10. Alternative 6 (Maximum Helicopter Construction in the ANF): Impacts and Mitigation Measures

The following section describes visual resource impacts of Alternative 6 (Maximum Helicopter Construction in the ANF Alternative) as determined by the significance criteria listed in Section 4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels, as possible. Alternative 6 would be identical to the proposed Project (Alternative 2) with respect to Segments 4, 5, 7, 8, 9, and 10 as discussed in Section 2.2 (Alternative 2: SCE's Proposed Project); only Segments 6 and 11 would change in the Center Area under Alternative 6. Because Alternative 6 affects only the Center Area, all 20 Center Area KOPs were re-analyzed and 20 new simulations were prepared to show differences between Alternatives 2 and 6.

Structure Colors Used In Visual Simulations for Alternative 6

The Alternative 2 simulations show SCE's standard finish on LSTs: dulled galvanized steel, which has a light-gray appearance. Simulations of Alternative 6 show the implementation of surface treatment mitigation measures in the Center Area, and LSTs vary in color from light to medium to dark, per the recommendations of the Senior Visual Analyst and the Forest Landscape Architect.

10.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to visual resources are introduced in Section 4.1 (Criteria for Determining Impact Significance). Impacts associated with Alternative 6 are presented below under the applicable significance criterion.

Have a substantial adverse effect on the existing landscape character and visual quality of the site and its surroundings (Criterion VIS1)

Impacts associated with Criterion VIS1 for Alternative 6 would be exactly the same as the impacts associated with the proposed Project in the North and South Areas. This alternative would increase usage of helicopter construction techniques in the Angeles National Forest and would eliminate construction of spur roads to each (but not every) new 500-kV LST inside the boundary of the Forest. In the Center Area, because access and spur roads would not be built or re-constructed to each new 500-kV structure, the visual effects would be different, as displayed in simulations for KOPs Center-1 through Center-20. The use of helicopter construction would minimize land disturbances caused by re-opening and/or improving existing spur roads to each existing tower. Some of the existing spur roads have not been maintained for decades. However, according to SCE engineers, some of the access roads along Segments 6 and 11 would have to be widened to accommodate large equipment for pulling, splicing, and tensioning.

Helicopter staging areas would be constructed in various areas along and near Segments 6 and 11 in and near the ANF (some staging areas would be on private lands, others on NFS lands). Access roads along both segments would need to be improved in some areas in order to allow large equipment for splicing and pulling of conductors; however, road improvements would be less than for Alternatives 2, 3, 4, 5, or 7 because new 500-kV LSTs would be constructed at the staging areas and air-lifted in, rather than being transported by on-the-ground equipment. This means that existing access and spur roads could remain in current conditions or would need only slight widening and/or improvement.

Under Alternative 6 for Segment 6, from approximately S6 MP 3.0 to MP 4.7, SCE would not use existing access roads south of Kentucky Springs Canyon for construction, but instead would use helicopters. For Segment 6, SCE would not use Road 3N23 from Monte Cristo Campground to either Road 4N18.1 or 4N18.2 at approximately S6 MP 10.6.

Under Alternative 6, SCE would not use the Lynx Gulch Road (FS Road 4N18.2) from Upper Big Tujunga Canyon Road, northward for approximately 1.25 miles to approximately S6 MP 12.1 because of sensitive species habitat. This is different than Alternative 2, where the entire Lynx Gulch Road (FS Road 4N18.2) would be used for construction. Likewise, unlike under Alternative 2, FS Road 3N20 which parallels Big Tujunga Canyon Road would not be used under Alternative 6 from approximately S6 MP 13.6 to 16.4. Under Alternative 6, for Segment 6, SCE would not use FS Road 2N23 along the border of the San Gabriel Wilderness from approximately S6 MP 18.3 to 19.7, nor use the West Fork National Scenic Bikeway or FS Road 2N25.2 to access Segment 6 from the San Gabriel Canyon Road (State Highway 39). By not using the Scenic Bikeway or FS Road 2N25.2 for construction of Segment 6, the visual environment of the West Fork San Gabriel River would be maintained in its current condition for public use and enjoyment of scenic resources.

For Segment 11 under Alternative 6, SCE would not use FS Road 4N24 south of Aliso Canyon to construct Segment 11 from approximately S11 MP 4.0 to 6.1, but instead would use helicopter construction. Under Alternative 6, SCE would not reconstruct a washed-out bridge over Fall Creek and would not re-open the southern end of FS Road 3N27 to Segment 11 at approximately S11 MP 12.0 to 13.5. Rather, all road access would come in from the north along Mount Gleason Road and follow south on FS Road 3N27.

Under Alternative 6, SCE would use the existing Mount Gleason Road, west from Mill Creek Summit to access Segment 11 in the vicinity of Camp 16, and SCE would be required to maintain that pavement in good condition. From Camp 16 west to helicopter staging area #4, SCE would use the existing paved roadway but the FS would not require SCE to repair any damage to the pavement, thereby changing the existing visual environment to a more rugged, rustic driving experience suitable for OHVs and/or high clearance vehicles, which is desirable to meet FS road maintenance objectives.

Alternative 6 would be identical to the proposed Project (Alternative 2) in the North area and South area (i.e. outside the ANF) and visual impacts in those areas would be identical to Alternative 2.

Following are descriptions of KOPs relevant to Segment 6 of Alternative 6. First, analysis of individual KOPs along Segment 6 are presented from north-to-south, followed by analysis of individual KOPs along Segment 11, also presented from north-to-south.

KOP-Center-1 – Southbound Angeles Forest Highway (Alternative 6, Segment 6)

KOP-Center-1 (see Figures A-16a&b) was established by the consultant and FS visual analysts and is located on NFS lands along the Angeles Forest Highway, looking south, near the intersection of Mount Emma Road and the Angeles Forest Highway. Under Alternative 6, the Project would replace two existing transmission lines with new, taller 500-kV LSTs in this location but would not widen existing access roads; instead helicopters would be used for movement of structural materials and construction of the transmission lines.

Future Scenic Integrity: High, with Areas of Low. Removal of vegetation on this flat landscape would be noticeable to travelers on the Angeles Forest Highway and Mount Emma Road, but landform modification would be minimal. This simulation depicts landscape conditions upon completion of

construction and before revegetation becomes visually evident. Because existing access and spur roads would not be utilized in this area by Alternative 6, visual contrasts associated with road widening and improvements (curve widening, etc) would not occur. Replacement of two existing 220-kV lines with two new 500-kV lines would create new skyline interference but little new contrast because of the amount of existing visual clutter in the existing transmission line ROW. The two new transmission lines are shown with recommended colors and would add to the visual clutter, and because new LSTs would be taller and wider, would increase contrast, structural dominance, and view blockage of the skyline. The future scenic integrity would be low for the helicopter staging area and the two new T/Ls.

KOP-Center-2 – Northbound Angeles Forest Highway (Alternative 6, Segment 6)

KOP-Center-2 (see Appendix A, Figure A-65a&b) was established by the consultant and FS visual analysts on the northbound side of the Angeles Forest Highway that leads towards Lancaster. It is located approximately one-mile north of Mill Creek Summit, headed northbound toward Lancaster and Palmdale. At this location, Alternative 6 would replace an existing 220-kV single circuit transmission line with a new, taller 500-kV single circuit transmission line on LSTs that would be treated with a special galvanizing process to darken the structures' colors.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace existing 220-kV LSTs with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall and have 96-foot-wide arms holding up the conductors. In this area, Segment 6 transmission lines, access roads, and spur roads would be seen as foreground and immediate foreground from Mill Creek Summit for several miles to the north, and would achieve unacceptably low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads leading to each new structure are screened by topography, and therefore, are not visible in this simulation. Except for the dark galvanizing treatment on the LSTs, Alternatives 2 and 6 are identical in this vicinity.

KOP-Center-3 – Mount Gleason Road (Alternative 6, Segment 6)

KOP-Center-3 (see Series Volume, Figure A-66a&b) was established by the consultant and FS visual analysts on Mount Gleason Road, about 3 miles west of Mill Creek Summit, looking southeast, down to Segment 6. The existing utility corridor that encompasses Segment 6 is very visible against the dark green, uniform textured, chaparral-covered mountainsides in the Angeles High Country. Existing 220-kV and 500-kV LSTs have a landform backdrop and are barely visible in Figure A-18a, but by connecting the lines created by sunlight reflecting off existing conductors, it is possible to distinguish and locate the transmission line structures. Under Alternative 6, the Project would replace an existing 220-kV single circuit transmission line with a new, taller 500-kV single circuit transmission line on LSTs, and many structures would be constructed by helicopter. A large helicopter staging area for Alternative 6 would be visible from KOP-Center-3.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace existing 220-kV LSTs with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms and would have medium or dark galvanizing treatments. In this area, Segment 6 transmission lines, access roads, and a large helicopter staging area would be seen in the middleground. These activities would achieve unacceptably low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Several short spur roads that would be built in Alternative 2 would not be built

under Alternative 6. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008. The clearing in the center of the photograph is the proposed helicopter fly yard #5. This simulation depicts landscape conditions upon completion of construction and before revegetation becomes visually evident from these distances.

KOP-Center-4 – Southbound Angeles Forest Highway (Alternative 6, Segment 6)

KOP-Center-4 (see Appendix A, Figure A-67a&b) was established by the consultant and FS visual analysts on the Angeles Forest Highway, going southbound away from Mill Creek Summit, looking downhill and to the south-southwest. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms and would have medium or dark galvanizing treatments. In this area, Segment 6 transmission lines, access roads, and spur roads would be seen in the foreground and middleground, and would achieve unacceptably low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-5 – Northbound Angeles Forest Highway (Alternative 6, Segment 6)

KOP-Center-5 (refer to Appendix A, Figure A-68a&b) was established by the consultant and FS visual analysts on the Angeles Forest Highway approximately 2-air-miles south of Mill Creek Summit, traveling northbound toward the Summit and looking uphill to the northeast. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Very Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with medium or dark color treatment. In this area, Segment 6 transmission lines, taller LSTs, re-opened access/spur roads would be seen in the foreground and middleground, and would achieve very low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-6 – Upper Big Tujunga Canyon Road - Southbound (Alternative 6, Segment 6)

KOP-Center-6 (see Appendix A, Figure A-69a&b) was established by the consultant and FS visual analysts on Upper Big Tujunga Canyon Road between Lynx Gulch and Alder Gulch, approximately one mile northwest of KOP-Center-7 and approximately two-air-miles north of the Angeles Crest Scenic Byway. Existing transmission lines where Segment 6 would be located are approximately 0.5 miles away from KOP-Center-6. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs that are dark in color. Existing access and spur roads

would not be widened or re-opened; instead helicopters would be used for construction of certain LSTs. A large helicopter staging would be constructed in this area to accommodate helicopter construction.

Future Scenic Integrity: High, with Areas of Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would construct a large helicopter staging area on a flat area near the Upper Big Tujunga Canyon Road, separated by a steep hillside that has an existing fuelbreak on top. In this area of Segment 6, the Alternative 6 transmission line would be constructed by helicopters, and existing access roads and spur roads would not be re-opened. Other than the transmission line corridor, the landscape has predominantly natural-appearing existing landscape character and achieves High SIO. This simulation depicts landscape conditions upon completion of construction and before revegetation becomes visually evident from the distances seen in the simulation. Because LSTs would be dark colored, the new transmission line would achieve low scenic integrity (instead of unacceptably low as would occur under Alternative 2).

KOP-Center-7 – Upper Big Tujunga Canyon Road - Northbound (Alternative 6, Segment 6)

KOP-Center-7 (see Appendix A, Figure A-70a&b) was established by the consultant and FS visual analysts on the northbound side of Upper Big Tujunga Canyon Road approximately one-air-mile north of the Angeles Crest Scenic Byway, looking north. From this view, new, taller Segment 6 LSTs and conductors would be very visible in the foreground. Segment 6 would be visible in the immediate foreground of the Upper Big Tujunga Canyon Road for approximately three miles past the intersection of the Angeles Crest Scenic Byway. Existing access and spur roads would not be widened or re-opened; instead helicopters would be used for construction of certain LSTs in this vicinity.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with medium or dark color treatment. In this area, the taller LSTs and conductors for Segment 6 would be seen in the foreground of this road for approximately 2 miles, and would achieve unacceptably low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. The uppermost existing access and spur roads in this scene would not be re-opened and some structures would be constructed by helicopters, based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-8 – Vetter Mountain Lookout (Alternative 6, Segment 6)

KOP-Center-8 (see Appendix A, Figure A-71a&b) was established by the consultant and FS visual analysts at Vetter Mountain Lookout looking southwest toward the Mount Wilson electronic site on the skyline. Alternative 6 would replace an existing 220-kV single circuit transmission line with a new, taller 500-kV single circuit transmission line. New Segment 6 LSTs and conductors would be very visible as they would cross over the Angeles Crest Scenic Byway and two middleground ridges. The helicopter staging area proposed in this vicinity by SCE for Alternative 2, is not a part of Alternative 6.

Future Scenic Integrity: High, with Areas of Moderate. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with medium or dark colors. In this area, Segment 6 transmission lines,

taller LSTs, and re-opened access/spur roads would be seen in the middleground from Vetter Mountain, and would achieve moderate scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008. Under Alternative 6, no Fly Yards would be visible from Vetter Mountain Lookout.

KOP-Center-9 – Angeles Crest Scenic Byway (Westbound) & Rincon-Shortcut Trailhead (Alternative 6, Segment 6)

KOP-Center-9 (see Appendix A, Figure A-72a&b) was established by the consultant and FS visual analysts on the Angeles Crest Scenic Byway just east of the Shortcut Saddle Area, looking west at the Rincon-Shortcut OHV Trailhead. Existing LSTs and conductors are very visible in this view as they cross over the highway and trail. The Rincon-Shortcut OHV Trail follows the corridor of Segment 6 for approximately seven-air-miles; and new taller LSTs, new conductors, and re-opened spur roads of the proposed Project would be very visible from this OHV Trail.

Future Scenic Integrity: High, with Areas of Very Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms. In this area, the new Segment 6 LST would be taller than the one it is replacing, and therefore must have orange/black aviation markers. It would be seen in the foreground of the Angeles Crest Scenic Byway and would achieve very low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads and pulling/splicing areas are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-10 – Angeles Crest Scenic Byway (Eastbound) (Alternative 6, Segment 6)

KOP-Center-10 (see Appendix A, Figure A-73a&b) was established by the consultant and FS visual analysts on the Angeles Crest Scenic Byway approximately 1.5 miles west of the Shortcut Saddle Area, at the southern crest of the San Gabriel Mountains. This location was selected to represent middleground views of the new, taller Segment 6 transmission line as seen by people driving up the highway. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Very Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with medium or dark colors. In this area, the new Segment 6 LSTs would be taller and wider than the existing LSTs. New LSTs would be constructed by helicopter in the middleground of this view. Segment 6 would achieve very low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008, and the same amount of road reconstruction would occur in both Alternatives 2 and 6 as seen from KOP-Center-10.

KOP-Center-11 – Silver Moccasin Trailhead (Alternative 6, Segment 6)

KOP-Center-11 (see Appendix A, Figure A-74a&b) was established by the consultant and FS visual analysts on the Angeles Crest Scenic Byway at the Shortcut Saddle Area, looking southwest from the Silver Moccasin Trailhead. The proposed Project in Segment 6 would be very visible from this popular, high elevation recreation area. Existing LSTs and conductors are very visible as they cross over the saddle and proceed south along the southwestern border of the San Gabriel Mountain Wilderness, which is situated to the left of the structures. New, taller structures would be more visible than existing, shorter, weathered structures.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace the middle of three existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with medium or dark colors. In this area, the new Segment 6 LST would be taller and wider than the existing LST in this view. It would be seen in the foreground of the Angeles Crest Scenic Byway and Silver Moccasin Trailhead and Trail. Segment 6 would achieve unacceptably low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-12 – Cogswell Reservoir & National Scenic Bikeway (Alternative 6, Segment 6)

KOP-Center-12 (see Appendix A, Figure A-75a&b) was established by the consultant and FS visual analysts on Cogswell Reservoir Dam, looking west. KOP-Center-12 is located at the west end of the West Fork San Gabriel River National Scenic Bikeway, and just south of the San Gabriel Wilderness. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Low. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace existing 220-kV LSTs with new 500-kV LSTs in most of the same footprint areas. New LSTs would be 85-to-220-feet tall with 96-foot-wide arms. In this area, the new Segment 6 LSTs would be taller and wider than the existing 220-kV LSTs and would protrude above the skyline. The West Fork National Scenic Bikeway and existing FS Road 2N25.2 would not be used for access to Segment 6. Segment 6 would achieve moderate scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-13 –Mount Zion (Alternative 6, Segment 6)

KOP-Center-13 (see Appendix A, Figure A-76a&b) was established by the consultant and FS visual analysts on Mount Zion looking northeast. Mount Zion is a mountain peak just north of Chantry Flat Picnic Area and Trailhead, which is a popular recreation destination featuring American Disability Act (ADA) accessible facilities at the picnic area and a trail-riding concessionaire under special use permit from the Forest Service. From this vantage point, the tops of 10 existing lattice steel structures are visible to the naked eye; five are very evident on the skyline near the right-center of this view, and others just barely are visible on the skyline to the left of the saddle. Under Alternative 6, the Project would replace one existing 220-kV transmission line with new, taller 500-kV LSTs in this location

and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Moderate. The Maximum Helicopter Alternative (Alternative 6, Segment 6) would replace existing 220-kV LSTs with new 500-kV LSTs in most of the same footprint areas. New LSTs would be 85-to-220-feet tall with 96-foot-wide arms. In this area, the new Segment 6 LSTs would be taller and wider than the existing 220-kV LSTs and would protrude slightly above the skyline. Segment 6 would achieve moderate scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads are simulated based on Road Permit Plans provided by SCE in August 2008.

Following is a north-to-south analysis of individual KOPs for Segment 11 of Alternative 6.

KOP-Center-14 – Pacific Crest Trail (Alternative 6, Segment 11)

KOP-Center-14 (see Appendix A, Figure A-77a&b) was established by the consultant and FS visual analysts on the Pacific Crest Trail (PCT), just north of the Mount Gleason Road and just west of Big Buck Campground, looking north toward two existing parallel transmission lines: a set of 220-kV towers and conductors on the left and a set of 500-kV towers and conductors on the right. Under Alternative 6, the Project would replace one existing weathered 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Low. The Maximum Helicopter Alternative (Alternative 6, Segment 11) would replace existing 220-kV LSTs with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some of which would have medium or dark color treatments, which makes them less prominent against the background vegetation. In this area, Segment 11 transmission lines, a widened existing access road on the right side of this view, and structure clearings would be seen in the foreground and middleground, and would achieve low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access roads are simulated based on Road Permit Plans provided by SCE in August 2008.

KOP-Center-15 – Mount Gleason Road (Eastbound) (Alternative 6, Segment 11)

KOP-Center-15 (see Appendix A, Figure A-78a&b) was established by the consultant and FS visual analysts on the Mount Gleason Road, approximately 0.3-miles east of Camp 16, looking northeast toward the ridgetop and an existing pull-out on the north side of the road. The Segment 11 transmission line would not traverse this landscape, but would be located approximately 0.3-miles west of this location. However, this KOP is relevant because in this vicinity SCE proposes to construct a helicopter staging area (SCE #1) for the proposed Project (Alternative 2), and conversely, for Alternative 6, nothing would change in this landscape.

Future Scenic Integrity: High, with Areas of Borderline Moderate to Low. Alternative 6 – the Maximum Helicopter Alternative – would not use this area to construct a large helicopter staging area. Therefore, there would be no change from existing conditions to future conditions at this site, and existing scenic integrity would continue into the future.

KOP-Center-16 – Angeles Forest Highway (Southbound) (Alternative 6, Segment 11)

KOP-Center-16 (see Appendix A, Figures A-79a&b) was established by the consultant and FS visual analysts on the Angeles Forest Highway, approximately 0.25-miles north of the intersection of the Highway and the Lower Big Tujunga Canyon road, looking west toward the skyline and an existing access road that leads to an existing underground water tank used for fire-fighting. The proposed route for Segment 11 would not traverse this landscape, but instead would be located approximately 0.5-miles west of this location. However, this KOP was chosen because at this location a helicopter staging area is proposed for Alternative 6 (Maximum Helicopter Alternative). As noted previously, this site would not be used for the proposed Project (Alternative 2).

Future Scenic Integrity: High, with Areas of Very Low. The Maximum Helicopter Alternative (Alternative 6, Segment 11) would construct a large helicopter staging area on a flat area where there is a subterranean water tank, alongside the Angeles Forest Highway just north of the Lower Big Tujunga Canyon Road. The center portion of Segment 11 in the ANF would be accessible by construction helicopters from this staging area (Site # 10). The removal of large trees and minor temporary landform modifications would be noticeable to travelers on the Angeles Forest Highway and would achieve very low scenic integrity. This simulation depicts landscape conditions upon completion of construction and before revegetation becomes visually evident.

KOP-Center-17 – Angeles Forest Highway (Northbound) (Alternative 6, Segment 11)

KOP-Center-17 (see Appendix A, Figure A-80a&b) was established by the consultant and FS visual analysts on the Angeles Forest Highway approximately three miles north of its intersection with the Angeles Crest Scenic Byway. This location was selected to represent middleground and background views of the Segment 11 transmission corridor as seen by people driving north and down into the Big Tujunga Canyon on their way to Palmdale, Lancaster, or the Antelope Valley. Under Alternative 6, the Project would replace one existing weathered 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen some of the existing access roads in the background but not in the middleground. Alternative 6 would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs in this vicinity.

Future Scenic Integrity: High, with Areas of Low. The Maximum Helicopter Alternative (Alternative 6, Segment 11) would replace the western line (left) of two existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms. In this area, the new Segment 11 LSTs would be taller and wider than the existing LSTs in this view. New LSTs would be visible in the middleground and background of this view. Re-opened and widened access roads would be visible in the background of this view, but the existing access road closer to the viewer would not be re-opened. New structures would be treated with dark galvanizing to blend with the landform backdrop, and this would raise the scenic integrity to low (instead of very low as would be the case under Alternative 2). Segment 11 would achieve low scenic integrity in an otherwise predominantly natural-appearing existing landscape character.

KOP-Center-18 – Clear Creek Outdoor Education Camp (Segment 11)

KOP-Center-18 (see Appendix A, Figure A-81a&b) was established by the consultant and FS visual analysts on a nature trail just west of the Clear Creek Outdoor Education Camp. This camp is operated by the Los Angeles Unified School District, under special use permit from the Forest Service. This location was selected to represent foreground, middleground, and background views of

the Segment 11 transmission corridor as seen by students hiking on the nature trail down into Clear Creek, a tributary of Big Tujunga Creek. This view, looking northwest, is typical of the view for approximately ¼-mile along this trail before it crosses under the existing transmission lines. Under Alternative 6, the Project would replace one existing weathered 220-kV transmission line with new, taller 500-kV LSTs in this location and would widen existing access roads, but would not construct a spur road to every LST; instead helicopters would be used for construction of certain LSTs.

Future Scenic Integrity: High, with Areas of Low. The Maximum Helicopter Alternative (Alternative 6, Segment 11) would replace the western line (left) of two existing transmission lines with new 500-kV LSTs in most of the same footprint areas. New 500-kV LSTs would be 85-to-220-feet tall with 96-foot-wide arms, some with dark color treatment. In this area, the new Segment 11 LSTs would be taller and wider than the existing LSTs in this view. New LSTs would be extend above the skyline and become visible in this view. Because of the increased height and new materials, Segment 11 would achieve low scenic integrity in an otherwise predominantly natural-appearing existing landscape character. Access and spur roads would not be visible from this vantage point, although a hiking trail is visible, leading to the new LST in the center of this view.

KOP-Center-19 – Gould Substation from Angeles Crest Scenic Byway (Segment 11)

KOP-Center-19 (see Appendix A, Figure A-82a&b) was established by the consultant and FS visual analysts and is located adjacent to the Angeles Crest Scenic Byway in a paved pullout and overlook, approximately 0.5 mile north of the Gould Substation, looking south toward downtown Los Angeles. This location was selected to represent middleground views of the Segment 11 transmission corridor and the existing Gould Substation, as seen by people driving downhill on the highway or stopped at this developed pullout. Under Alternative 6, the Project would replace existing shorter, weathered 220-kV LSTs with new, taller 500-kV single circuit LSTs.

Future Scenic Integrity: High, with Areas of Unacceptably Low. The Maximum Helicopter Alternative (Alternative 6, Segment 11) would construct a new 500-kV transmission line around the north and east side of Gould Substation. The only visible change in this simulation, provided by SCE, is one 500-kV LST that would be constructed and it is located on non-NFS lands near the substation and just south of the Forest boundary. Other structures, out of this view to the right and behind the camera, would be on NFS lands, and would create adverse visual impacts in the foreground and middleground (not shown). Access and spur road improvements were not shown in this SCE-prepared simulation.

KOP-Center-20 – Forest Road to Millard Campground (Segment 11)

KOP-Center-20 (see Appendix A, Figures A-83a&b) was established by the consultant and FS visual analysts on the Chaney Trail, leading to the Millard Campground just north of the City of Altadena, looking west. This location is approximately 0.5 miles north of and inside the ANF boundary. This location was selected to represent immediate foreground views of the Segment 11 transmission corridor along this recreation road and trail. Two existing double-circuit 220-kV transmission structures are evident from this vantage point in the landscape; the LST on the left has an unused position on the right side of the tower where no insulators or conductors are currently hung. In this portion of Segment 11 from the Gould Substation to the Mesa Substation, new insulators would be hung on the vacant positions of these existing 220-kV double-circuit towers and new conductors would be strung.

Future Scenic Integrity: High, with Areas of Unacceptably Low. In this portion of Segment 11, and for all areas from the Gould Substation to the Mesa Substation, new insulators would be hung on the vacant positions of these existing 220-kV double circuit towers and new conductors would be strung. The only visible change would be new insulators and conductors on existing LSTs. Access and spur roads are not visible from this vantage point.

The different visual effects for the Center Area are described and simulated in Figures A-64a/b through A-83a/b of Appendix A. Except for the differences in the Center Area in Segments 6 and 11, including differences in the number and location of helicopter staging areas as described in Chapter 2 (Project Description), all other portions of Alternative 6 in the North and South Areas would be identical to the proposed Project (Alternative 2). Please refer to Section 6.1 (Direct and Indirect Effects Analysis for Alternative 2) for a detailed description of these impacts. The Alternative 6 impacts and their associated mitigation measures that fall under Criterion VIS1 are summarized below.

Under Alternative 6, visual effects associated with Impact V-1 (Temporary visibility of construction activities and equipment involved with the Project would alter the landscape character and visual quality of landscape views) would be identical to the proposed Project in the North and South Areas, but would be different in the Center Area. In the ANF, helicopter construction would increase temporary sights and sounds of helicopters and large equipment at the staging areas within the Project area and along Segments 6 and 11; however, some access and spur roads would not be built by ground-based machinery, thereby reducing temporary sights and sounds of large equipment in those areas. Impact V-1 for Alternative 6 would require implementation of the same mitigation measure as the proposed Project; V-1 (Clean up staging areas, storage areas, marshalling yards, helicopter staging areas, access and spur roads, and structure locations on a regular periodic basis), which is fully described in Section 6.1. With implementation of the mitigation measure listed in Section 6.1, the effects of Impact V-1 under Alternative 6 would be reduced somewhat along the access and spur roads; however Impact V-1would be increased at helicopter staging areas and in the airspace above and near Segments 6 and 11. Therefore, temporary visibility of construction activities and equipment would remain a significant and unavoidable adverse visual impact (Class I).

Under Alternative 6, visual effects associated with Impact V-2 (For a landscape that currently has no transmission lines, introduction of a new transmission line in a new ROW would adversely affect landscape character and visual quality) would be the same as for the proposed Project in the North and South Areas (please see Section 6.1). Because all helicopter construction under Alternative 6 would occur within existing landscapes that currently have transmission lines, there are no areas where Impact V-2 would occur in the Center Area (the ANF), as stated for the proposed Project (Alternative 2). Impact V-2 for Alternative 6 would require implementation of the following mitigation measures in the North and South Areas, which are fully described in Section 6.1: V-2a (Use tubular steel poles instead of lattice steel towers in designated areas); V-2b (Treat surfaces with appropriate colors, textures, and finishes); and V-2c (Establish permanent screen). In addition, impacts would be further reduced with implementation of the following mitigation measure: V-1 (Clean up staging areas, storage areas, marshalling yards, helicopter staging areas, access and spur roads, and structure locations on a regularly periodic basis). With implementation of these mitigation measures, the effects of Impact V-2 of Alternative 6 would be reduced somewhat; however in the North and South Areas (areas outside the Forest), the presence of new transmission line structures, conductors, access and spur roads, and new rights of way in landscapes that currently have no transmission line facilities would remain a significant and unavoidable adverse visual impact (Class I).

Under Alternative 6, the effects of Impact V-3 (For a landscape with an existing transmission line, increased structure size and new materials would result in adverse visual effects) would be identical to the proposed

Project in the North and South Areas because the proposed single-circuit 500-kV LSTs are identical in Alternative 6 and the proposed Project (Alternative 2) in the North and South Areas. However, in the Center Area, the ANF, new 500-kV LSTs would be colored with different galvanizing treatments to make them blend in better with the landscape. As described in Section 6.1, Impact V-3 would occur throughout the entire Study Area because of increased structure heights and widths, as compared to existing structures. The effects of Impact V-3 for Alternative 6 would require implementation of the following mitigation measures, which are fully described in Section 6.1: V-2a (Use tubular steel poles instead of lattice steel towers in designated areas [in the North and South Areas]); V-2b (Treat surfaces with appropriate colors, textures, and finishes); V-3a (Match spans of existing transmission structures); and V-3b (On NFS lands, provide restoration/ compensation for impacts to landscape and visual quality). In addition, compared to the proposed Project, the effects of Impact V-3 of Alternative 6 would be somewhat reduced with implementation of Mitigation Measures V-1, V-2b, V-2c, V-4b, and V-4d. With implementation of these mitigation measures, the effects of Impact V-3 of Alternative 6 would be reduced somewhat; however, the presence of newer, wider 500-kV single-circuit transmission line structures would create strong adverse visual impacts. Additionally, in the North and South Areas, construction of access and spur roads and enlarged substations of Alternative 6, and increased structure size of Alternative 6 throughout the North, Center, and South Areas would create significant adverse visual impacts, as described fully for Alternative 2 (Class I).

Based on the visual analysis in the ANF where new, taller, wider 500-kV transmission lines would replace existing 220-kV transmission lines, the implementation of mitigation measures is recommended to provide colored galvanizing treatments on LSTs in various locations in the ANF to reduce visual resource impacts.

Under Alternative 6, the effects of Impact V-4 (Vegetative clearing and/or earthwork associated with road improvements and pulling/splicing locations would adversely affect landscape character and visual quality) would be the same as for the proposed Project for the North and South Areas (please see Section 6.1). However, visual effects of Impact V-4 would be different in the Center Area where fewer access and spur roads would be constructed for structure placement because helicopter construction would be implemented. A total of 148 new 500-kV towers would be constructed by helicopter under Alternative 6, Maximum Helicopter Construction in ANF: 92 within Segment 6 and 56 within Segment 11. As a result of helicopter construction, approximately 42 miles ($\pm$15% range of 36 to 49 miles) of new and/or upgraded access and spur roads (includes new, reconstruction, and maintenance road types), which would be required as part of SCE's proposed Project (Alternative 2), would not be created and/or upgraded for ground access to the helicopter constructed towers under Alternative 6.

In addition, possibly as many as 13 helicopter staging areas and numerous small helicopter staging areas would be constructed under Alternative 6. These large- to medium-sized helicopter staging areas are shown in Figure 2.6-1 (Alternative 6 Helicopter Staging Areas for Construction of Towers Within the ANF). Some of these helicopter staging areas are in the same location as those proposed for Alternative 2; others are in different locations. Landform and vegetation disturbance at these helicopter staging areas would be temporary, and visual effects of land disturbance at helicopter staging areas would be rehabilitated to near-natural or pre-construction conditions after construction of the Project (see Biological Section for details of revegetation).

Because there would be a need to provide access roads to pulling, splicing, and tensioning locations, not all access road improvements along Segments 6 and 11 would be eliminated, as was described in detail above, but a majority of spur roads to individual structures would be eliminated by Alternative 6. As described in Section 6.1, Impact V-4 would occur throughout the entire Study Area. Impact V-4 for Alternative 6 would require implementation of Mitigation Measures V-4a through V-4d, which are fully described in Section 6.1. The combination of all these mitigation measures would lessen the adverse visual impacts of Alternative 6 and

would improve the visual attributes of the affected area; however, the visual impacts associated with Alternative 6 would remain significant and adverse (Class I).

Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area (Criterion VIS2)

Impacts associated with Criterion VIS2 for Alternative 6 would be the same as for the proposed Project (Alternative 2). Please see Section 6.1 (Direct and Indirect Effects Analysis) for a complete description.

Under Alternative 6, the effects associated with Impact V-5 (New metal surfaces associated with transmission infrastructure would potentially reflect sunlight and produce glint and glare in certain lighting conditions) would be similar to the proposed Project (Alternative 2), as described in Section 6.1. Alternative 6 would require implementation of Mitigation Measure V-2b, which is fully described in Section 6.1. Implementation of this measure would reduce adverse visual effects to a level of less than significant (Class II).

Substantially damage scenic resources within a scenic highway viewshed or a national scenic trail viewshed (including, but not limited to, trees, rock outcroppings, and historic buildings) (Criterion VIS3)

Under Alternative 6, the impacts associated with Criterion VIS3 would be the same as for the proposed Project, except for the decreased amount of access and spur road improvements necessary for structure placement and the increased temporary land disturbance at helicopter staging areas. The helicopter staging areas would be restored to pre-construction conditions after construction, therefore, long term visual effects would be minimized at the staging areas. Under Alternative 6, the visual effects associated with Impact V-6 (The Project would contribute to the long-term loss or degradation of a scenic highway viewshed or a scenic trail viewshed) would be similar to, but less than, the proposed Project (Alternative 2) for Criterion VIS3 because fewer access and spur roads would be visible from the Angeles Crest Scenic Byway and some towers would be given medium or dark galvanizing treatments so that they blend in better with backdrop landscapes. Impact V-6 for Alternative 6 would require implementation of the same mitigation measure, which is fully described in Section 6.1: V-3b (On NFS lands, provide restoration/compensation for impacts to landscape character and visual quality). With implementation of this mitigation measure the effects of Impact V-6 would be reduced to a level of less than significant (Class II).

Conflict with applicable adopted city, county, State, or federal plans, policies, regulations, or standards applicable to the protection and management of visual quality in the landscape (Criterion VIS4)

Although Alternative 6 would construct the Project within the ANF using helicopters to the maximum extent, this alternative would not encounter or impact any different adopted city, county, State, or federal management plans for visual or scenic resources. Therefore, the federal, State and local laws, regulations and standards presented in Tables C-1, C-2, and C-3 of Appendix C would still apply. Similar to the proposed Project, Project-specific amendments to the 2005 Forest Plan would be required for Alternative 6 for Forest Plan Standards S9 and S10. Implementation of Mitigation Measure V-3b (On NFS lands, provide restoration/compensation for impacts to landscape character and visual quality) is also recommended to minimize impacts.

Comparing Alternative 6 to Alternative 2, visual impacts of construction would be different in the ANF, and permanent landform alterations associated with access and spur roads would not occur in certain locations. The exact location of the helicopter staging areas, the extent of access road system that would be needed for pulling and splicing locations, and the exact structure locations that would still require ground-based construction techniques would be determined during final engineering, in consultation with SCE and its construction contractor(s). It should be noted that skyline interference and creation of greater industrial character intrusion would be identical for Alternative 6 and the proposed Project (Alternative 2) because the structure type and locations would remain the same, and only the galvanizing colors of the 500-kV LSTs would change between Alternatives 2 and 6.

Alternative 6 would be inconsistent with Standards S9 and S10 of the Forest Plan, and thus Project-specific amendments to the 2005 Forest Plan would be required. Alternative 6 would also conflict with Goal Visual-1 and Objective Visual-1.2 of the Puente Hills Landfill Native Habitat Preservation Authority Resource Management Plan. As such, Impact V-7 would be significant and unavoidable (Class I).

10.2 Cumulative Effects Analysis

This section addresses potential cumulative visual effects that would occur as a result of implementation of Alternative 6 (Maximum Helicopter Construction in the ANF). This alternative would utilize helicopter construction within the ANF to the maximum extent feasible. Potential helicopter staging and landing areas, specifically medium- to large-sized sites required for helicopter assembly and materials storage, have been identified within the vicinity of Segments 6 and 11 to facilitate helicopter construction within the ANF. The remainder of this alternative would be identical to that of the proposed Project and would, therefore, result in identical impacts. Based on the substantial similarity of Alternative 6 to the proposed Project, this alternative's contribution to cumulative visual impacts would also be identical to that of the proposed Project.

10.2.1 Geographic Extent

Alternative 6 is the exact same geographic location as the proposed Project (Alternative 2); therefore, the geographic extent of the cumulative analysis for Alternative 6 is exactly the same as that for Alternative 2 and would include all of the North, Center, and South Areas.

10.2.2. Existing Cumulative Conditions

The existing cumulative conditions for Alternative 6 are exactly the same as for Alternative 2, as described in Section 6.2.2.

10.2.3 Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 6 would be exactly the same as Alternative 2, described in Section 6.2.3.

10.2.4 Cumulative Impact Analysis

Impacts associated with Alternative 6 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The removal of two existing single-circuit 220-kV transmission lines (one each in Segments 6 and 11) and the construction and operation of two new single-circuit 500-kV transmission lines (one each in Segments 6 and 11) would not

affect the Project's contribution to cumulative impacts. Therefore, cumulative impacts of Alternative 6 would be exactly the same as cumulative impacts for Alternative 2, as described in detail in Section 6.2.4.

10.2.5 Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 6 in Section 10.1 would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level for visual resources.