structures, leaving just the top portion of the HVDC
17 Alternative Route 7-A structures visible. This KOP represents views from a park and recreation area and visual
18 concern is high. There are several existing structures in view, so the proposed structures would result in weak
19 contrast and low overall visual impact. A visual simulation for this KOP is provided in Appendix K.

20 **McGavock-Girder Park.** HVDC Alternative Route 7-A would be located 1.8 miles to the south-southwest. The open
21 landscape would offer views of the transmission structures, appearing as a pattern of vertical structures in the
22 distance. The transmission line structures would not be a dominant feature on the landscape and would result in
23 weak visual contrast at this location. This KOP represents views from a public park and the visual concern is high.
24 The overall visual impacts would be low.

25 **Mississippi River and Trail of Tears.** HVDC Alternative Route would cross the Mississippi River 0.3 mile from this
26 location. The transmission line structures required to cross the river would be very tall and prominent in view and
27 would appear much taller than existing structures. The structures would be substantially taller than the trees on the
28 banks of the river and would be a dominant feature in view of anyone using the river for recreation. In addition, FAA
29 lighting would be required due to height requirements for additional light sources for nighttime views. Vegetation
30 would also need to be removed along the banks of the river for the ROW creating additional impact. This KOP

1 represents views from a major waterbody and historic trail, so visual concern is high. HVDC Alternative Route 7-A
2 would result in strong visual contrast and high overall visual impacts at this location. A visual simulation for this KOP
3 is provided in Appendix K.

4 **Tyronza.** HVDC Alternative Route 7-A would be located 2.4 miles to the north. Because the landscape in this area is
5 flat and offers panoramic views, the transmission line structures would be visible above the trees in the distance. At
6 this distance, they would appear on the horizon as dark vertical elements and would not appear substantially different
7 than the FG structures, resulting in weak contrast and low overall visual impact.

8 **Wilson Park.** HVDC Alternative Route 7-A would be located 1.8 miles to the northwest. This KOP represents views
9 from a public park, so visual concern is high. The transmission line structures would be visible as a pattern of vertical
10 objects with different form and line than the existing vertical elements. The proposed structures would be larger in
11 scale than the existing structures, but because of distance, they would not be a dominant element on the landscape.
12 HVDC Alternative Route 7-A would result in weak visual contrast, and low overall visual impact at this location.

13 **3.18.6.3.2.2.7.2 HVDC Alternative Route 7-B**

14 HVDC Alternative Route 7-B corresponds to Applicant Proposed Route Links 3 and 4.

15 **Edmund Orgill Park.** HVDC Alternative Route 7-B would be located 1.7 miles from Edmund Orgill Park. The dense
16 trees and rolling terrain in the FG would screen all views of the transmission line structures, resulting in no visual
17 impact at this location.

18 **Harold Park and Millington.** See the Applicant Proposed Route Link 5 description.

19 **Wikinsville.** HVDC Alternative Route 7-B would be located 0.7 mile to the south. The structures would appear as a
20 row of objects extending above the trees in the MG adding a strong vertical element to a landscape with primarily
21 horizontal line. This KOP represents views from a residential area and visual concern is high. HVDC Alternative
22 Route 7-B would result in strong visual contrast and high overall visual impact at this location.

23 **3.18.6.3.2.2.7.3 HVDC Alternative Route 7-C**

24 HVDC Alternative Route 7-B corresponds to Applicant Proposed Route Links 3, 4 and 5.

25 **Atoka.** See description of Atoka KOP for Applicant Proposed Route Link 5. Distance and visibility are the same.

26 **Aycock Park and Millington.** HVDC Alternative Route 7-C would be located less than 0.2 mile to the north and
27 would parallel the existing 161kV line. Although the proposed transmission line structures would be parallel to the
28 existing transmission line, the proposed structures would be larger in scale and extend above the trees in the FG,
29 adding moderate contrast to the landscape. This KOP represents views from a neighborhood park and residential
30 area and has high visual concern. The overall visual impact would be moderate at this location since there is an
31 existing transmission line in view.

32 **Edmund Orgill Park.** See description of Edmund Orgill Park KOP for HVDC Alternative Route 7-B. Distance and
33 visibility are the same.

1 **Harold Park and Millington.** HVDC Alternative Route 7-C would be located 0.6 mile west. Looking west, the
2 transmission line structures would be visible through breaks in the FG trees, extending above the trees in the
3 distance. The structures would differ in form than the existing low, primarily horizontal houses in the area, resulting in
4 moderate contrast and moderate–low overall visual impact. A visual simulation for this KOP is provided in
5 Appendix K.

6 **Millington East.** HVDC Alternative Route 7-C would be located 0.3 mile to the southeast, running parallel to an
7 existing 161kV transmission line. The proposed transmission line structures would be larger in scale than the existing
8 transmission line structures and extend above tree line, with the bottom portion screened by vegetation in the FG.
9 This KOP represents views from a residential area and visual concern is high. The structures would be prominent on
10 the landscape and result in moderate contrast and moderate-high overall visual impact.

11 **Millington USA Baseball Stadium.** HVDC Alternative Route 7-C would be located 0.5 mile to the south, running
12 parallel to an existing 161kV transmission line. The tops of the transmission line structures would be visible above the
13 trees and would introduce additional vertical elements to the landscape. There are several tall vertical elements in the
14 existing environment, so the additional structures would result in weak contrast and moderate–low overall visual
15 impact.

16 **Rockyford Park.** HVDC Alternative Route 7-C would be located 2.9 miles to the northwest. The dense trees and
17 terrain would block all views of HVDC Alternative Route 7-C, resulting in no overall visual contrast at this location.

18 **3.18.6.3.2.2.7.4 HVDC Alternative Route 7-D**

19 HVDC Alternative Route 7-D corresponds to Applicant Proposed Route Links 4 and 5.

20 **Atoka.** HVDC Alternative Route 7-D would be located less than 0.2 mile to the southwest in the FG. This KOP
21 represents views from a residential area and visual concern is high. The transmission line structures would be a
22 dominant feature crossing the open fields in front of the FG trees and vegetation clearing may be visible. Because
23 HVDC Alternative Route 7-D would be introducing new dominant features into an undeveloped landscape, it would
24 result in strong visual contrast and high overall visual impact.

25 **Atoka Community Park.** See description of Atoka Community Park KOP for Applicant Proposed Route Link 5.
26 Distance and visibility are the same.

27 **Edmund Orgill Park.** See description of Edmund Orgill Park KOP for HVDC Alternative Route 7-C. Distance and
28 visibility are the same.

29 **Munford.** HVDC Alternative Route 7-D would be located 0.4 mile to the southwest. This KOP represents views from
30 a residential area and visual concern is high. HVDC Alternative Route 7-D would run parallel to an existing 500kV
31 transmission line and would be visible extending above the FG trees. The proposed structures would not introduce
32 any new form, line, color, or texture but would add to existing elements, resulting in weak visual contrast and
33 moderate–low overall visual impact.

34 **Rhodes Estates.** HVDC Alternative Route 7-D would be located 0.6 mile to the northeast and would run parallel to
35 an existing 500kV transmission line, but at a farther distance. With the increased distance to the structures, they

1 would appear smaller in size and less dominant, resulting in weak visual contrast. This KOP represents views from a
2 residential area and visual concern is high and the overall visual impact is low.

3 **3.18.6.3.2.2.7.5 Region 7 Alternative Comparison**

4 Table 3.18-29 provides a comparison of the visual impacts for Region 7.

Table 3.18-29:
Visual Impact Comparison Summary—Region 7

Proposed and Alternative Routes	Miles of Distinct Lands Crossed	Miles of Common Lands Crossed	Miles of Developed Lands Crossed	Residences within 0.5 mile
HVDC Alternative Route 7-A	1.9	40.5	0.8	127
APR Links Corresponding to Alternative 7-A	1.5	25.5	1.6	61
HVDC Alternative Route 7-B	1.8	6.2	0.6	503
APR Links Corresponding to Alternative 7-B	3.0	5.2	0.2	537
HVDC Alternative Route 7-C	2.1	20.5	1.2	1536
APR Links Corresponding to Alternative 7-C	3.7	9.0	0.5	717
HVDC Alternative Route 7-D	0.3	6.0	0.2	1400
APR Links Corresponding to Alternative 7-D	0.8	5.3	0.3	334

5

6 **3.18.6.3.2.3 Decommissioning Impacts**

7 Project facilities would be removed at the end of the operational life of the transmission line. There would be
8 temporary visual impacts during decommissioning activities. Conductors, structures, and related facilities would be
9 removed. Foundations would be removed to below the ground surface level. There would be residual visual impacts
10 for many years after the Project has been decommissioned and structures removed such as vegetative cutbacks, cut
11 and fill scars from construction activities, and access roads, which all add to the visual impact, though these impacts
12 would be at ground level. These areas would be apparent after the removal of structures but are expected to diminish
13 over time as the removed vegetation grows back.

14 **3.18.6.4 Best Management Practices**

15 The Applicant has developed a comprehensive list of EPMS that would minimize or avoid potential adverse impacts
16 to visual resources. A complete list of EPMS for the Project is provided in Appendix F.

17 **3.18.6.5 Unavoidable Adverse Impacts**

18 Unavoidable impacts include the potential loss or alteration of sensitive views from public or private lands that are
19 located within or adjacent to (within the FG/MG) the transmission line ROW or adjacent to converter station siting
20 areas.

21 **3.18.6.6 Irreversible and Irretrievable Commitment of Resources**

22 Irretrievable impacts to visual resources are anticipated where large trees are removed in the ROW, since trees
23 would not be replanted or would be replanted and would result in age disparities, the effects of which would be
24 noticeable to the casual observer. Removed trees would not be available for use by future generations even if new
25 trees are replanted.

1 Views of the ROW and structures for the life of the Project would be irreversible due to the introduction of structures
2 and vegetative clearing. Once the Project has been decommissioned, all structures could be removed, access roads
3 reclaimed, and vegetation restored.

4 **3.18.6.7 Relationship between Local Short-term Uses and Long-term** 5 **Productivity**

6 Short-term vegetation management may impair long-term visual resources where trees or areas of thick vegetation
7 are removed and take years to grow back.

8 **3.18.6.8 Impacts from Connected Actions**

9 **3.18.6.8.1 Wind Energy Generation**

10 The WDZs fall within a 40-mile radius from the Oklahoma Converter Station in Region 1, as described in Section
11 3.18.5.8. The region is primarily flat agricultural lands with open and expansive views and the tall vertical wind
12 turbines would be potentially visible from large distances. Sensitive viewers in this area would be primarily rural
13 residences and small towns, but there are several local parks, state parks, wildlife areas and the Rita Blanca National
14 Grassland that would have possible views because of the panoramic views in the region. This region is free of heavy
15 development and for the most part, cultural modifications are limited to grain silos, center pivots, and scattered
16 transmission structures. The primarily horizontal lines of the landscape would have strong contrast with the tall
17 vertical wind turbines when in the FG and near MG. Additionally, required FAA lighting would be visible for long
18 distances and would likely attract attention when flashing. Most of the highly sensitive resources, such as the national
19 grassland and recreation areas, however, would be located in the BG distance zone, so impacts would not be as
20 strong as turbines would not be a dominant feature at that distance.

21 **3.18.6.8.2 Optima Substation**

22 Construction and operations and maintenance of the future Optima Substation would result in low visual impacts
23 because of the low visual sensitivity of viewers associated with local roads and existing cultural modifications in the
24 area that have already introduced vertical elements in the a relatively flat landscape setting. Highly sensitive
25 resources, such as viewers associated with the Optima National Wildlife Refuge, would be located in the BG distance
26 zone, and views of the substation would be obstructed by the rolling terrain; therefore no visual impacts are
27 anticipated to high sensitivity viewers in the BG.

28 **3.18.6.8.3 TVA Upgrades**

29 A precise ROI has not been identified for the TVA upgrades. Where possible, general impacts associated with the
30 required TVA upgrades are discussed below.

31 Upgrades to existing facilities related to terminal modifications and conductor replacement are not expected to result
32 in high visual impacts because contrast would be weak as the existing facilities have already introduced vertical
33 elements into the landscape that are similar in form, line color and texture. Increasing the heights of existing towers
34 and constructing a new electric transmission line could have higher contrast and higher overall impacts depending on
35 the specific locations of the towers that would be increased in height and location of the new transmission line. The
36 level of potential visual impacts would depend on whether these upgrades were constructed in visually important or
37 unique landscapes, or near highly sensitive viewer locations such as community enhancement areas (e.g., roadside

1 parks, viewpoints and historic markers) or locations with special scenic, historic, recreation, cultural, and/or natural
2 qualities that have been recognized as such through legislation or some other official declaration.

3 **3.18.6.9 Impacts Associated with the No Action Alternative**

4 Under the No Action Alternative, DOE assumes for analytical purposes that the Project would not be constructed.
5 Current management across the Regions 1 through 7 of the Project would be maintained under the No Action
6 Alternative. Under this alternative, there would be no Project construction or operation to impact visual resources.

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