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5.11 VISUAL RESOURCES

Hydrogen Energy California LLC (HECA LLC) is proposing an Integrated Gasification Combined Cycle (IGCC) polygeneration project (HECA or Project). The Project will gasify a fuel blend of 75 percent coal and 25 percent petroleum coke (petcoke) to produce synthesis gas (syngas). Syngas produced via gasification will be purified to hydrogen-rich fuel, and used to generate a nominal 300 megawatts (MW) of low-carbon baseload electricity in a Combined Cycle Power Block, low-carbon nitrogen-based products in an integrated Manufacturing Complex, and carbon dioxide (CO₂) for use in enhanced oil recovery (EOR). CO₂ from HECA will be transported by pipeline for use in EOR in the adjacent Elk Hills Oil Field (EHOF), which is owned and operated by Occidental of Elk Hills, Inc. (OEHI). The EOR process results in sequestration (storage) of the CO₂.

Terms used throughout this section are defined as follows:

- **Project or HECA.** The HECA IGCC electrical generation facility, low-carbon nitrogen-based products Manufacturing Complex, and associated equipment and processes, including its linear facilities.
- **Project Site or HECA Project Site.** The 453-acre parcel of land on which the HECA IGCC electrical generation facility, low-carbon nitrogen-based products Manufacturing Complex, and associated equipment and processes (excluding off-site portions of linear facilities), will be located.
- **OEHI Project.** The use of CO₂ for EOR at the EHOF and resulting sequestration, including the CO₂ pipeline, EOR processing facility, and associated equipment.
- **OEHI Project Site.** The portion of land within the EHOF on which the OEHI Project will be located and where the CO₂ produced by HECA will be used for EOR and resulting sequestration.
- **Controlled Area.** The 653 acres of land adjacent to the Project Site over which HECA will control access and future land uses.

This introduction provides brief descriptions of both the Project and the OEHI Project. Additional HECA Project description details are provided in Section 2.0. Additional OEHI Project description details are provided in Appendix A of this Application for Certification (AFC) Amendment.

HECA Project Linear Facilities

The HECA Project includes the following linear facilities, which extend off the Project Site (see Figure 2-7, Project Location Map):

- **Electrical transmission line.** An approximately 2-mile-long electrical transmission line will interconnect the Project to a future Pacific Gas and Electric Company (PG&E) switching station east of the Project Site.

- **Natural gas supply pipeline.** An approximately 13-mile-long natural gas interconnection will be made with PG&E natural gas pipelines located north of the Project Site.
- **Water supply pipelines and wells.** An approximately 15-mile-long process water supply line and up to five new groundwater wells will be installed by the Buena Vista Water Storage District (BVWSD) to supply brackish groundwater from northwest of the Project Site. An approximately 1-mile-long water supply line from the West Kern Water District (WKWD) east of the Project Site will provide potable water.
- **Coal transportation.** HECA is considering two alternatives for transporting coal to the Project Site:
 - **Alternative 1, rail transportation.** An approximately 5-mile-long new industrial railroad spur that will connect the Project Site to the existing San Joaquin Valley Railroad (SJVRR) Buttonwillow railroad line, north of the Project Site. This railroad spur will also be used to transport some HECA products to market.
 - **Alternative 2, truck transportation.** An approximately 27-mile-long truck transport route via existing roads from an existing coal transloading facility northeast of the Project Site. This alternative was presented in the 2009 Revised AFC.

OEHI Project

OEHI will be installing the CO₂ pipeline from the Project Site to the EHOFF, as well as installing the EOR Processing Facility, including any associated wells and pipelines needed in the EHOFF for CO₂ EOR and sequestration. The following is a brief description of the OEHI Project, which is described in more detail in Appendix A of this AFC Amendment:

- **CO₂ EOR Processing Facility.** The CO₂ EOR Processing Facility and 13 satellites are expected to occupy approximately 136 acres within the EHOFF. The facility will use 720 producing and injection wells: 570 existing wells and 150 new well installations. Approximately 652 miles of new pipeline will also be installed in the EHOFF.
- **CO₂ pipeline.** An approximately 3-mile-long CO₂ pipeline will transfer the CO₂ from the HECA Project Site south to the OEHI CO₂ EOR Processing Facility.

This section discusses the potential for the construction, operation, and maintenance of the Project to cause significant impacts to aesthetic values within the Project vicinity. The section addresses the inventory of existing visual resources of the affected environment; the assessment of the environmental consequences of the Project on visual resources; and the laws, ordinances, regulations, and standards (LORS) pertaining to the aesthetic effects of the Project.

This visual resource analysis was conducted in conformance with California Energy Commission (CEC) guidelines for the inventory and assessment of visual impacts for an AFC. CEC guidelines, in turn, comply with the California Environmental Quality Act of 1970 (CEQA) documentation requirements (summarized in Section 5.11.2, Environmental Consequences). The study methods used, described in more detail in the inventory and impact assessment sections

that follow, were based on those established by the Bureau of Land Management (BLM) Visual Resource Management Inventory and Contrast Rating System (BLM, 1986), the Federal Highway Administration (FHWA) Visual Impact Assessment (DOT, FHWA, 1981), the *U.S. Forest Service (USFS) Visual Management System* (USFS, 1974 and 1995), and guidance provided by the CEC.

The analysis included in this section focuses on the HECA Project as well as the CO₂ pipeline associated with the OEHI Project. The analysis of the CO₂ EOR Processing Facility associated with the OEHI Project is included in Appendix A, Section 4.1, Aesthetics, of this AFC Amendment.

5.11.1 Affected Environment

This section contains an inventory of visual resources within the vicinity of the Project, a description of the regional landscape setting, the visual sphere of influence (VSOI) of the Project, and the inventory methods and results.

5.11.1.1 Regional Landscape Setting

Kern County has a large agricultural and industrial base. This region contains a number of large industrial operations, many with visible vapor plumes. Key agricultural commodities include grapes, almonds, milk, citrus, cotton, carrots, pistachios, hay, potatoes, and cattle. The county is also a significant producer of oil, natural gas, hydroelectric, wind-turbine, and geothermal power, and is host to numerous overhead electrical transmission lines. Kern County remains California's top oil-producing county, with over 85 percent of the State's 43,000 oil wells. The county accounts for one-tenth of overall U.S. oil production, and three of the five largest U.S. oil fields are in Kern County.

The Project Site lies within the southwestern portion of San Joaquin Valley, which stretches from the Sacramento-San Joaquin Delta in the north to the Tehachapi Mountains to the south. Various California coastal ranges line the valley to the west, including the Diablo and Santa Ynez, and the Sierra Nevada act as the eastern valley boundary. The climate is dry with hot summers and mild winters, and there is a persistent haze, generally characteristic of the air quality in the area that impairs the clarity of distant views.

The general area is characterized as relatively flat, with extensive current and previous soil disturbance associated with farming activities and ongoing oil field operations. The Project Site is generally flat, allowing for open, panoramic, and expansive views of the valley to the north, northwest and east. The closest notable topography is Hillcrest Point, over 5 miles away.

The Project Site is located in the Exclusive Agriculture (A) zone. Electrical Power Generating Plants are permitted in this zoning district with a conditional use permit. Land within 1 mile of the Project Site is used primarily for farming purposes, particularly the cultivation of cotton, alfalfa and onions. A former fertilizer manufacturing plant (Port Organics) was adjacent to the northwest of the Project Site. Small structures used for agricultural purposes are also located northwest of the Project Site. The structures associated with the organic fertilizer production facility, such as the large grain elevators and metal storage tanks, contribute to the landscape

character of the area. Character photos of the areas surrounding the Project Site (see Figures 5.11-3 through 5.11-8, which show neighboring land uses to help the reader better understand the landscape character and common land uses within the vicinity).

The western border of the Tule Elk State Natural Reserve is located approximately 1,700 feet to the east of the Project Site. The nearest single-family dwellings are located approximately 1,400 feet to the east; 3,300 feet to the southeast; and 4,000 feet to the north. The EHO is located 1 mile south of the Project Site. Currently, there is a residence located approximately 370 feet to the northwest. The option to purchase this 5-acre parcel adjacent to the Project Site was acquired subsequent to the 2009 Revised AFC. This parcel will now be part of the Controlled Area.

Several semi-urban/urban areas surround the Project region, from 2 to 15 miles away from the Project Site. Those nearest include the community of McKittrick, the unincorporated communities of Tupman and Buttonwillow, and the City of Taft. Other than a few locations on the outskirts of the unincorporated community of Tupman, none of these areas has direct views to the Project Site. The nearest large incorporated city in the area is Bakersfield, which lies approximately 7 miles east of the Project area and contains the largest population in the nearby region, with an estimated 323,213 people in 2007 (CDOF, 2009).

Existing night lighting in the area is scattered and generally limited to residences. The few major sources of night lighting in the region include oil extraction operations in the Elk Hills which are visible and noticeable from the Project Site and surrounding area. Overall, the region is primarily dark with numerous light sources that, while visible, do not tend to light the night sky significantly.

The California Aqueduct runs in a northwest to southeast orientation approximately 1,900 feet south of the Project Site and is the dominant water feature in the Project area. Other water features in the region include the West Side and Outlet Canals approximately 500 feet to the south, the Kern River Flood Control Channel approximately 700 feet to the south, the East Side Canal approximately 1,300 feet to the east, and the Buena Vista Aquatic Recreation Area/Lake Webb located approximately 9 miles to the southeast.

The Tule Elk State Natural Reserve, an approximately 955-acre reserve area, is located approximately 1,700 feet east of the Project Site (closest point to the Project Site). Management of the Tule Elk State Natural Reserve is under the jurisdiction of the California Department of Parks and Recreation. The Tule Elk State Natural Reserve is a refuge to the tule elk, a rare species of elk that was once nearly hunted to the point of extinction. The reserve contains the Tule Elk Reserve State Park that includes a visitor center, a small park with shaded picnic tables, and a viewing platform/observation deck). The observation deck, approximately 3,900 feet from the Project area boundary, provides visitors views of the reserve area.

There are no existing recreational trails of local importance, nor are there plans for future trail routes or bike paths identified within the VSOI. The two closest areas considered recreational are the Elk Hills Elementary School playground, located approximately 2.3 miles southeast of the Project Site, within the unincorporated community of Tupman, and the Tule Elk State Natural Reserve.

5.11.1.2 Visual Sphere of Influence

The VSOI for the Project represents the area within which the Project could be seen and where impacts to visual resources could potentially occur (Figure 5.11-1). This area was determined using geographic information system (GIS)-based viewshed analyses conducted using 10-meter-grid cell resolution generated from the National Elevation Dataset (NED) from the U.S. Geological Survey [USGS] to map the viewshed boundaries of the Project, including the above-ground transmission line. USGS Digital Elevation Model (DEM) files were imported into an ArcMap-based GIS using the spatial analysis extension. Once in GIS, the DEMs were mosaicked. The combined DEM was used to run viewshed analyses in State Plane California, Zone V, Units U.S. Feet, North American Datum 83 (NAD 83). The Project's tallest structure, the coal feedstock dryer stack, measuring at a height of 305 feet, and transmission poles measuring 110 feet in height, were input into the viewshed model with a vertical observer offset of 6 feet. Other above-ground or at-grade linear Project components, such as the proposed railroad spur, and underground structures, such as CO₂ and natural gas lines, were not included in the viewshed model but were considered in the analysis. The resulting polygon represents the viewshed of the Project, assuming no vegetation shielding.

Overall, the Project Site is clearly visible from the west, north, and east with intermittent visibility from areas located to the south and southeast. The hills comprising the EHOF block the majority of views of the Project Site from the south/southwest.

The final VSOI was mapped to identify areas where the potential for significant impacts to views occur. Per CEC guidance, the review emphasized the identification of sensitive viewer areas within a 5-mile radius; however, potentially sensitive resources were reviewed within the framework of the following distance zones:

- **Foreground:** 0 to 0.5 mile from the observer's position. At this distance, the observer can view details of trees, shrubs, wildflowers, and animals.
- **Middleground:** 0.5 to 5 miles from the observer's position. At this distance, the observer can see forest stands, natural openings, masses of shrubs, and rock outcrops.
- **Background:** 5 miles to horizon from the observer's position. At this distance, the observer can view mountain peaks, ridgelines, and patterns of forest stands and openings.

5.11.1.3 Visual Study Inventory Components

The following sections detail the visual study inventory components used to provide the baseline for the assessment of potential impacts. The inventory included three primary components, discussed below: (1) scenic quality, (2) Existing Scenic Integrity Levels (ESILs), and (3) the identification of sensitive viewing areas.

Scenic Quality

Scenic quality is defined as the visual appeal of a tract of land (BLM, 1986), and includes both natural and man-made components. Scenic quality classes were established by evaluating the

distinctiveness and diversity of a particular landscape setting in relation to the following elements (BLM, 1986):

- Landform
- Vegetation
- Water
- Color
- Adjacent scenery
- Scarcity within the landscape
- Cultural modifications

Based on this assessment, landscapes were classified as follows:

- **Class A:** Areas have outstanding diversity or interest. Characteristic features of landform, water, and vegetation are distinctive or unique in relation to the surrounding region. These areas contain considerable variety in form, line, color, and texture.
- **Class B:** Areas have above-average diversity or interest, providing some variety in form, line, color, and texture. The natural features are not considered rare in the surrounding region but provide adequate visual diversity to be considered fairly unique.
- **Class C:** Areas have minimal diversity or interest where representative natural features have limited variation in form, line, color, or texture in the context of the surrounding region.

Scenic Attractiveness Classification Evaluation Forms (Figures 5.11-9 through 5.11-14) were developed for key view areas within the VSOI. The values highlighted in the scenic quality rating box on the forms indicate the assigned values (H – high, M – moderate, L – low) for each natural feature (e.g., landform, vegetation, water, etc.) or negative/positive cultural modification. The combined value of these elements is used to classify existing scenic quality.

Existing Scenic Integrity Levels

The Existing Scenic Integrity Level (ESIL) was defined as the extent to which natural features have been modified by human actions. An inventory of the ESILs within the VSOI was conducted. Varying cultural modifications included the unincorporated community of Tupman, cultivated farmlands, existing power/telephone transmission lines, oil field activities and associated structure (storage tanks, etc.), abandoned structures, miscellaneous industrial storage tanks, property fencing, and Tupman and Adohr Roads and other roadways. The following ESIL criteria were used to classify the degree of modification:

- **High:** Landscape character appears intact. Deviations are present but repeat form, line, color, texture, and patterns common to the landscape character so completely and at such a scale that they are not evident.
- **Moderate:** Landscape character appears slightly altered. Noticeable deviations remain visually subordinate to the landscape character being viewed.

- **Low:** Landscape character appears heavily altered. Deviations strongly dominate the landscape character. Deviations do not borrow from attributes such as size, shape, edge effects, vegetative type changes, or architectural styles within or outside the landscape being viewed.

Viewer Concern

Viewer concern is described as an observer's anticipated awareness and appreciation of the existing public view, including his or her interest in preserving that view (CEC, 2012 [Draft Appendix VR-1]). A viewer considers type of use, user attitude, volume of use, adjacent land use, visual quality, and whether the area is protected by existing laws, public regulations or policies, and/or planning documents.

Three levels of viewer sensitivity (high, moderate, and low) were used to describe the sensitivity of viewers within the study area. High-sensitivity viewpoints identified in the study area include existing residences and recreation areas. Moderate-sensitivity viewer areas identified in the study area consist of existing area roadways. Low-sensitivity viewer areas include industrial areas. These low-sensitivity areas were not evaluated in detail in this analysis because they are assumed to be a compatible use with the facility, and therefore not expected to result in significant visual impacts.

Sensitive Viewing Areas

Sensitive viewing areas within the VSOI were identified through review of existing land use data, agency contacts, and field observations. Additional input was received through discussions with the CEC's visual resources technical lead for the Project. It was determined that the majority of sensitive viewing areas within the VSOI were located within the middleground/background distance zones. Sensitive viewing areas located within 5 miles of the Project include:

- Schools; parks; recreation areas; wildlife areas; visitor centers; and areas used for camping, picnicking, bicycling, or other recreational activities
- Residential areas, including the residences located closest to the Project Site and residences located closest to the transmission line route and switching station interconnection
- Travel routes, such as major roads or highways used primarily by origin/destination travelers

KOP Selection

Key Observation Points (KOPs) were selected to represent areas of high visual sensitivity located within the VSOI. KOPs were identified based on review of available land use data, field inspection, and discussion with CEC's visual resources technical lead. The inventory of KOPs included three components: (1) identification and photo-documentation of KOPs; (2) classification of viewer concern; and (3) description of Project Site visibility from KOPs, including the distance from the KOPs to the Project Site, the amount of screening, the number of viewers, and the duration of their view of the Project Site. Visibility determines how the Project

will be seen from a particular viewing area or KOP. It is expected that the ability of the viewer to perceive detail, such as form, line, color, and texture, diminishes with increasing distance.

Visual Impact Susceptibility on Sensitive Viewing Areas

The degree of impact to sensitive views was determined by analyzing the following components at each KOP:

- **ESIL:** The degree of existing disturbance within the natural setting
- **Viewer Sensitivity:** All residential and recreational viewers were considered high sensitivity viewers, while motorists were considered less sensitive
- **Project Visibility:** An assessment of the viewing angle, potential screening, lighting conditions, and time of day
- **Viewer Exposure:** An assessment of the distance from the Project, number of viewers, and duration of views

Inventory results for scenic integrity, viewer concern, and Project visibility were compiled to derive an overall value describing impact susceptibility, or the degree to which a sensitive viewpoint will be impacted by changes within its viewshed.

5.11.1.4 Inventory Results

This section presents the results of the inventory of existing conditions within the VSOI, including a description of sensitive viewing areas and KOPs. Impact susceptibility scores are presented in Table 5.11-1.

Scenic Quality

The VSOI for the Project area was characterized as having Class C scenic quality, as landscapes lack significant natural amenities and are heavily modified from their natural state due to existing agricultural production and industrial use. The landscape appeared to have minimal diversity or interest in form, line, color, or texture in the context of the surrounding region (see Figures 5.11-9 through 5.11-14).

Color created by existing vegetation, including cropland, is expected to vary based on seasonality and type of crop. Within the VSOI, views of mountainous areas added variety to background views. Predominantly flat topography provided for large expansive views of the valley. However, a persistent haze is characteristic of the air quality in the area and frequently impairs the clarity of distant views.

Existing Scenic Integrity Levels

Landscapes within the VSOI were classified as having low ESILs due to the presence of man-made development such as farming and related facilities, active and abandoned oil fields and

associated structures, telephone/transmission line systems, other industrial facilities, storage tanks, the Pacific Gas and Electric Company (PG&E) Midway Substation, residential development, fencing, and roadways.

Sensitive Viewing Areas

Per discussions with the CEC's visual resources technical lead for the Project, field observations, and review of surrounding land uses, it was determined that sensitive viewing areas within the VSOI consisted primarily of the following:

- Recreational viewers at the Elk Hills Elementary School playground, located approximately 2.3 miles southeast of the Project Site in the unincorporated community of Tupman;
- Residential viewers in houses and neighborhoods within the VSOI;
- Roadway travelers located on I-5, Stockdale Highway and Brite Road.

During field surveys conducted within the Project vicinity, it was determined that the picnic area within the Tule Elk State Natural Reserve, located approximately 1,700 feet east of the Project Site, is the closest recreational view to the Project Site (see Figure 5.11-3 [Figure 1 of 6]). Views from the reserve toward the Project Site, however, are partially screened by vegetation. Through discussion with the CEC staff, it was determined that no KOP was required at this location. The analysis of potential impacts to recreational viewers instead focused on the Elk Hills Elementary School. Due to the elevated position of the school and its playground, users within the school playground will have direct middleground views to the Project Site.

The nearest residential viewer is located approximately 1,400 feet to the east of the Project Site on Station Road. This residence will have immediate foreground views of the Project (Figure 5.11-15). Other residences represent middleground or greater views and are generally located to the north of the site or to the southeast in the unincorporated community of Tupman.

Stockdale Highway and Brite Road are not considered Designated Scenic Highways by federal (FHWA), state (California Department of Transportation [Caltrans]), or local standards. No travel routes within the VSOI are designated as federal, state, or county scenic highways or travel routes subject to aesthetic management goals or objectives. Although the current Kern County General Plan does not indicate any of the roadways and highways within this Project's vicinity as designated scenic routes, the Tupman Rural Community Specific Plan (dated October 1984) and the Buttonwillow Community Development Plan (dated April 1974) do indicate a proposed County Scenic Route 11 within the Project vicinity.

Travelers along the intersection of Stockdale Highway and I-5, located approximately 2 miles northeast of the site (at the closest point), will experience both indirect and direct views of the Project Site (see Figure 5.11-21). Topography and cultural modifications create visual screening, thereby limiting views of the Project Site. However, where views of the Project Site are not obstructed, travelers will have a clear, albeit distant, view of the larger on-site structures. Traffic flow/road counts along I-5 indicate that approximately 32,500 travelers/average daily trips (ADT) use the freeway near the Stockdale Highway/I-5 interchange.

Topography and cultural modifications create few obstructions within the largely panoramic view to the east (see Figure 5.11-14).

Key Observation Points

Six KOPs were identified to represent the range of views of the Project Site. KOPs are described as follows:

Key Observation Point No. 1

KOP 1 is located on Station Road, approximately 2,600 feet east of the middle of the Project Site. This KOP was selected to represent roadway travelers heading westbound, and residences located on the south side of the road. These residences represent the closest residences identified by the CEC staff with unobstructed and prolonged views of the Project Area (see Figure 5.11-15).

Topographic relief is generally flat terrain in the foreground, middleground, and hilly terrain in the distant background. There are no water sources within view from this KOP. The California Aqueduct is located in the background; however, as it is below surface grade, is not visible from this residence. A variety of cultural modifications, including cultivated farmlands, existing power/telephone transmission lines, oil field activities and associated structures, abandoned structures, miscellaneous industrial storage tanks, a fertilizer plant and associated structures, property fencing, and Station and Tupman Roads, are visible in middleground and distant range views.

The hills of the EHOF Unit are barely visible in the distant background and blend in with the mountainous terrain, providing a distant visual backdrop. What little color variation exists is created mainly from cultivated farmlands. The main visual interest and/or draw to this area results from the open expanses of land, geometric forms, and edges created by the cultivated cropland. While this landscape is mildly interesting within its setting, it is fairly common within the region. The ESIL from this area is characterized as low.

Key Observation Point No. 2

KOP 2 is located on the edge of the eastbound lane of the Stockdale Highway, approximately 1 mile north-northwest of the Project Site (see Figure 5.11-17 for this view and Figure 5.11-1 for the KOP location). Although the Stockdale Highway is not considered a Scenic Highway by federal (FHWA), state (Caltrans), or local standard, Stockdale Highway represents a major east-west connection in the area south of Buttonwillow and north of Tupman with connection to the I-5 corridor. Additionally, two south-facing residences are located on the north side of the road in this location and are representative of middleground residential viewers north of the Project Site.

Existing cultural modification, including existing power/telephone lines, miscellaneous industrial storage tanks, a fertilizer production plant, and roadways can be seen from KOP 2. Vegetation and color within the area is sparse (tan-grayish landscape with geometric cultivated fields of monotonous green). No water sources are visible within this area. Common viewer duration is

considered short and intermittent (i.e., from traveler views focusing on the road). The ESIL from this area is considered low.

Key Observation Point No. 3

KOP 3 is located at the Elk Hills Elementary School playground, approximately 2 miles southeast of the Project Site. This location represents the “worst-case” recreational view of the Project Site (see Figure 5.11-19 for this view and Figure 5.11-1 for the KOP location). The Elk Hills Elementary School playground was selected to represent views of the Project by individuals engaged in recreation activities. Topography in the area consists of a broad, horizontal composition varying from relatively flat terrain to rolling hills in the foreground, adding to the panoramic visual appeal of the form and line characteristics of the area. The only water source within view from this KOP is the California Aqueduct, which runs in a northwest to southeast orientation south of the Project Site, and is the dominant feature visible in the foreground of this view.

A variety of cultural modifications, including the California Aqueduct, existing power/telephone transmission lines, miscellaneous industrial storage tanks, property fencing, and Tupman Road, are visible in middleground and distant range views. The immediate area is characterized by little color variations (mainly from patches of sparse low-lying vegetation, and low contrast of generally mute tones. However, in the middleground to the north and northwest, cultivated farmlands add some monochromatic color to the middleground and background landscape. This landscape is mildly interesting within its setting, but fairly common within the region. The ESIL from this area can be characterized as low.

Key Observation Point No. 4

KOP 4 is located at the edge of the westbound lane of Stockdale Highway, near the I-5 interchange (see Figure 5.11-21 for the view and Figure 5.11-1 for the KOP location). This KOP represents public views of the Project area (including the transmission line) from a distance of approximately 2 miles northeast of the Project Site. Because this KOP is located at the directional signage leading to the Tule Elk State Natural Reserve, it is assumed to represent “gateway” views to the Tule Elk Reserve. This view is considered short-duration due to travel by viewers at speeds in excess of 45 miles per hour.

The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background in this area, and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain across the view to rolling terrain in the background, adding somewhat to the panoramic visual appeal of the form and line characteristics of the area.

A variety of cultural modifications, including industrial storage structures and numerous telephone/transmission lines, are visible in foreground, middleground, and background views. The area is characterized by little color variation with mostly natural sparse vegetation, and has low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of uncultivated, sparsely vegetated property. The most prominent visible features are numerous steel lattice transmission structures that cross the middleground of the view. This landscape is

mildly interesting within its setting, but fairly common within the region, and the scenic attractiveness of the view has been highly compromised by visible man-made alterations. The ESIL from this area can be characterized as low.

Key Observation Point No. 5

KOP 5 is located in the southbound lane of I-5, approximately 3 miles east of the Project Site and approximately 1.5 miles east of the transmission line interconnection (see Figure 5.11-23, KOP 5: View from Southbound I-15 Existing Conditions, and see Figure 5.11-1, VSOI Map for the KOP location). KOP 5 represents public views from the high-volume travel corridor of I-5. Viewer duration is considered short term due to travel speeds in excess of 65 miles per hour on I-5. The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background of this area and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad horizontal composition varying from relatively flat terrain across the view with rolling terrain in the distant background, adding somewhat to the visual appeal to form and line characteristics of the area. The background terrain is silhouetted by atmospheric conditions and the relative haze in the area.

A variety of cultural modifications, including industrial storage structures, fencing, and numerous telephone/transmission lines, are visible in foreground and middleground views. The area is characterized by little color variation with mostly natural sparse and striated vegetation, and has a low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of uncultivated, sparsely vegetated property. The most prominent visible features are numerous highly contrasting steel lattice transmission structures which cross the middleground of the view. This landscape is mildly interesting within its setting, but fairly common within the region, and the scenic attractiveness of the view has been highly compromised by visible man-made alterations. The ESIL from this area can be characterized as low.

Key Observation Point No. 6

KOP 6 is located at the eastbound lane of Brite Road, approximately 3.2 miles northwest of the Project Site. Both are middleground views (Figure 5.11-25, KOP 6: View from Eastbound Brite Road Existing Conditions, and Figure 5.11-1, VSOI Map for KOP location). This KOP represents residential and public views from the roadway. This view is considered short duration due to travel speeds up to 40 miles per hour. The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background in this area and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad horizontal composition varying from relatively flat terrain across the view to rolling terrain in the distant background (Elk Hills area), adding somewhat to the visual appeal to form and line characteristics of the area; however, the background terrain is only visible to the southeast and south of the KOP. Direct views down Brite Road are relatively flat in regard to terrain.

A variety of cultural modifications, including industrial storage structures, houses, fencing, and telephone/transmission lines, are visible in foreground and middleground views. The area is characterized by little color variation with mostly natural sparse and striated vegetation, and has a low to moderate contrast of generally flat tones. Views from this KOP consist of large

expanses of cultivated property, with the most prominent visible features being a house with a cluster of large trees in the middleground of the view.

There is an agricultural irrigation channel that runs south to southwest of the view and is visible from this KOP due to the earthen berms built along its edges. This landscape is mildly interesting within its setting, but common within the region, and the scenic attractiveness of the view has been highly compromised by visible man-made alterations. The ESIL from this area can be characterized as low.

5.11.1.5 Visual Impact Susceptibility of Sensitive Viewing Areas

Varying levels of Project visibility were identified. The greatest visibility exists from locations situated immediately adjacent to the Project Area, where views are permanent or stationary and not blocked by vegetation screening. Conversely, the lowest visibility exists, for example, when the viewer is located at greater distances from a project, when viewer duration is temporary or episodic (i.e., roadway travelers moving at high speeds), or in partially to fully-screened conditions. Other variables affecting visibility of a project include orientation of the viewer, duration of view, atmospheric conditions, lighting (daylight versus nighttime), and visual absorption capability (VAC). VAC is defined as the extent to which the complexity of the landscape can absorb new elements without changing the overall visual character of the area. Table 5.11-1 illustrates the level of visual impact susceptibility anticipated for each sensitive viewing area based on an evaluation of the previously stated factors.

5.11.2 Environmental Consequences

5.11.2.1 Project Components Analyzed

This section discusses the affected visual resources for the Project. A description of the potential impacts on scenic attractiveness and on sensitive viewers is provided. A detailed description of the Project is in Section 2.0, Project Description, and is summarized in Table 5.11-2. Due to height or size, the following Project elements are considered the most apparent of all Project features:

- Feedstock barn, conveyor area, and crusher station.
- Manufacturing Complex.
- Cooling towers.
- Water treatment plant, including the raw, treated, and firewater tanks.
- Air Separation Unit (ASU).
- Gasification structure.
- Flare stacks.
- Combustion turbine generator (CT);, a steam turbine generator (ST), and a heat recovery steam generator (HRSG).
- Coal dryer stack (with a height of 305 feet, the tallest Project Site structure).
- Gasification cooling towers.
- Security fence.
- 230 kV transmission line.

- Buildings, including a control room, a laboratory, an administration area, a warehouse and maintenance building, an emergency dispatch center, and a medical service facility.
- Temporary visible plumes.
- New access road to be constructed, extending north from the Project Site to Adohr Road.
- New railroad spur (for Alternative 1).

5.11.2.2 Impact Significance Criteria

The consideration of significant visual impacts was based on that defined in Appendix G of CEQA (California Code of Regulations, Title 14, § 1500 *et seq.*) and other relevant considerations. Using these thresholds, Project facilities will be considered to have significant aesthetic impacts if they do the following:

- Have a substantial adverse effect on scenic vistas or substantially degrade the existing visual character or quality of the project sites and their surroundings;
- Substantially degrade the existing visual character or quality of the site or its surroundings;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; and
- Create a new source of substantial light or glare that will adversely affect day or nighttime views in the area.

Additionally, the CEC requires consideration of the following:

- Compliance with LORS
- Level of viewshed alteration and ground form manipulation
- Regional effects to visual resources
- Magnitude of impact related to light and glare
- Magnitude of back-light scatter during nighttime hours
- Level of sunlight reduction or increase in shadows in areas used by the public

5.11.2.3 Assessment Methodology

Levels of potential impact to sensitive viewing areas were established by analyzing the relationship between impact susceptibility and impact severity. Impact susceptibility, or the degree to which a sensitive viewpoint will be impacted by changes within its viewshed, was based on the relationship among existing scenic quality, viewer concern, Project visibility, and viewer exposure (see Table 5.11-1).

Impact severity is defined as the degree of change to the landscape created within a specific viewshed. The degree of change was assessed using photo simulations of the Project as seen from each KOP. The severity of the impact (high to low) on sensitive viewers was assigned a severity level based on the following factors:

- The degree of Project contrast (e.g., form, line, color, and texture)

- Scale and spatial dominance
- Extent of view blockage/screening (i.e., topographic and/or vegetative) and night lighting

Project Contrast

The BLM Contrast Rating procedure was used to determine visual contrast that may result from the construction and operation of the Project based on photo simulations depicting Project features. This method assumes that the extent to which the Project results in adverse effects to visual resources is a function of the visual contrast between the Project and the existing landscape character (BLM, 1986).

At each KOP, existing landforms, vegetation, and structures were described using the basic components of form, line, color, and texture. Project features were then evaluated using simulations, and were described using the same basic elements of form, line, color, and texture. The level of perceived contrast between the Project and the existing landscape was then classified using the following definitions:

- **None:** The element contrast is not visible nor perceived.
- **Weak:** The element contrast can be seen but does not attract attention.
- **Moderate:** The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong:** The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

The level of contrast was assessed for all Project components used during the operation and maintenance phase. The level of visual contrast expected to result from construction or decommissioning-related activities was estimated based on a knowledge of the anticipated activities and equipment that will be present. No photo simulations of construction or decommissioning were developed.

Scale and Spatial Dominance

Spatial dominance is described as the proportionate size relationship between an object and the surroundings in which it is placed (BLM, 1986). Dominance was assessed by rating the following:

- The relative size of the Project to the existing landscape components (built and natural) and their surroundings
- The scale of the Project compared to the visible expanse of the landscape setting
- The scale of the Project relative to the total field-to-view accepted by the human eye or camera

View Blockage

View blockage is described as the extent to which a prominent landscape component within an existing public view will be obstructed by the Project. The extent of blockage is estimated at a range from low to high.

Visual Impact Significance

The relationship of impact severity and susceptibility to significance is described in Table 5.11-3, Visual Impact Significance Matrix – Sensitive Viewing Areas.

Visual Simulations

Visual simulations of Project components were used to evaluate potential impacts to aesthetic quality that may result from the Project. Views of the Project were simulated from KOP 1 through KOP 6, as shown in Figures 5.11-15 through 5.11-26, KOP 1 through KOP 6. The simulations served to provide a representative sample of the existing landscape settings contained within the VSOI, as well as an illustration of how the Project may look from specific key viewing locations. The general process used to develop these photographic simulations is described below.

Photographic/Three-Dimensional Model Composite Simulation

To ensure a high degree of visual accuracy in the simulations, computer-aided design (CAD) equipment and global positioning systems (GPS) were used to create life-sized, computer-generated models of the Project. This translates to using real-world scale and coordinates to locate facilities, other site data, and the actual camera locations corresponding to three-dimensional (3D) simulation viewpoints. The degree of accuracy of the CAD equipment is absolute; the accuracy for the GPS location data is to within approximately 1 meter, or 3.3 feet.

Microstation/AutoCad, 3D Computer-Aided Design, and GPS Data Integration

A DEM is used to provide a 3D representation of the earth's surface within the Project vicinity, and a CAD site map is imported as a background reference. CAD drawings of both existing and proposed facilities are placed on top of the site map to register and orient the correct locations of KOPs. The 3D massing models of both the existing structures and the proposed modifications are generated in real-world scale. The GPS camera positioning information is then referenced to the 3D data set.

Model View Professional/3D Studio Max/Adobe Photoshop

An electronic camera lens matches the camera lens that was actually used in the field. An 8-megapixel camera with a 50 millimeter lens was used consistently throughout the process. This lens selection allows for viewing of the computer-generated model in the same way that the Project would be viewed in the field.

Next, the digital photograph is transferred into the 3D database as an environment within which the view of the 3D model is generated. To generate the correct view relative to the actual photograph, the electronic camera is placed in the digital environment at a location corresponding to the real-world location from which the photograph was taken. This is provided by GPS records collected during field study. From here, the 3D wire-frame model is displayed on top of the existing structures, topography, or natural features to ensure proper alignment, scale, angle, and distance. When all lines of the wire-frame model exactly match the photograph, the camera target position is confirmed.

To complete this phase, the sun angle is set, materials and textures are applied, and the composite image is rendered through a computer imaging process known as ray tracing. Any additional filters required for appropriate atmospheric conditions (such as blur, focus, or haze) are applied at this time.

The photographic simulations developed for this Project have been designed to be viewed 10 inches from the viewer's eye when printed on 11×17-inch paper. This distance will portray the most realistic life-sized image from the location of the KOPs.

5.11.2.4 Visual Impact Assessment Results

Construction-Related Direct and Indirect Impacts

The temporary on-site construction area will include the construction laydown area, construction parking, offices, and warehouse. Construction access will be from Stockdale Highway north of the Project Site, then south along Dairy Road and east on Adohr Road. All construction laydown and parking areas will be located within the Project Site and the Controlled Area as shown on Figure 2-9, Preliminary Temporary Construction Facilities Plan.

Project Site preparation includes site grading to accommodate the Project on the existing landscape. Existing on-site soil will be used to build earthen berms at the north and east portions of the Project Site. Also see Section 2.0, Project Description, for more information relating to earthwork.

Project construction is forecasted to begin in June 2013.. Commissioning and startup are forecasted to begin in March 2016 with commercial operation to initiate in September 2017. Construction of the 230 kV transmission line route and interconnection is expected to take approximately 3 months within the Project construction period. Construction will most typically take place Monday through Friday beginning at 6:00 a.m.

Due to worker health and safety considerations associated with high daytime temperatures, early work hours (prior to daybreak) may be adopted. Additionally, certain critical construction activities may need to occur during nighttime hours to accelerate the Project schedule. The peak construction workforce will occur during Month 31 of construction and will involve approximately 2,500 workers and staff (see Table 2-28).

During the Project construction period, construction activities, construction materials, equipment, trucks, temporary structures, and vehicles will be visible to surrounding areas to the

north and east and some areas to the southeast due to the flat, open viewing conditions surrounding the Project Site. In addition, during construction of the transmission line and 100-foot-wide right-of-way, construction materials, equipment, and vehicles will be visible to adjacent areas. Refer to Section 2.6, Project Construction, for further detail regarding the schedule of the construction period.

While visual changes associated with construction activities at the Project Site and along the transmission line route will introduce activities and structures not currently occurring in the area, visual impacts are considered temporary and thus, less than significant. Indirect impacts associated with the construction of the Project and ancillary facilities may include impacts associated with fugitive dust, night lighting, and the presence of construction equipment. Construction activities will be conducted in a manner that minimizes (visible) dust emissions. Potential impacts are considered temporary and less than significant.

Operations-Related Direct and Indirect Impacts

The Project will be clearly visible from the west, north, and east with less contiguous visibility from areas located to the south and southeast. The transmission line, though visible, is expected to be subdominant to existing transmission lines and towers found along Stockdale Highway, Tupman Road, and other roads within the VSOI. The railroad spur (Alternative 1) will be sited on the ground plane, and consequently will not be detected by the majority of viewers located within the VSOI. Rail traffic will be visible from locations south of Buttonwillow; however, potential impacts will be intermittent and temporary. Underground linear structures are not expected to result in high contrast in form, line, color, or texture following restoration of construction and permanent right-of-way as the Project Area contains numerous roads.

Figures 5.11-9 through 5.11-14, Scenic Attractiveness Evaluation Form for Sensitive View Area and KOP 1 through KOP 6, depicting existing and simulated views from each of the seven selected KOPs, aided in verifying Project-related impacts and assessing visual impact significance. As stated, these six sensitive viewing areas were identified as representative of viewers who will be most susceptible to visual impacts within their viewshed as a result of the Project. The simulations served to present a representative sample of the existing landscape settings contained within the VSOI, as well as an illustration of how the Project may look from specific key viewing locations. Each of the six viewing areas and the resultant impacts are described below.

Key Observation Point No. 1

This KOP location represents the closest residential and travel way viewer of the Project. Residential viewers are assumed to have high levels of viewer concern. The KOP, located approximately 1,400 feet to the east, characterizes foreground views of the Project Site, and is consistent with a high degree of severity because of the proximity to the site and prolonged viewing duration (i.e., from residential views). The Project, in the absence of screening, will be highly visible because of the flat, open viewing conditions (see Figure 5.11-16).

Potential plume emissions from Project cooling towers will be clearly visible from this KOP; however, plumes are anticipated to occur only during seasonal clear weather conditions from

November to April. New lighting and flaring activities of the Project will potentially affect residential viewers associated with this KOP. Visual impact susceptibility from this location is characterized as high (see Table 5.11-1). Visual impact severity from this location is characterized as high (see Table 5.11-4). Aesthetic impact significance from this location is thereby classified as significant.

In order to address potentially significant visual impacts at KOP 1 and similar residential areas, specific mitigation measures are described in Section 5.11.4, Design Features and Mitigation Measures. With implementation of the mitigation measures, less-than-significant impacts from the construction, operation, maintenance, and long-term presence of the Project will be achieved.

Key Observation Point No. 2

This KOP location represents the closest public view to the Project Site, and includes views to the southeast toward the Project Area. KOP 2, located approximately 1 mile north-northwest of the Project Site, has middleground views to the site and is characterized by temporary, short-term viewing duration (i.e., from speeds in excess of 45 miles per hour). The Project will be visible because of the flat, open viewing conditions.

The Project will introduce visual contrast in form and line; however, the contrast in color and texture will be minimized due to adjacent industrial structures and the backdrop of the EHO (see Figure 5.11-18). Potential plume emissions from Project cooling towers will be visible from this KOP; however, plumes are anticipated to occur largely only during seasonal clear weather conditions from November to April (see the discussion of visible plumes). New lighting and flaring activities of the Project are not considered to adversely affect the views from this location (see Lighting/Glare/Flare of the Project Site). Because the railroad spur will be constructed on the ground plane, this feature is not expected to result in visual contrast. Intermittent and temporary views of railcars will occur during periods of operation; however, the potential impacts will be intermittent and temporary.

The existing viewshed is modified by areas of cultivated farmland, existing power and telephone transmission lines, oil field activities and associated structures, abandoned structures, miscellaneous industrial storage tanks, and other cultural modifications in the immediate vicinity. Visual impact susceptibility from this location is characterized as moderate (see Table 5.11-1). Visual impact severity from this location is characterized as moderate (see Table 5.11-4). Therefore, aesthetic impact significance from this location is classified as less than significant.

Key Observation Point No. 3

This KOP location represents the closest recreational user view to the Project (see Figure 5.11-20). The Elk Hills Elementary School and playground, located approximately 2 miles to the southeast, has middleground views to the Project Site and is consistent with a low degree of severity because of the distance to the site and the smaller scale of the Project components relative to the surrounding panoramic landscape. In general, persons using recreational areas generally have an expectation of a high-quality visual environment. However,

as this KOP is an elementary school playground, the focus for recreational users is largely of playground activities, and use of the playground is generally for short durations.

Potential plume emissions from Project cooling towers will be visible from this KOP; however, plumes are anticipated to occur largely only during seasonal clear weather conditions from November to April (see the discussion on visible plumes in the subsection that follows). New lighting and flaring of the Project is not considered to adversely affect the Elk Hills Elementary School, which is primarily used during the day (see Lighting/Glare/Flare of the Project Site). Visual impact susceptibility from this location is characterized as low to moderate (see Table 5.11-1). Visual impact severity from this location is characterized as moderate (see Table 5.11-4). Aesthetic impact significance from this location is thereby classified as less than significant.

Key Observation Point No. 4

This KOP location represents the public view of a traveler along the Stockdale Highway northeast of the Project Site. KOP 4, located approximately 2 miles northeast of the Project, has middleground views to the Project and will have shorter viewing durations (i.e., from speeds in excess of 45 miles per hour). Middleground views from this KOP are highly impacted by views of numerous large existing power transmission lines. The addition of the Project to this viewshed is expected to be co-dominant with the man-made alterations already present to viewers at this location (see Figure 5.11-21).

Potential plume emissions from Project cooling towers will be visible from this KOP; however, plumes are anticipated to occur largely only during seasonal clear weather conditions from November to April. New lighting and flaring activities of the Project are not considered to adversely affect the views from this location (see Lighting/Glare/Flare of the Project Site). Visual impact susceptibility from this location is characterized as low (see Table 5.11-1). Visual impact severity from this location is also characterized as low (see Table 5.11-4.). Therefore, aesthetic impacts associated with the Project from this location are anticipated to be low and there is no impact.

Key Observation Point No. 5

This KOP location represents the public view of a traveler along I-5, a major travel route for the region, east of the Project Site. KOP 5, located approximately 3 miles east of the Project and 1 mile east of the transmission line interconnection, has middleground views to the Project and will have shorter viewing durations (i.e., from speeds in excess of 65 miles per hour). Middleground views from this KOP are highly impacted by views of numerous large existing power transmission lines that create a skylining effect.

The Project Site is visible from this KOP but is co-dominant with the existing transmission towers in this view (see Figure 5.11-24). Potential plume emissions from Project cooling towers will be visible from this KOP; however, plumes are anticipated to occur largely only during seasonal clear weather conditions from November to April. New lighting and flaring activities of the Project are not considered to adversely affect the views from this location (see Lighting/Glare/Flare of the Project Site). Visual impact susceptibility from this location is characterized

as low (see Table 5.11-1). Visual impact severity from this location is characterized as low (see Table 5.11-4). Therefore, aesthetic impacts associated with the Project from this location are anticipated to be low and there is no impact.

Key Observation Point No. 6

This KOP location represents the residential and public views of residences and travelers along Brite Road directly northwest of the Project. KOP 6 is located approximately 3.2 miles northwest of the Project Site, which has middleground views with long and short viewing durations (i.e., from stationary residences and traveling at speeds in excess of 45 miles per hour). Middleground views from this KOP are moderately impacted by views of numerous existing power/telephone line structures (see Figure 5.11-26). Visual impact susceptibility from this location is characterized as low (see Table 5.11-1). Visual impact severity from this location is characterized as moderate (see Table 5.11-4). Therefore, aesthetic impacts associated with the Project from this location are anticipated to be low to moderate and less than significant.

Visual Impact Severity

Results of the visual impact severity analysis are described in Table 5.11-4.

Lighting/Glare/Flare of the Project

Lighting will be required for safe and efficient operation of the Project, for example, in the following typical areas:

- Building interior, office, control, and maintenance areas
- Building exterior entrances
- Outdoor equipment platforms and walkways
- Transformer and switchyard areas
- Entrance gate

The lighting system is intended to provide personnel with illumination for Project operation under normal conditions, means of egress under emergency conditions, and emergency lighting to perform manual operations during a power outage of the normal power source. The lighting system will be designed and installed to meet Occupational Safety and Health Administration (OSHA) minimum standards, and to offer maximum illumination of operating work areas while minimizing off-site illumination.

Lighting will be directed downward to avoid backscatter, and shielded from public view to the extent practicable. Lighting not required continuously during nighttime hours will be controlled with sensors or switches operated such that lighting will be on only when needed. Lighting design for the Project will be consistent with applicable lighting LORS. See Section 2.9.2.3, Specific Project Emergency Systems, in the Project Description for further description of lighting fixtures. Additionally, the Kern County Planning Department reiterates the use of “normal mitigations such as shielded fixtures and motion sensor security lighting” for the Project, described in Section 5.11.4, VIS-2 Lighting (Oviatt, 2009).

Currently, little nighttime lighting is produced within the VSOI, and consists mainly of street lighting on larger roadways and external lighting of industrial facilities, farming operations, and residences in the area. While the Project may contribute to existing lighting, the Project will not significantly increase the existing night lighting in the Project area due to the design features of the Project lighting as described in VIS-2 Lighting (Section 5.11.4.1, Project Design Features) that reduce backscatter, glare, and unnecessary light. In addition, structures and transmission towers will be treated to reduce sun reflectivity and potential glint/glare.

Overall, the addition of the Project is not anticipated to create significant glint/glare or night lighting impacts from backscatter light and night lighting that the average viewer may experience when looking toward the Project Site, due to the design of Project lighting. The residential viewers in close proximity of the Project may have significant impacts from night lighting resulting from the Project. Therefore, the Project will develop a lighting plan and equipment surface treatment plan, as described in Section 5.11.4, Design Features and Mitigation Measures, to ensure that potential glint/glare impacts are reduced and maintained to less-than-significant levels.

Under certain conditions during construction-related activities, slightly higher amounts of backscatter lighting may be apparent to the casual observer. This condition provides safety for construction workers during this phase of the Project. Upon completion of construction, night lighting at the Project Site will be substantially reduced and less noticeable to the casual observer. Therefore, visual impacts related to construction activities will be temporary and are considered less than significant. The Project will be consistent with Section 1.10.7, Light and Glare of the *Kern County General Plan* (Kern County, 2009).

Lighting Related to Airfield Operations

Federal Aviation Administration Advisory Circular 70/7460-1K requires that all airspace obstructions over 200 feet high or in close proximity to an airfield have obstruction lighting (FAA, 2000). The tallest structure on-site (coal dryer stack) is 305 feet high. There is one airport within the identified VSOI (see Figure 5.11-1). The Elk Hills–Buttonwillow Airport is located approximately 5 miles northwest of the Project Site. This airport covers approximately 216 acres, has one runway, and generally supports small private planes.

The Elk Hills–Buttonwillow Airport is located outside the VSOI 5-mile radius of the transmission line, and the transmission poles are well below the 200-foot limit at approximately 110 feet high; therefore, no obstruction lighting is required for Project transmission poles. However, Project facilities over 200 feet high on the Project Site may require obstruction lighting by the FAA. With proper installation of obstruction lighting on structures, no impacts to aircraft operation are expected with construction, operation, and maintenance of the Project. Obstruction lighting is designed primarily to be visible to aviation and does not produce significant down lighting or backscatter, and is not anticipated to adversely or significantly add to the night lighting levels, or adversely affect any of the six identified KOPs.

Flare/Flaring Activities

The Project includes flares for burning excess gas — for example, during start-up or emergency or upset conditions — including a gasification flare and a Sulfur Recovery Unit (SRU) flare. These flares can create additional lighting impact if operated at night. These flares are not as luminous as typical refinery flares. The operation of flares at night may potentially result in adverse impacts for KOP 1 and 2; however, these flares will be operated infrequently.

Because these flares are operated infrequently, and because the effect of lighting from flaring will decrease with distance, it is not anticipated that these flares will result in adverse impacts to KOP 3, 4, or 5; therefore, impacts from flaring activities to all six KOPs are anticipated to be less than significant due to infrequent use and/or distance.

Visible Plumes

The potential exists for vapor plumes (water vapor condensation) to be visible from the following sources at the Project Site: plumes from the 213-foot-high CTG/HRSG stack and the 305-foot-high coal dryer stack, and plumes from the 55-foot-high wet cooling towers (4-celled ASU cooling tower, 13-celled process cooling tower, and 12-celled power block cooling towers).

A visible plume analysis was performed for the Project and presented in the 2009 Revised AFC that showed visible plumes were infrequent. New visible plume analyses were not conducted, as the ambient conditions at the site have not changed to make it more conducive for plume development and as exhaust parameters have not changed significantly. Discussion of predicted plumes in the remainder of this section derives from the analysis presented in the Revised AFC.

Table 5.11-6 summarizes the CTG/HRSG exhaust temperatures, exhaust flow rates, and exhaust moisture contents for cold weather, average annual and hot weather temperature conditions.

Power block cooling tower heat rejection and exhaust air flow totals are provided in Table 5.11-7, along with the exhaust air temperature. The exhaust air leaves the cooling tower at essentially 100 percent relative humidity. Cooling tower fans are shut off at lower ambient temperatures to control the minimum cooling water supply temperature and the steam turbine exhaust pressure. Data have been provided across the ambient temperature range.

The process cooling tower exhaust air flows and temperatures and heat rejection loads are included in Table 5.11-8. These conditions were calculated for a constant heat rejection across the ambient temperature range, which closely approximates the expected operating profile.

The ASU cooling tower exhaust air flows and temperatures and heat rejection loads are included in Table 5.11-9. These conditions were calculated for a constant heat rejection across the ambient temperature range, which approximates constant oxygen production.

Table 5.11-10 provides representative cooling tower manufacturers and model numbers for each of the cooling towers in the HECA Project. Final cooling towers selected will be the same or similar. Fogging frequency curves are not available at this time.

The cooling tower design specifications will incorporate a range of key operating parameters, including ambient conditions, heat rejection loads, prevailing wind direction, noise emission requirements, and drift limits. The supplier will apply design margins as appropriate to ensure cooling tower performance guarantees are met.

The frequency, persistence, and size of visible condensate plumes depends primarily on the design and type of combustion turbine generator/HRSG and/or cooling tower, as well as meteorological conditions of temperature and humidity. Specifically, visible plume formation depends on local ambient temperature, humidity conditions, and wind patterns. A location with higher temperature and lower humidity, the general climate in Kern County, will have fewer extended visible plumes compared to operation of the same Project at a cooler, more humid location. Visible plume formation is more frequent during the cooler seasons, when ambient conditions are more conducive. It should be noted that the same ambient conditions that result in plume formation from Project cooling towers will often cause natural weather conditions such as fog, haze, and precipitation to occur, which generally reduce visibility and would obscure any plumes.

Visible plume formation is expected to be more frequent during the cooler seasons (i.e., winter) when ambient conditions are more favorable to plume formation.

Plumes generated from Project operations will be visible from residences and travelers within the VSOI. When plumes are formed over the Project Site, they will be above and extend downwind of the Project structures.

Plumes from the cooling towers and HRSG stack are expected to be visually subordinate from distant viewpoints, and subordinate to co-dominant from middleground to foreground viewpoints, depending upon specific viewing locations and conditions. Currently, there are few to no visible plumes within the existing viewshed. Although the addition of plumes to the Project area will create a change to existing conditions, most viewers will be at such distances that impacts from visible plumes are considered to be less than significant. The area of highest concern for visible plumes is for the nearest resident within the VSOI, represented by KOP 1.

For KOP 1, reasonable worst-case visible plumes generated from Project operations will create a co-dominant effect related to the Project structures. However, typical plumes generated from Project operations will be expected to be much smaller in length, height, and width than the reasonable worst-case plumes, and the typical plumes are what KOP 1 and other viewers within the VSOI will see more often.

Project operations will largely be in peak operation during the summer months (outside of the November to April seasonal hours), at which time the temperature at the Project Site is generally too high for long plumes to occur. Both size and frequency of typical Project cooling tower and HRSG plumes (occurring outside of the winter/no fog and seasonal daylight clear period) are expected to be visually subordinate and will be less than significant. Project cooling tower and HRSG plumes during the reasonable worst-case conditions (within the winter/no fog and seasonal daylight clear period) conditions will be visually co-dominant to dominant; however, plumes of this size will occur for less than 10 percent of the winter/no fog and seasonal daylight clear period, and were thus considered to be less than significant.

As plume formation depends on highly variable atmospheric conditions, peak operation of the Project will be during hot, summer months not conducive to plume formation, and most viewers will be at such distances that any potential plumes will be remotely visible. Less than significant impacts related to plume generation at the Project Site are anticipated.

Nighttime plumes could present a potential visual impact under two possible circumstances. If bright, upwardly directed night lighting were to illuminate the plumes, they could become visually dominant and obtrusive. However, no such light exists in the immediate Project vicinity and on-site lighting will be shielded and directed downward. Thus, no significant impacts from illuminated plumes are anticipated.

Visual Impact Significance

Landscapes within the VSOI were classified as having low ESILs. The Project Site is located within areas characterized by low distinctive or diverse natural amenities or lacking substantial positive cultural modifications. There are a number of existing cultural modifications (e.g., cultivated farmlands, industrial facilities, existing power transmission lines, a former fertilizer manufacturing plant (Port Organics) adjacent to the Project Site, and oil field activities and associated structures/storage tanks, etc.) within the VSOI. While the Project is expected to change the existing character of the site, significant impacts to the scenic attractiveness of the VSOI as a whole are not anticipated due to existing industrial and agricultural activities. Therefore, less-than-significant impacts on visual resources and aesthetics are expected to occur. Table 5.11-1, Visual Impact Susceptibility – Sensitive Viewing Areas, Table 5.11-4, Visual Impact Severity – Sensitive Viewing Areas, and Table 5.11-5, Visual Impact Significance – Sensitive Viewing Areas, summarize visual impact susceptibility, visual impact severity, and resultant visual impact significance on sensitive viewing areas, respectively.

OEHI Project

An analysis of the potential visual impacts of the OEHI Project is included in Appendix A, Section 4.1, Aesthetics, of this AFC Amendment. Appendix A concludes that with implementation of recommended mitigation measures, the OEHI Project will not have significant adverse impacts to aesthetics.

5.11.3 Cumulative Impact Analyses

Under certain circumstances, CEQA requires consideration of a project's cumulative impacts. (CEQA Guidelines Section 15130). A "cumulative impact" consists of an impact which is created as a result of the combination of the project under review together with other projects causing related impacts (CEQA Guidelines Section 15355). CEQA requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (CEQA Guidelines Section 15130[a]). "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15065 [a][3]).

When the combined cumulative impact associated with a project's incremental effect and the effects of other projects is not significant, further discussion of the cumulative impact is not necessary (CEQA Guidelines Section 15130[a]). It is also possible that a project's contribution to a significant cumulative impact is less than cumulatively considerable and thus not significant (CEQA Guidelines Section 15130[a]).

The discussion of cumulative impacts should reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a level of detail as is provided for the effects attributable to the project under consideration (CEQA Guidelines Section 15130[b]) The discussion should be guided by standards of practicality and reasonableness (CEQA Guidelines Section 15130[b]).

A cumulative impact analysis starts with a list of past, present, and probable future projects within a defined geographical scope with the potential to produce related or cumulative impacts (CEQA Guidelines Section 15130[b]). Factors to consider when determining whether to include a related project include the nature of the environmental resource being examined, the location of the project, and its type (CEQA Guidelines Section 15130[b]). For purposes of this AFC Amendment, Kern County was contacted to obtain a list of related projects, which is contained in Appendix I. Depending on its location and type, not every project on this list is necessarily relevant to the cumulative impact analysis for each environmental topic.

The Project and other projects in the vicinity are not expected to result in significant cumulative impacts to visual resources during the construction or operation phases. The areas within the VSOI are generally characterized by agricultural activities, oil extraction and other industrial facilities, as well as desert terrain supported by small towns and other sparsely populated communities. All proposed projects within the VSOI can be characterized primarily as zone changes, lot line/property line adjustments, roadway improvements, home remodeling, agricultural supply services, or activities related to agriculture, or to oil and mining operations. No new residential or recreational uses are proposed that may generate additional sensitive visual receptors. A new dairy operation is planned on the north side of Adohr Road at Dairy Road. The dairy facilities will be subordinate to the Project, and the adjacency of the two projects is expected to result in less-than-significant impacts for viewers in the area.

The addition of the Project will alter the existing landscape and visual setting at the Project Site. However, the addition of any of the other listed projects, when considered in combination with the Project, will not cumulatively create significant impacts to the visual setting within the VSOI. Thus, no significant cumulative impacts have been identified as a result of the construction, operation, maintenance, or long-term presence of the Project and other projects in the area.

An analysis of the potential of the OEHI Project to impact aesthetics is included in Appendix A, Section 4.1, Aesthetics, of this AFC Amendment. Appendix A concludes that with implementation of recommended mitigation measures, the OEHI Project will not have significant adverse cumulative impacts to aesthetics.

5.11.4 Design Features and Mitigation Measures

Project design inherently includes mitigation measures. For example, the Project Site location was chosen because of its proximity to other existing industrial land uses (industrial oil producing area within Kern County). In addition, Project features have been designed to help minimize visual impacts.

5.11.4.1 Project Design Features

VIS- 1 Project Structures

- Structures, stacks, buildings, and storage tanks will be painted in accordance with CEC guidelines, and colors will be selected to blend in with the existing visual conditions.
- The colors will provide subtle variations and contrast. The selected color will help the Project to blend more naturally with the natural setting.
- Reflectivity of surfaces will be reduced by using nonreflective elements where practical.

VIS-2 Lighting

- Lighting on the Project Site will be limited to areas required for safety, will be directed on site to avoid backscatter, and will be shielded from public view to the extent practical.
- All lighting that is not required to be on during nighttime hours will be controlled with sensors or switches operated so that the lighting will be on only when needed.
- High-pressure sodium vapor fixtures will be used. These lights typically produce low-intensity amber light, which will reduce visual contrast with the night sky.
- Stacks and other tall Project elements will be lit in accordance with FAA guidelines.

VIS-3 Natural Gas and CO₂ Pipelines

After construction, areas where pavement or vegetation has been removed will be restored to be consistent with the surrounding area. Pipeline routes may also follow road rights-of-way and therefore will be placed under pavement or prepared dirt surfaces.

While the Project includes features that reduce visual impacts from the construction or operation, potentially significant impacts have been identified for the nearest residential viewer to the Project Site identified by CEC staff at the location identified as KOP 1. Visual impacts from the construction or operation of the Project will significantly affect the nearest residential viewer. Suggested visual resources mitigation measures (VRMMs) are provided to ensure that all potential impacts are reduced to levels considered to be less than significant..

5.11.4.2 Mitigation Measures

According to Kern County Ordinance 19.12.120 Landscaping: Exclusive Agriculture (A) District, no landscaping is required in the A district, except where the proposed use is subject to a plot plan review pursuant to Chapter 19.80. However, to reduce significant impacts to the nearby residential viewers, visual mitigation measures are proposed to include landscaping.

VRMM-1: Prepare Conceptual Landscaping Plan for screening purposes. The plan will include information on the plant species proposed; their size, quantity, and spacing at planting; their expected heights at 5 years and at maturity; and their expected growth rates.

5.11.5 Laws, Ordinances, Regulations, and Standards

The applicable LORS related to visual resources are summarized in Table 5.11-11, Summary of LORS – Visual Resources.

5.11.5.1 Federal and State

The Project is located on privately-owned land under the jurisdiction of Kern County. There are a few patches of BLM lands within the area that have views to the Project Site. However, no federal lands considered to be sensitive are located within the VSOI. BLM VRM guidelines were considered for this Project because VRM methodology is an effective assessment tool that categorizes impacts based upon changes to scenic quality, sensitivity levels, and distance zones. These are all discussed in detail in Section 5.11.1, Affected Environment. The Project is consistent with all federal aesthetic LORS.

State-designated scenic highways or highways eligible for designation were not identified within the VSOI. Furthermore, no other area managed by the State was identified that will require the Project to adhere to State aesthetic LORS. However, CEQA methodology is described in Section 5.11.2.1, Significance Criteria and Assessment Methodology, and was used as part of the assessment methodology.

5.11.5.2 Local

The Project Site is located on privately-owned land under the jurisdiction of Kern County. The unincorporated community of Tupman, located 1.5 miles to the southeast of the Project Site, will have middle and distant views to the Project Site. The unincorporated community of Buttonwillow is located approximately 4 miles to the north of the Project Site. The city of Taft is the closest city to the Project Site and is more than 15 miles away. This city will have no views to the Project Site, and therefore local LORS were only considered for Kern County and the unincorporated communities of Tupman and Buttonwillow.

The property is zoned A (Exclusive Agriculture) in Kern County. See Section 5.4, Land Use, for more information. The *Kern County General Plan* (Kern County, 2009), *Buttonwillow Community Development Plan* (Buttonwillow, 1974), and *Tupman's Rural Community Specific Plan* (Tupman, 1984) contain several goals and policies relating specifically to aesthetics and minimizing impacts to visual resources. The *Buttonwillow Community Development Plan* and

Tupman *Community Specific Plan* were prepared in conjunction with Kern County; therefore, the majority of Tupman's and Buttonwillow's goals/policies related to aesthetic and visual resources are very similar if not the same as the goals/policies identified in the Kern County General Plan. Table 5.11-1, Summary of LORS – Visual Resources, summarizes each of these local LORS and the Project's conformance to these LORS.

The Project Site is located north of the EHOFF. The land surrounding the Project Site is used primarily for farmland, industrial, other similar land uses, and for oil extraction to the south of the Project vicinity. Proper light/glare shielding during both construction and operation of the Project Site is included as part of Project design. While the Project Site will add to existing area lighting, the Project will not significantly increase the existing night lighting, backscatter light, or glare in the Project area due to its adjacency with similar existing industrial land uses. The Project will not create a significant visual change to existing area conditions.

In addition, Project design elements have been incorporated into the Project description that will be effective in minimizing visual impacts (see Section 2.0, Project Description). The Project will conform to all applicable local LORS related to the preservation of areas identified as retaining high scenic value. Based on the inventory of scenic attractiveness and ESILs, areas retaining high scenic value were not identified within the VSOI. Therefore, compliance with local aesthetic LORS will be maintained.

5.11.6 Involved Agencies and Agency Contacts

The local agency for the Project is the Kern County Environmental Health Services Department shown in Table 5.11-12, Agency Contact List for LORS.

5.11.7 Permits Required and Permit Schedule

No permits are required pertaining to visual resources.

5.11.8 References

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Buttonwillow, 1974. *Community Development Plan*. Open Space; Scenic Lands, April, 1974.

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Tupman, 1984. *Rural Community Specific Plan*. Scenic Highways. October 29, 1984.

URS (URS Corporation), 2006. Application for Certification (AFC) for Panoche Energy Center Power Plant Project, 06-AFC-5. 2006.

USFS (U.S. Forest Service), 1995. U.S. Forest Service Visual Management System.

**Table 5.11-1
Visual Impact Susceptibility – Sensitive Viewing Areas**

Viewing Areas*	Existing Scenic Integrity Level	Viewer Concern	Project Visibility	Viewer Exposure	Visual Impact Susceptibility
Sensitive Viewing Area and KOP 1 (Figure 5.11-15) – Traveler view and unobstructed residential view along Station Road to the east of the Project.	Low	High	High	High	High
Sensitive Viewing Area and KOP 2 (Figure 5.11-17) – From largely unobstructed view along Stockdale Highway to the north-northwest of the Project and west of the railroad spur.	Low	High	Moderate	Moderate	Moderate
Sensitive Viewing Area and KOP 3 (Figure 5.11-19) – Elk Hills Elementary School playground view to the southeast of the Project.	Low	High	Low	Moderate	Moderate/ Low
Sensitive Viewing Area and KOP 4 (Figure 5.11-21) – Traveler view from Stockdale Highway adjacent to the I-5 interchange northeast of the Project.	Low	Moderate	Low	Low	Low
Sensitive Viewing Area and KOP 5 (Figure 5.11-23) – Traveler view from southbound I-5 east of the Project and transmission line.	Low	Moderate	Low	Low	Low
Sensitive Viewing Area and KOP 6 (Figure 5.11-25) – Traveler view from eastbound Brite Road west of the railroad spur and northwest of the Project.	Low	Moderate	Low	Moderate	Low

Source: HECA, 2012.

Note: KOP = Key Observation Point

* Also, see Figure 5.11-1 for KOP locations

**Table 5.11-2
Major Component Design Characteristics**

Component	Height (feet)	Diameter (feet)	Color/Materials¹
Gasification Structure/ Feedstock Dryer/Crusher	305	270 × 125	Steel; Flint Gray SW 4019
CO ₂ Vent	260	4	Steel; Flint Gray SW 4019
Gasification Flare	250	10	Steel; Flint Gray SW 4019
Rectisol® Flare	250	2	Steel; Flint Gray SW 4019
SRU Flare	250	2	Steel; Flint Gray SW 4019
AGR Methanol Wash Column	235	20	Steel; Flint Gray SW 4019
HRSG Stack/HRSG	213/90	20	Steel; Flint Gray SW 4019
Air Separation Column Can	200	110 × 40	Steel; Torque Tan SW 4015
ASU Column (Cold Box)	205	30	
Gasification Flare Structure	200	65 × 65	Steel; Flint Gray SW 4019
Slurry Preparation Building	165	140 × 40	Steel; Flint Gray SW 4019
Tail Gas Thermal Oxidizer	165	3	Steel; Flint Gray SW 4019
Feedstock Barn	160	250 × 650	Steel; Slate Gray SW 4026
Sour Water Stripper	150	8	Steel; Flint Gray SW 4019
Nitric Acid Absorber Vent	145	4	Steel; Flint Gray SW 4019
Additional AGR Columns	75 – 140	12 – 18	Steel; Flint Gray SW 4019
Feedstock Barn	160	250 × 650	Steel; Slate Gray SW 4026
Urea Plant Absorbers (HP/LP)	130/50	26/30	Steel; Torque Tan SW 4015
Urea Transfer Towers (5)	100	28 × 30	Steel; Torque Tan SW 4015
Wastewater ZLD Evaporator A	100	12	Steel; Flint Gray SW 4019
Wastewater ZLD Evaporator B	100	12	Steel; Flint Gray SW 4019
Feedstock Transfer Tower/Tower B/Crusher Vent	100	35 × 45	Steel; Torque Tan SW 4015
Heat Recovery Steam Generator Structure	90	122 × 115	Steel; Slate Gray SW 4026
LOX Storage Tank	90	42	Steel; Flint Gray SW 4019
Process Wastewater ZLD Evaporator	80	5	Steel; Flint Gray SW 4019
Auxiliary Boiler Stack/Auxiliary Boiler	80/80	6	Steel; Flint Gray SW 4019
Ammonia Unit Startup Heater	80	21 × 81	Steel; Flint Gray SW 4019
Ammonia Storage Tanks (2)	70	90	Pillar White SW 4029

**Table 5.11-2
Major Component Design Characteristics (Continued)**

Component	Height (feet)	Diameter (feet)	Color/Materials¹
Fine Slag Handling Enclosure	70	172 × 52	Steel; Flint Gray SW 4019
Urea Reclaim Loadout Building	70	135 × 20	Steel; Slate Gray SW 4026
Urea Storage (4 Domes)	70	162	Steel; Torque Tan SW 4015
Tail Gas Treating Unit Columns	60 – 70	4 – 6	Steel; Flint Gray SW 4019
Feedstock Truck Unloading Vent	60	5	Steel; Torque Tan SW 4015
Power Block/Process Cooling Towers	55	850 × 120	Steel; Flint Gray SW 4019
ASU Cooling Tower	55	205 × 120	Steel; Flint Gray SW 4019
Combustion Turbine Generator Structure	50	12	Steel; Flint Gray SW 4019
CO ₂ Compressor Enclosure	50	110 × 110	Steel; Flint Gray SW 4019
CTG Air Filter	50	–	Steel; Flint Gray SW 4019
Sour Shift/Low Temp Gas Cooling Unit	50	235 × 40	Steel; Flint Gray SW 4019
Urea Plant LP Absorber	50	??	Steel; Torque Tan SW 4015
Urea Pastillation Vent	50	??	Steel; Torque Tan SW 4015
Urea Bucket Elevator	50	20 × 20	Steel; Slate Gray SW 4026
230-kilovolt Switchyard	–	–	Steel; Flint Gray SW 4019
Wastewater ZLD Feed Tank A	48	120	Steel; Flint Gray SW 4019
Wastewater ZLD Feed Tank B	48	120	Steel; Flint Gray SW 4019
UAN Storage (3 Tanks)	48	120	Steel; Torque Tan SW 4015
Firewater Storage Tank	48	110	Steel; Flint Gray SW 4019
Water Treatment Plant Tanks (Raw, Treated, Purified, Backwash, Utility, Demineralized)	32 – 48	50 – 100	Steel; Flint Gray SW 4019
Feedstock Truck Unloading Building	44	82 × 36	Steel; Flint Gray SW 4019
Methanol Storage Tank	40	40	Steel; Torque Tan SW 4015
ASU Main Air Compressor Enclosure	40	46 × 119	Steel; Flint Gray SW 4019
AGR Refrigeration Compressor Structure	40	180 × 80	Steel; Flint Gray SW 4019
Process Wastewater Treatment Feed Tank	40	60	Steel; Torque Tan SW 4015
Flare K.O. Drums (3)	35		
Gasification Settler	35	85	Steel; Flint Gray SW 4019
Power Distribution Centers	25	120 × 15	Steel; Torque Tan SW 4015
230-kV Transmission Line	110	2.1 miles	Steel; Gray
Railroad Spur	Raised Bed	5.3 miles	Steel; Gray

**Table 5.11-2
Major Component Design Characteristics (Continued)**

Component	Height (feet)	Diameter (feet)	Color/Materials¹
CO ₂ Line	Buried	3.4 miles	NA
Natural Gas Line	Buried	13 miles	NA
Process Water Line	Buried	14.4 miles	NA
Potable Water Line	Buried	1.2 miles	NA

Source: HECA Project.

Notes:

¹ Steel will be treated to minimize glare

AGR = acid gas removal

ASU = Air Separation Unit

CO₂ = carbon dioxide

CTG = combustion turbine generator

HP = high pressure

HRSG = heat recovery steam generator

K.O. = Knock Out

kV = kilovolt

LP = low pressure

LOX = Liquid Oxygen

SRU = sulfur recovery unit

UAN = Urea Ammonium Nitrate

ZLD = zero liquid discharge

**Table 5.11-3
Visual Impact Significance Matrix – Sensitive Viewing Areas**

Visual Impact Severity	High Visual Sensitivity	Moderate Visual Sensitivity	Low Visual Sensitivity
High Visual Change	Significant	Less Than Significant	Less Than Significant
Moderate Visual Change	Less Than Significant	Less Than Significant	Less Than Significant
Low Visual Change	Less Than Significant	Less Than Significant	No Impact

**Table 5.11-4
Visual Impact Severity – Sensitive Viewing Areas**

KOP*	Form Contrast	Line Contrast	Color Contrast	Texture Contrast	Scale Dominance	Spatial Dominance	View Blockage Night Lighting	Visual Impact Severity
KOP 1 (Figure 5.11-15) – Unobstructed traveler and residential viewers along Station Road to the east of the Project.	High	High	Moderate/High	Moderate	High	Moderate/High	Moderate/High	High
KOP 2 (Figure 5.11-17) – From largely unobstructed view along Stockdale Highway to the north-northwest of the Project.	Moderate	Moderate	Low	Low	Moderate	Moderate	Moderate	Moderate
KOP 3 (Figure 5.11-19) – Elk Hills Elementary School playground view to the southeast of the Project.	Moderate/Low	Moderate/Low	Moderate/Low	Low	Moderate	Moderate	Moderate/Low	Moderate
KOP 4 (Figure 5.11-21) – Traveler view from Stockdale Highway adjacent to the I-5 interchange northeast of the Project.	Low	Low	Low	Low	Low	Low	Low	Low
KOP 5 (Figure 5.11-23) – Traveler view from southbound I-5 east of the Project and transmission line.	Low	Low	Low	Low	Low	Low	Low	Low
KOP 6 (Figure 5.11-25) – Traveler view from eastbound Brite Road northwest of the Project.	Moderate/Low	Moderate/Low	Moderate/Low	Low	Moderate	Moderate	Moderate	Moderate

Source: HECA Project.

Note:

KOP = key observation point

*Also see Figure 5.11-1 for KOP locations

**Table 5.11-5
Visual Impact Significance – Sensitive Viewing Areas**

Viewing Areas*	Visual Impact Susceptibility	Visual Impact Severity	Visual Impact Significance
KOP 1 (Figures 5.11-14 and 5.11-15) – Unobstructed residential view to the east of the Project Site on Station Road.	High	Moderate/High	Significant (Less than Significant with visual mitigation described in VRMM-1)
KOP 2 (Figures 5.11-16 and 5.11-17) – Unobstructed view along Stockdale Highway to the north-northwest of the Project Site.	Moderate	Moderate	Less than Significant
KOP 3 (Figures 5.11-18 and 5.11-19) – Elk Hills Elementary School playground view to the southeast of the Project.	Moderate/Low	Low	Less than Significant
KOP 4 (Figures 5.11-020 and 5.11-21) – Traveler view from Stockdale Highway adjacent to I-5 interchange.	Low	Low	No Impact
KOP 5 (Figures 5.11-22 and 5.11-23) – Traveler views from Southbound I-5.	Low	Low	No Impact
KOP 6 (Figures 5.11-25 and 5.11-26) – Residential and traveler views from eastbound Brite Road.	Low	Low	Less than Significant

Notes:

KOP = key observation point

VRMM = visual resource mitigation measure

*Also see Figure 5.11-1 for KOP locations

**Table 5.11-6
Summary of CTG/HRSG Exhaust Conditions**

Parameter		CTG/HRSG Exhaust				
Stack Height		65 meters (213 feet)				
Stack Diameter		7.0 meters (23 feet)				
Ambient Temperature		39°F	65°F	97°F		
	HRSG Stack					
	On Peak	Off Peak	On Peak	Off Peak	On Peak	Off Peak
Full Load Exhaust Temperature (°F)	200	200	200	200	200	200
Full Load Exhaust Flow Rate (kpph)	4,876	3,956	4,712	3,747	4,575	3,496
Full Load Exhaust Moisture Content (wt%)	7.2	6.4	7.8	7.0	8.3	7.5
	Coal Drying Stack					
	On Peak	Off Peak	On Peak	Off Peak	On Peak	Off Peak
Full Load Exhaust Temperature (°F)	200	200	200	200	200	200
Full Load Exhaust Flow Rate (kpph)	800	800	800	800	800	800
Full Load Exhaust Moisture Content (wt%)	10.8	10.8	10.8	10.8	10.8	10.8

Notes:

The 20°F ambient temperature is an extreme minimum, while 39°F ambient is more representative of minimum monthly average winter conditions.

- CTG = combustion turbine generator
- °F = degrees Fahrenheit
- HRSG = heat recovery steam generator
- kpph = kilopascals per hour
- wt% = percent weight

**Table 5.11-7
Power Block Cooling Tower Heat Rejection and Exhaust Air Flow Totals**

Parameter	Power Block Cooling Tower Exhausts					
	Number of Cells	12 cells (1 by 12)				
Cell Height	16.76 meters (55 feet)					
Cell Diameter	9.14 meters (30 feet)					
Tower Housing Length	183 meters (600 feet)					
Tower Housing Width	18.29 meters (60 feet)					
Ambient Dry Bulb Temperature	39°F	65°F	97°F			
Ambient Wet Bulb Temperature	36.8°F	55.5°F	67.6°F			
Ambient Relative Humidity	82%	55%	20%			
Fuel Type	H ₂ -Rich Fuel Gas					
	On Peak	Off Peak	On Peak	Off Peak	On Peak	Off Peak
Number of Cells in Operation	12	12	12	12	12	12
Heat Rejection (MWth)	269.5	248.1	271.1	253.8	271.8	260.9
Exhaust Air Dry Bulb Temperature (°F)	82.8	80.3	84.1	82.6	90.8	90.0
Exhaust Air Wet Bulb Temperature (°F)	82.8	80.3	84.1	82.6	90.8	90.0
Exhaust Air Flow Rate (MMlb/hr)	28.8	29.0	38.7	38.8	38.1	38.1
Air Flow/Heat Rejection (kg/s per MWth)	13.5	14.7	18.0	19.3	17.7	18.4
Fuel Type	Natural Gas					
Load					80%	40%
Number of Cells in Operation					12	12
Heat Rejection (MWth)					195.3	149.0
Exhaust Air Dry Bulb Temperature (°F)					85.1	81.4
Exhaust Air Wet Bulb Temperature (°F)					85.1	81.4
Exhaust Air Flow Rate (MMlb/hr)					38.6	38.9
Air Flow/Heat Rejection (kg/s per MWth)					24.9	32.9

Notes:

- °F = degrees Fahrenheit
- H₂ = hydrogen
- HRSG = heat recovery steam generator
- kg/s = kilograms per second
- MMlb/hr = million pounds per hour
- MWth = megawatt, thermal
- % = percent

**Table 5.11-8
Process Cooling Tower Exhaust Air Flows and Temperatures
and Heat Rejection Loads**

Parameter	Process Cooling Tower Exhausts		
	Number of Cells	13 cells (1 by 13)	
Cell Height	16.76 meters (55 feet)		
Cell Diameter	9.14 meters (30 feet)		
Tower Housing Length	198 meters (650 feet)		
Tower Housing Width	18.29 meters (60 feet)		
Ambient Dry Bulb Temperature	39°F	65°F	97°F
Ambient Wet Bulb Temperature	36.8°F	55.5°F	67.6°F
Ambient Relative Humidity	82%	55%	20%
Number of Cells in Operation	13	13	13
Heat Rejection (MWth)	292.0	293.7	294.5
Exhaust Air Dry Bulb Temp (°F)	82.8	84.1	90.8
Exhaust Air Wet Bulb Temp (°F)	82.8	84.1	90.8
Exhaust Air Flow Rate (MMlb/hr)	31.2	41.9	41.3
Air Flow/Heat Rejection (kg/s per MWth)	13.5	18.0	17.7

Notes:

- °F = degrees Fahrenheit
- kg/s = kilograms per second
- MMlb/hr = million pounds per hour
- MWth = megawatt, thermal
- % = percent

**Table 5.11-9
Air Separation Unit Cooling Tower Exhaust Air Flows
and Temperatures and Heat Rejection Loads**

Parameter	Air Separation Unit Cooling Tower Exhausts		
	Number of Cells	4 cells (1 by 4)	
Cell Height	16.76 meters (55 feet)		
Cell Diameter	9.14 meters (30 feet)		
Tower Housing Length	60.70 meters (200 feet)		
Tower Housing Width	18.29 meters (60 feet)		
Ambient Dry Bulb Temperature	39°F	65°F	97°F
Ambient Wet Bulb Temperature	36.8°F	55.5°F	67.6°F
Ambient Relative Humidity	82%	55%	20%
Number of Cells in Operation	4	4	4
Heat Rejection (MWth)	89.8	90.4	90.6
Exhaust Air Dry Bulb Temp (°F)	82.8	84.1	90.8
Exhaust Air Wet Bulb Temp (°F)	82.8	84.1	90.8
Exhaust Air Flow Rate (MMlb/hr)	9.6	12.9	12.7
Air Flow/Heat Rejection (kg/s per MWth)	13.5	18.0	17.7

Notes:

°F = degrees Fahrenheit
 kg/s = kilograms per second
 MMlb/hr = million pounds per hour
 MWth = megawatt, thermal
 % = percent

**Table 5.11-10
Representative Cooling Tower Manufacturer and Model Information**

Cooling Tower Service	Manufacturer	Model Number
Power Block	SPX Cooling Technologies Inc.	F489-6.0-13
Process	SPX Cooling Technologies Inc.	F489-6.0-4
Air Separation Unit	SPX Cooling Technologies Inc.	F489-6.0-4

**Table 5.11-11
Summary of LORS – Visual Resources**

LORS	Requirements	Conformance to Requirements	Administering Agency	Agency Contact
Federal Jurisdiction				
There are no applicable federal LORS.				
State Jurisdiction				
Application for Certification Requirements	Rules of Practice and Procedure and Power Plant Site Certification Regulations, Appendix B.	See Section 5.11	California Energy Commission (CEC)	1
State Scenic Highway Requirements	Requirements are applicable to state designated scenic highways.	The portions of roads and highways within the Project vicinity are not designated official State Scenic Highways.	California Department of Transportation (Caltrans)	2 & 4
Local Jurisdiction				
Kern County General Plan, 1.8 Industrial – Policy 6	Encourage upgrading the visual character of existing industrial areas through the use of landscaping, screening, or buffering.	According to Kern County Ordinance 19.12.120 Landscaping: Exclusive Agriculture (A) District, No landscaping is required in the A district, except where the proposed use is subject to a plot plan review pursuant to Chapter 19.80. Therefore, compliance with this regulation is inapplicable.	Kern County	3
Kern County General Plan, 1.8 Industrial – Policy 7	Require that industrial uses provide design features such as screen walls, landscaping, increased height and/or setbacks, and lighting restrictions between the boundaries of residential land use designation so as to reduce impacts on residences due to light, noise, sound, and vibration.	Proper light/glare shielding is included as part of Project design.	Kern County	3

**Table 5.11-11
Summary of LORS – Visual Resources**

LORS	Requirements	Conformance to Requirements	Administering Agency	Agency Contact
Kern County General Plan, 1.8 Industrial – Implementation Measure VI	Design, layout, and visual appearance coordinated with existing adjacent industrial uses.	The Project design and layout are in conformance with the existing industrial land uses within the area.	Kern County	3
Kern County General Plan, 1.8 Industrial – Map Provisions Service Industrial (Map Code 7.2)	Industrial properties/activities that involve outdoor storage/use of heavy equipment. Such uses produce significant air or noise pollution and are visually obtrusive.	The Project area is located north and directly south of existing industrial structures and storage tanks. The design of the Project elements results in a co-dominant visual effect with the adjacent fertilizer plant.	Kern County	3
Kern County General Plan, 1.10.8 Smart Growth Policy 49g	Aesthetically pleasing and unifying design features that promote a visually pleasing environment.	The Project design and visual aesthetics are similar to the existing industrial land uses within the area.	Kern County	3
Kern County General Plan, 1.10.7 Light and Glare Policy 47	Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Proper light/glare shielding is included as part of Project design.	Kern County	3
Kern County General Plan, 1.10.7 Light and Glare Policy 48	Encourage the use of low-glare lighting to minimize the nighttime glare effects on neighboring properties	Proper light/glare shielding is included as part of Project design.	Kern County	3
Kern County General Plan, Zoning Ordinance Code Chapter 19.86	Requires public notification and review of any project that might adversely impact visual resources.	Given that the zoning of the Project property is A; a Landscape Plan is not required.	Kern County	3
Kern County General Plan Circulation Element – 2.3.9 Scenic Route Corridors	Requirements are applicable to state designated scenic highways. The California Scenic Highways Master Plan designates three state highways in Kern County “Eligible State Scenic Highway,” including portions of State Routes 14, 58, and 41, and of State Highway 395.	The portions of roads and highways within the Project vicinity are not designated official State Scenic Highways.	Kern County	4

**Table 5.11-11
Summary of LORS – Visual Resources**

LORS	Requirements	Conformance to Requirements	Administering Agency	Agency Contact
Kern County River Plan Element, Chapter III - 3.2.3 Policies (3)	Building heights and setbacks shall not significantly obstruct river views, and they shall be regulated in accordance with potential to obstruct river views from existing or planned roads or trails.	There are no river views within the Project vicinity; therefore this requirement is not applicable to the Project.	Kern County	3
Tupman Rural Community Specific Plan, Scenic Highways Implementation 2	All proposed existing and or expanding land uses adjacent to the Tupman Road route shall seek approval of the Planning Agency prior to issuance of permits so as to provide for the screening of unsightly uses.	From a conversation with Shawn Beyeler, Planner 2 (Kern County Planning Department) on 30 May 2008 it was determined that Tupman Road is not designated as a scenic route and there are to date no scenic routes designated throughout Kern County	Kern County	4
Buttonwillow Community Development Plan, Open Space	Encourages continuing dual use of transmission line easements as open space or possible greenbelt areas.	Some portions of the Project’s proposed transmission route follow existing transmission lines and poles	Kern County	3
Buttonwillow Community Development Plan, Scenic Lands	Encourage continuing implementation of the County Scenic Highway Programs	Currently there are no designated County Scenic Highways within the Project vicinity.	Kern County	4

Notes:

BLM = Bureau of Land Management

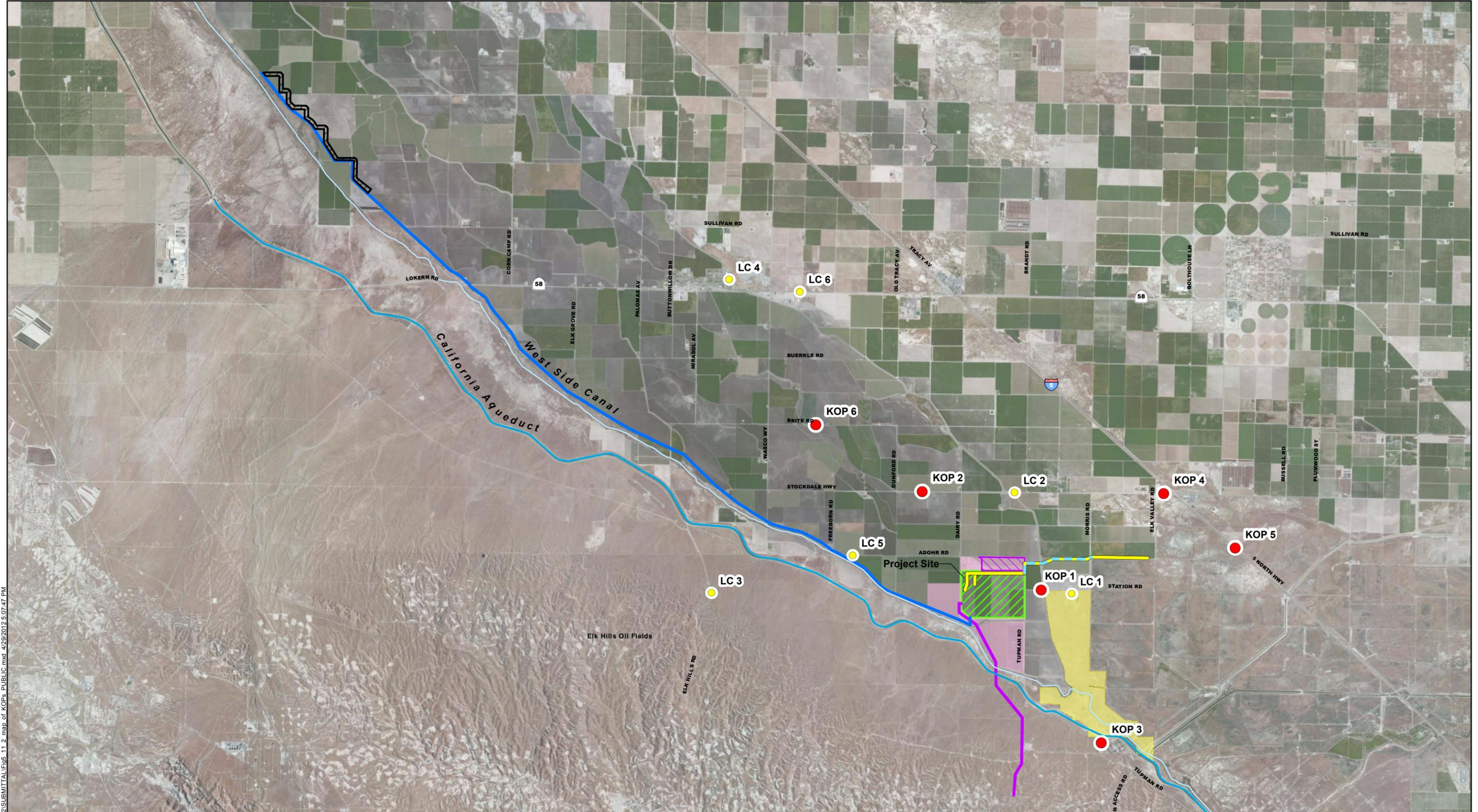
LORS = laws, ordinances, regulations, and standards

**Table 5.11-12
Agency Contact List for LORS**

Agency		Contact Information
State Jurisdiction		
1	California Energy Commission Energy Facilities Siting Division Community Resources Unit	Mark Hamblin, Senior Planner/Supervisor 1516 Ninth Street, Sacramento, CA 95814 916-654-5107
2	California Department of Transportation (Caltrans) Guidelines for the Official Designation of Scenic Highways Office of Landscape	Ken Murray, L.A. #4345 Senior Landscape Architect 2800 Gateway Oaks Drive, Suite 100 Sacramento, CA 95833 916-274-6138
Local Jurisdiction		
3	Kern County	Scott Denney, Supervising Planner 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2323 661-862-8631
4	Kern County	Shawn Beyeler, Planner 2 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2323 661-862-8641

Note:

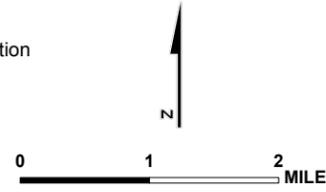
LORS = laws, ordinances, regulations, and standards



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- | | | | |
|---------------------------|--------------------------|---------------------|---|
| Project Site | Carbon Dioxide | West Side Canal | Key Observation Point |
| Construction Staging Area | Natural Gas ¹ | California Aqueduct | Landscape Character Photograph Location |
| Controlled Area | Potable Water | Tule Elk Reserve | |
| BVWSD Well Field | Process Water | | |
| | Railroad ¹ | | |
| | Transmission | | |

Note:
1. Feature temporarily designated as confidential



Source: Aerial Imagery, Bing Maps, 2009.

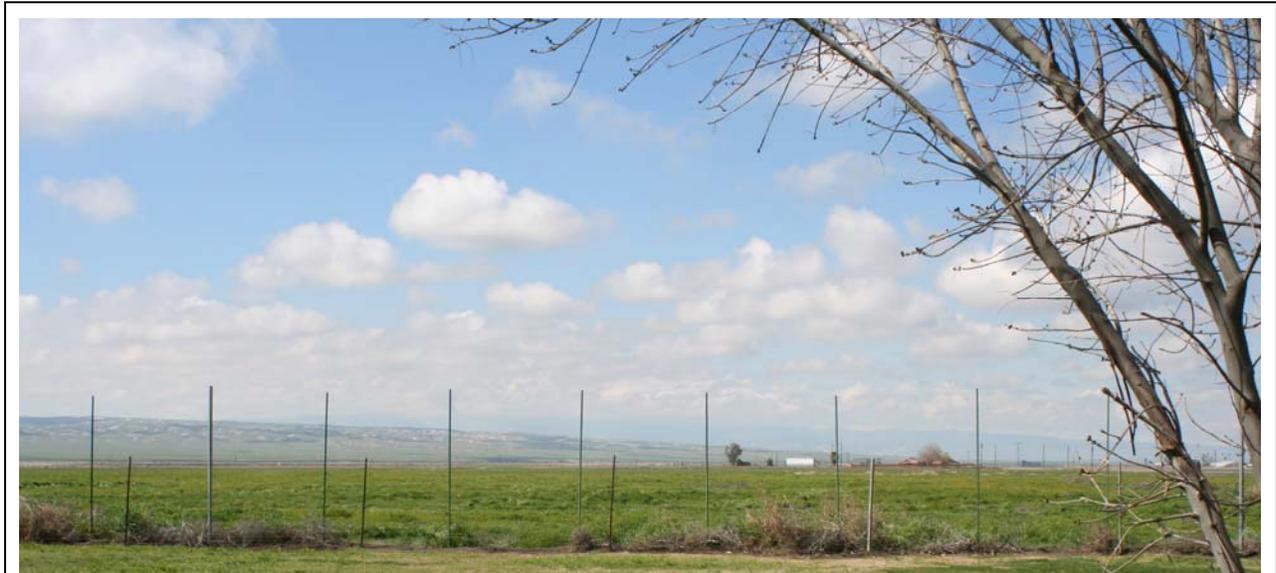
**FIGURE 5.11-3
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 1**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (11)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2).



Narrative Landscape Description and Photograph: Landscape Character Photo No. 1 (see Figure 5.11-1 for photograph location) was taken from the picnic area of the Tule Elk State Natural Reserve and represents a recreational public view of the project area, approximately 0.75 mile east of the Project area. The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background in this area and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain across the view to rolling terrain in the distant background, adding somewhat to the visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. A variety of cultural modifications (including industrial storage structures, telephone/transmission lines, and residential housing) are visible in foreground and middleground views. The area is characterized by little color variation, with thick undulating grasses, and low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of naturally vegetated property, and the most prominent visible features are the heavy steel fencing structures that cross the foreground, as well as the large trees that screen most of view toward the Project Site. This landscape is mildly interesting within its setting, and uncommon within the region due to habitat restoration/preservation for the Tule Elk.

**FIGURE 5.11-4
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 2**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (5)					

<p>Scenic Quality Classifications: A = 19 or more B = 12 to 18 C = 11 or less</p>
--

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2).



Narrative Landscape Description and Photograph: Landscape Character Photo No. 2 (see Figure 5.11-1 for photograph location) was taken from a residence along Stockdale Highway and represents a public view of the Project area, approximately 1.0 mile north of the Project area. The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background in this area and allows for very open, panoramic views of the adjacent area. Topographic relief across the area consists of a broad horizontal composition varying from relatively flat terrain across the view to the mountainous terrain of the Elk Hills in the distant background, adding somewhat to the visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. A variety of cultural modifications (including industrial storage structures, telephone/transmission lines, irrigation canals, and residential housing) are visible in foreground and middleground views. The water in the canal is below grade, and thus not visible in this area. The area is characterized by little color variation, with scattered trees usually associated with residences and cultivated farmland, and low to moderate contrast of generally flat tones. Views from this photo consist of large expanses of cultivated crops, with the most prominent visible features being the fertilizer operation in the middleground, as well as the large trees in the foreground that partially screen the view toward the project site. This landscape is mildly interesting within its setting, and common within the region due to the agricultural heritage.

**FIGURE 5.11-5
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 3**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (9)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Landscape Character Photo No. 3 (see Figure 5.11-1 for photograph location) was taken from Elk Hills Road and represents a public view of the Project area, approximately 3.8 mile west of the Project area. The superior view looks across the relatively flat topography of the foreground, middleground, and background, which rises slightly as the viewer approaches Elk Hills. The vantage points allows for very open, panoramic views of the adjacent area. Topographic relief across the area consists of a broad, horizontal composition varying from relatively flat terrain across the view with the mountainous terrain of the Elk Hills rising up toward the viewpoint, adding somewhat to the visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. The California Aqueduct is in the middleground, but is not visible because it is below grade. A variety of cultural modifications (including industrial operation/storage structures, telephone/transmission lines, and residential housing) are visible in foreground and middleground views. The area is characterized by various color variations associated with the natural grasses along the foothills and cultivated farmland in the middleground and background, and has low to moderate contrast of generally flat tones. Views from this photo consist of large expanses of cultivated crops, and the most prominent visible features are the two large transmission lines that cross the middleground. This landscape is mildly interesting within its setting, and common within the regional area.

**FIGURE 5.11-6
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 4**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (2)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Landscape Character Photo No. 4 (see Figure 5.11-1 for photograph location) was taken from Buttonwillow Park and represents a public view of the project substation interconnection, approximately 0.4 mile west of the interconnection point. The view looks across the relatively flat topography of the foreground, middleground, and background, which is heavily modified by industrial elements in the foreground and middleground. The view allows for a shielded view of the adjacent area, detracting from the visual appeal of possible form and line characteristics in the area. There are no natural water features in the area. A variety of cultural modifications (including industrial operation/storage structures, telephone/transmission lines, fencing, irrigation canals, and substation elements) is visible in foreground and middleground views. The water in the canal itself is below grade, and thus is not visible from this viewpoint. The area is characterized by few color variations associated with the natural grasses/bushes along the canal, and has low to moderate contrast of generally flat tones. Views from this photo consist of large industrial elements that dominate the viewshed.

**FIGURE 5.11-7
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 5**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (4)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Landscape Character Photo No. 5 (see Figure 5.11-1 for photograph location) was taken from the eastbound lane of Adohr Road approximately 1.7 miles west of the Project Site, and 0.1 mile from closest transmission alternative. The view looks across the relatively flat topography of the foreground, middleground, and background, which is modified crop production. The view allows for an open and panoramic view of the adjacent area, with industrial elements in the middleground that detract from the visual appeal of possible form and line characteristics in the area. There are no natural water features in the area. The area is characterized by few color variations, which are associated with the agricultural plantings flanking the view and creating divergent lines toward the Project Site, which has low to moderate contrast of generally flat tones. Views from this photo consist of agricultural and industrial elements that create a viewshed common throughout this region.

**FIGURE 5.11-8
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
LANDSCAPE CHARACTER PHOTO NO. 6**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (2)					

**Scenic Quality
Classifications:**
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Landscape Character Photo No. 6 (see Figure 5.11-1 for photograph location) was taken from the eastbound lane of State Highway 58, and represents a public view of the project transmission line crossing, approximately 0.3 mile east of the crossing point. The view looks across the relatively flat topography of the foreground, middleground, and background, which is heavily modified by industrial elements in the foreground and middleground. The view allows for an open view of the adjacent areas, which are heavily modified by industrial elements, detracting from visual appeal of possible form and line characteristics in the area. There are no natural water features in the area. A variety of cultural modifications (including industrial operation/storage structures, telephone/transmission lines, pipeline markers, fencing, and the railroad) are visible in foreground and middleground views. The area is characterized by little variation in color associated with the sparse low-lying vegetation, and has low to moderate contrast of generally flat tones. Views from this photo consist of large industrial elements that dominate the viewshed.

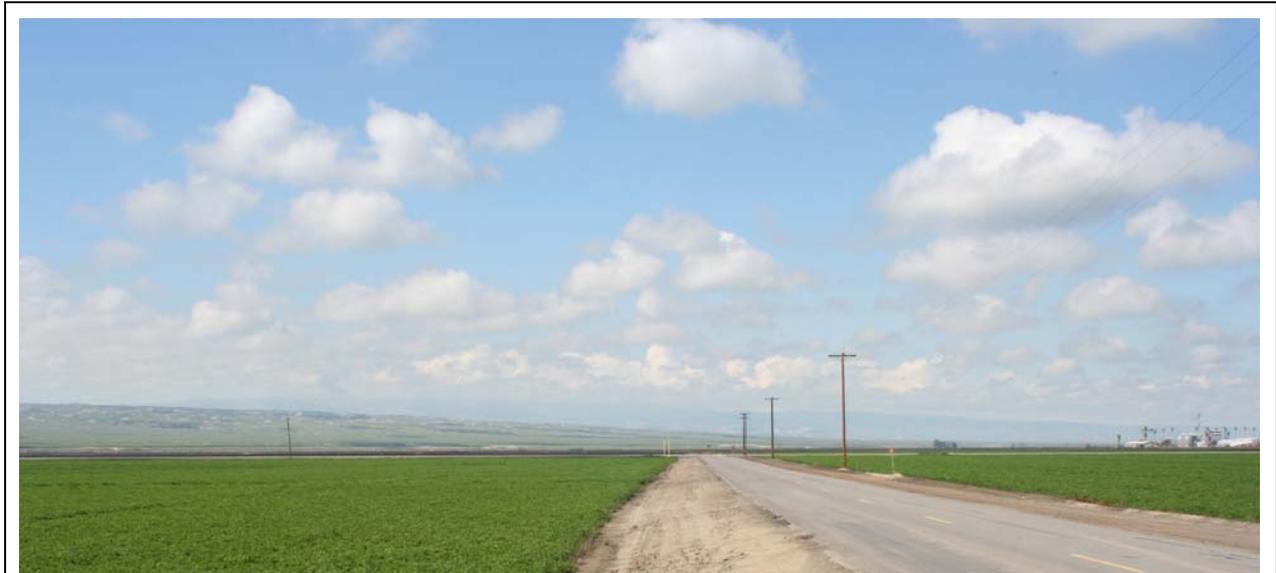
**FIGURE 5.11-9
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 1**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (8)					

<p>Scenic Quality Classifications: A = 19 or more B = 12 to 18 C = 11 or less</p>
--

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 1 (Figure 5.11-14; see also Figure 5.11-1 for KOP location) was taken along Station Road adjacent to two residences and is just west of the Tule Elk Reserve, approximately 0.25 mile east of the Project Site. The relative flatness of the foreground and middleground in this area allows for more open, expansive views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain to more dramatic distant terrain, adding to the panoramic visual appeal of the form and line characteristics of the area (although background topography is partially concealed by haze). There are no natural water features in the Project area. A variety of cultural modifications (including industrial storage tank/structures, telephone/transmission lines along Station and Tupman roads, and crop cultivation) are visible in foreground and middleground views. The area is characterized by few color variations (mainly from the monochromatic crop coloration), with low contrast of generally flat tones. Views from this KOP consist of large expanses of farmlands. This landscape is mildly interesting within its setting, but fairly common within the region.

**FIGURE 5.11-10
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 2**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (6)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 2 (Figure 5.11-16; see also Figure 5.11-1 for KOP location) was taken from the eastbound lane of Stockdale Highway and represents a public view of the Project area, approximately 1.2 miles north-northwest of the Project Site. The relative flatness of the foreground and middleground in this area allows for more open, expansive views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain to distant rolling terrain, adding somewhat to the panoramic visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. The only water source within view from this KOP is the California Aqueduct, which runs south of the Project site and is not visible from this KOP. A variety of cultural modifications (including industrial storage tank/structures, telephone/transmission lines along Dairy Road, and crop cultivation) are visible in foreground, middleground, and background views. The area is characterized by few color variations (mainly from the monochromatic crop coloration), and has low contrast of generally flat tones. Views from this KOP consist of large expanses of farmlands. This landscape is mildly interesting within its setting, but fairly common within the region.

**FIGURE 5.11-11
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 3**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (10)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2).



Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 3 (Figure 5.11-18; see also Figure 5.11-1 for KOP location) was taken from the Elk Hills Elementary School’s playground and represents public recreational views of the Project area, approximately 2.25 miles south-southeast of the Project Site. The rolling topography of the foreground gives way to the flatness of the middleground and background in this area, allowing for very open, expansive views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain across the view to the rolling terrain in the foreground, adding to the panoramic visual appeal of the form and line characteristics of the area, and giving this KOP a superior viewpoint of the Project Site. There are minimal natural water features in the Project area, with none present in this view. One manmade water feature within view from this KOP is the California Aqueduct, which runs southeast across the middleground of this KOP and is a major focal point of the view. A variety of cultural modifications (including industrial storage tank/structures, telephone/transmission lines along Tupman Road, and crop cultivation) are visible in foreground, middleground, and background views. The area is characterized by some color variation (mainly from the contrast between the monochromatic crop coloration and the natural desert vegetation), and has low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of farmlands. This landscape is mildly interesting within its setting, but fairly common within the region.

**FIGURE 5.11-12
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 4**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (5)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 4 (Figure 5.11-20; see also Figure 5.11-1 for KOP location) was taken from the westbound lane of Stockton Boulevard near the I-5 interchange and represents public views of the Project area, approximately 2.4 miles northeast of the Project Site. The relatively flat topography of the foreground and middleground gives way to more dramatic terrain in the background in this area, and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain across the view with rolling terrain in the background, adding somewhat to the panoramic visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. A variety of cultural modifications (including industrial storage structures and numerous telephone/transmission lines) are visible in foreground, middleground, and background views. The area is characterized by few color variations, with mostly natural sparse vegetation, and has low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of uncultivated, sparsely vegetated property, with the most prominent visible features being the numerous highly contrasting steel lattice transmission structures that cross the middleground of the view and create a skylining effect. This landscape is mildly interesting within its setting, but fairly common within the region, and the scenic attractiveness of the view has been highly compromised by visible manmade alterations.

**FIGURE 5.11-13
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 5**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (5)					

Scenic Quality Classifications:
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2)



Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 5 (Figure 5.11-22; see also Figure 5.11-1 for KOP location) was taken from the southbound lane of I-5 and represents the public view of the Project area, approximately 3.3 miles east of the Project Site. The relatively flat topography of the foreground and middle ground gives way to more dramatic terrain in the background in this area, and allows for very open, panoramic views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain across the view to rolling terrain in the distant background, adding somewhat to the visual appeal of the form and line characteristics of the area. There are no natural water features in the Project area. A variety of cultural modifications (including industrial storage structures and numerous telephone/transmission lines) are visible in foreground and middle ground views. The area is characterized by few color variations, with mostly natural sparse and striated vegetation, and low to moderate contrast of generally flat tones. Views from this KOP consist of large expanses of uncultivated, sparsely vegetated property, and the most prominent visible features are the numerous highly contrasting steel lattice transmission structures that cross the middle ground of the view and create a skylining effect. This landscape is mildly interesting within its setting, but fairly common within the region, and the scenic attractiveness of the view has been highly compromised by visible manmade alterations.

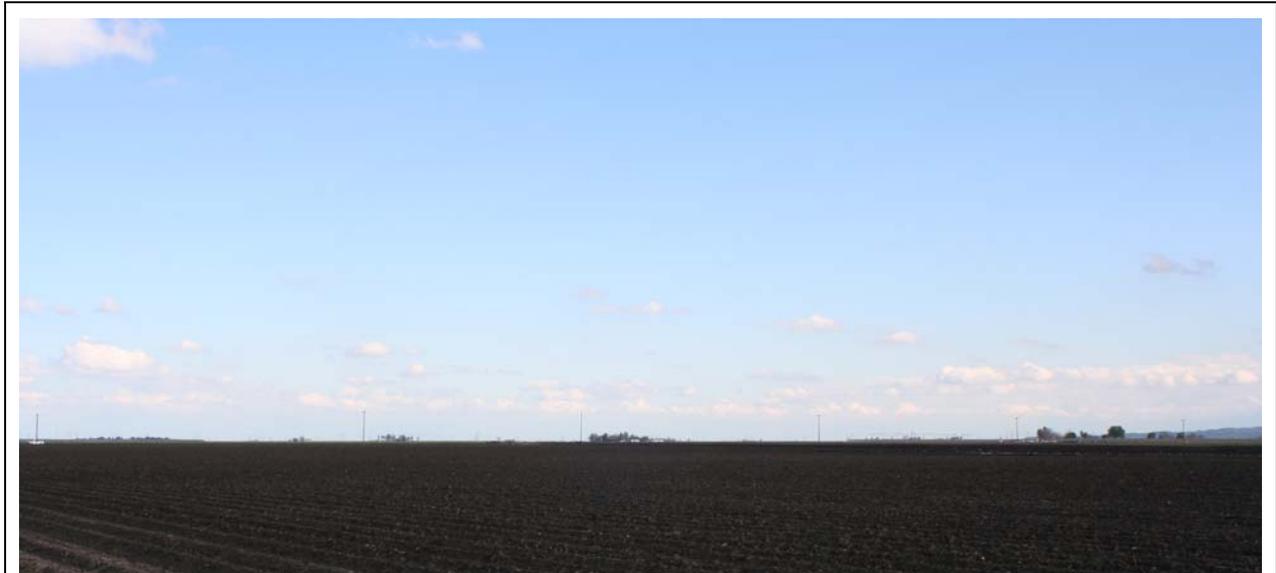
**FIGURE 5.11-14
SCENIC ATTRACTIVENESS EVALUATION FORM FOR
SENSITIVE VIEW AREA AND KOP NO. 6**

Landform	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Vegetation	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Water	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Color	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Adjacent Scenery	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Scarcity	H (5)	H/M (4)	M (3)	M/L (2)	L (1)
Modifications*	H (2)	H/M (1)	M (0)	M/L (-2)	L (-4)
Scenic Attractiveness: Class C (6)					

**Scenic Quality
Classifications:**
A = 19 or more
B = 12 to 18
C = 11 or less

Note: Evaluation score is **bold**; H = High; M = Moderate; and L = Low

* Explains cultural modifications present in the landscape, ranging from negative intrusions (-4) to those that complement the scenic quality and promote visual harmony (2).

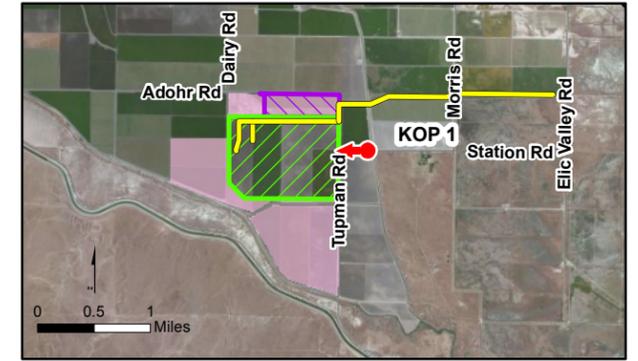


Narrative Landscape Description and Photograph: Sensitive Viewing Area and KOP No. 6 (Figure 5.11-14; see also Figure 5.11-1 for KOP location) was taken from the eastbound lane of Brite Road and represents a public view of the transmission line crossing, approximately 0.3 mile east of this KOP location. The relative flatness of the foreground and middleground in this area allows for more open, expansive views of the adjacent area. Topographic relief across the setting consists of a broad, horizontal composition varying from relatively flat terrain to distant rolling terrain, adding a bit to the panoramic visual appeal of the form and line characteristics of the area. There are no natural water features in the area adjacent to this KOP. The only water source within view from this KOP is an agricultural irrigation channel that runs south to southwest of the view, and is only visible from this KOP because of the earthen berms built along its edges. A variety of cultural modifications (including houses, industrial storage tanks/structures, telephone/transmission lines along Brite Road, and crop cultivation) are visible in foreground, middleground, and background views. The area is characterized by few color variations (mainly from the monochromatic crop coloration and bare cultivated lands not growing crops), and has low contrast from generally flat tones. Views from this KOP consist of large expanses of farmlands. This landscape is mildly interesting within its setting, but fairly common within the region.

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	12:14 PM
Date of photograph:	March 5, 2009
Distance to project:	.71 miles
Weather condition:	Partly Cloudy
Viewing direction:	West
Latitude:	35° 19' 58.83" N
Longitude:	119° 22' 20.44" W

**KOP 1: VIEW FROM STATION ROAD
EXISTING CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

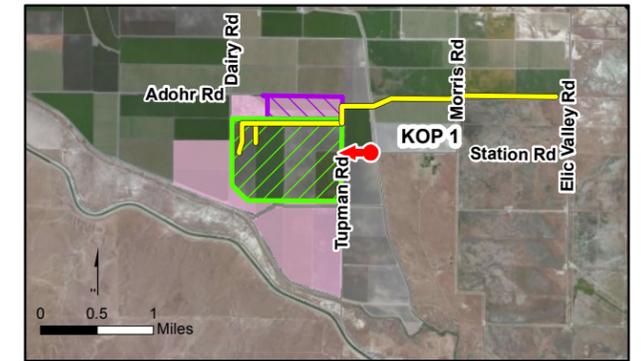


FIGURE 5.11-15

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-  Key Observation Point
-  Project Site
-  Construction Staging Area
-  Controlled Area
-  Transmission

Photograph Information

Time of photograph:	12:14 PM
Date of photograph:	March 5, 2009
Distance to project:	.71 miles
Weather condition:	Partly Cloudy
Viewing direction:	West
Latitude:	35° 19' 58.83" N
Longitude:	119° 22' 20.44" W

**KOP 1: VIEW FROM STATION ROAD
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



FIGURE 5.11-16

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-  Key Observation Point
-  Project Site
-  Construction Staging Area
-  Controlled Area
-  Transmission

Photograph Information

Time of photograph:	1:14 PM
Date of photograph:	March 5, 2009
Distance to project:	1.98 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	35°21'16.82"N
Longitude:	119°24'18.91"W

**KOP 2: VIEW FROM STOCKDALE HIGHWAY
EXISTING CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



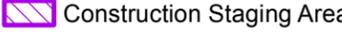
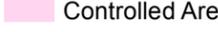
FIGURE 5.11-17

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	1:14 PM
Date of photograph:	March 5, 2009
Distance to project:	1.98 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	35°21'16.82"N
Longitude:	119°24'18.91"W

**KOP 2: VIEW FROM STOCKDALE HIGHWAY
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

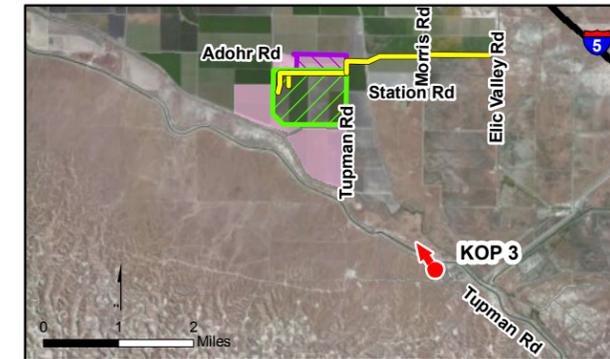


FIGURE 5.11-18

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-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	12:52 PM
Date of photograph:	March 5, 2009
Distance to project:	2.79 miles
Weather condition:	Partly Cloudy
Viewing direction:	Northwest
Latitude:	35°17'56.21"N
Longitude:	119°21'19.91"W

**KOP 3: VIEW FROM ELK HILLS
ELEMENTARY SCHOOL
EXISTING CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

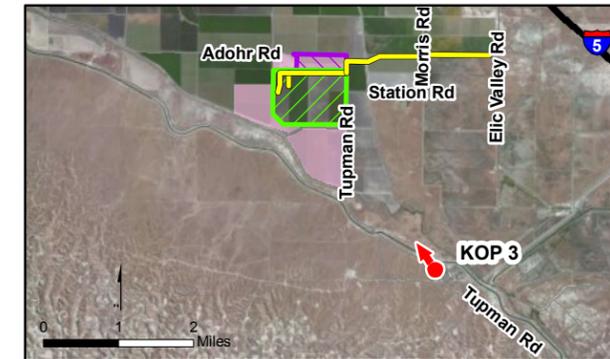


FIGURE 5.11-19

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-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	12:52 PM
Date of photograph:	March 5, 2009
Distance to project:	2.79 miles
Weather condition:	Partly Cloudy
Viewing direction:	Northwest
Latitude:	35°17'56.21"N
Longitude:	119°21'19.91"W

**KOP 3: VIEW FROM ELK HILLS
ELEMENTARY SCHOOL
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



FIGURE 5.11-20

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-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	3:09 PM
Date of photograph:	March 5, 2009
Distance to project:	3.03 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southwest
Latitude:	35°21'17.81"N
Longitude:	119°20'20.91"W

KOP 4: VIEW FROM STOCKDALE HIGHWAY AND I-5 EXISTING CONDITIONS

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



FIGURE 5.11-21

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-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	3:09 PM
Date of photograph:	March 5, 2009
Distance to project:	3.03 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southwest
Latitude:	35°21'17.81"N
Longitude:	119°20'20.91"W

**KOP 4: VIEW FROM STOCKDALE HIGHWAY AND I-5
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

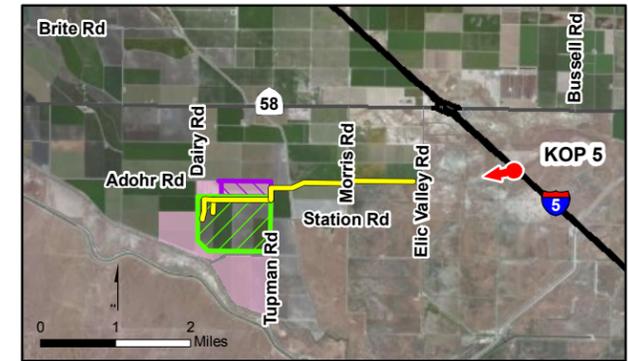


FIGURE 5.11-22

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	3:13 PM
Date of photograph:	March 5, 2009
Distance to project:	3.77 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southwest
Latitude:	35°20'34.70"N
Longitude:	119°19'10.12"W

**KOP 5: VIEW FROM SOUTHBOUND I-5
EXISTING CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



FIGURE 5.11-23

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Transmission
-  Project Site
-  Construction Staging Area
-  Controlled Area

Photograph Information

Time of photograph:	3:13 PM
Date of photograph:	March 5, 2009
Distance to project:	3.77 miles
Weather condition:	Partly Cloudy
Viewing direction:	Southwest
Latitude:	35°20'34.70"N
Longitude:	119°19'10.12"W

**KOP 5: VIEW FROM SOUTHBOUND I-5
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

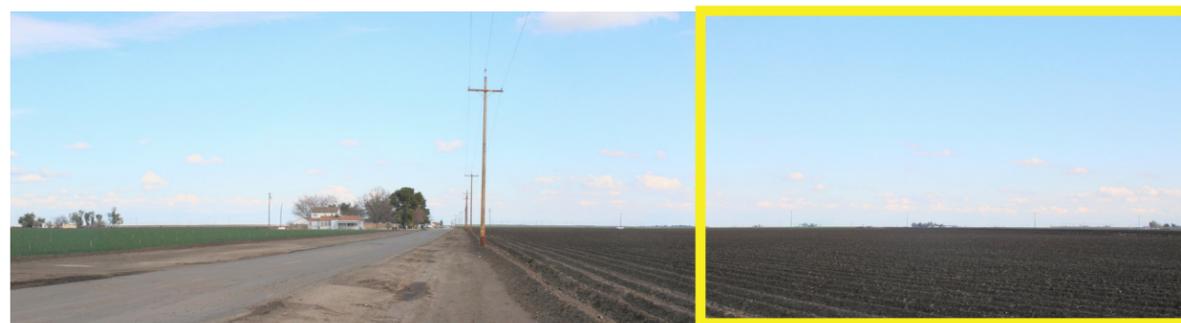


FIGURE 5.11-24

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Project Site
-  Construction Staging Area
-  Controlled Area
-  Transmission

Photograph Information

Time of photograph:	4:07 PM
Date of photograph:	March 5, 2009
Distance to project:	.31 mile
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	35°22'9.23"N
Longitude:	119°26'4.83"W

**KOP 6: VIEW FROM EASTBOUND BRITE ROAD
EXISTING CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California

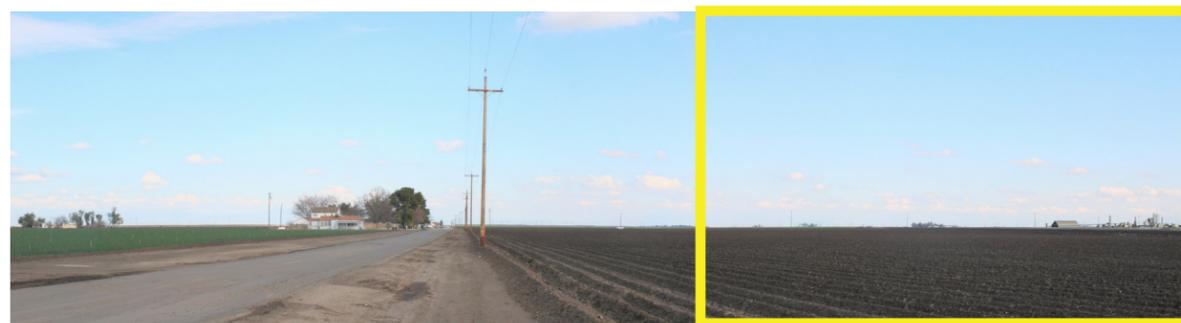


FIGURE 5.11-25

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Photograph is intended to be viewed 10 inches from viewer's eyes when printed on 11x17 paper. The photograph below has been cropped top and bottom to show a wide angle of view with the above photograph's area shown in yellow.



-  Key Observation Point
-  Project Site
-  Construction Staging Area
-  Controlled Area
-  Transmission

Photograph Information

Time of photograph:	4:07 PM
Date of photograph:	March 5, 2009
Distance to project:	.31 mile
Weather condition:	Partly Cloudy
Viewing direction:	Southeast
Latitude:	35°22'9.23"N
Longitude:	119°26'4.83"W

**KOP 6: VIEW FROM EASTBOUND BRITE ROAD
SIMULATED CONDITIONS**

April 2012 Hydrogen Energy California (HECA)
28067571 Kern County, California



FIGURE 5.11-26