

**Supplement to Joint Application to Amend  
Decision No. 75978 Pursuant to A.R.S.  
§40-252 and A.R.S §40-360 et seq.**

**Vail to Tortolita 230 Kilovolt Transmission Line Project**

Prepared for:

**Arizona Power Plant and  
Transmission Line Siting Committee**

Submitted by:

**Tucson Electric Power Company**

**Date: October 23, 2020**

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**BEFORE THE ARIZONA CORPORATION COMMISSION**

BEFORE THE

ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF SOUTHLINE TRANSMISSION, L.L.C., IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING CONSTRUCTION OF THE NON-WAPA-OWNED ARIZONA PORTIONS OF THE SOUTHLINE TRANSMISSION PROJECT, INCLUDING A NEW APPROXIMATELY 66- MILE 345-KV TRANSMISSION LINE IN COCHISE COUNTY FROM THE ARIZONA NEW MEXICO BORDER TO THE PROPOSED SOUTHLINE APACHE SUBSTATION, THE ASSOCIATED FACILITIES TO CONNECT THE SOUTHLINE APACHE SUBSTATION TO THE ADJACENT AEP CO APACHE SUBSTATION, AND APPROXIMATELY 5 MILES OF NEW 138-KV AND 230-KV TRANSMISSION LINES AND ASSOCIATED FACILITIES TO CONNECT THE EXISTING PANTANO, VAIL, DEMOSS PETRIE, AND TORTOLITA SUBSTATIONS TO THE UPGRADED WAPA OWNED 230-KV APACHE TUCSON AND TUCSON-SAGUARO TRANSMISSION LINES IN PIMA AND PINAL COUNTIES.

Docket No. L-00000AAAA-16-0370-

00173

Case No. 173

SUPPLEMENT TO JOINT APPLICATION TO AMEND

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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## TABLE OF CONTENTS

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Acronyms and Abbreviations .....	vi
Introduction .....	1
1.0 APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY .....	4
1.1 Project Information .....	4

## LIST OF EXHIBITS

EXHIBIT A – LOCATION AND LAND USE MAPS.....	A-1
EXHIBIT A-3 – Vail to Tortolita Land Ownership and Jurisdiction .....	A-2
EXHIBIT A-4.1a–e – Vail to Tortolita Existing Land Use.....	A-5
EXHIBIT A-4.2a-e – Vail to Tortolita Future Land Use .....	A-13
EXHIBIT B – ENVIRONMENTAL STUDIES .....	B-1
EXHIBIT B-1 – Final EIS Table of Contents.....	B-3
EXHIBIT B-2 – Final Scoping Report .....	B-13
EXHIBIT B-3 – BLM ROD.....	B-15
EXHIBIT B-4 – WAPA ROD.....	B-17
EXHIBIT B-5 – Summary of Southline Final EIS .....	B-19
Introduction .....	B-19
Alternatives .....	B-20
Proposed Route.....	B-23
Affected Environment and Environmental Impacts .....	B-25
Scoping, Consultation, and Coordination .....	B-42
Other Decisions to be Made.....	B-43
Plan of Development.....	B-44
EXHIBIT B-6 – Summary of the 2015 WAPA EA – Tohono O’odham Nation .....	B-46
Overview .....	B-46
EXHIBIT B-7 – Summary of the 2016 CEC .....	B-47
Overview .....	B-47
EXHIBIT C – AREAS OF BIOLOGICAL WEALTH .....	C-1
Introduction.....	C-1
Regulatory Framework .....	C-1

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Methodology .....	C-5
Inventory and Effects of the Proposed Project .....	C-5
Conclusion .....	C-22
References Cited.....	C-23
EXHIBIT D – BIOLOGICAL RESOURCES .....	D-1
Introduction.....	D-1
Existing Conditions.....	D-1
Effects of the Proposed Project .....	D-5
Conclusion .....	D-7
References Cited.....	D-23
EXHIBIT E – SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES .....	E-1
EXHIBIT E-1 – Visual Resources (Scenic Areas) .....	E-2
Introduction .....	E-2
Land Use Plans .....	E-3
Assessment Methodology.....	E-5
Existing Conditions .....	E-5
Visual Contrast Analysis and Potential Effects.....	E-8
References Cited .....	E-13
EXHIBIT E-1a – Selected Visual Simulations from the Final EIS.....	E-16
EXHIBIT E-2 – Cultural Resources (Archaeological Sites and Historic Buildings and Structures) .....	E-17
Introduction .....	E-17
Existing Conditions .....	E-18
Summary of Impacts .....	E-31
Conclusion.....	E-32
References Cited .....	E-33
Surveys.....	E-33
EXHIBIT F – RECREATIONAL PURPOSES AND ASPECTS .....	F-1
Introduction.....	F-1
Affected Environment.....	F-1
Potential Effects.....	F-5
References .....	F-8
EXHIBIT G – CONCEPTS OF PROPOSED FACILITIES.....	G-1
TRANSMISSION LINE STRUCTURES .....	G-2
SUBSTATION FACILITIES .....	G-2

EXHIBIT G-1: typical 230-kv direct embedded tangent tubular steel pole.....	G-3
EXHIBIT G-2: typical 230-kv tangent tubular steel pole.....	G-4
EXHIBIT G-3: typical 230-kv suspension angular tubular steel pole.....	G-5
EXHIBIT G-4: Typical 230-kv dead-end tubular steel pole .....	G-6
EXHIBIT G-5: comparison of typical existing and proposed structure types.....	G-7
EXHIBIT H – EXISTING PLANS.....	H-1
EXHIBIT H-1 – Existing Plan Analysis.....	H-2
Introduction .....	H-2
Overview .....	H-2
Land Use Plans; Development Plans .....	H-4
Existing Land Use.....	H-8
Proposed Land Uses and Developments .....	H-9
Potential Effects .....	H-10
References .....	H-12
EXHIBIT H-2 – Letter and Written Responses .....	H-13
EXHIBIT I – ANTICIPATED NOISE AND INTERFERENCE WITH COMMUNICATION SIGNALS .....	I-1
Introduction.....	I-1
Construction Noise .....	I-1
Corona and Audible Noise.....	I-2
Radio Interference.....	I-3
Television Interference.....	I-4
Electric and Magnetic Fields .....	I-4
Conclusions.....	I-7
References.....	I-8
EXHIBIT J – SPECIAL FACTORS .....	J-1
Introduction.....	J-1
Public Involvement .....	J-1
EXHIBIT J-1 – Southline EIS Public Involvement.....	J-3
Public Outreach Process 2011–2015 .....	J-3
Consultation and Coordination .....	J-6
Draft EIS Public Involvement.....	J-18
Route Variation Outreach .....	J-20
Project Status during the EIS.....	J-20
Records of Decision.....	J-21
Pre-construction Survey Outreach .....	J-21

EXHIBIT J-2 – Southline Transmission Line – 2018 Tumamoc Hill Stakeholder Meeting..... J-22  
Exhibit J-2a – July 2018 Tumamoc Hill Stakeholder Meeting Invitation ..... J-23  
Exhibit J-2b – July 2018 Tumamoc Hill Stakeholder Meeting Preliminary Structure  
Locations..... J-24  
Exhibit J-2c – July 2018 Tumamoc Hill Stakeholder Meeting Typical Structure Types..... J-25  
Exhibit J-2d – July 2018 Tumamoc Hill Stakeholder Meeting Posters..... J-26  
EXHIBIT J-3 – Vail to Tortolita 230 kV Project Public Involvement..... J-27  
Project Mailing List..... J-27  
Public Notice ..... J-27  
Virtual Open House ..... J-27  
Project Website..... J-28  
Project Newsletter ..... J-28  
Exhibit J-3a – TEP Public Notice – October 11, 2020 ..... J-29  
Exhibit J-3b – TEP Facebook Notice of Public Meeting..... J-31  
Exhibit J-3c – TEP Project Website (<https://www.tep.com/vail-to-tortolita/>)..... J-32

**LIST OF FIGURES**

Figure D-1. Biotic communities in study area..... D-3  
Figure I-1. EMFs from Various Sources.....I-5  
Figure I-2. Magnetic Field at Distance from Centerline.....I-6  
Figure I-3. Electric Field at Distance from Centerline .....I-6

## LIST OF TABLES

Table 1. Land Ownership.....	7
Table C-1. Special-Status Species that May Occur in the Vicinity of the Project in Arizona (from the 2015 Final EIS) .....	C-9
Table D-1. Mammal Species with the Potential to Occur in the Vicinity of the Study Area.....	D-8
Table D-2. Bird Species with the Potential to Occur in the Vicinity of the Study Area. ....	D-11
Table D-3. Reptile and Amphibian Species with the Potential to Occur in the Vicinity of the Study Area .....	D-18
Table E-1. Previously Conducted Archaeological Surveys within the Construction Footprint Study Area .....	E-19
Table E-2. Previously Recorded Archaeological Sites within the Construction Footprint Study Area .....	E-28
Table F-1. Game Management Units in the Project Area* .....	F-2
Table H-1. Surface Management and Land Ownership Acreage Within the Study Area and ROW. ....	H-3
Table H-2. Entities that were mailed Project Request for Information Letters .....	H-3
Table I-1. EMF Strength of Various Electrical Sources at Various Disturbances .....	I-4
Table J-1. Locations of Pre-NEPA Meetings Conducted in Arizona with Jurisdictions and Agencies .....	J-3
Table J-2. Public and Agency Scoping Meetings Held in Arizona (2012) .....	J-5
Table J-3. Correspondence and Meetings with Tribes.....	J-9
Table J-4. Locations of Public Open House/Hearings and Agency Meetings Held in Arizona for Draft EIS (2014) .....	J-19
Table J-5. Summary of Substantive Draft EIS Comments Received by Issue.....	J-19

## ACRONYMS AND ABBREVIATIONS

A	amperes
AAC	Arizona Administrative Code
ACC (also Commission)	Arizona Corporation Commission
ADA	Arizona Department of Agriculture
AEPCO	Arizona Electric Cooperatives
AGFD	Arizona Game and Fish Department
AM	amplitude modulation
AN	audible noise
ANPL	Arizona Native Plant Law
Anza NHT	Juan de Bautista de Anza National Historic Trail
APE	Area of Potential Effect
APLIC	Avian Powerline Interaction Committee
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASM	Arizona State Museum
ASU	Arizona State University
BA	biological assessment
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BO	biological opinion
BR	Bureau of Reclamation
BSETR	Buffalo Soldier Electronic Testing Range
CEC	Certificate of Environmental Compatibility
CEC 173	Line Siting Case No. 173
CFR	Code of Federal Regulations
CLS	Conservation Land System
CO	carbon monoxide
Committee	Arizona Power Plant and Transmission Line Siting Committee

dBa	A-weighted decibels
DEM	Digital Elevation Model
DOD	Department of Defense
EA	environmental assessment
EIS	Environmental Impact Statement
EMF	electric and magnetic fields
EPRI	Electric Power Research Institute
ESA	Endangered Species Act
FLPMA	Federal Land Policy Management Act
FM	frequency modulation
FONSI	finding of no significant impact
FW	Fighter Wing
HDMS	Heritage Database Management System
GIS	geographic information system
GLO	General Land Office
GMUs	game management units
HPTP	Historic Properties Treatment Plan
IFNM	Ironwood Forest National Monument
KOPs	key observation points
kV	kilovolt
MBTA	Migratory Bird Treaty Act
mG	milliGauss
MOAs	Military Operations Areas
MSCP	Multi-species Conservation Plan
MTRs	Military Training Routes
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NLCD	National Land Cover database

NMDGF	New Mexico Department of Game and Fish
NMSLO	New Mexico State Land Office
NOA	Notice of Availability
NOI	Notice of Intent
NPPO	Native Plant Protection Ordinance
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	noise sensitive receptors
NST	National Scenic Trail
OHV	off-highway-vehicle
PA	Programmatic Agreement
PCEMs	Proponent Committed Environmental Measures
PFYC	Potential Fossil Yield Classification
PLZs	Potential wildlife linkage zones
PM10	particulate matter 10
POD	Plan of Development
Project	Vail to Tortolia 230 kV Project
Q&A	questions and answers
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
ROD	record of decision
ROE	right-of-entry
ROW	right-of-way
SDCP	Sonoran Desert Conservation Plan
SGCN	species of greatest conservation need
SHPO	State Historic Preservation Officer
Southline	Southline Transmission, LLC
Southline Project	Southline Transmission Line Project
TEP	Tucson Electric Power

TIA	Tucson International Airport
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
V	volt
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WAPA	Western Area Power Administration
WIUs	Wilderness Inventory Units
WSAs	wilderness study areas
WSC	wildlife species of concern

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Tucson Electric Power Company and Southline Transmission L.L.C. hereby submit this Supplement to their Joint Application to Amend Decision No. 75978 in connection with proceedings before the Arizona Power Plant and Line Siting Committee as ordered by Decision No. 77755. This Supplement is made pursuant to A.R.S. §40-252 and A.R.S. §40-360 et seq.

## INTRODUCTION

*Procedural Posture.* This case comes before the Arizona Power Plant and Transmission Line Siting Committee (“Committee”) in a different procedural posture than most siting cases. This case was referred to the Committee by the Arizona Corporation Commission (the “Commission”) pursuant to A.R.S. §40-252 to conduct an evidentiary hearing on an application to amend Decision No. 75978 (February 24, 2017). Decision No. 75978 approved the Certificate of Environmental Compatibility granted by this Committee in Line Siting Case No. 173 (“CEC 173”) for the Southline Project and under their application to amend, Tucson Electric Power Company (“TEP”) and Southline Transmission L.L.C. (“Southline”) are requesting that the Commission amend CEC 173 to permit TEP to own, construct and operate one of the 230kV circuits that will be constructed on a 64-mile segment of the Southline Project between TEP’s Vail and Tortolita substations. In simple terms, the Committee has been directed to take evidence and render findings that will permit the Commission to rule on the application to amend CEC 173.

*Southline Project and CEC 173.* To understand the issues presented by the application to amend, it is important to understand some of the unique aspects of the Southline Project and the posture of Case No. 173. The Southline Project involves the construction of approximately 370 miles of new and upgraded transmission lines and associated facilities in New Mexico and Arizona consisting of two sections: (i) a new approximately 249 mile double-circuit 345kV transmission line and associated facilities beginning in New Mexico and travelling west into Cochise County, Arizona to the Apache Substation near Willcox, AZ (the “New Build Section”); and (ii) approximately 121 miles of 115 kV line owned by the Western Area Power Administration (“WAPA”) that will be upgraded to a double-circuit 230kV line (the “Upgrade Section”) extending from the Apache Substation to the a location west of TEP’s Tortolita Substation. The Arizona portion of the Southline Project includes (i) 67 miles of the New Build Section (including less than 1 mile of associated new facilities); (ii) the entire Upgrade Section including 121 miles of WAPA owned facilities, and (iii) the Upgrade Route consisting of approximately 5 miles of non-WAPA owned facilities to connect the Upgrade Section to the Arizona Electric Cooperatives (“AEP CO”) Apache Substation, AEP CO Pantano Substation, the TEP Vail Substation, the TEP DeMoss Petrie Substation, and the TEP Tortolita Substation.

Southline’s CEC application only sought a Certificate of Environmental Compatibility (“CEC”) for the non-WAPA owned portions of the Southline Project located in Arizona and excluded the

Upgrade Section because the Upgrade Section was to be wholly owned and operated by WAPA and therefore fell outside of the jurisdiction of the Committee and the Commission. As a result, CEC 173 authorizes the construction of approximately 68 miles of 345kV transmission line and associated facilities located in Cochise County and approximately 5 miles of new 138kV and 230kV transmission lines needed to connect the substations identified above to the WAPA-owned transmission lines in Pima and Pinal Counties. However, though the WAPA-owned Upgrade Section was not covered by CEC 173, it was still subjected to a rigorous federal permitting process that required an Environmental Impact Statement (“EIS”) that gained final approval under Record of Decisions (“RODS”) issued by the Bureau of Land Management and by WAPA. The record before the Committee in the original case that resulted in CEC 173 included the full EIS and RODs, which the Committee ultimately relied upon and adopted in crafting many of the conditions for CEC 173.

*Why an Amendment of CEC 173 is Necessary.* As noted above, TEP and Southline are requesting an amendment to CEC 173 to allow TEP to own, construct and operate a 230kV circuit that covers a 64-mile segment of the Southline Project. That 64-mile segment of line is located between TEP’s Vail and Tortolita Substations (the “Vail to Tortolita Segment” or “Project”) and is also located within the Upgrade Section that was excluded from Southline’s CEC application and CEC 173. In excluding the Upgrade Section from CEC 173, however, the Committee conditioned the authorization to construct the remainder of the Arizona facilities under the CEC on “WAPA owning and operating all of what is described in the Application as the Upgrade Section . . . .” Therefore, for TEP to be able to construct the Vail to Tortolita Segment of the Arizona transmission lines and facilities authorized by CEC 173, the Commission must amend the CEC to permit TEP’s ownership of the Vail to Tortolita Segment within the Upgrade Section.

Since the Upgrade Section was originally excluded from CEC 173, the Committee and the Commission did not directly consider the engineering need and environmental impacts of the Upgrade Section in Case 173 and the Commission never approved construction of any portion of the Upgrade Section due to the planned 100% ownership by WAPA and a lack of jurisdiction over that federal entity. But now, in seeking to own, construct, and operate the Vail to Tortolita Segment, TEP needs an amendment of CEC 173 and the Commission has decided that it needs further evidence regarding the need and environmental impacts of Vail to Tortolita segment to rule on the application to amend.

*The Nature of this Case.* Although this case has been referred to this Committee by the Commission in connection with an application to amend an existing CEC under A.R.S. §40-252, the evidence and record that will be developed is consistent with a traditional siting case governed by A.R.S. §40-360 et. seq. This Supplemental Application satisfies all of the statutory requirements under A.R.S. §40-360.03 and the parties will present evidence to the Committee to

allow it to consider and render findings on all of the factors referenced in A.R.S. §40-360.06 that will, in turn, enable the Commission to reach a final decision on whether TEP should be permitted to own, construct and operate the Vail to Tortolita Segment as requested in the application to amend.

*Why does TEP need this Project.* TEP's ownership of the Vail to Tortolita Segment will allow TEP to improve the service and reliability to its customers in a number of ways. First, ownership of the Vail to Tortolita Segment will allow TEP to start its long-term plan of building a 230kV loop around Tucson to support its 138 kV system. Second, TEP's ownership of the Vail to Tortolita Segment will also improve TEP's ability to schedule or respond to outages for maintenance and thereby further improve reliability. Finally, the Vail to Tortolita Segment is a development-ready project that allows TEP to eliminate planned upgrades to TEP's transmission system that would otherwise be needed to address service and reliability issues. In sum, the Vail to Tortolita Segment satisfies a number of needs that will allow TEP to continue to provide safe and reliable service to its customers while minimizing the impact on the environment by allowing TEP to own and operate a 230kV circuit in an existing transmission corridor.

*Project Overview.* The Vail to Tortolita Segment or Project is an upgrade of WAPA's existing 115kV line to a double-circuit 230kV line. The upgraded line will follow WAPA's existing right of way except in a three locations where the line was rerouted through the federal permitting process to address concerns of stakeholders. The double-circuit 230kV line will be constructed on steel monopoles.

*Requested Relief.* Through their application to amend, TEP and Southline request an amendment of Decision 75978 that approved CEC 173 to permit TEP to own, construct and operate the Vail to Tortolita Segment. By this Supplement and the evidentiary proceedings before the Committee, TEP and Southline will establish that the requested amendment to CEC 173 is in the public interest because it balances the need for an adequate, economical, and reliable supply of electric power, with the desire to minimize impacts to the environment and ecology.

# 1.0 APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

(Pursuant to A.R.S. § 40-360.03 and 40-360.06)

## 1.1 PROJECT INFORMATION

1. Name and address of Applicants:

Tucson Electric Power Company (TEP) 88 East Broadway Blvd, Tucson, AZ 85701 PO Box 711, Tucson, AZ 85702	Southline Transmission, L.L.C. 1900 North Arkard Street Dallas, TX 75201
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2. Name, address and telephone number of a representative of Applicants who have access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information:

Ed Beck

Tucson Electric Power

88 East Broadway Blvd, Tucson, Arizona 85701

PO Box 711, Tucson, Arizona 85702

Phone: (520) 241-9250

Doug Patterson

Southline Transmission Line, L.L.C.

c/o Black Forest Partners, L.P.

55 Main Street, 3<sup>rd</sup> Floor

Tiburon, California 94920

3. Dates on which Applicants filed a Ten-Year Plan in compliance with A.R.S. § 40-360.02, and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a Ten-Year Plan, state the reasons therefore:

TEP's current "Ten-Year Plan Transmission Projects for Years 2019-2028," filed in January 2019 in Docket No. E-00000D-19-0007, includes this Project. The Project was identified as a conceptual EHV transmission project on page 31 of its plan.

Southline Transmission, L.L.C. filed Ten Year Plans each year since 2015.

4. Description of transmission line:

- i. Nominal voltage for which the lines are designed; description of the proposed structures and switchyards or substations; purpose for constructing:

Nominal Voltage

The nominal voltage of the single-circuit transmission line of the Project is 230 kV alternating current.

Description of Structures

The transmission line structures will be tubular steel monopole structures. The average span length between structures will be approximately 900 feet; departures from this span length may be necessary to achieve site-specific mitigation objectives. The conductor will have a non-specular finish to reduce visibility.

Description of Substation and Switchyards

The Project originates at the existing Vail Substation and connects to the Demoss Petrie Substation before terminating at the existing Tortolita Substation.

See Exhibits G-1 through G-5 for typical structures; Exhibit E-1 for visual simulations of the transmission line.

Project Purpose

The purpose of the Project is to serve growing energy needs in Tucson and improve electric reliability for TEP customers within and near the project study area.

The Project will assist TEP in meeting its obligation to provide reliable and affordable electrical power to customers within its service territory.

- ii. Description of geographic points between which the transmission line will run; Straight-line distance between such geographic points; Length of the transmission line for each alternate route:

### Description of Geographic Points

The Project will run generally in a northwesterly direction from the TEP Vail Substation to its DeMoss Petrie Substation located near Grant Road and Interstate 10. The line will then run in a northerly direction to a termination point at the Tortolita Substation.

N/A use of existing WAPA rights-of-way

- iii. Nominal width of right-of-way required; nominal length of span; typical height of supporting structures above ground; minimum height of conductor above ground:

### Nominal Width of Right-of-Way

The applicant plans to utilize existing WPA 100-foot wide rights-of-way.

### Nominal Length of Span

The nominal length of span is approximately 900 feet.

### Typical Height of Supporting Structures

Supporting structures typically will be 135 feet for the transmission lines.

### **Minimum Height of Conductor**

The minimum height of the 230-kV transmission line conductor above existing grade will be 30 feet.

- iv. Estimated costs of the proposed transmission line and route:

The total cost of the line rebuild is anticipated to be \$119 million.

- v. Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof):

Description of Proposed Routes

The proposed route consists of 52 miles of existing WAPA 115-kV transmission line right-of-way and 12 miles of right-of-way to avoid specific areas of concern to Pima County and Marana Regional Airport identified in the federal EIS process.

- vi. For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.):

Land ownership in the study area is private and government-owned (local, state, and federal). Table 1 indicates the corridor jurisdiction.

**Table 1. Land Ownership**

Alternative	State	Pima County	Private	Federal Government	Tribal
Vail to Tortolita 230 kV	34.06%	0.66%	59.98%	0.95%	4.35%

- 5. List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.

The Project is within the jurisdiction of the City of Tucson, Pima and Pinal Counties, and the town of Marana.

All the alternative routes are compatible with local land use plans and zoning.

- 6. Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.

TEP has conducted environmental studies, including field studies and impact assessments, to support this application. Information and reports on these study efforts are contained in the following exhibits:

Exhibit A	Location and Land Use Maps
Exhibit B	Environmental Studies
Exhibit C	Areas of Biological Wealth
Exhibit D	Biological Resources

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Exhibit E	Scenic Areas, Historic Sites and Structures, and Archaeological Sites
Exhibit F	Recreational Purposes and Aspects
Exhibit G	Concepts of Proposed Facilities
Exhibit H	Existing Plans
Exhibit I	Anticipated Noise and Interference with Communication Signals
Exhibit J	Special Factors (Includes Public Involvement)