2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.1-1

Project Location Map

Substations
Other Project Alternatives
Proposed Project (Alternative 2)

Alternative 1
Alternative 2
Alternative 3
Alternative 4 (A-D)
Alternative 5
Alternative 6
Alternative 7

Segment 4
Segment 5
Segment 6
Segment 7
Segment 8A
Segment 8B
Segment 8C
Segment 10
Segment 11

1 mile = 1.61 km
1:443,520

0 2 4 6 8 10
Miles

Aspen Environmental Group

1" = 7 miles
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-10 (Revised)
Segment 6 ROW Cross-Section
(S6 MP 0.0 to S6 MP 0.8)

Source: SCE, 2009a.
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-15 (Revised)
Segment 6 ROW Cross-Section
(S6 MP 4.8 to S6 MP 6.85)

Note: There are currently three existing T/Ls in the utility corridor. Not all are shown in this cross-section diagram, as one or more T/Ls veer away from the TRTP T/L and therefore fall outside of the area depicted.
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

2. DESCRIPTION OF ALTERNATIVES

Figure 2.2-16 (Revised)
Segment 6 ROW Cross-Section
(S6 MP 6.85 to S6 MP 7.75)

Note: There are currently three existing T/Ls in the utility corridor. Not all are shown in this cross-section diagram, as one or more T/Ls veer away from the TRTP T/L and therefore fall outside of the area depicted.

Source: SCE, 2007c.
Figure 2.2-17 (Revised)
Segment 6 ROW Cross-Section
(S6 MP 7.75 to S6 MP 9.5)

Source: SCE, 2007c.

Note: There are currently three existing T/Ls in the utility corridor. Not all are shown in this cross-section diagram, as one or more T/Ls veer away from the TRTP T/L and therefore fall outside of the area depicted.

NOTE:
This drawing represents potential changes between existing and future ROW cross sections.

Final EIS
September 2010
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-56 (Revised)
Segment 11 ROW Cross-Section
(S11 MP 0.0 to S11 MP 0.9)

2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-57 (Revised)
Segment 11 ROW Cross-Section
(S11 MP 0.9 to S11 MP 2.5)

Source: SCE, 2009a.
2. DESCRIPTION OF ALTERNATIVES
Tehachapi Renewable Transmission Project

Figure 2.2-58 (Revised)
Segment 11 ROW Cross-Section
(S11 MP 2.5 to S11 MP 4.0)

Source: SCE, 2009a.
2. DESCRIPTION OF ALTERNATIVES
Tehachapi Renewable Transmission Project

Figure 2.2-59 (Revised)
Segment 11 ROW Cross-Section
(S11 MP 4.0 to S11 MP 18.7)

Source: SCE, 2009d.
Figure 2.2-83 (Revised-1)

Legend

Rosed on ANF
- Paved Road - to be used
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Forest Service Roads

Helicopter Staging Areas

Helicopter Constructed Towers

Proposed Routes
- Segment 6
- Substation
- Segment Milepost Marker
- Pulling Sites

1" = 2 miles
1:126,720

Roads on ANF

Legend

Proposed Routes
- Segment 6
- Substation
- Segment Milepost Marker
- Pulling Sites
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

September 2010

Kern Kern
Los Angeles Angeles
Orange Orange
San Bernardino San Bernardino

Figure 2.2-89

Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)

Figure 2.2-89a
Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-89d

Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)

Roads on ANF
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Forest Road
- Forest Service Road - not part of project

Proposed Routes
- Segment 6
- Segment 11
- Segment Milepost Marker
- Substation

Wire Setup Site
- Helicopter Assembly Yard
- New Structure - by Road
- New Structure - by Helicopter
- Wreck Out Only Structure - by Road
- Wreck Out Only Structure - by Helicopter
- Existing Structure
Figure 2.2-89f
Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)

1" = Approx. 1/2 mile
1: 32,000

M45T4
HAY 6A

Angeles National Forest
Cargwell Reservoir

West Fork San Gabriel River

Proposed Routes
- Segment 6
- Segment 11
- Substation
- Segment Milepost Marker

Roads on ANF
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Paved Road
- Forest Service Road - not part of project

Wire Setup Site
- Helicopter Assembly Yard
- New Structure - by Road
- New Structure - by Helicopter
- Wreck Out Only Structure - by Road
- Wreck Out Only Structure - by Helicopter
- Existing Structure
Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-89h

Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

September 2010

K e r n
L o s
A n g e l e s
O r a n g e
S a n  B e r n a r d i n o

Figure 2.2-89i

Alternative 2, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-90
500-kV Double-Circuit, Single-Sided Tower

Source: SCE, 2009b.
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.2-92
500-kV Single-circuit Three-pole Steel Dead-end Structure

2. DESCRIPTION OF ALTERNATIVES

Aspen Environmental Group

Figure 2.6-1 (Revised)
Candidate Helicopter Staging Areas in ANF

Alternative 6

Legend

Roads on ANF
- Paved Road - to be used
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Forest Service Roads
- Helicopter Staging Areas
- 2.5 Mile Helicopter Buffer

Proposed Routes
- Segment 6
- Segment II
- Segment Milepost Marker
- Substation
- Pulling Sites

1" = ~1.5 miles
1:110,000

Legend

SCAQMD
AVAQMD
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Kern

Los Angeles

Orange

San Bernardino

Figure 2.6-2 (New)

Aspen

Environmental Group

Angeles National Forest

Figure 2.6-2 (New)

Alternative 6, Segments 6 and 11

Construction Details (HAYs, Roads, Wire Setup Sites)

Index

Helicopter Assembly Yards (HAYs)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Kern Kern
Los Angeles Angeles
Orange Orange
San Bernardino San Bernardino

1" = Approx. 1/2 mile
1 : 32,000

Figure 2.6-2a (New)

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

September 2010

K e r n

L o s A n g e l e s

O r a n g e

S a n  B e r n a r d i n o

1" = Approx. 1/2 mile
1 : 32,000

Figure 2.6-2b (New)

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES
Tehachapi Renewable Transmission Project

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)

- Proposed Routes
  - Segment 6
  - Segment 11
  - Substation
  - Segment Milepost Marker

- Roads on ANF
  - Maintenance Road
  - Reconstruction Road
  - New Road
  - Private Road
  - Paved Road
  - Forest Service Road - red part of project

- Wire Setup Sites
  - Heliport Assembly Yard
  - New Structure - by Road
  - New Structure - by Helicopter
  - Wreck Out Only Structure - by Road
  - Wreck Out Only Structure - by Helicopter
  - Existing Structure

Figure 2.6-2c (New)

1" = Approx. 1/2 mile
1 : 32,000

Aspen Environmental Group
Final EIS
September 2010
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

September 2010

Figure 2.6-2d (New)

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

September 2010

Kern

Los Angeles

Orange

San Bernardino

1" = Approx. 1/2 mile

1:32,000

Figure 2.6-2f (New)

Aspen Environmental Group

Final EIS

September 2010

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Kern
Los Angeles
Orange
San Bernardino

1" = Approx. 1/2 mile

1 : 32,000

Figure 2.6-2i (New)

Alternative 6, Segments 6 and 11
Construction Details (HAYs, Roads, Wire Setup Sites)

Roads on ANF
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Paved Road
- Forest Service Road - part of project

Proposed Routes
- Segment 6
- Segment 11
- Substation
- Segment Milepost Marker

Proposed Routes
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- Paved Road
- Forest Service Road - part of project

Wire Setup Site
- Helicopter Assembly Yard
- New Structure - by Road
- New Structure - by Helicopter
- Wreck Out Only Structure - by Road
- Wreck Out Only Structure - by Helicopter
- Existing Structure

Aspen Environmental Group
Final EIS

September 2010
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.7-1

Alternative 7: Duck Farm 66-kV Underground
Section 2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Alternative 7: Whittier Narrows 66-kV Underground and Overhead Re-Routes

Between the San Gabriel Junction and Lincoln Avenue, existing infrastructure would be utilized.

Option 1: New 1,600 foot long and 60 foot wide ROW

Option 2: 20 foot ROW expansion required on the south side of the existing ROW.

Figure 2.7-2 (Revised)

Aspen Environmental Group

Segment 7
66-kV Underground Re-Route
66-kV Option 1 Ovhd Re-Route
City Boundary

Segment 8A
66-kV Option 2 Ovhd Re-Route

0 750 1,500 3,000 Feet
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Final EISS  September 2010

Figure 2.9-1a

TRTP Cumulative Projects by Jurisdiction

Kern County Wind Energy Projects

PoV Wind Energy Project
* 6,435-acre proposed site located in Willow Springs
* 300 MW project includes construction of 300 wind turbines, a substation, switching station, access roads, and transmission lines
* Would interconnect to the Cottonwind Substation (Segment 4)

Alta-Oak Creek Mojave Project
* 70-square mile site in the Tehachapi area
* 1,500 MW project includes 750 turbines

Pine Tree Wind Development Project (beyond mapped area)
* 120 MW project includes construction of 80 wind turbines, meteorological towers, a substation, 1.1 miles of a transmission line, a switching station, an operation and maintenance building, and access roads.

Pine Canyon Wind Project (beyond mapped area)
* Proposed 150 MW of wind energy
Figure 2.9-1b (Revised)

TRTP Cumulative Projects by Jurisdiction

- **Lancaster**
  - 9,798 single-family lots (approx. 4,500 acres)
  - 1 commercial project; 9 industrial lots (3 acres total)
  - Park/Open Space - 2 lots; School - 2 lots

- **Rosamond**
  - 21 single-family lots; 75 senior housing units

- **Palmdale**
  - 3,715 single-family lots
  - 350 single-family units in Ana Verde
  - 1 commercial lot (3 acres total)
  - Open Space - 50 lots (12 acres); School - 1 lot
  - Fire Station - 1 lot

- **Quartz Hill**
  - 21 single-family lots

- **Leona Valley (Unincorporated L.A. County)**
  - 131 residential lots

- **City Ranch (known as Ana Verde)**
  - 230-MW solar photovoltaic facility proposed on approximately 2,100 acres of land located northwest of the City of Lancaster

- **Antelope-Pardee Project**
  - A 570-MW project consisting of natural gas and solar thermal generating equipment, and a 35.6-mile T/L that would connect to Vincent Substation

- **West Lancaster Alternative**
  - 2-mile Buffer

- **Segment 1**
  - 2.5 miles
  - 1:158,400

- **Substations**
  - Maglev
  - CA High Speed Rail
  - Antelope Segments 2 & 3 Project
  - Antelope-Pardee Project
  - Barren Ridge Project
  - Palmdale Hybrid Power Project
  - Quail Valley Annexation and Development Plan
  - City Ranch (known as Ana Verde)
  - Ritter Ranch Master Planned Community

- **Provincial Routes**
  - Segment 4
  - Segment 5
  - Segment 6
  - Segment 7
  - Segment 8A
  - Segment 8B
  - Segment 8C
  - Segment 10
  - Segment 11
  - West Lancaster Alternative
La Cañada Flintridge
- 14 single-family lots
- 13,250 sq ft office/retail

Altadena (Unincorporated L.A. County)
- 8 lots; 70 multi-family units; 1 senior housing facility
- 1 commercial project
- School - 2 lots

Montrose (Unincorporated L.A. County)
- 3 single-family lots; 96 multi-family units

San Gabriel
- 11 multi-family units; 12 senior housing units (mixed-use housing units not included)
- 3 mixed-use commercial/industrial buildings

Mesa
- 69 single-family units; 390 multi-family units (mixed-use units included)
- 8 mixed-use buildings (retail/office)
- 50-room hotel expansion

Monterey Park
- 527,157 sq ft (one retail center)

Metro Gold Line Foothill Extension
Corridor Management Plan - ANF

Figure 2.9-1c
TRIP Cumulative Projects by Jurisdiction

Aspen
Environmental Group

La Cañada Flintridge
- 14 single-family lots
- 13,250 sq ft office/retail

Altadena (Unincorporated L.A. County)
- 8 lots; 70 multi-family units; 1 senior housing facility
- 1 commercial project
- School - 2 lots

Montrose (Unincorporated L.A. County)
- 3 single-family lots; 96 multi-family units

San Gabriel
- 11 multi-family units; 12 senior housing units (mixed-use housing units not included)
- 3 mixed-use commercial/industrial buildings

Mesa
- 69 single-family units; 390 multi-family units (mixed-use units included)
- 8 mixed-use buildings (retail/office)
- 50-room hotel expansion

Monterey Park
- 527,157 sq ft (one retail center)
2. DESCRIPTION OF ALTERNATIVES

Tehachapi Renewable Transmission Project

Figure 2.9-2 (Revised)

TRTP Cumulative Projects on NFS Lands