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VOLUME 1 FINAL ENVIRONMENTAL IMPACT STATEMENT

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- C. 8 February 23, 2010, Letter from DOE to USFWS: Initiation of Informal Consultation under Section 7 of the Endangered Species Act
- C.9 March 24, 2010, Letter from USFWS: Request for Informal Section 7 consultation of the Proposed Energia Sierra Juarez Transmission Line
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Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
EIS Volume 1 Main EIS Volume	
Front matter	Updated cover sheet and table of contents; added this summary of substantive revisions from the draft EIS to the final EIS.
Summary	Updated the EIS Summary to be consistent with the final EIS analysis. Included updated summary of impacts and mitigations.
1.0 Introduction	Clarified DOE's purpose and need for the ESJ U.S. Transmission Line project.
	Added discussion of distributed electrical generation and use of existing transmission lines in Mexico as alternatives that are outside the scope of this NEPA document.
	Updated the EIS chronology and public review process.
	Added summary of issues raised during the EIS public comment period.
	Identified DOE's preferred alternative as the newly added Alternative 4A (Revised 230-kV Route).
2.0 Project Description	Added details of revised transmission line routes (Alternatives 4A and 4B), including new Figure 2-1b.
	Added details of the applicant's proposed groundwater well that would be used for construction water supply.
	Clarified that tower or pole lighting would not be required by the U.S. Border Patrol.
	Updated the applicant-proposed measures based on new information from the applicant regarding fire protection and traffic control measures.
	Added discussion of the potential use of the existing transmission lines in Mexico as an alternative that is outside the scope of this NEPA document.
	Updated the status of the ECO Substation project environmental review process.
	Added description of the revised ECO Substation location, which is the basis for ESJ's description of revised transmission line routes (Alternatives 4A and 4B).
Updated the comparison of impacts of alternatives based on updated analyses of each discipline.	

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
	Updated the summary of impacts (Table 2-4).
	Identified DOE's preferred alternative as the 230-kV transmission line on lattice towers, in the revised alignment (Alternative 4A).
3.0 Affected Environment, Impacts and Mitigation	Clarified the extent to which DOE used the County of San Diego environmental review guidelines in the preparation of this EIS.
	Added discussion to all resource topics of potential impacts associated with the revised transmission line routes (Alternatives 4A and 4B).
	Added discussion to all resource topics of potential impacts associated with the proposed groundwater well use.
3.1 Biological Resources	Updated status of DOE's consultation with USFWS, which was concluded in March 2011.
	Updated discussion of baseline conditions for special status species, including Peninsular bighorn sheep and golden eagles.
	Added further discussion of potential impacts to large avian species from electrocution, and discussion of potential impacts from nighttime lighting of transmission towers or poles.
	Added discussion of potential impacts of helicopter use on biological resources during construction.
	Added further discussion of cross-border migration patterns and potential cross-border impacts to Peninsular bighorn sheep, golden eagles, and other species of concern.
	Revised Mitigation Biology-1 (Worker Training) to clarify that a qualified biologist would provide the biological resources training to contractor personnel both prior to construction and prior to major (non-routine) repair and maintenance during operations.
3.2 Visual Resources	Added reference to the recent designation of segments of Old Highway 80 and I-8 as scenic highways in the County of San Diego General Plan.
	Clarified the location of nearby residences and corresponding key observation points.
	Added minor clarifications to discussion of transmission line visual impacts and potential cross-border visual impacts, including a change in the visual setting since the draft EIS was published due to the construction of several new wind turbines in the Sierra Juarez mountains in Mexico (unrelated to the ESJ Wind project), and their visibility from the U.S.
	Revised Mitigation VIS-2 to specify "dulled metal finish and nonspecular conductors."

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
3.3 Land Use	Updated the County of San Diego General Plan status (plan update was approved August 3, 2011) and revised the project location General Plan land use designation (the site was re-designated to Rural Land, 80-acre parcels).
	Clarified the location of residences relative to the alternative corridors.
3.4 Recreation	No substantive changes were made to this section.
3.5 Cultural Resources	Added discussion of the historic status of Old Highway 80.
	Added discussion of the site-specific cultural resources analysis of the groundwater well construction site.
	Added Figure 3.5-2 to indicate the revised transmission line route alternatives (Alternatives 4A and 4B).
	Added mitigation Cultural-2 which would require subsurface cultural investigations for the proposed groundwater well access road.
	Added mitigation Cultural-3 which would require subsurface cultural investigations of the revised 500-kV Route (Alternative 4B), if constructed.
3.6 Noise	Added table listing the corona discharge sound level estimates for the revised transmission line routes (Alternatives 4A and 4B).
	Clarified the description and location of project area noise receptors.
3.7 Transportation and Traffic	Clarified and updated I-8 highway traffic statistics.
	Updated the discussion of wind turbine transportation scenarios based on applicant-provided information, which confirmed that turbines would be transported across the Otay Mesa border crossing.
	Added discussion of a Traffic Control Plan, which would be prepared in accordance with County Planning standard requirements.
	Revised traffic-related mitigation measures to include a requirement to coordinate with CAL FIRE.
	Added discussion of potential limitations on aerial fire-fighting efforts due to the presence of the transmission lines.
3.8 Public Health	Clarified the types of hazardous materials and hazardous wastes that could be generated during construction, and added references to applicable laws and regulations.
	Updated mitigation Public Health-1 to include a provision to ensure that imported soil is free of contamination.
3.9 Fire and Fuels Management	Added discussion of the Development Agreement executed with the Rural Fire Protection District and revised fire protection mitigations specific to the ESJ U.S. Transmission Line project, as recommended by the RFPD.

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
	Corrected the local fire response capability statistics and response procedures for the project area based in input from the RFPD.
	Clarified discussion regarding the frequency of fuel management under the transmission lines.
	Added further discussion of potential impacts to the U.S. from wind turbine fires, failures and associated hazards from the ESJ Wind project in Mexico.
	Added further discussion of the project's potential to result in increased fire hazard and impacts to local fire fighting capabilities.
	Added discussion of potential limitations on aerial fire-fighting efforts due to the presence of the transmission lines.
	Added the applicant-proposed measure to prepare and implement a Construction Fire Plan.
	Added reference to fire-related documents and correspondence, provided in Appendix B of the EIS.
3.10 Air Quality and Climate Change	Updated construction emissions estimates based on the applicant's revised estimates of soil hauling requirements.
	Added discussion of the potential CO2 sequestration capacity of alkaline soils and related potential project impacts due to soil disturbance.
	Added discussion of potential air quality and greenhouse gas emissions due to wind turbine back-up generation.
3.11 Water Resources	Described the aquifer testing results conducted by the County of San Diego for the planned groundwater well usage during construction.
	Clarified discussion of surface water features to indicate that no surface water features traverse the U.S.-Mexico border in the project area.
	Added discussion of groundwater quality and quantity at the planned construction groundwater well, based on County of San Diego reports.
3.12 Geology and Soils	Clarified certain soil descriptions and potential for erodibility.
3.13 Socioeconomics	Updated Census data with 2010 statistics, to the extent available.
	Added discussion of the potential for short-term, minor impacts to tourism in the project area.
	Added further discussion of the project's potential to result in decreased property values and increased fire insurance rates.
3.14 Environmental Justice	Updated the income and ethnicity data with 2010 statistics, as available. These new statistics indicated a change in the project area to "low-income."

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
3.15 Utilities and Services	Added discussion of the International Boundary and Water Commission permit requirement for monuments.
	Updated the mitigation to include coordination with CAL FIRE.
3.16 Unavoidable Impacts	Added description of potential unavoidable impacts on Transportation and Traffic.
4.0 Connected Actions	The analysis of potential impacts and recommended mitigations related to the ECO Substation switchyards and SWPL loop-in are revised to incorporate relevant information from the ECO Substation Draft EIR/EIS.
	Added description of the revised ECO Substation location, and discussion of potential impacts of this location in comparison to the original proposed site.
5.0 Cumulative Impacts	Added several projects to the cumulative impact analysis, including several wind energy projects; revised Figure 5-1 to show the location of these projects.
	Updated the status of several projects that were already included in the draft EIS cumulative impact analysis.
	Revised the cumulative impacts analysis to more clearly address the sum of impacts from past, present and reasonably foreseeable actions.
6.0 Irretrievable and Irreversible Commitment of Resources	No changes were made to this section.
7.0 Short-Term Use and Long-Term Productivity	No changes were made to this section.
8.0 Applicable Laws, Regulations, Permits, and DOE Orders	Added the International Boundary and Water Commission permit requirement to the list of required permits.
9.0 Consultation and Coordination	Updated the record of consultations to include local agency contacts, including Rural Fire Protection District and other local agency offices.
10.0 References	Added references for correspondence and documents used to prepare the final EIS.
11.0 List of Preparers	Updated the list of preparers.
12.0 Conflict of Interest	No changes were made to this section.
Volume 2 Appendices	
Appendix A: Scoping Report	No changes were made to this appendix.

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
Appendix B: Project Details	Added plot plans and grading plans for the revised transmission line routes (Alternatives 4A and 4B). Added engineering design drawings for the transmission structures indicating dimensions of phase separation (relevant for potential impacts to large avian species from electrocution).
	Added documentation from ESJ and the County of San Diego Fire Authority and Rural Fire Protection District, indicating concurrence with the applicant's Fire Protection Plan, and concurrence on fire-related mitigation measures.
	Added a groundwater supply analysis prepared by the County San Diego geologist and a project water availability form signed by the Jacumba Community Services District. Added the Phase 1 Environmental Site Assessment prepared for the project parcels.
Appendix C: Biological Resources Technical Report	Added excerpts from the applicant's 2010 biological resources technical reports prepared for the groundwater well access site (east of Jacumba) and for the revised alternative routes (Alternatives 4A and 4B).
	Added DOE's March 8, 2011 letter to U.S. Fish and Wildlife Service indicating the outcome of consultation with the USFWS.
Appendix D: Cultural Resources	Added DOE's April 18, 2012 letter to the California State Historic Preservation Officer requesting concurrence on DOE's findings regarding Section 106 of the National Historic Preservation Act.
	Replaced the applicant's March 2010 cultural study for the transmission line alternative routes with the May 2010 cultural study for transmission line area; the May 2010 study includes both the original alternatives (Alternatives 2 and 3) and the revised routes (Alternatives 4A and 4B).
	Added the applicant's 2010 cultural resources technical report prepared for the groundwater well access site.
Appendix E: Noise	Added the applicant's May 2010 noise analysis for the revised alternative routes (Alternatives 4A and 4B). Added vendor specifications of typical electrical conductor designs.
Appendix F: Air Quality Calculations	Revised air quality emissions estimates based on further analysis of PM10 impacts since publication of the draft EIS, based on applicant's revised construction planning assumptions.
Appendix G: Agency Consultation	Added U.S. Dept. of Defense January 12, 2011 letter of non-objection to the project.
	Added U.S. Dept. of State's January 27, 2011 letter of non-objection to the project.
Appendix H: Conflict of Interest	No changes were made to this appendix.
Appendix I: Distribution List	Added the EIS distribution list.

Summary of Revisions to the Draft EIS	
EIS Section	Substantive Revisions from Draft EIS to Final EIS
Volume 3 Comments and Responses	
Volume 3 Comments and Responses Document	Added Volume 3 Comments and Responses. Section CR.5 of this volume provides reproductions of the written letters and oral comment transcripts on the draft EIS (left side of page), and DOE's response to the comments (right side of page).

Abbreviations Used In This Work

°C	degrees Celsius
°F	degree Fahrenheit
µg/m ³	micrograms per cubic meter
AC	Advisory Circular
ACEC	Area of Critical Environmental Concern
APE	Area of Potential Effect
APM	applicant-proposed measure
ATV	all-terrain vehicle
B.P.	before present
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BHP	brake horsepower
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
C	combustion particle
C ₂ H ₃ Cl	vinyl chloride
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
Cal-ISO	California Independent System Operator
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDWR	California Department of Water Resources
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations

CH ₄	methane
cKOP	candidate key observation point
cm	centimeter
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
Conservation Program	East County Multiple Species Conservation Program
County DPLU	County of San Diego Department of Planning and Land Use
CPUC	California Public Utilities Commission
CRMP	Conceptual Resource Management Plan
CUPA	California Unified Program Agency
CWHR	California Wildlife Habitat Relationships
dB	decibel
dBA	A-weighted decibel
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
E&E	Ecology and Environment, Inc.
E.O.	Executive Order
EA	Environmental Assessment
ECO Substation	East County Substation
EDAW	EDAW, Inc.
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	electromagnetic field
ESA	Endangered Species Act
ESJ	Energia Sierra Juarez U.S. Transmission, LLC
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration

Abbreviation List

FIRM	Flood Insurance Rate Maps
FR	Federal Register
Gen-Tie	Generator-tie line
GHG	greenhouse gases
GIS	Geographic Information System
GWP	global warming potential
H ₂ S	hydrogen sulfide
ha	hectares
HFC	hydrofluorocarbon
HHD	heavy heavy duty
hp	horsepower
Hz	hertz
I	Interstate
ICAPCD	Imperial County Air Pollution Control District
IEC	International Electrotechnical Commission
IPCC	Intergovernmental Panel on Climate Change
kcmil	one thousand circular mils
km	kilometer
KOP	key observation point
kph	kilometers per hour
kV	kilovolt
kV/m	kilovolt per meter
kW	kilowatt
lb/day	pounds per day
LD	light duty
L _{dn}	day night level
L _{eq}	equivalent level
LOS	level of service
m	meter
MBTA	Migratory Bird Treaty Act
MD	medium duty
mg/L	milligrams per liter
mph	miles per hour

MSA	Metropolitan Statistical Area
MSDS	material safety data sheet
msl	mean sea level
MW	megawatts
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Program
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NGL	Natural Gas Liquids
NHPA	National Historic Preservation Act
NIHES	National Institute of Environmental Health Sciences
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New Source Review
O ₃	ozone
OHV	off-highway vehicle
Pb	lead
PEA	Proponent's Environmental Assessment
PFC	perfluorocarbon
PM ₁₀	fine particulate matter with diameter no greater than 10 microns
PM _{2.5}	fine particulate matter with diameter no greater than 2.5 microns
ppmv	parts per million by volume
QCB	Quino checkerspot butterfly
qty	quantity
RBC	Rocks Biological Consulting
RDA	Rural Development Area

Abbreviation List

RDEIR/SDEIS	Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement
REC	recognized environmental condition
RMP	Resource Management Plan
ROC	reactive organic compound
ROD	Record of Decision
ROG	reactive organic gas
ROI	region of influence
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric Company
Sempra	Sempra Generation (or Sempra U.S. Gas and Power)
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO ₄	sulfates
SPS	Special Protection System
SRA	Subregional Area
SRMA	Special Recreation Management Area
SWMP	Stormwater Management Plan
SWPL	Southwest Powerlink
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
tons/yr	tons per year
TSCA	Toxic Substances Control Act
U.S.	United States
U.S.C.	United States 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. Geologic Survey
V/m	volts per meter
VKT	vehicle kilometers traveled
VMT	vehicle miles traveled
VOC	volatile organic carbons
WHO	World Health Organization

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