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SECTION ACRONYMS/ABBREVIATIONS

ACRONYM/ ABBREVIATION	DEFINITION
CAISO	California Independent System Operator
CBO	Chief Building Officer
CEC	California Energy Commission
CEQA	California Environmental Quality Act
DPLU	San Diego County Department of Planning and Land Use
°F	Degrees Fahrenheit
KOPs	Key Observation Points
LORS	Laws, Ordinances, Regulations and Standards
Project	Orange Grove Project
SDG&E	San Diego Gas & Electric
SR	State Route

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6.13 VISUAL RESOURCES

This section describes visual resources in the Project area including natural and built features. In addition, this section presents an evaluation of the potential effects of the Project on scenic quality, and a discussion of the Project's relationship to federal, state, and local regulations and polices pertaining to the protection of visual quality.

6.13.1 Methodology

California Energy Commission (CEC) and San Diego County Department of Planning and Land Use (DPLU) staffs were consulted in the development of this visual resources analysis. CEC staff met with TRC at the Site in May 2007 to make observations in the viewshed that will be affected, and to identify potential sensitive viewers. Aerial photographs and topographic maps were reviewed, and information was gathered from various agency websites.

Appendix 6.13-A, Aesthetic Viewshed Study, contains a detailed analysis including systematic documentation of the regional and local landscape setting, visual character of the Project site, an evaluation of visual changes associated with the Project, and elements incorporated into the Project design to reduce visual impacts. A set of photographs showing representative public views of the Project area is included in the Aesthetic Viewshed Study.

6.13.2 Existing Visual Setting

The Project is located in unincorporated San Diego County, approximately 4 road miles east of Interstate 15 and 2 miles west of the community of Pala (Figure 2.2-2). The Site is situated approximately 5 miles west of the Cleveland National Forest, north of State Route (SR) 76 and the San Luis Rey River, east of Monserate Mountain and Rice Canyon, and approximately 5 miles south of Riverside County. The region is primarily rural, including agriculture, large plot residential, small communities, open space, and large-scale commercial/industrial facilities.

6.13.2.1 Landscape Character

The Project area's landscape character is defined by features occurring naturally in the landscape and features that have been introduced into the landscape. The naturally occurring landscape features in the Project area include the San Luis Rey River valley and the surrounding hills. In addition to these natural features are areas of extensive disturbance and development throughout the valley including agricultural, commercial, residential, and industrial areas. The surrounding hills, in contrast, have undergone less development that is primarily in the form of isolated residential development (single family residences), roads and electrical transmission lines along some of the ridgelines. Man-made features located throughout the landscape include roads, transmission and distribution line structures and farm structures.

Figures 6.13-1 to 6.13-9 present a series of photographs that show examples of the Project area's landscape character, both natural and man-made. These photographs were taken along SR 76 that follows along the valley floor.

6.13.3 Project Appearance

The Project site and Project facilities are described in detail in Section 2.0, Generation Facility Description, Design and Operation. Project linear facilities include an electric transmission interconnection (underground), electric transmission upgrades (subject to final engineering and design), and a gas pipeline (underground). The power plant will occur on an approximately 8.5 acre Site located within a 202-acre parcel owned by San Diego Gas and Electric (SDG&E). The power plant will be accessed by a driveway from Pala Del Norte Road. A second driveway from SR 76 will be provided for construction access, and for safety during operations. The power plant facilities will be enclosed within an 8-foot tall metal fabric security fence with barbed wire or razor wire on top. Within the fenceline, major equipment, including the turbines and compressor pumps, will be shielded from most views by sound walls. Landscaping is proposed for cut and fill slopes on the Site and the laydown areas and other areas disturbed for construction that are not needed for operations will be reseeded. In addition, offsite visual screening vegetation is proposed between the Site and SR 76 to reduce visibility of the plant from the segment of highway closest to the Site.

6.13.3.1 Power Plant

Drawing L100 in Appendix 2-A provides a landscaping plan. The dimensions of the major Project facilities are identified in Table 1 in Appendix 6.13-A, Aesthetic Viewshed Study. The most visually dominant of these facilities are the two stacks, each approximately 13 feet in diameter and approximately 80 feet in height. The stacks will be painted a color similar to the dominant color on the hillsides surrounding the Site. The dominant color on the surrounding hillsides is the taupe tone of the dried herbaceous vegetation. The sound walls that will be constructed around major equipment will also be painted the dominant taupe color and will be finished with a non-reflective finish to minimize potential glare. Furthermore, the sound walls will act as a screen for the major equipment. Photo simulations of the power plant, including the sound walls, are included in Appendix 6.13-A.

Visible steam plumes are not anticipated at the turbine stacks because the exhaust temperature is expected to be above 600 degrees Fahrenheit (°F) and there will be relatively low water content in the exhaust. The air inlet package cooling tower is also not expected to produce any visible water vapor plume. This cooling tower is used to pre-cool the inlet combustion air to the turbine during hot summer days to maintain turbine performance. The air is cooled with chilled water circulating in coils. The chilled water picks up the heat from the air and releases the heat in a cooling tower. The temperature is not expected to get very high for the cooling water (unlike heat rejection from a steam condenser) and the ambient temperature is likely to be greater than 60 °F when cooling may be required; therefore, a visible steam plume is not anticipated or expected to be significant in size.

The exterior lighting systems will consist of surface-mounted fixtures on various plant components, equipment, or modules and pole-mounted lighting as needed to facilitate maintenance, safe navigation within the plant, and Site security. Exterior lighting will use downward directed low-pressure sodium lamps in accordance with local standards.

The plant lighting system will consist of 240-volt, low-pressure sodium outdoor fixtures. Outdoor lighting fixtures will not be aimed directly at neighboring areas adjacent to the plant. Down-shields will be installed to limit the escape of light from the Site. Control of lighting for exterior areas will be by automatic cycling by photocells and/or timers, in accordance with local standards.

The following criteria will be utilized in the selection of illumination sources:

- For areas where there are no specific tasks to be performed, the lighting level will be 2 foot-candles.
- For areas where specific tasks will be performed, the lighting levels will be maintained at 5 foot-candles.
- For outdoor platforms and stairs, illumination levels of 10 foot-candles will be used.
- For roadway lighting illumination levels of 0.5 foot-candles will be used.
- For parking lot lighting, illumination levels of 1 foot-candles will be used.
- Explosion-proof fixtures will be used in any area classified as hazardous in compliance with Articles 500, 501 and 502 of the National Electrical Code.

Outdoor lighting will include the following:

- One fixture (2 foot-candles) located 1 foot above each of 6 exterior doors on the Service Building.
- Two fixtures (5 foot-candles) at each of 10 equipment skids with minimum headroom of 7.5 feet.
- Twelve fixtures (2 foot-candles) on each of 2 gas turbine housings.
- One fixture (0.5 foot-candle) at each roadway entrance on 20 foot high poles.
- One fixture (1.0 foot-candle) on the Service Building by the parking area.
- Three fixtures (10 foot-candles) on each of the above ground storage tank platforms and stairs.

A final lighting plan will be provided to the Chief Building Officer (CBO) prior to construction.

To minimize sources for potential glare at the Site, major structures will be finished with a non-reflective treatment.

6.13.3.2 Gas Pipeline and Electric Transmission Interconnection

The proposed natural gas pipeline and transmission line interconnection will be buried and the surface conditions restored. The transmission line interconnection will be buried in Pala Del Norte Road from the Site to the existing Pala substation. The natural gas pipeline will be buried in a common trench within Pala Del Norte Road from the Site to the existing Pala substation. From the southwest corner of the substation, the gas pipeline will be constructed south for approximately 0.4 air mile over mountainous terrain, primarily following existing unpaved roads.

Further south, the gas line will be constructed through former dairy farms, developed areas, and along SR 76, to an existing regional gas transmission line. Transmission system upgrades will also be required, including reconductoring, changing relay settings, and other work. Transmission system upgrades will be performed by SDG&E and are described in Section 3 and in the California Independent System Operator (CAISO) Facilities Study included as Appendix 3-B.

6.13.4 Effects of the Project and Significance Criteria

The determination of the significance of visual changes resulting from the Project is based on the Project's overall effect on visual resources. To evaluate the effects, representative key observation points (KOPs) were selected in consultation with CEC staff. To determine the significance of the anticipated visual changes, the Project's effects were evaluated according to the California Environmental Quality Act (CEQA) Guidelines. Appendix G of the CEQA Guidelines indicates that a project may have a significant effect on the environment if it will:

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

Because the Project would not be located within a state scenic right-of-way, no impact to scenic resources would occur through Project implementation.

In applying these criteria to determine significance, a variety of factors were considered, including:

- The extent of Project visibility from residential areas, public open space, or designated scenic routes;
- The degree to which the various Project elements will contrast with or be integrated into the existing landscape;
- The extent of change in the landscape's composition and character; and
- The number and sensitivity of viewers.

Conflict with local goals, policies or designations regarding visual resources may also constitute a significant effect.

6.13.4.1 Scenic Vista

The threshold of significance for a substantial adverse effect on a scenic vista is a physical change to the landscape that alters a recognized scenic vista or area of unique or outstanding visual character. The Site is situated on gently sloping terrain located at the base of a hill. The Project will not obstruct or substantially affect a scenic vista because the power plant will not substantially alter views of the hillsides and ridgelines that are currently viewed by the general public. The few single family residences that will be able to see the power plant currently have views of other man-made features and disturbed areas including the former gravel quarry, SDG&E substation and storage area, electrical transmission lines, and agricultural lands. Considering these factors, the Project will have a less than significant impact on scenic vistas.

6.13.4.2 State Scenic Highway Resources

There are no designated or eligible federal, state, or county scenic highways or roadways within the Project viewshed. Therefore, there is no impact.

6.13.4.3 Visual Character or Quality

The threshold for significance for substantially degrading the existing visual character or quality of the Site or its surroundings is a physical change to the landscape that adversely alters the existing visual character or quality of the Site and its surroundings. The Project involves the installation of a landscaped power plant adjacent to an existing electrical substation, at the site of a former citrus orchard that has not been maintained in at least 5 years and is no longer viable. To the extent the Project is visible; it will generally be seen against a hillside backdrop. The major Project components will be finished with a non-reflective earth-tone color designed to blend with the backdrop. The Project incorporates visual screening using native plant species, and because it will not be highly visible to the public, the Project will not substantially degrade the existing visual character or quality of the Project site and its surroundings. With the incorporation of design features related to landscaping, lighting, and equipment painting/surfacing, as described below, impacts will be less than significant.

6.13.4.3.1 Construction

During construction, materials, heavy equipment, trucks, and work crews will be visible at the Site and where linear facilities are being installed. At the Site, there will be grading and construction activities, portable office trailers, equipment laydown and workforce parking. These construction impacts will be short term and will be most noticeable to motorists traveling along SR 76. Visual effects to motorists as a result of construction will be less than significant because the impacts will be short-term and will only affect short segments of SR 76; and because the roadways along the routes for the linear facilities are not scenic routes.

Other than motorists on SR 76, few individuals will be able to see the construction activities. The topography effectively limits the viewshed. Construction of the power plant or linear facilities will be visible from a few rural homes but the views will be distant, and the construction impact

will be short term. Considering these factors, impacts of construction will be less than significant.

6.13.4.3.2 Operations and Maintenance

Power plant facilities will be visible from the few surrounding single family residences. Five single family residences have been identified that may be able to see power plant facilities. Three are located on the hillside approximately 0.3 to 0.6 mile northwest of the Site, and two are located across the valley approximately 0.6 mile southeast of the Site. The Project landscaping with native plants will reduce impacts to views over the long-term. Appendix 6.13-A includes a photo-simulation of the power plant from the residence that appears to have the most unobstructed view of Site facilities.

Under existing conditions, the views toward the Site from these residences include prominent man-made features including a large mining area, greenhouses and agricultural activity, an electric substation, and the storage facility and untended orchard currently on the Site. Furthermore, all or most of these residences will have some screening from vegetation or topography. Considering the current level of anthropogenic activity in the viewshed, the distal character of the views, Project landscaping and other measures included in the Project design, the impact on views from these single family residences will be less than significant (See Appendix 6.13-A).

The impact to motorists along SR 76 also will be less than significant, due in part to the short time that the motorists will be able to see the Site. It is expected that motorists may notice the power plant along an approximately 0.25-mile-long segment of SR 76. A photo-simulation of the power plant from SR 76 is provided in Appendix 6.13-A. SR 76 is not a scenic route. Existing conditions include a substation, agriculture, a former mining area, and other developments. Considering these factors, the impact of the power plant on visual effects to motorists will be less than significant.

Because of intervening landform, Project facilities will not be visible to recreational users in Agua Tibia Wilderness located in Cleveland National Forest, Wilderness Gardens Preserve, Mission San Antonio de Pala or the proposed San Luis Rey River regional park. Portions of these recreational areas are within 5 miles of the Site. There are no established regional trails within 5 miles of the Site.

6.13.4.4 Light or Glare

There are no plans for construction activities at night. Thus, no construction areas will be lit at night until major equipment is installed starting about 3 months after mobilization. As major equipment is installed, the fixtures with illumination levels of 2 foot-candles and less will be lit for security and safety reasons. Fixtures with illumination levels of 5 foot-candles and higher will only be lit in case of unscheduled repair work during the last 6 weeks of the Project while commissioning and startup activities are underway.

Project operations will not create a new source of substantial light that could adversely affect nighttime views in the area because Project lighting will be directed downward and will utilize non-glare bulbs. Furthermore, visual screening vegetation, once established, will screen facility lighting from SR 76. Lighting contactors and photocells will be used to control exterior lighting. The Project will comply with the County night lighting ordinance requirements for “Zone A” areas. A copy of the ordinance is provided in Appendix 6.4-C and identifies performance criteria that will be followed. New structures will be treated with a non-reflective finish; consequently, the Project will not create a new source of substantial glare.

6.13.5 Laws, Ordinances, Regulations and Standards

Laws, ordinances, regulations and standards (LORS) relevant to visual resources are addressed in Section 6.9, Land Use, and are detailed in Tables 6.9-3 and 6.9-6. In addition, the Project will comply with the County night lighting ordinance requirements for “Zone A” areas. If not for the exclusive authority of the CEC to license power plant sites and related facilities, then the Project would be required to submit detailed plans for lighting to the County to document compliance with this ordinance. The Applicant will provide detailed lighting plans to the CBO to assure conformance with the County night lighting ordinance.

There are no permits required for the Project related to visual resources. Agency contact information for the County land use and night lighting ordinances is as follows:

Table 6.13-1 –Agency Contacts for Visual Resources

AGENCY	AUTHORITY
County of San Diego Department of Planning and Land Use 5201 Ruffin Road, Suite B San Diego, CA 92123 J. Ramaiya (858) 694-2960	Compliance with County ordinances.

6.13.6 Cumulative Impacts

As described in Section 6.9, Land Use, the dominant land use designations in the Project vicinity are agriculture and open space. Existing industrial/utility uses within 1.0 mile of the Project site include a former aggregate quarry to the south and the existing Pala Substation. Several single family homes are scattered in the vicinity. All of these features and other infrastructure are part of the existing visual experience in the vicinity.

Section 6.1.2 identifies other potential actions being considered in the area that may have potential for cumulative impacts to visual resources. The Site is surrounded by topography that blocks views except from the proximal area. Of the projects identified in Section 6.1.2 and shown in Figure 6.1-1, projects with potential for cumulative impacts to visual resources are the Warner Ranch project and the Gregory Canyon landfill project. These projects, if constructed, will have cumulative impacts with the Orange Grove Project to the extent that more than one of these projects is within the field of view for any receptor. There are few sensitive receptors (e.g.,

residences) in the area that would see views of more than one of these projects. Furthermore, the cumulative impact for travelers on SR 76 would be slight because there would only be short opportunities at the speed of travel to see more than one of these projects at any time. Furthermore, the Orange Grove Project will occur in disturbed landscape consisting of developed area, non-native grass and orchards, and the Project will include planting of native trees, shrubs and grasses in areas that are disturbed during construction but not needed for operations. Native vegetation proposed for visual screening, over time, will substantially shield views of the Site from SR 76. Considering these factors, the cumulative impact on visual resources will be less than significant.

6.13.7 Mitigation Measures

The Project incorporates design features, including use of native plants for visual screening around the Site and painting of major equipment and facilities to blend in with the adjacent hillsides. Additionally, night lighting will be used for safety and security purposes and will be directed downward. The Project will comply with the County night lighting ordinance requirements for “Zone A” areas. With implementation of these measures, this analysis has documented that no significant visual impacts will occur as a result of the Project. Therefore no additional mitigation measures are proposed.

6.13.8 References

References are included in Appendix 6.13-A, Aesthetic Viewshed Study.

Figure 6.13-1 – View of San Luis Rey River Valley



(North facing hills in the background. The Site is in the foreground).



Project: **Orange Grove Project**

Figure 6.13-2 – View of eastern exposure hills in the Project area.



(The Site is to the right of the dark-colored fence enclosure, i.e., SDG&E storage area)



Project: **Orange Grove Project**

Figure 6.13-3 – View of utility lines along SR 76 and Pala Substation



(Substation wall is southwest of Site).



Project: **Orange Grove Project**

Figure 6.13-4 – View of Pala Casino Spa Resort



(Approximately 1.5 miles east of Site off SR 76).



Project: **Orange Grove Project**

Figure 6.13-5 – View of Lands Under Agricultural Production



(A fruit stand off SR 76 near Coulter Canyon Road approximately 1.5 miles west of Site).



Project: **Orange Grove Project**

Figure 6.13-6 – View of former dairy farm off SR 76



(Approximately 1 mile southwest of Site).



Project: **Orange Grove Project**

Figure 6.13-7 – View of pastoral lands along SR 76



(Near SR 76 crossing of Gomez Creek approximately 0.7 mile east of Site).



Project: **Orange Grove Project**

Figure 6.13-8 – View of Zalinda Farms Nursery



(Approximately 0.3 mile east of Site off SR 76).



Project: **Orange Grove Project**

Figure 6.13-9 – View of abandoned residential building on SR 76



(Approximately 1.2 miles southwest of Site).



Project: **Orange Grove Project**