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Acronyms and Abbreviations

AC	alternating current
Ac	acre
ACECs	Areas of Critical Environmental Concern
ACSR	aluminum conductor steel reinforced
ADSS	All-Dielectric Self-Supporting
amsl	above mean sea level
APE	area of potential effect
APM	Applicant Proposed Measure
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMPs	Best Management Practices
BP	before present
BRAC	Base Realignment and Closure Act
C	Commercial and Office land uses
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDC	California Department of Conservation
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CG	General Commercial land uses
CGS	California Geological Survey

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CHU	critical habitat unit for a listed species
CHRIS	California Historical Resources Information System
CLNAWS	China Lake Naval Air Weapons Station
CNDDDB	California National Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalency
CPUC	California Public Utilities Commission
CRHP	California Register of Historical Places
CS	Service Commercial land uses
CSSC	California Species of Special Concern
CWA	Clean Water Act
°C	degrees Centigrade
°F	degrees Fahrenheit
dB	decibels
dBA	decibels on the A-weighted scale
DC	direct current
DTSC	Department of Toxic Substances Control
DWMAs	Desert Wildlife Management Areas
DWR	Department of Water Resources
DWY	driveway
EKCAPCD	Eastern Kern County Air Pollution Control District
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act

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FPPA	Farmland Protection Policy Act
FRC	Fault Return Conductor
FRM	Federal Reference Method
GHGs	greenhouse gases
HCP	Habitat Conservation Plan
HMBP	Hazardous Materials Business Plan
HMI/PLC	Human Machine Interface/Programmable Logic Controller
HMP	Habitat Management Plans
HVAC	heating, ventilation, and air conditioning
IEEE	Institute of Electrical and Electronics Engineers
ISRSC	Inyokern Substation and Ridgecrest Service Center
kcmil	thousand circular mils
KOPs	key observation points
kV	kilovolt
kwh	kilowatt-hour
LEDPA	least environmentally damaging practicable route
LD	Low Residential Density land uses
LOS	level of service
LWS	light-weight steel
MCA	Medieval Climatic Anomaly
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MEER	mechanical and electrical equipment room
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
mph	miles per hour
MRZ	Mineral Resource Zones
MSDS	Material Safety Data Sheet
MBTA	Migratory Bird Treaty Act

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MVA	megavolt ampere
MVAR	megavolt ampere reactive
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NERC	North American Energy Reliability Corporation
N ₂ O	nitrous oxide
NO	nitric oxide
NO ₂	nitrogen dioxide
NOTS	Naval Ordnance Test Station
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWC	Naval Weapons Center
O ₃	ozone
OAL	Office of Administrative Law
OES	Office of Emergency Services
OHGW	overhead ground wire
OHWM	ordinary high water mark
OPGW	optical power ground wire
OSHA	Occupational Safety and Health Administration
Pb	lead
PEA	Proponent's Environmental Assessment
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
ppb	parts per billion
ppm	parts per million

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Proposition 65	Safe Drinking Water and Toxics Enforcement Act
PS	Parks and Schools land uses
PTC	Permit to Construct
PVC	polyvinyl chloride
R-2	multi-family residential land uses
RACMs	Reasonably Available Control Measures
RECs	recognized environmental concerns
ROG	reactive organic gases
ROW	right-of-way
RSP	Recreational, School, Public Use land uses
RWQCB	Regional Water Quality Control Board
SAC	stranded aluminum conductor
SARA	Superfund Amendments and Reauthorization Act of 1986
SCADA	Supervisory Control And Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SF ₆	sulfur hexafluoride
SLF	Sacred Lands File
SMARA	California Surface Mining and Reclamation Act
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SPCC	Spill Prevention Control and Countermeasure Plan
STATSGO	State Soil Geographic
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TBD	to be determined
TPQs	total planning quantities
TQ	threshold quantity

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TSP	tubular steel pole
UFC	Uniform Fire Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
VDC	volt direct current
VOC	volatile organic compound
WATCH	Work Area Traffic Control Handbook Manual
WEAP	Worker Environmental Awareness Program
WECC	Western Electricity Coordinating Council
WEMO	West Mojave Plan
Williamson Act	California Land Conservation Act of 1965
WRCC	Western Regional Climate Center

Executive Summary

Executive Summary

This Proponent's Environmental Assessment (PEA) evaluates the potential environmental impacts of Southern California Edison Company's (SCE) proposed Downs Substation expansion project (Proposed Project) located in the City of Ridgecrest and unincorporated areas in Kern County and San Bernardino County, California. The purpose of the Proposed Project is to improve the reliability of SCE's existing electrical transmission system in order to meet forecasted increase in electrical demand in the City of Ridgecrest and the surrounding areas of unincorporated Kern County and San Bernardino County (Electrical Needs Area).

The Electrical Needs Area is presently served by the existing Downs 33/12 kilovolt (kV) Substation. Downs Substation currently receives its power from two 33 kV distribution circuits originating at Inyokern Substation. The existing Downs Substation provides electrical service to approximately 13,000 metered customers and will be at its maximum operating limit in 2011. Therefore, SCE is proposing a project that would be operational in June 2014 to ensure that safe and reliable electrical service is available to meet customer electrical demand.

The proposed Downs Substation expansion project consists of the following components:

- Upgrading and expanding the existing Downs 33/12 kV Substation to a 115/12 kV substation containing a 33 kV switchrack.
- Routing an existing 115 kV subtransmission line into and out of the proposed substation.
- Installing a fiber optic telecommunication system (including 58 miles of fiber optic telecommunication cable) to provide communication circuits for the protection, monitoring, and control of subtransmission and substation equipment.

This PEA includes the information required by the California Public Utilities Commission's (CPUC) PEA Guidelines (State of California Public Utilities Commission Information and Criteria List, Appendix B, Section V), as well as the CPUC's requirements for a Permit to Construct (PTC) pursuant to General Order 131-D (D.94-06-014, Appendix A, as modified by D.95-08-038). The CPUC requires applicants to provide this information for review in compliance with the mandates of the California Environmental Quality Act (CEQA). This PEA is designed to meet the above-mentioned CPUC requirements.

Following a discussion of the purpose and need for the project (Chapter 1), the alternatives analysis (Chapter 2), and the project description (Chapter 3), this PEA evaluates the potential environmental impacts of the Proposed Project (Chapter 4). Potential impacts are assessed for all

Executive Summary

environmental factors contained in the most recent CEQA Environmental Checklist Form. With the implementation of the Applicant Proposed Measures (APMs), the PEA concludes that the Proposed Project would have less than significant impact or no impact in all environmental resource categories. No growth-inducing impacts are identified for the Proposed Project. A summary of the APMs is provided in [Table ES.1](#).

Table ES.1 Applicant Proposed Measures

Applicant Proposed Measure	Description
Biology 1: Speed Limits	In areas where the six subtransmission pole replacements would occur and where the fiber optic telecommunication cable would be strung, the speed limits on all unpaved areas of the Proposed Project would be a maximum of 15 miles per hour (mph).
Biology 2: Worker Environmental Awareness Program (WEAP)	All construction crews and contractors would be required to participate in WEAP training regarding sensitive biological resources.
Biology 3: Preconstruction Surveys	Pre-construction biological clearance surveys would be conducted for breeding birds and special status species, including listed species.
Biology 4: Avian Safety	All replaced poles would be designed to be avian-safe.
Biology 5: Habitat Avoidance	During the installation of fiber optic telecommunication cable and subtransmission poles, potential habitat for the desert tortoise and Mohave ground squirrel will be avoided. This will be accomplished through restricting vehicles to previously established access roads, with the oversight of biological monitors, and accessing the poles via bucket truck or through climbing of the poles. In addition, these monitors will be responsible for avoiding impacts to nesting migratory birds (including borrowing owls) and drainages during the installation of the fiber optic telecommunication cable through appropriate mitigation measures as determined by the monitoring biologist.
Cultural 1: Archaeological Monitoring	An archaeologist would monitor the grubbing, pad preparation, and construction earthwork in the event that a significant buried deposit is inadvertently encountered during construction activity at the location of the Downs Substation expansion. In such case, SCE would develop an archaeological monitoring plan describing archaeological monitoring activities and treatment of any unanticipated discoveries, as warranted.

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A discussion of alternatives is provided in Chapter 5. Potential cumulative impacts and growth-inducing impacts are discussed in Chapter 6.

The names, titles, and qualifications of persons assisting in the preparation of this document are listed in Appendix B to this PEA.