BEFORE THE
ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

In the matter of the Joint Application of Nogales Transmission, L.L.C. and UNS Electric, Inc. ("UNSE"), in conformance with the requirements of Arizona Revised Statutes § 40-360, et seq., for Certificates of Environmental Compatibility authorizing construction of the Nogales Interconnection Project and the UNSE Nogales Tap to Kantor Upgrade Project, including an approximately 27.5-mile upgrade of UNSE's existing 138-kV transmission line from a point near the existing Western Area Power Administration ("WAPA") Nogales Tap in Pima County and the existing UNSE Kantor Substation in Santa Cruz County, a new approximately three-mile 138-kV double circuit transmission line in Santa Cruz County from a point near the existing UNSE Valencia Substation to the proposed Gateway Substation and associated facilities, and a new approximately two-mile 230-kV transmission line and associated facilities in Santa Cruz County to interconnect the proposed Gateway Substation to the Mexican National Electric System	)	Docket No. _____ Case No. _____

JOINT APPLICATION FOR
CERTIFICATES OF ENVIRONMENTAL COMPATIBILITY

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF ACRONYMS AND ABBREVIATIONS

A	Amperes
ACC	Arizona Corporation Commission
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
AM	Amplitude modulation
ASLD	Arizona State Land Department
ASM	Arizona State Museum
BCMA	Biological Core Management Areas
BLM	Bureau of Land Management
CBP	U.S. Customs and Border Protection
CEC	Certificate of Environmental Compatibility
CENACE	Centro Nacional de Control de Energía
CFE	Comisión Federal de Electricidad
CLS	Conservation Lands System
CNF	Coronado National Forest
CRE	Comisión Reguladora de Energia
CUP	Conditional Use Permit
dBA	A-weighted decibels
DOE	U.S. Department of Energy
Du	Dwelling unit
EMF	Electromagnetic field
ESA	Endangered Species Act
FCC	Federal Communications Commission
FM	Frequency modulation
FPA	Federal Power Act
GIS	Geographic Information Systems
GR	General Rural
HDMS	Heritage Data Management System
HVDC	High voltage direct current
IPaC	Information for Planning and Conservation
IRA	Important Riparian Areas
kV	Kilovolt
MOU	Memorandum of Understanding
MUMA	Multiple Use Management Areas
MW	Megawatts
NAIP	National Aerial Imagery Program
NEPA	National Environmental Policy Act
NGO	Non-governmental organization
NERC	North American Electric Reliability Corporation
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code

NWP 12	Nationwide Permit Number 12
OHWP	Ordinary High Water Mark
PJD	Preliminary Jurisdictional Delineation
PPFAC	Power Purchase and Fuel Clause
RH	Rural Homestead
ROW	Right-of-Way
RNT	Red Nacional de Transmisión
SDCP	Sonoran Desert Conservation Plan
SISA	System Impact Study Agreement
TEP	Tucson Electric Power
UNSE	UNS Electric, Inc.
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish & Wildlife Service
V	Volts
WAPA	Western Area Power Administration
WECC	Western Electricity Coordinating Council
WOTUS	Waters of the U.S.

EXECUTIVE SUMMARY

I. INTRODUCTION

Nogales Transmission, L.L.C. ("Nogales Transmission") and UNS Electric, Inc. ("UNSE") (collectively, "Applicants") request from the Arizona Power Plant and Transmission Line Siting Committee ("Committee") Certificates of Environmental Compatibility ("CECs") for authority to construct two related transmission projects, described below as the Nogales Interconnection Project and the UNSE Nogales Tap to Kantor Upgrade Project. Together these projects are referred to in this Application as the "CEC Transmission Facilities" or the "Facilities."

The CEC Transmission Facilities will result in an asynchronous connection[1] between the electric grid in southern Arizona and the electric grid in northwestern Mexico, offering numerous benefits to each system. Benefits of the projects include access to additional energy sources, markets, and ancillary services; cost savings; and economic development. The Facilities will also support the reliability of each electric system, including providing bidirectional power flow, voltage support, and emergency assistance, as needed, for the electric systems both north and south of the international border. The Nogales, Arizona area, which currently relies on a single transmission line for power supply, will obtain access to additional sources of electricity in the event of a reliability emergency.

A. Nogales Interconnection Project

The Nogales Interconnection Project consists of the following three components, all of which will be located in Santa Cruz County: (1) a UNSE 138-kV Gateway Substation and a Nogales Transmission 230-kV Gateway Substation, which will be the location of High Voltage Direct Current ("HVDC") converter equipment, referred to collectively as the "Gateway Substation;" (2) a new approximately three-mile double circuit 138-kV transmission line to be constructed by UNSE—one circuit to extend the existing UNSE Vail to Valencia line from a point near UNSE's Valencia Substation to the proposed Gateway Substation and one circuit to connect the new Gateway Substation to the existing Valencia Substation; and (3) a new approximately two-mile single circuit

[1] An asynchronous connection is a connection between electrical networks that operate at different frequencies, or are otherwise incompatible, allowing them to exchange power without requiring the tight coordination of a synchronous network.

230-kV transmission line to be built by Nogales Transmission on double-circuit capable structures that will connect the proposed Gateway Substation to the U.S.-Mexico border, where it will interconnect with the Red Nacional de Transmisión ("RNT"), the state-owned transmission grid operated by Centro Nacional de Control de Energía ("CENACE").

Entities on both sides of the international border have taken initial steps to facilitate the Nogales Interconnection Project. In the U.S., UNSE has performed studies to ensure that system reliability will not be adversely affected. In Mexico, extensive planning and coordination efforts have taken place with several Mexican entities involved with the RNT. On May 31, 2016, the Mexican Secretary of Energy published the "PRODESEN," a development program containing plans for transmission and distribution line projects in Mexico, which included facilities necessary to interconnect the Nogales Interconnection Project with the Nogales Aeropuerto substation in Mexico. The 2017 update to the PRODESEN also includes these facilities.

B. Nogales Tap to Kantor Upgrade Project

The Nogales Tap to Kantor Upgrade Project, to be constructed by UNSE on a 27.5-mile segment of UNSE's existing 138-kV transmission line that serves Santa Cruz County, is necessary to provide the transmission capacity to support the Nogales Interconnection Project and strengthen the UNSE transmission system in the area. Upgrading the 27.5-mile segment between a point near the Western Area Power Association ("WAPA") Nogales Tap switchyard and UNSE's Kantor Substation will include replacement of the existing conductor and the existing steel monopoles. Depending on the approved route, relocating some of the transmission infrastructure outside the existing alignment may be necessary.

C. Developers

The Nogales Interconnection Project is being jointly developed by Nogales Transmission, L.L.C., and MEH Equities Management Company ("MEH"). Nogales Transmission is an indirect subsidiary of Hunt Power, L.P. ("Hunt Power"), which is an indirect subsidiary of Hunt Consolidated, Inc. ("Hunt Consolidated"). Hunt Power develops and acquires electric transmission and distribution assets—both unregulated and regulated—either through acquisition of existing assets or through new incremental construction projects. Hunt Consolidated is a large, privately-owned group of companies, based in Dallas, Texas, and managed by the Ray L. Hunt family, that

engages in oil and gas exploration, refining, power, real estate, ranching, and private equity investments.

UNSE, Tucson Electric Power ("TEP"), and MEH (an investment holding company) are subsidiaries of Arizona-based UNS Energy Corp., which is a subsidiary of Fortis, Inc. Fortis, a leader in the North American regulated electric and gas utility industry, owns utilities that serve more than three million customers across Canada and in the United States and the Caribbean.

D. Pending DOE Approval

Although the CEC Transmission Facilities are subject to review by the Committee and the Arizona Corporation Commission ("ACC" or "Commission") pursuant to A.R.S. §§ 40-360 et seq., the proposed transmission of electric energy at the international border between the U.S. and Mexico is subject to federal jurisdiction pursuant to Section 202(e) of the Federal Power Act ("FPA"), 16 U.S.C. § 824a(e), Executive Order No. 10485 as amended by Executive Order No. 12038, and 10 C.F.R. §§ 205.320, et seq. Accordingly, on April 8, 2016, Nogales Transmission submitted to the U.S. Department of Energy ("DOE") an Application for a Presidential Permit for the Nogales Interconnection Project.[2] In May 2016, DOE published a Federal Register Notice of the Application.[3] Nogales Transmission filed an amendment to the Presidential Permit application on January 9, 2017, which adjusted the coordinates of the proposed Gateway to U.S.-Mexico Border 230-kV transmission line, followed by a second amendment on May 31, 2017, reflecting an updated electrical configuration for the project. On July 5, 2017 DOE published the Nogales Interconnection Project Draft Environmental Assessment ("DOE Draft EA"), which will be available for public comment through August 3, 2017. The Presidential Permit application is currently pending.

[2] *See Nogales Transmission, L.L.C.*, "Application for Presidential Permit; Nogales Interconnection Project," U.S. DOE OE Docket No. PP-420 (Apr. 8, 2016).

[3] 81 Fed. Reg. 31,622 (May 19, 2016).

II. OVERVIEW OF PROJECTS

A. General

Nogales Transmission proposes to construct a HVDC interconnection that would allow for an asynchronous tie between the electric grid in southern Arizona and the electric grid in northwestern Mexico. To accomplish this interconnection, Nogales Transmission proposes to construct the 230-kV Nogales Gateway Substation and a 230-kV transmission line connecting from the proposed Gateway Substation to a transmission line at the U.S.-Mexico border. UNSE proposes to upgrade a portion of the existing 138-kV Vail to Valencia transmission line, reconfigure the existing Vail to Valencia 138-kV transmission line to become the Vail to Gateway 138-kV transmission line, construct a new 138-kV UNSE Gateway Substation, and construct a new 138-kV line to connect the proposed Gateway Substation to the existing Valencia Substation. These components of the CEC Transmission Facilities are discussed below in Sections II.B and II.C and illustrated in Figure II.A. In "Phase I" of the Nogales Interconnection Project, the Facilities would include a converter capacity of 150 megawatts ("MW"). A second phase of this project, the timing of which will be determined by market demand, would expand the converter capacity to 300 MW ("Phase II").

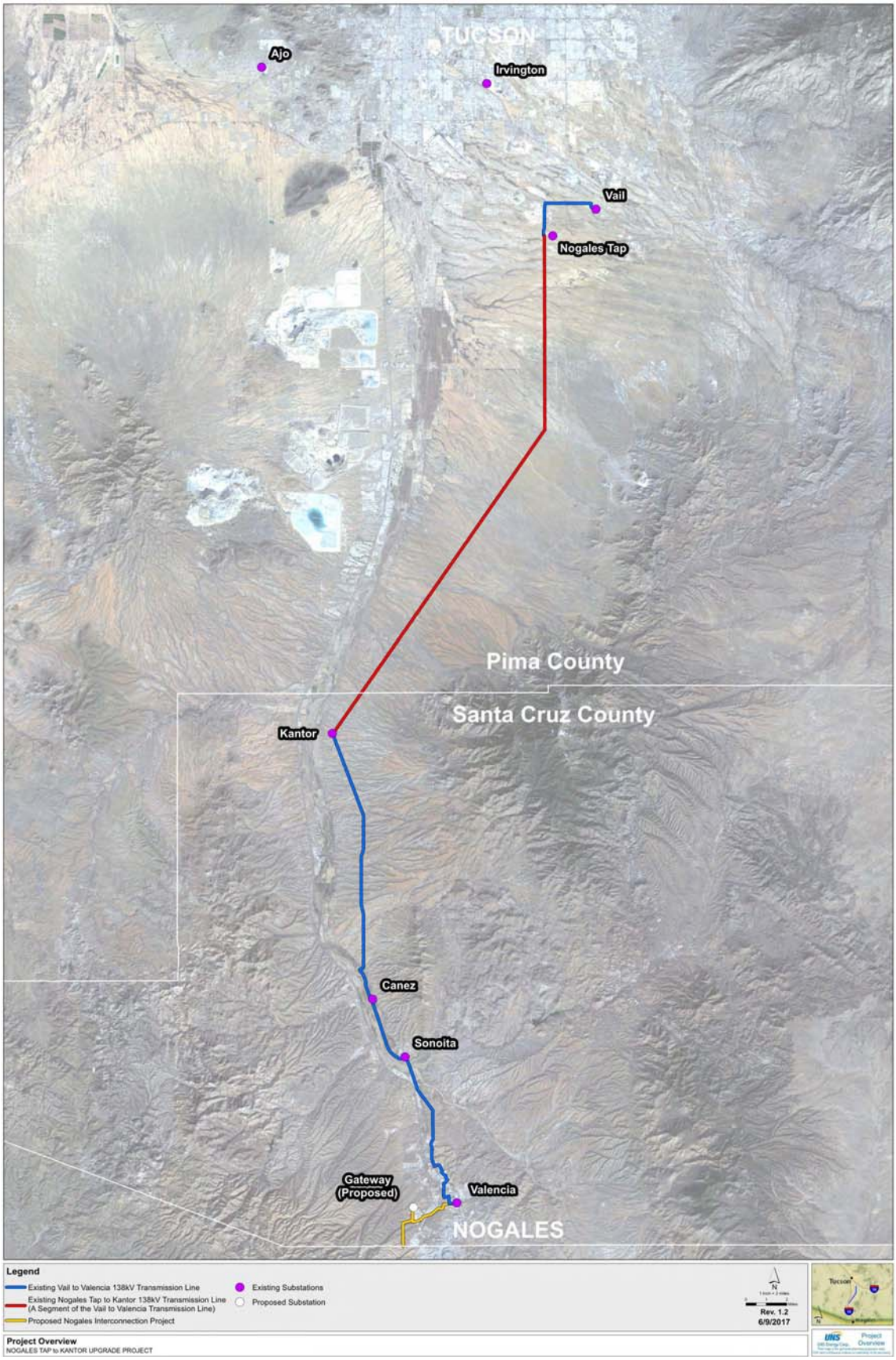


Figure II.A - Overview of CEC Transmission Facilities

B. The Nogales Interconnection Project

The Nogales Interconnection Project is comprised of a new Gateway Substation, a new Gateway to U.S.-Mexico Border 230-kV transmission line, and a new approximately three-mile double circuit 138-kV transmission line which will (a) extend the Vail to Valencia 138-kV transmission line to the new Gateway Substation and (b) establish a connection from the proposed Gateway Substation to the existing Valencia Substation. Figure IV.A identifies the four proposed routes for the Nogales Interconnection Project.

1. New Gateway Substation

The proposed Gateway Substation[4] will be constructed by Nogales Transmission in Santa Cruz County on 11 acres of land that Nogales Transmission expects to acquire from TEP. The substation will consist of a UNSE Gateway Substation and Nogales Gateway Substation, referred to collectively as the "Gateway Substation." About 1.8 acres of the substation site will be used to construct the UNSE Gateway Substation, which will serve as (1) the new point of termination of the 138-kV transmission line currently extending from Vail to Valencia; and (2) the point of origin of the proposed Gateway to Valencia 138-kV transmission line. The UNSE Gateway Substation will also accommodate connections to the Phase I and II HVDC equipment and future UNSE distribution facilities. About nine acres of the substation site will be used to construct the Nogales Gateway Substation, where both the Phase I and II HVDC equipment will be located. The Nogales Gateway Substation will serve as the point of origin of the proposed Gateway to U.S.-Mexico Border single circuit 230-kV transmission line on double- or triple-circuit capable structures, depending on the route approved.

2. New Gateway to U.S.-Mexico Border Transmission Line

An approximately two-mile 230-kV transmission line will be constructed by Nogales Transmission in Santa Cruz County. This line will originate at the proposed Gateway Substation and extend south to the U.S.-Mexico border, interconnecting to a new transmission line in Sonora, Mexico. It will be constructed on self-weathering tubular steel monopole structures roughly 95-115 feet in height and with a base diameter of around four feet for tangent structures. Depending on the route selected, a short stretch of this line may include two parallel pole structures to accommodate a new

[4] A CEC that included the Gateway Substation site was previously granted in Line Siting Case No. 111 to TEP and Citizens Communications Co. *See* ACC Docket Number L-00000C-01-0111-00000.

single circuit 230-kV line and a new double-circuit 138-kV line, a triple-circuit structure with a new single circuit 230-kV line and a new double-circuit 138-kV line, or a single-circuit 230-kV line on double-circuit-capable poles. Depending on site-specific characteristics, the distance in between the structures will be between 600 and 1,000 feet, or from five to nine structures per mile. The line's right-of-way ("ROW") width will be up to 150 feet.

3. Vail to Gateway Transmission Line (Vail to Valencia Extension)

An approximately three-mile 138-kV double-circuit transmission line will be constructed by UNSE in Santa Cruz County. One circuit of this line will originate at an existing pole 1,900 feet west of UNSE's existing Valencia Substation, where the existing Vail to Valencia line will be severed and connected to one circuit of the new double-circuit line. The circuit will proceed in a westerly direction to the proposed Gateway Substation, thereby converting the existing Vail to Valencia transmission line to the new "Vail to Gateway" transmission line. Like the existing Vail to Valencia transmission line, the new line will be constructed on self-weathering tubular steel monopole structures ranging in height from 75 to 110 feet and with a base diameter of around three feet for tangent structures. Depending on site-specific characteristics, the distance in between the structures will be between 600 and 1,000 feet, and result in five to nine structures per mile. The line's ROW width will be up to 150 feet.

4. New Gateway to Valencia Transmission Line

The second circuit of the approximately three mile long 138-kV transmission line to be constructed by UNSE in Santa Cruz County will originate at the proposed Gateway Substation. The circuit will proceed in an easterly direction along the double-circuit structures supporting the new Vail to Gateway transmission line to a pole 1,900 feet west of the existing Valencia Substation, where it will connect with the existing portion of the UNSE 138-kV transmission line that travels east to the Valencia Substation. This circuit will constitute the new "Gateway to Valencia" transmission line. The line will be constructed on self-weathering tubular steel monopole structures ranging in height from 75 to 110 feet and with a base diameter of around three feet for tangent structures. Depending on site-specific characteristics, the distance in between the structures will be between 600 and 1,000 feet, and result in five to nine structures per mile. The line's ROW width will be up to 150 feet.

C. The Nogales Tap to Kantor Upgrade Project

Based on a system impact study conducted by UNSE that was completed in July 2017 (see Exhibit J-4), upgrades to a portion of UNSE's existing Vail to Valencia transmission line between a point near the Nogales Tap to the Kantor Substation are necessary to support the Nogales Interconnection Project. This approximately 27.5-mile segment was not upgraded in 2013 with the remainder of the Vail to Valencia line,[5] and therefore it presently lacks sufficient capacity to support the project. The upgrade requires replacing the existing Darien 559 AAC conductor with Rail 954 ACSS-HS conductor, which necessitates replacement of the existing steel monopoles.

The Nogales Tap to Kantor Upgrade Project will be rebuilt on self-weathering tubular steel monopole structures ranging in height from 75 to 110 feet and with a base diameter of around three feet for tangent structures. Depending on site-specific characteristics, the distance in between the structures will be between 600 and 1,000 feet, and result in five to nine structures per mile. The line's ROW width will be up to 100 feet.

Depending on the route approved, the work on the upgrade segment will involve replacing the conductor and poles in the existing ROW, where possible, and relocating poles within new or amended ROWs on private or state land. Figure IV.B identifies the three proposed routes for the Nogales Tap to Kantor Upgrade Project.

III. PROJECT PURPOSE AND NEED

The purpose of the CEC Transmission Facilities is to provide an asynchronous interconnection in the vicinity of Nogales, Arizona, that will enable bidirectional electricity transfer between the Western Electricity Coordinating Council ("WECC") and Mexico, facilitating cross-border commercial electricity transactions and enhancing transmission grid reliability in southern Arizona. The Facilities would provide bidirectional power flow and voltage support as well as emergency assistance, as needed, for the electric systems both north and south of the international border.

[5] A CEC was previously granted in Line Siting Case No. 144 to upgrade all but the 27.5-mile segment of the Vail to Valencia transmission line from the Nogales Tap to the Kantor Substation; that segment was not rebuilt along with the segment from Kantor to Valencia in 2013 because UNSE determined that that segment, rebuilt in the 1980s on 90-foot self-weathering steel monopoles, was capable of operation at 138 kV.

The Facilities would enable the creation of a power market to trade electricity between the U.S. and Mexico that will allow transmission service customers (e.g. TEP, UNSE, and the Comisión Federal de Electricidad) to pass cost savings to retail customers obtained through firm and non-firm energy transactions, as well as through diversity of peak demand patterns. This increased market liquidity would further improve the region's ability to meet future electric capacity and energy requirements. As further discussed in Section 4(b)(i)(4) of the Application, two recent memorandums of understanding ("MOUs") and a whitepaper underscore the public policy value of cross-border energy transactions.

For example, the Facilities support the March 8, 2017 MOU between the Mexico Comisión Reguladora de Energia ("CRE"), the Centro Nacional de Control de Energía ("CENACE"), and the North American Electric Reliability Corporation ("NERC"), which recognizes the established and growing cross-border operations and activities between the U.S. and Mexico and initiates a collaborative mechanism to enhance the reliability of their respective electric power systems. For example, the City of Nogales is at the end of the WECC grid and relies on the approximately 58-mile 138-kV Vail to Valencia transmission line for its power supply. The addition of the proposed Gateway Substation and its connection to the electric grid in Sonora, Mexico can provide an additional source of energy for the City of Nogales in the event of a transmission line outage or other reliability problem on the WECC system, and enable transmission-owning utilities on both sides of the border to support each other during emergency situations. The Facilities' consistency with international reliability considerations is further discussed in Section 4(b)(i)(4) of the Application.

Finally, the Facilities would create regional economic development opportunities. In addition to temporary construction and supply chain jobs, the Facilities would lead to a more robust electric grid to support the region's business growth.

For additional details regarding the purpose and need of the Facilities, please refer to Section 4(b)(i)(4) of the Application.

IV. PROPOSED ROUTES

Applicants propose routes for the following Facilities: (1) the approximately five mile Nogales Interconnection Project, including (a) the approximately three mile new 138-kV double-circuit transmission line that will both connect the Gateway Substation to the Valencia Substation and create the Vail to Gateway transmission line, and (b) the

approximately two-mile new 230-kV transmission line extending from Gateway Substation to the U.S.-Mexico border; and (2) the Nogales Tap to Kantor Upgrade Project. Alternative routes are shown on Figures IV.A and IV.B.

A. Nogales Interconnection Project

Applicants propose four Alternative Routes for the Nogales Interconnection Project and have identified Alternative Route 3 as their preferred route.

The route options are composed of a combination of 14 different route segment variations. These route segment variations are modified versions of route segments originally considered in the Draft Environmental Assessment prepared in support of the Nogales Interconnection Project Presidential Permit Application ("PP EA"), discussed below in Section V.

Route Segment Variations 1, 4, 5, and 15 are common to all of the proposed routes, and each route is planned to cross the international border at the point specified in the first amendment to the Presidential Permit application—31° 19′ 57.846″ N and 110° 58′ 35.620″—which is west of the Mariposa Port of Entry. Each route is described below. The following Table IV.A shows the Route Segment Variation compositions by route. See Figure IV.A for an overview of the proposed routes for the Nogales Interconnection Project.

Table IV.A - Nogales Interconnection Project Alternative Route Segment Variation Composition

	1	2	3	4	5	6	7	8*	9	10	11	12	13	14	15
Alternative Route 1	x	x		x	x				x	X	x		x		X
Alternative Route 2	x		x	x	x	X								x	X
Alternative Route 3	x		x	x	x				x	X		x	x		X
Alternative Route 4	x		x	x	x		x							x	X

*Route Segment Variation 8 was removed from the analysis.

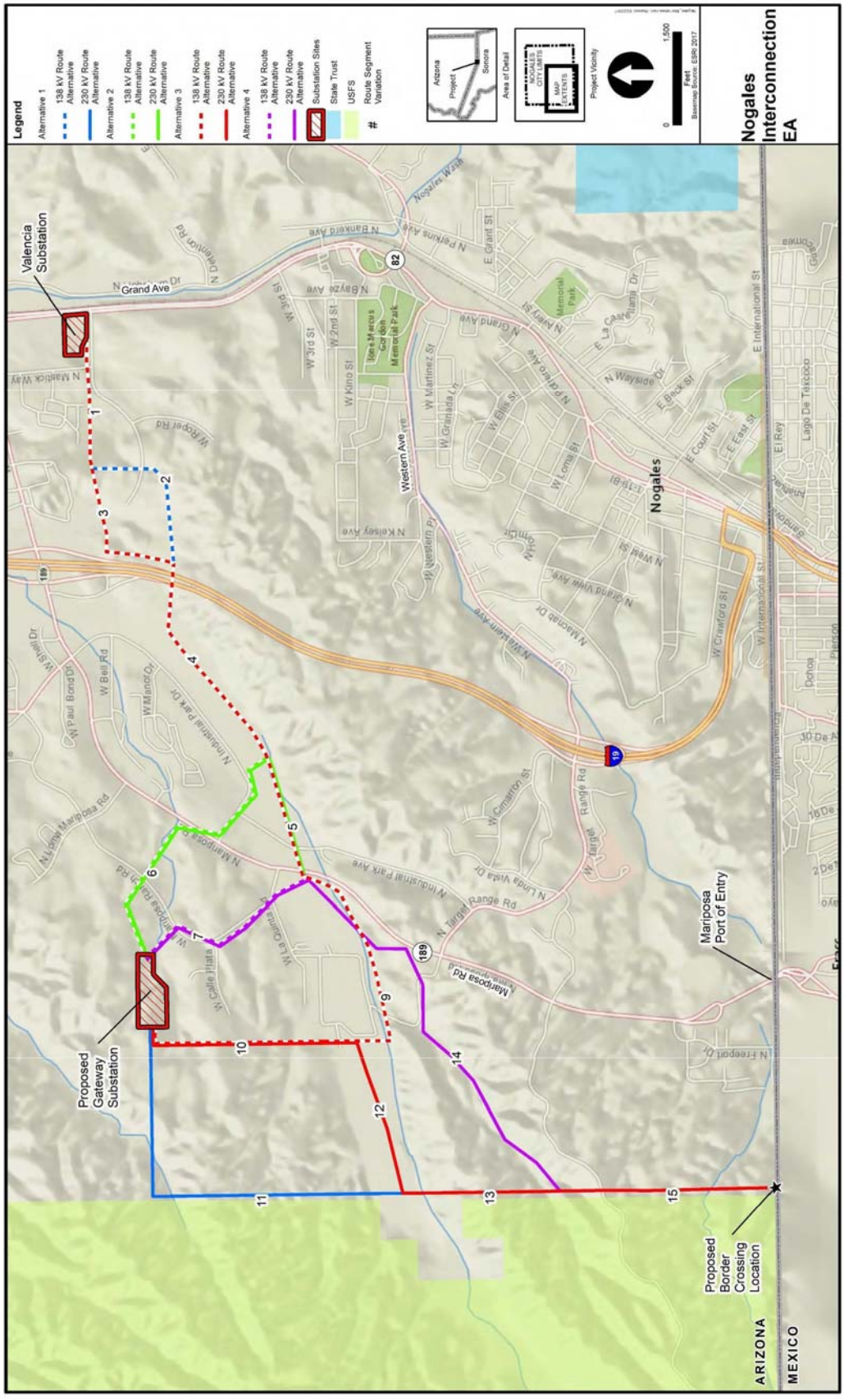


Figure IV.A - Overview of Nogales Interconnection Project Proposed Routes

1. Alternative Route 1

Alternative Route 1 consists of Route Segment Variations 1, 2, 4, 5, 9, 10, 11, 13, and 15 and is approximately 5.8 miles in length.

Alternative Route 1 would begin at the existing Valencia Substation, extending west and using the existing conductor and poles of an existing 138-kV UNSE transmission line corridor for approximately 0.4 mile. The route would continue south for 0.2 mile toward the existing Home Depot building and then west for approximately 0.5 mile, crossing Interstate 19 ("I-19") and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to North Mariposa Road. The route would follow Mariposa Road south and Mariposa Wash west for 0.6 mile. The route would then head north for 0.7 mile to the proposed Gateway Substation.

This portion of the route would consist of two circuits; the first would originate 1,900 feet west of the existing Valencia Substation. Here, the existing Vail to Valencia transmission line would be severed and continue west to the Gateway Substation, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would originate at the Gateway Substation and travel east to the Valencia Substation, using the existing UNSE infrastructure along Route Segment Variation 1. This circuit would constitute the new Gateway to Valencia transmission line.

The 230-kV Gateway to U.S.-Mexico Border transmission line would originate at the Gateway Substation, head west for 0.5 mile and then travel south, paralleling the eastern boundary of the Coronado National Forest (the "CNF") to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

2. Alternative Route 2

Alternative Route 2 consists of Route Segment Variations 1, 3, 4, 5, 6, 14, and 15, and is approximately 4.9 miles in length.

Alternative Route 2 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for about 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE line. The route would continue south and then west, using double-circuit 138-kV

construction. The route would cross I-19 and the Mariposa Wash, continue southwest along a property line and on the north side of the Mariposa Wash, then follow the east side of this parcel north to Industrial Park Drive. The route would then follow Industrial Park Drive to Mariposa Road, proceed north along Mariposa Road for 0.1 mile to an unnamed unpaved road, and continue northwest and west to the new Gateway Substation site.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 2 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line. The route would then head in a southwest direction for 1.7 miles to a point approximately 0.1 mile north of Target Range Road and then continue south, paralleling the eastern boundary of the CNF, to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 2 would also use a triple-circuit transmission line configuration of two 138-kV lines and one 230-kV line about 4,700 feet along Route Segment Variation 6 on seven structures that would be approximately 140 feet tall.

3. Alternative Route 3 (Applicants' preferred route)

Alternative Route 3 consists of Route Segment Variations 1, 3, 4, 5, 9, 10, 12, 13, and 15 and is approximately 5.1 miles in length.

Alternative Route 3 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for approximately 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE line. The route would then continue, using double-circuit 138-kV construction, south and then west, crossing I-19 and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to

Mariposa Road, then cross Mariposa Road and continue along the south side of the Mariposa Wash for 0.6 mile. The route would then head north for 0.75 mile to the proposed Gateway Substation.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 3 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line for 0.6 mile. The route would continue southwest on the north side of the Mariposa Wash and then continue south to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 3 would use a double-circuit transmission line configuration of 138 kV and another parallel line energized at 230 kV for about 3,500 feet along Route Segment Variation 10. Average pole height along Route Segment 10 would be 100 feet.

4. Alternative Route 4

Alternative Route 4 consists of Route Segment Variations 1, 3, 4, 5, 7, 14, and 15 and is approximately 4.6 miles in length.

Alternative Route 4 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for approximately 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE transmission line. The route would continue south, using double-circuit 138-kV construction, and then head west, crossing I-19 and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to Mariposa Road. The route would cross Mariposa Road and head northwest along Mariposa Ranch Road to the proposed Gateway Substation.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 4 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line until it reached the northwest corner of Mariposa Road and the Mariposa Wash. The route would then continue in a southwest direction for 1.3 miles to a point approximately 0.1 mile north of Target Range Road. The route would continue south on Target Range Road to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 4 would also use a double-circuit transmission line configuration energized at 138 kV and another line energized at 230 kV for around 3,200 feet along Route Segment Variation 7. Pole height along Route Segment Variation 7 would be about 105 feet.

B. Nogales Tap to Kantor Upgrade Project

For the Nogales Tap to Kantor Upgrade Project, Applicants propose three alternative routes, one of which consists of the existing route. Each of the proposed routes would meet the Facilities' purpose and need. Applicants have identified Alternative Route 1 as their preferred route. See the following Figure IV.B for an overview of the proposed routes.

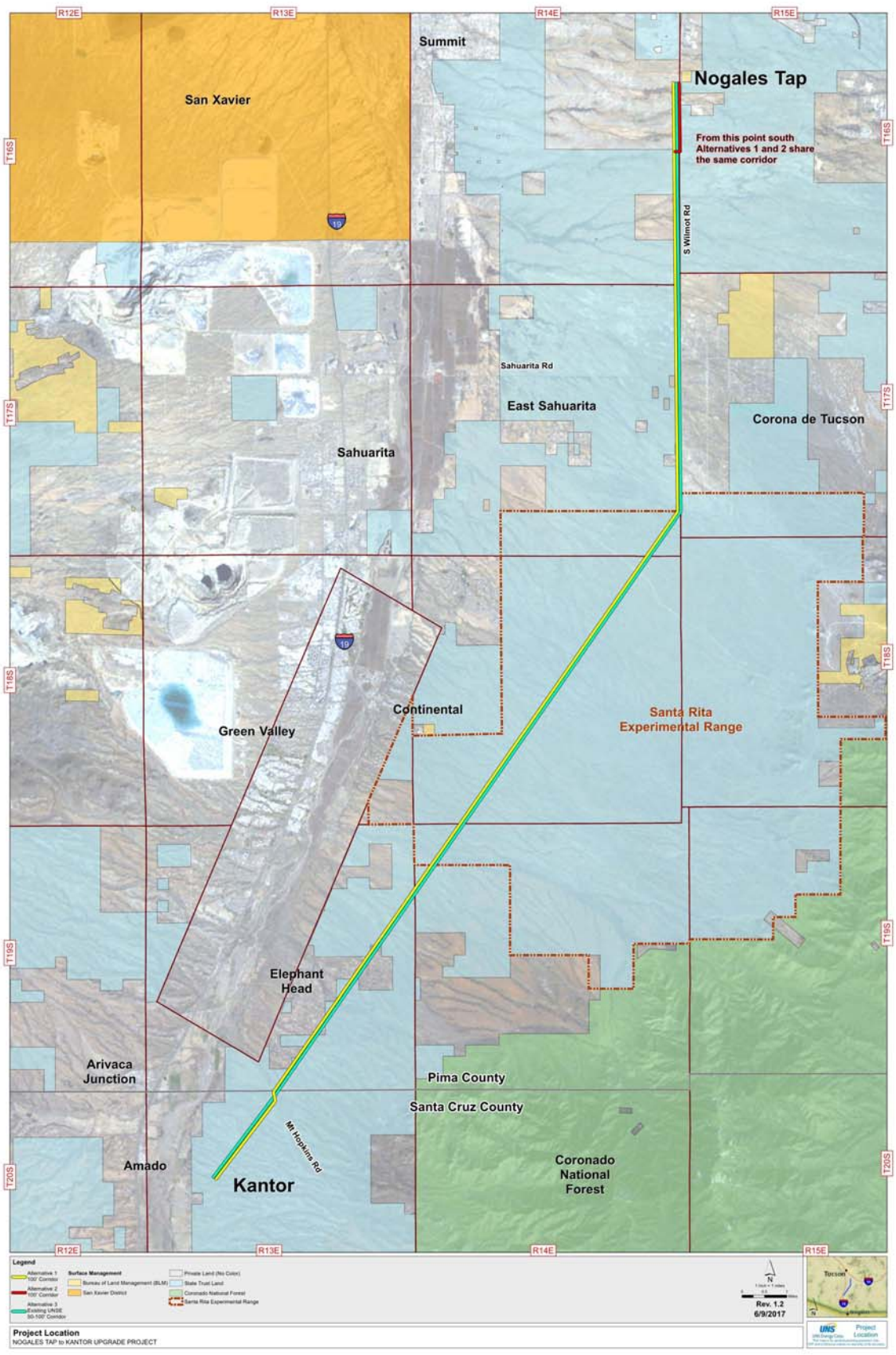


Figure IV.B - Overview of Nogales Tap to Kantor Upgrade Project Proposed Routes

1. Alternative Route 1 (West of Wilmot Road) (Applicants' preferred route)

Alternative Route 1 is approximately 27.5 miles in length. This route begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, and continues 9.5 miles south along the west side of Wilmot Road, in an entirely new ROW, to a point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation. The diagonal section discussed above would be offset from the existing ROW 30 feet to the west from the end of Wilmot Road to Mt. Hopkins Road and 30 feet to the east south of Mt. Hopkins Road to Kantor Substation, requiring that the existing ROWs be amended in order to accommodate the upgrade project.

2. Alternative Route 2 (East of Wilmot Road)

Alternative Route 2 is approximately 27.5 miles in length as well. It also begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, but then crosses Wilmot Road to the east and continues south 9.5 miles along the east side of Wilmot Road. The segment along the east side of Wilmot Road would use existing ROW to the extent possible, but would require that existing 50-foot-wide ROWs be amended to 100-foot-wide ROWs. In some areas, new ROW may need to be acquired to avoid existing structures along the route. At the point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation, Alternative Route 2 is the same as for Alternative Route 1.

3. Alternative Route 3 (Use of existing right-of-way only)

Alternative Route 3 is approximately 27.5 miles in length as well. It also begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, then crosses Wilmot Road to the east and continues south 9.5 miles along the east side of Wilmot Road to a point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation. The entire transmission line would be built within the existing 50 to 100-foot-wide ROWs.

V. ENVIRONMENTAL AND PUBLIC SITING PROCESS FOR NOGALES INTERCONNECTION PROJECT

A. Selection of Project Study Area

Nogales Transmission began investigating route alternatives for the project in 2015. Nogales Transmission initiated the process by identifying a geographic study area within which feasible route alternatives could be considered between the project's initial endpoints, which were the existing Valencia Substation, the proposed Gateway Substation, and the international border. The northern boundary of the study area was determined to minimize potential impacts to residences, and the western boundary was chosen to avoid directly affecting the CNF. This environmental planning process culminated in the production of a draft environmental assessment submitted in support of the Presidential Permit application (the "PP EA").

B. Public Outreach and Route Selection

After determining the Nogales Interconnection Project study area, Nogales Transmission analyzed opportunities for and constraints to locating the transmission lines and proposed Gateway Substation. Within the larger study area, Nogales Transmission investigated environmental impacts on a 250-foot-wide area centered on the Route Segments and the Gateway Substation area. Nogales Transmission provided the study information to the DOE to assist the drafting of the DOE Draft EA, conducted in compliance with the National Environmental Policy Act ("NEPA") and published on July 5, 2017. The DOE Draft EA analyzed a one-mile buffer of the centerlines of the proposed routes for resources such as geology and soils, vegetation, wildlife, water resources and quality, noise, and infrastructure, and tailored the analysis areas of other issues such as visual resources (five mile buffer of the centerlines), land use and recreation (Santa Cruz County), cultural resources (100 foot buffer for direct impacts and 0.25 mile buffer of the centerlines for indirect impacts), and radio, television, and cellular communication (1,500 foot buffer of the centerlines).

Both the PP EA and the DOE Draft EA investigations drew on detailed studies of the project area, including a biological field report, Class III Cultural Resources Survey, U.S. Fish and Wildlife Service IPaC Trust Resource Report, and Arizona Environmental Online Review Tool Report. These reports also relied on reviews of existing records and archival sources for information on past projects and known cultural resources in the area. Over the course of both the PP EA and DOE Draft EA studies, Nogales Transmission conducted an extensive outreach program, including multiple meetings

with landowners, local non-governmental organizations, and government agencies. Nogales Transmission hosted an open house meeting for landowners and an agency and non-governmental organization ("NGO") stakeholder meeting on February 5, 2015. Nogales Transmission held a follow-on stakeholder meeting on September 17, 2015, followed by a site visit, and an informal meeting with ACC Staff on May 23, 2017. Prior to filing this Application, Nogales Transmission and UNSE co-hosted open house meetings on June 21 and 22, 2017, to share information about the proposed Nogales Tap to Kantor Upgrade and Nogales Interconnection projects.

As a result of this thorough study process and public input, Applicants identified opportunities to parallel existing linear features, including utility corridors and roadways, minimizing fragmentation of land and impacts to potential building sites. Because most land immediately adjacent to the proposed routes is undeveloped, the project would avoid direct conflicts with residences, educational facilities, houses of worship, and other sensitive land uses based on biological, cultural, and visual factors.

Additional information regarding the public outreach process and environmental studies for the Nogales Interconnection Project can be found in Exhibits B-1 through B-1(b) and in Exhibit J-2 through J-2(k). Based on these studies and landowner and stakeholder feedback, Applicants selected Alternative Route 3 as the preferred route for the Nogales Interconnection Project.

C. Summary of Environmental Compatibility

Applicants are committed to thoroughly studying and avoiding or minimizing environmental impacts associated with the Nogales Interconnection Project. Based on the factors outlined in A.R.S. § 40-360.06, Applicants believe that the project is environmentally compatible.

As further described and supported by the exhibits accompanying this application, the project:

- is anticipated to be consistent with applicable land use plans and policies and would have minimal, long-term direct and indirect impacts on existing land use or land use development proposals;
- based on current survey data, will not directly or indirectly affect known historic properties;
- will generate only a minor long-term impact to ambient soundscapes;

- is not anticipated to directly affect communication towers or cause indirect impacts on radio, television, or cellular phone communications;
- will not significantly impact groundwater, wetlands, streams, or floodplain;
- will not cross through designated or proposed critical wildlife habitat; and
- is anticipated to cause low impacts to biological resources in the vicinity of the project due to the implementation of mitigation measures.

VI. ENVIRONMENTAL AND PUBLIC SITING PROCESS FOR NOGALES TAP TO KANTOR UPGRADE PROJECT

A. Selection of Project Study Area

UNSE selected the study area for the Nogales Tap to Kantor Upgrade Project based on necessary upgrades to an existing 27.5-mile segment of the Vail to Valencia transmission line that has not been rebuilt since the 1980s. This segment primarily traverses land owned by the Arizona State Land Department ("ASLD"). Because UNSE could not obtain right-of-entry from ASLD to complete field studies outside of UNSE's present ROW, the project study area for field studies in this application consists of a 100-foot-wide project corridor spanning the length of the segment.

B. Public Outreach and Route Selection

UNSE conducted several studies to analyze the environmental compatibility of the project. UNSE completed a biological evaluation (Exhibit C-2(a)), cultural resources assessment (Exhibit E-2(b)), Class III cultural resources survey (Exhibit E-2(c)), Pima pineapple cactus survey (Exhibit B-2(a)), and Waters of the U.S. study (Exhibit B-2(b)). UNSE also engaged in detailed analyses of land use plans and policies, noise and communications interference potential, and scenic areas in the vicinity of the project. Based on these analyses, UNSE selected three alternative routes for presentation at Applicants' open house meetings for landowners on June 21 and 22, 2017. After gathering feedback from landowners, Applicants selected Alternative Route 1 as the preferred route for the Nogales Tap to Kantor Upgrade Project.

C. Summary of Environmental Compatibility

Applicants are committed to thoroughly studying and avoiding or minimizing environmental impacts associated with the Nogales Tap to Kantor Upgrade Project. Based on the factors outlined in A.R.S. § 40-360.06, Applicants believe that the project is environmentally compatible.

As further described and supported by the exhibits accompanying this application, the project:

- is anticipated to be consistent with applicable land use plans and policies and would have minimal, long-term direct and indirect impacts on existing land use or land use development proposals;
- will not result in a substantial disruption to major scenic views;
- is unlikely to affect historic properties, cultural resources, or sites in the project area;
- will not cause significant noise impacts during construction or operation; and
- will not significantly impact common wildlife or create further fragmentation of habitat.

VII. CONCLUSION

The relief requested in this Application balances, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize impacts on the environment and ecology of the state of Arizona. The CEC Transmission Facilities will greatly enhance the reliability of the electric grid and provide regional economic development opportunities, among other benefits, with little to no adverse impacts on factors to be considered by the Committee pursuant to A.R.S. §§ 40-360.06 and 40-360.13, including but not limited to existing land use plans; fish, wildlife, and plant life; areas unique because of biological wealth; scenic areas, historic sites and structures and archaeological sites; and the total environment of the area. As such, Applicants respectfully request that the Committee grant, and the ACC approve, the requested CECs and grant 1,000-foot certificated corridors (500 feet on either side of the centerline, except in certain circumstances where constraints prevent the full 1,000-foot corridor) for the Nogales Interconnection Project and the Nogales Tap to Kantor Upgrade Project.

APPLICATION FOR CERTIFICATES OF ENVIRONMENTAL COMPATIBILITY[6]

1. ***Name and address of Applicants:***

   Nogales Transmission, L.L.C.
   1900 North Akard Street
   Dallas, TX 75201

   UNS Electric, Inc.
   88 E. Broadway Boulevard, P.O. Box 711
   Tucson, AZ 85702

2. ***Name, address and telephone number of a representative of Applicants who has access to technical knowledge and background information concerning this application, and who would be available to answer questions or furnish additional information:***

   Business/Technical Representatives:

   Matthew J. Virant, Project Manager
   Hunt Power, L.P.
   Nogales Transmission, L.L.C.
   1900 North Akard Street
   Dallas, TX 75201
   (214) 978-8926

   Ed Beck, Director of Transmission Development
   UNS Electric & Tucson Electric Power
   88 E. Broadway Boulevard, P.O. Box 711
   Tucson, AZ 85702
   (520) 884-3615

[6] Applicants provide the following information pursuant to A.R.S. §§ 40-360.03 and 40-360.06 and Ariz. Admin. Code R14-3-219.

Legal Representatives:

James E. Guy
Erin E. Morrissey
Eversheds Sutherland (US) LLP
One American Center
600 Congress Avenue, Suite 2000
Austin, TX 78741
(512) 721-2700

J. Matthew Derstine
Snell & Wilmer
One Arizona Center
400 East Van Buren Street
Phoenix, Arizona 85004
(602) 382-6000

Marcus G. Jerden
UNS Energy Corp.
88 East Broadway Boulevard
Tucson, AZ 85701
(520) 884-3770

3. Dates on which Applicants filed a Ten Year Plan in compliance with A.R.S. § 40-360.02, in which the facilities for which this application is made were described:

UNSE included the CEC Transmission Facilities, for the first time, in its ten-year plan filing with the Commission dated January 31, 2016, in Arizona Corporation Commission Docket No. E-00000D-15-0001.

UNSE also included the CEC Transmission Facilities in its most recent ten-year plan filed with the Commission on January 30, 2017 in Arizona Corporation Commission Docket No. E-00000D-17-0001.

4. Description of the proposed facilities:

a. Description of electric generating plant:

The Facilities do not include an electric generating plant.

b. Description of the proposed transmission line:

i. Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line:

(1) Nominal voltage for which the lines are designated:

The proposed Gateway to U.S.-Mexico Border 230-kV transmission line would be operated at a nominal 230 kV at a frequency of 60 hertz. The reconfigured Vail to Gateway transmission line and the new Gateway to Valencia transmission line would be operated at a nominal 138 kV at a frequency of 60 hertz. The proposed UNSE Nogales Tap to Kantor Upgrade Project transmission line would be operated at a nominal 138 kV at a frequency of 60 hertz.

(2) Description of proposed structures:

The proposed transmission structures for the Nogales Tap to Kantor Upgrade Project would be capable of supporting a double circuit. The proposed transmission structures for the Nogales Interconnection Project would use existing and new double-circuit capable structures, with the exception of one alternative route segment variation near the Gateway Substation, which would use a triple-circuit transmission line configuration on a single tower with dual circuit 138-kV and a single circuit 230-kV transmission line.

All transmission lines included in the Facilities would be constructed on self-weathering tubular steel monopoles. Monopoles for the 138-kV lines would range in height from 75 to 110 feet, while monopoles for the 230-kV line would be about 95 to 115 feet in height. Triple-circuit capable monopoles would be about 140 feet in height. The exact height of the structures would be determined by topography and design requirements for conductor clearance. The monopoles would have a base diameter of around three feet for the 138-kV tangent structures, four feet for the 230-kV tangent structures, and four to six feet for the triple-circuit capable tangent structures. Each structure would be either directly embedded or mounted in a concrete foundation, the depth of which would be compatible with geotechnical conditions.

The distance between each structure would depend on site-specific characteristics, but is expected to range from 600 to 1,000 feet (or from five to nine structures per mile) for both the 138-kV and 230-kV transmission lines. If alternative Route 2 were selected, approximately seven triple-circuit-capable monopoles would be located along Route Segment Variation 6. Spacing between structures would be designed to allow for the longest spans practical for this type of construction, except in areas where it is desirable to match the existing parallel spans. Exhibits G-1 through G-10 contain illustrations of the proposed structures to be used for the project, as well as illustrations of additional project components and ROW configurations.

The preliminary typical design characteristics for the 138-kV and 230-kV transmission line portions of the Facilities are summarized in Table 1 below:

Table 1 - Overview of Design Characteristics

	Nogales Tap to Kantor 138-KV Transmission Line	Vail to Gateway 138-kV Transmission Line	Gateway to Valencia 138-kV Transmission Line	Gateway to U.S.-Mexico Border 230-kV Transmission Line
Structure type	Tubular steel monopoles	Tubular steel monopoles		Tubular steel monopoles
Structure height	75–110 feet	75–110 feet		95-115 feet†
Span length	600–1,000 feet	600–1,000 feet		600–1,000 feet
Number of structures per mile	5–9	5–9 structures		5–9†
ROW width*	Up to 100 feet	Up to 150 feet		Up to 150 feet

* Variable, depending on structure type and terrain. During design, a wider temporary and/or permanent ROW may be needed only in specific locations to accommodate rough terrain or long spans.

† Alternative Route 2, Route Segment Variation 6 would utilize approximately seven triple-circuit capable structures, each approximately 140 feet in height.

(3) Description of proposed switchyards and substations:

Gateway Substation (Proposed)

The proposed Gateway Substation will be constructed in Santa Cruz County on 11 acres of land, located in Nogales, Arizona at Section 12, Township 24 South, Range 13 East, that Nogales Transmission expects to acquire from TEP. The substation will consist of a UNSE Gateway Substation (to be constructed by UNSE) and a Nogales Gateway Substation (to be constructed by Nogales Transmission), referred to collectively as the "Gateway Substation." About 1.8 acres of the substation site will be used to construct the UNSE 138-kV Gateway Substation, which will serve as (1) the new point of termination of the 138-kV transmission line currently extending from Vail to Gateway; and (2) the point of origin of the proposed Gateway to Valencia 138-kV transmission line. The UNSE Gateway Substation will consist of a three-bay breaker and a half-open air configuration to accommodate the previously described lines and connections to the Phase I and II HVDC equipment and future UNSE distribution facilities. About nine acres of the substation site will be used to construct the Nogales Gateway Substation, where both the Phase I and II HVDC equipment will be located. The Nogales Gateway Substation will serve as the point of origin of the proposed Gateway to U.S.-Mexico Border single-circuit 230-kV transmission line on double-circuit capable structures. The Nogales Gateway Substation will consist of an HVDC interconnection, initially capable of 150 MW of capacity of bi-directional flow (Phase I), which would be expanded to 300 MW capacity (Phase II). A conceptual illustration of the proposed Gateway Substation and representative photographs of the HVDC equipment to be used are included in Exhibits G-7 and G-8.

Kantor Substation (Existing)

UNSE owns and operates the existing Kantor Substation. This substation is located in Santa Cruz County, Arizona at Section 8, Township 20 South, Range 13 East. Existing access to the site would be used for construction, operation, and maintenance.

Valencia Substation (Existing)

UNSE owns and operates the existing Valencia Substation. This substation is located in Nogales, Arizona at Section 5, Township 24 South, Range 13 East. Existing access to the site would be used for construction, operation, and maintenance.

Substation improvements, which are needed to accommodate the new Gateway to Valencia 138-kV transmission line, would generally include minor modifications to relaying equipment.

(4) Purpose for constructing the transmission line:

The purpose of the proposed CEC Transmission Facilities is to provide an asynchronous interconnection in the vicinity of Nogales, Arizona that will enable bidirectional electricity transfer capability between the WECC and Mexico in order to facilitate cross-border commercial electricity transactions and to enhance transmission grid reliability. The concept for the CEC Transmission Facilities originated in 1991 in a U.S./Mexico Electricity Trade Study that identified potential value to both sides of the border with an interconnection in the Noreste region of Mexico. The proposed CEC Transmission Facilities are consistent with the March 8, 2017 MOU between CRE, CENACE and NERC, which recognizes the established and growing cross-border operations and activities between the U.S. and Mexico and initiates a collaborative mechanism to enhance the reliability of their respective electric power systems. The Facilities are also consistent with the intent of a trilateral MOU signed by Canada, Mexico and the U.S. in February 2016, whereby the three countries will collaborate on six areas related to energy and climate change, in recognition of which the countries have launched a web platform to facilitate energy information and data access from a single website. Furthermore, as noted in the 2013 Bi-National Electricity Transmission Opportunity for Arizona and Sonora White Paper produced by Arizona-Mexico Commission Energy Committee, there is value in a bi-directional transmission link between Arizona and Sonora from an "energy, reliability, and economic point of view," as evidenced by the increased power trade and emergency assistance facilitated by similar links in California and Texas.

The Gateway to U.S.-Mexico Border 230-kV transmission line and the Nogales Gateway Substation are being developed as part of a merchant transmission project.[7] Merchant transmission projects differ from traditional public utility projects as the merchant project developer assumes all of the market risk of the project and has no captive customers from which to recover the project's costs. Potential customers will

[7] The Vail to Gateway and the Gateway to Valencia 138-kV transmission lines, along with the Nogales Tap to Kantor Upgrade Project, are not part of the merchant project, and instead would be developed as network upgrades.

subscribe to project capacity because it provides value to them, thereby underscoring the need for the CEC Transmission Facilities.

The CEC Transmission Facilities will provide several important benefits. First, the proposed CEC Transmission Facilities would enable cost savings through firm and non-firm energy transactions, as well as through diversity of peak demand patterns on both sides of the border. Both UNSE and Mexico should realize the benefits of reduced costs. In the case of UNSE, generation costs charged to retail customers flow through a UNSE Power Purchase and Fuel Clause ("PPFAC") in its tariffs. If UNSE incurs lower generation costs as a result of an energy transaction with Mexico, the PPFAC costs borne by customers will be lower. Additionally, increased flows across the UNSE system as a result of cross-border transfers of energy will reduce the unit price of transmission service on the UNSE system. Today, 100 percent of the transmission costs flow to UNSE retail customers. As additional use of the UNSE system is attributed to users of the CEC Transmission Facilities, however, transmission service costs will be allocated to both retail customers as well as new wholesale customers, resulting in a smaller charge flowing through to UNSE retail customers.

Second, the CEC Transmission Facilities will support reliability by providing bidirectional power flow and voltage support for the electric grids in the U.S. and Mexico, thereby creating a more robust electric grid. Nogales is located at the southern edge of the U.S., and thus transmission grid voltage control in that area is challenging. The addition of the interconnection with Mexico as well as the investment in new equipment that allows the interconnection will improve UNSE's ability to control voltage to the Nogales area. Related to the DOE Application for a Presidential Permit, Hunt Power filed an interconnection request with UNSE and executed a System Impact Study Agreement ("SISA"). UNSE has performed reliability studies under the SISA to verify that system reliability will not be adversely affected. The final report for the SISA is attached to this Application as Exhibit J-4.

Third, the CEC Transmission Facilities will provide emergency assistance, as needed, for the electric system in the U.S. and Mexico. Because Nogales is located at the end of the WECC grid and relies on UNSE's approximately 55-mile 138-kV Vail to Valencia transmission line for its power supply, any disruptions to the grid north of Nogales, particularly to that radial line, can cause service interruptions within the Santa Cruz area of Arizona. The addition of the proposed Gateway Substation and the connection to the electric grid in Sonora, Mexico, would provide an additional source of electricity for Nogales from Mexico in the event of a transmission line outage or other

problem on the WECC system. Further, if an event were to occur north of the Tucson area that caused a decrease in generation capability from the north, the interconnection has the potential to supply energy from the south to support areas north of Nogales, likely even as far as Tucson. While electric service in Santa Cruz County is generally of high quality, it is subject to outages on the single radial line serving the area. The HVDC interconnection would allow immediate access to resources south of the border should an event occur on the radial line.

Fourth, the CEC Transmission Facilities will improve the region's ability to meet future electric capacity requirements. The additional transmission capacity provided to Santa Cruz County and the improvements to grid reliability will facilitate business growth and provide economic benefits, including tax revenues, over the life of the CEC Transmission Facilities.

The Nogales Tap to Kantor Upgrade Project, which has been identified as necessary to support UNSE's overall future transmission reliability requirements, will be accelerated to accommodate the interconnection segment of the CEC Transmission Facilities at the Gateway Substation. Following the interconnection request from Hunt Power, UNSE completed a system impact study in July 2017. The study identified needed upgrades to the transmission system that had already been planned for the general benefit of UNSE customers. The upgrades to a portion of the Vail to Valencia 138-kV transmission line connecting near the Nogales Tap to the Kantor Substation support the interconnection request. The rebuild is necessary because this segment of the Vail to Valencia transmission line was not upgraded in 2013 with the remainder of the line in Line Siting Case No. 144, and therefore lacks sufficient capacity to meet the needs of the interconnection request.

ii. General Location:

(1) Description of geographical points between which the transmission line would run:

Nogales Interconnection Project

The proposed Vail to Gateway 138-kV transmission line would originate at an existing pole 1,900 feet west of the existing Valencia Substation, on the existing UNSE Vail to Valencia transmission line. At the origination point, the existing Vail to Valencia transmission line will be severed and connected to this new line, which will extend to the west and south for approximately three miles, and terminate at the proposed Gateway Substation, located at 31°21'37.74"N, 110°57'58.51"W. This extension will

convert the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line.

The proposed Gateway to Valencia 138-kV transmission line will originate at the Gateway Substation and proceed in an easterly direction to a pole 1,900 feet west of the existing Valencia Substation, where it will connect with the existing portion of the UNSE 138-kV transmission line that travels east along the north side of W. White Park Drive to the Valencia Substation.

The proposed Gateway to U.S.-Mexico Border 230-kV transmission line would originate at the proposed Gateway Substation, extend south for approximately two miles, and cross the U.S.-Mexico border at 31° 19' 57.846" N and 110° 58' 35.620" W, where it would interconnect with a transmission line to be constructed in Mexico. A map of the geographical points between which the transmission lines of the Nogales Interconnection Project would run is depicted in Figure 1, below.

Nogales Tap to Kantor Upgrade Project

The Nogales Tap to Kantor Upgrade Project 138-kV transmission line would originate near the existing WAPA Nogales Tap located at 32° 3'8.10"N, 110°51'33.04"W, extend approximately 27.5 miles, and terminate at the UNSE Kantor Substation, located at 31°41'51.96"N, 111° 2'7.66"W.

(2) Straight-line distance between such geographic points:

Nogales Interconnection Project

The straight-line distance between the interconnection points of the reconfigured Vail to Gateway 138-kV and proposed Gateway to Valencia 138-kV transmission lines, approximately 1,900 feet west of the existing Valencia Substation, and the proposed Gateway Substation is approximately two miles.

The straight-line distance between the proposed Gateway Substation and the interconnection point with the transmission line in Mexico is approximately two miles.

Nogales Tap to Kantor Upgrade Project

The straight-line distance between the existing Nogales Tap and existing Kantor Substation is approximately 27.5 miles.

(3) Length of the transmission line route:

Nogales Interconnection Project

The length of Alternative Route 3, Applicants' preferred route, is 5.1 miles. The length of Alternative Route 1 is 5.8 miles. The length of Alternative Route 2 is 4.9 miles. The length of Alternative Route 4 is 4.6 miles. All lengths are approximate.

Nogales Tap to Kantor Upgrade Project

The lengths of Alternative Route 1, Alternative Route 2, and Alternative Route 3 are about 27.5 miles.

iii. Detailed Dimensions:

(1) Nominal width of right-of-way required:

Nogales Interconnection Project

The ROW would be up to 150 feet wide. During design, a wider temporary and/or permanent ROW may be needed only in specific locations to accommodate rough terrain or long spans.

Nogales Tap to Kantor Upgrade Project

The ROW would be up to 100 feet wide. During design, a wider temporary and/or permanent ROW may be needed only in specific locations to accommodate rough terrain or long spans.

(2) Nominal length of span:

Nogales Interconnection Project

The nominal length of span would be between 600–1,000 feet.

Nogales Tap to Kantor Upgrade Project

The nominal length of span would be between 600–1,000 feet.

(3) Maximum height of supporting structures:

The exact height of each structure would be governed by topography and safety requirements for conductor clearance to grounded surfaces.

Nogales Interconnection Project

The maximum height of the 138-kV monopole structures for the reconfigured Vail to Gateway 138-kV transmission line and the proposed Gateway to Valencia 138-kV transmission line would be about 110 feet.

The maximum height of the 230-kV monopole structures for the proposed Gateway to U.S.-Mexico Border 230-kV transmission line would be about 115 feet.

The maximum height of the triple-circuit capable monopole structures that could be used in part for the reconfigured Vail to Gateway 138-kV transmission line, the proposed Gateway to Valencia 138-kV transmission line, and the proposed Gateway to U.S.-Mexico Border 230-kV transmission line would be about 140 feet.

Nogales Tap to Kantor Upgrade Project

The maximum height of the monopole structures for the Nogales Tap to Kantor Upgrade Project would be about 110 feet.

(4) Minimum height of conductor above ground:

The minimum vertical design clearance would be as provided in the National Electric Safety Code ("NESC"). Design clearances would be based on nominal 138-kV and 230-kV line voltages and the maximum final conductor sag. Typical line-to-ground clearance would be 26 feet for the 230-kV line and 24 feet for the 138-kV lines, which exceed NESC requirements and Arizona law.

Nogales Interconnection Project

Typical line-to-ground clearance would be 24 feet for the Vail to Gateway 138-kV transmission line extension and the Gateway to Valencia 138-kV transmission line. Typical line-to-ground clearance would be 26 feet for the Gateway to U.S.-Mexico Border 230-kV transmission line.

Nogales Tap to Kantor Upgrade Project

Typical line-to-ground clearance would be 24 feet.

iv. Estimated costs of proposed transmission lines and substations:

Table 2 - Nogales Interconnection Project[1]

	Transmission Construction	Substation Construction	Right-of-Way Acquisition[2]	Subtotal
Alternative Route 1	$6,900,000	$73,000,000	TBD	$79,900,000
Alternative Route 2	$7,700,000	$73,000,000	TBD	$80,700,000
Alternative Route 3	$7,200,000	$73,000,000	TBD	$80,200,000
Alternative Route 4	$8,100,000	$73,000,000	TBD	$81,100,000

[1] Costs in 2017 U.S. Dollars.

[2] Applicants have not yet performed a detailed market analysis of the right-of-way and land acquisition costs of this project. These costs will be based on fair market value research performed by certified appraisers and good faith negotiations with landowners.

Table 3 - Nogales Tap to Kantor Upgrade Project Transmission Line[1]

	Transmission Construction	Right-of-Way Acquisition[2]	Subtotal
Alternative Route 1	$28,800,000	TBD	$28,800,000
Alternative Route 2	$28,800,000	TBD	$28,800,000
Alternative Route 3	$36,200,000	TBD	$36,200,000

[1] Costs in 2017 U.S. Dollars.

[2] Applicants have not yet performed a detailed market analysis of the right-of-way and land acquisition costs of this project. These costs will be based on fair market value research performed by certified appraisers and good faith negotiations with landowners.

v. Description of the proposed and alternative routes and substation locations:

Please refer to Subsection 4(b)(i)(3) of this Application for a description of the substations.

To minimize land and resource impacts, Applicants selected alternative routes for both the Nogales Interconnection Project and the Nogales Tap to Kantor Upgrade Project by evaluating existing infrastructure and designing corridors with minimal impacts. This design philosophy (further described in Exhibit J-1) incorporated working within or next to existing corridors and working with landowners and stakeholders to minimize impacts to sensitive areas. As a result, approximately 80% of the Nogales Interconnection Project preferred route and 100% of the Nogales Tap to Kantor Upgrade Project parallel existing linear features.

Nogales Interconnection Project

For the Nogales Interconnection Project, Applicants propose a preferred route and three alternative routes. For clarity and to minimize confusion, Applicants have used route numbering in this Application consistent with the route numbering used in the DOE Draft EA. Applicants have identified Alternative Route 3 as their preferred route.

The route options are composed of a combination of 14 different route segment variations. These route segment variations are modified versions of route segments originally considered in the draft environmental assessment prepared in support of the Presidential Permit application for the Nogales Interconnection Project ("PP EA") attached as Exhibit B-1(a). These variations are described in detail in the DOE Draft Environmental Assessment ("DOE Draft EA"), attached as Exhibit B-1(b). Route Segment Variations 1, 4, 5, and 15 are common to all of the proposed routes, and each route is planned to cross the international border at 31° 19′ 57.846″ N and 110° 58′ 35.620″ W, which is west of the Mariposa Port of Entry. Each route is described below. The following Table 4 shows the route segment variation compositions by route, illustrated below in Figure 1.

Table 4 - Nogales Interconnection Project Alternative Route Segment Variation Composition

	1	2	3	4	5	6	7	8*	9	10	11	12	13	14	15
Alternative Route 1	X	x		x	x				x	x	x		x		X
Alternative Route 2	X		x	x	x	x								x	X
Alternative Route 3	X		x	x	x				x	x		x	x		X
Alternative Route 4	X		x	x	x		x							x	X

*Route Segment Variation 8 was removed from the analysis.

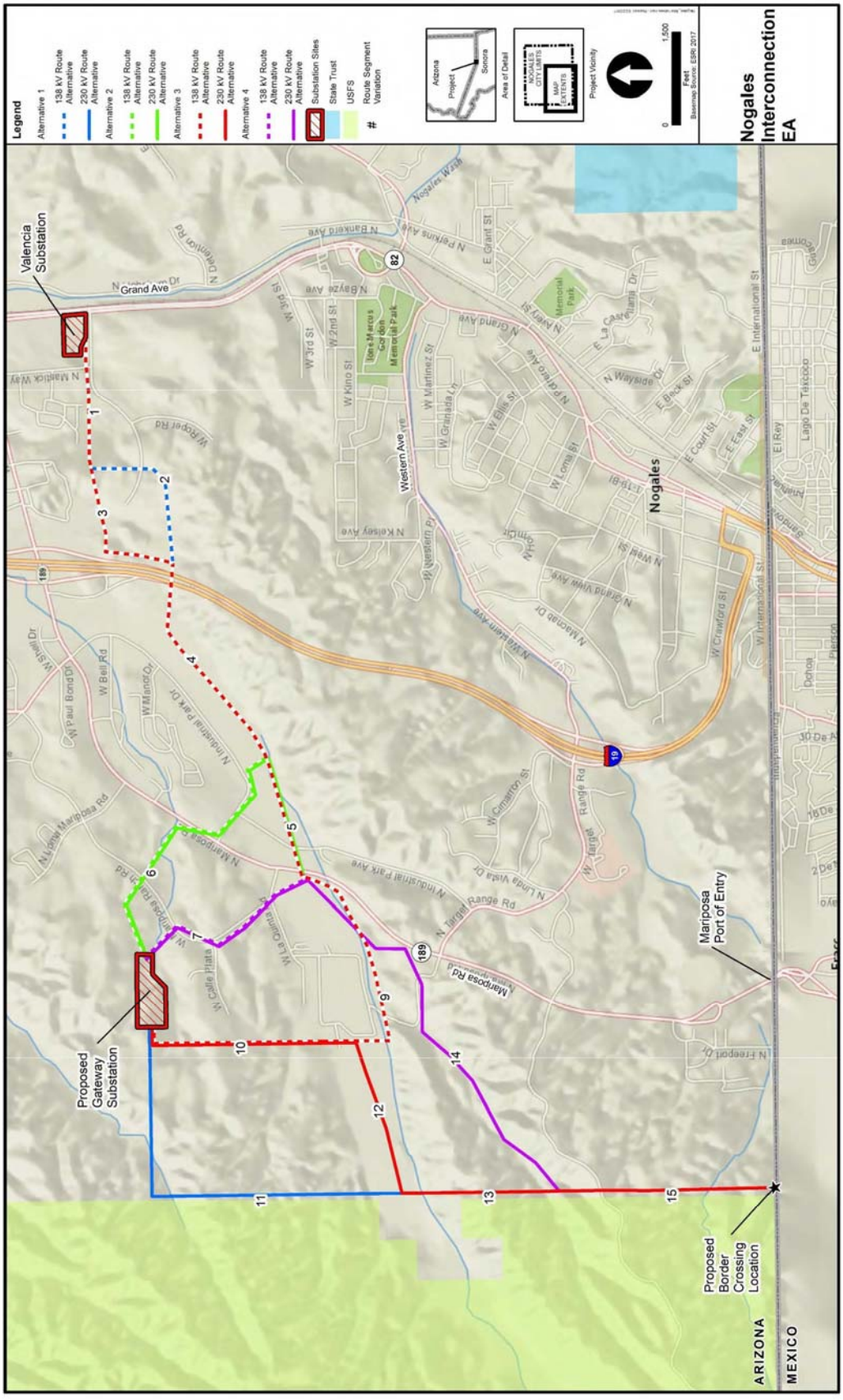


Figure 1 - Overview of Nogales Interconnection Project Proposed Routes

Alternative Route 1

Alternative Route 1 consists of Route Segment Variations 1, 2, 4, 5, 9, 10, 11, 13, and 15 and is approximately 5.8 miles in length.

Alternative Route 1 would begin at the existing Valencia Substation, extending west and using the existing conductor and poles of an existing 138-kV UNSE transmission line corridor for approximately 0.4 mile. The route would continue south for 0.2 mile toward the existing Home Depot building and then west for approximately 0.5 mile, crossing I-19 and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to North Mariposa Road. The route would follow Mariposa Road south and Mariposa Wash west for 0.6 mile. The route would then head north for 0.7 mile to the proposed Gateway Substation.

This portion of the route would consist of two circuits; the first would originate 1,900 feet west of the existing Valencia Substation. Here, the existing Vail to Valencia transmission line would be severed and continue west to the Gateway Substation, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would originate at the Gateway Substation and travel east to the Valencia Substation, using the existing UNSE infrastructure along Route Segment Variation 1. This circuit would constitute the new Gateway to Valencia transmission line.

The 230-kV Gateway to U.S.-Mexico Border transmission line would originate at the Gateway Substation, head west for 0.5 mile and then travel south, paralleling the eastern boundary of the CNF to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 2

Alternative Route 2 consists of Route Segment Variations 1, 3, 4, 5, 6, 14, and 15, and is approximately 4.9 miles in length.

Alternative Route 2 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for about 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE line. The route would continue south and then west, using double-circuit 138-kV construction. The route would cross I-19 and the Mariposa Wash, continue southwest along a property line and on the north side of the Mariposa Wash, then follow the east

side of this parcel north to Industrial Park Drive. The route would then follow Industrial Park Drive to Mariposa Road, proceed north along Mariposa Road for 0.1 mile to an unnamed unpaved road, and continue northwest and west to the new Gateway Substation site.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 2 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line. The route would then head in a southwest direction for 1.7 miles to a point approximately 0.1 mile north of Target Range Road and then continue south, paralleling the eastern boundary of the CNF, to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 2 would also use a triple-circuit transmission line configuration of two 138-kV lines and one 230-kV line about 4,700 feet along Route Segment Variation 6 on seven structures that would be approximately 140 feet tall.

Alternative Route 3 (Applicants' preferred route)

Alternative Route 3 consists of Route Segment Variations 1, 3, 4, 5, 9, 10, 12, 13, and 15 and is approximately 5.1 miles in length.

Alternative Route 3 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for approximately 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE line. The route would then continue, using double-circuit 138-kV construction, south and then west, crossing I-19 and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to Mariposa Road, then cross Mariposa Road and continue along the south side of the

Mariposa Wash for 0.6 mile. The route would then head north for 0.75 mile to the proposed Gateway Substation.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 3 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line for 0.6 mile. The route would continue southwest on the north side of the Mariposa Wash and then continue south to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 3 would use a double-circuit transmission line configuration of 138 kV and another parallel line energized at 230 kV for about 3,500 feet along Route Segment Variation 10. Average pole height along Route Segment 10 would be 100 feet.

Alternative Route 4

Alternative Route 4 consists of Route Segment Variations 1, 3, 4, 5, 7, 14, and 15 and is approximately 4.6 miles in length.

Alternative Route 4 would begin at the existing Valencia Substation and follow an existing UNSE transmission line corridor west for approximately 0.4 mile. The route would use the existing conductor and poles for about 1,900 feet on an existing 138-kV UNSE transmission line. The route would continue south, using double-circuit 138-kV construction, and then head west, crossing I-19 and the Mariposa Wash. The route would continue southwest along a property line and on the north side of the Mariposa Wash to Mariposa Road. The route would cross Mariposa Road and head northwest along Mariposa Ranch Road to the proposed Gateway Substation.

At the western end, both circuits would be connected to the Gateway Substation. At the eastern end, the existing Vail to Valencia line would be severed and connected to one circuit of this new line, thereby converting the existing Vail to Valencia

transmission line to the new Vail to Gateway transmission line. The second circuit would connect with the existing portion of the UNSE 138-kV transmission line at an existing pole 1,900 feet west of the existing Valencia Substation, and travel east along the north side of W. White Park Drive to the Valencia Substation. This circuit would constitute the new Gateway to Valencia transmission line.

The Gateway to U.S.-Mexico Border 230-kV transmission line portion of Alternative Route 4 would originate at the Gateway Substation and follow the same path out of the Gateway Substation as the 138-kV line until it reached the northwest corner of Mariposa Road and the Mariposa Wash. The route would then continue in a southwest direction for 1.3 miles to a point approximately 0.1 mile north of Target Range Road. The route would continue south on Target Range Road to the international border. At the border, the 230-kV line would connect to a line to be constructed in Mexico.

Alternative Route 4 would also use a double-circuit transmission line configuration energized at 138 kV and another line energized at 230 kV for around 3,200 feet along Route Segment Variation 7. Pole height along Route Segment Variation 7 would be about 105 feet.

Nogales Tap to Kantor Upgrade Project

For the Nogales Tap to Kantor Upgrade Project, Applicants propose Alternative Route 1 (Applicants' preferred route), Alternative Route 2, and Alternative Route 3 (use of the existing ROW only). These proposed routes would meet the CEC Transmission Facilities' purpose and need. See Figure 2 for an overview of the Nogales Tap to Kantor Upgrade Project proposed routes.

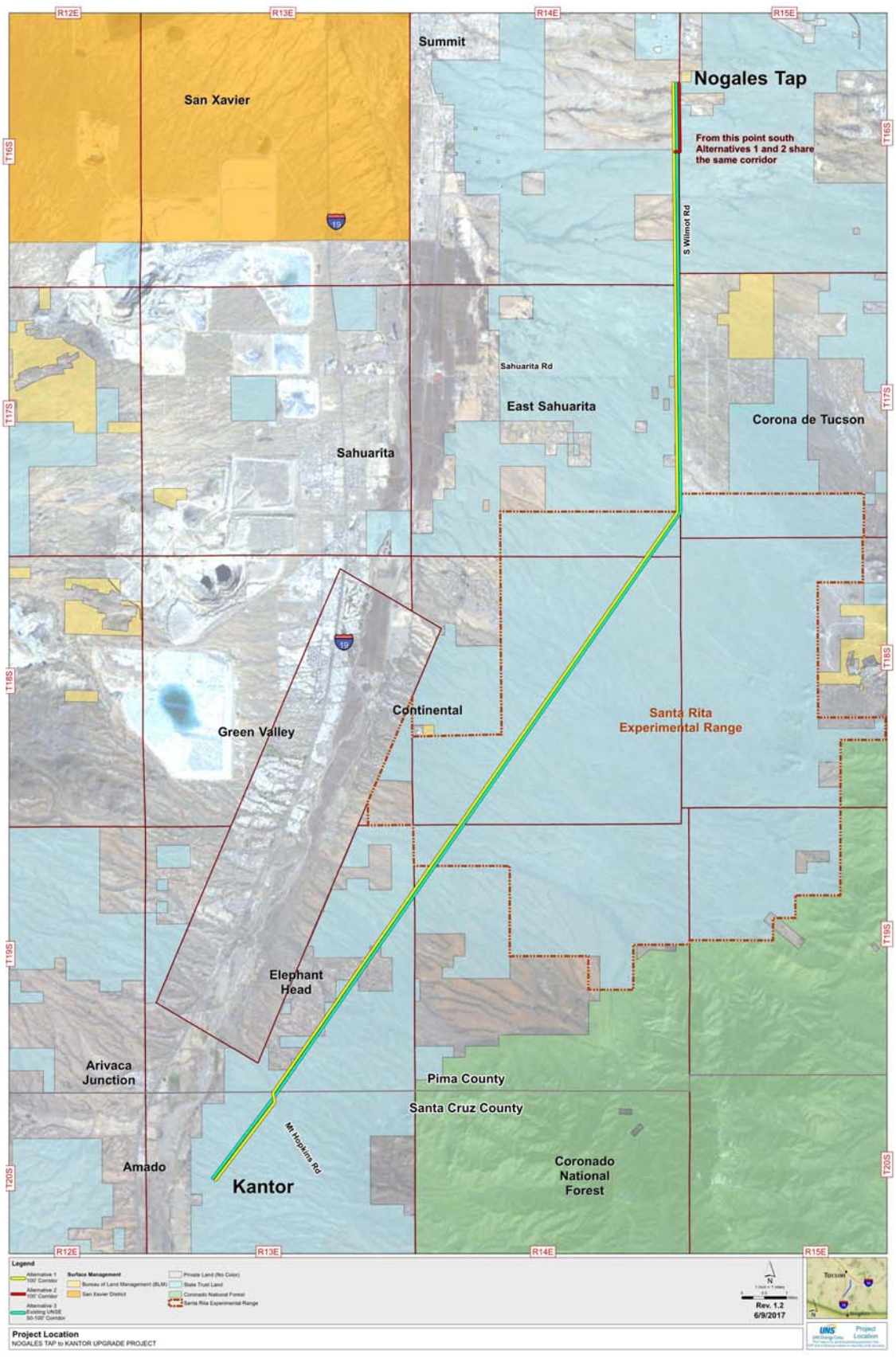


Figure 2 - Overview of Nogales Tap to Kantor Upgrade Project Proposed Routes

Alternative Route 1 (West of Wilmot Road) (Applicants' preferred route)

Alternative Route 1 is approximately 27.5 miles in length. This route begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, and continues 9.5 miles south along the west side of Wilmot Road, in an entirely new ROW, to a point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation. The diagonal section discussed above would be offset from the existing ROW 30-feet to the west from the end of Wilmot Road to Mt. Hopkins Road and 30 feet to the east south of Mt Hopkins Road to Kantor Substation, requiring that the existing ROWs be amended in order to accommodate the upgrade project.

Alternative Route 2 (East of Wilmot Road)

Alternative Route 2 is approximately 27.5 miles in length as well. It also begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, but then crosses Wilmot Road to the east and continues south 9.5 miles along the east side of Wilmot Road. The segment along the east side of Wilmot Road would use existing ROW to the extent possible, but would require that existing 50-foot-wide ROWs be amended to 100-foot-wide ROWs. In some areas, a new ROW may need to be acquired to avoid existing structures along the route. At the point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation, Alternative Route 2 is the same as for Alternative Route 1.

Alternative Route 3 (Use of existing right-of-way only)

Alternative Route 3 is approximately 27.5 miles in length as well. It also begins 320 feet south of the Nogales Tap on the west side of Wilmot Road at existing pole no. VL-KA-5-2, then crosses Wilmot Road to the east and continues south 9.5 miles along the east side of Wilmot Road to a point where the existing transmission line corridor turns southwest and continues diagonally for 18 miles to the Kantor Substation. The entire transmission line would be built within the existing 50 to 100-foot-wide ROWs.

vi. Land Ownership:

The requested transmission ROW width would be 150 feet for the Nogales Interconnection Project and 100 feet for the Nogales Tap to Kantor Upgrade Project. This ROW width has been requested to allow for the safe movement and operation of construction and maintenance equipment and to allow for sufficient clearance between

conductors and the ROW edge, as required by the NESC. Applicants are also requesting ROW for ancillary facilities and for access to the transmission lines.

Table 5 - Nogales Interconnection Project Land Ownership in Proposed Route ROW and Substations[1]

	City of Nogales	ADOT	Private	Total
Alternative Route 1	11.57 (8.55%)	3.93 (2.9%)	119.77 (88.54%)	135.26
Alternative Route 2	14.66 (12.14%)	4.18 (3.47%)	101.89 (84.39%)	120.74
Alternative Route 3	11.15 (9.05%)	3.93 (3.19%)	108.18 (87.77%)	123.26
Alternative Route 4	14.58 (12.79%)	2.21 (1.94%)	97.2 (85.27%)	113.98

[1] Land ownership expressed in acres.

Table 6 - Nogales Tap to Kantor Upgrade Project Land Ownership in Proposed Route ROW and Substations[1]

	ASLD	Private	Total
Alternative Route 1	284 (84.5%)	52.0 (15.5%)	336
Alternative Route 2	299.2 (88.9%)	37.4 (11.1%)	336.6
Alternative Route 3	189.5 (70.7%)	78.4 (29.3%)	268

[1] Land ownership expressed in acres.

5. Jurisdictions

a. Areas of jurisdiction (as defined in A.R.S. § 40-360) affected by each alternative route:

Nogales Interconnection Project

All alternative routes would affect the City of Nogales and Santa Cruz County.

Nogales Tap to Kantor Upgrade Project

All alternative routes would affect the City of Tucson, Pima County, and Santa Cruz County.

b. Designation of proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of affected areas of jurisdiction:

The Facilities are not contrary to any existing zoning ordinances or master plans of any affected areas of jurisdiction.

6. Description of the environmental studies Applicants have performed:

The Facilities have been the subject of a multi-year, comprehensive environmental study process that included field studies and impact assessments, significant public involvement, and detailed reviews of numerous alternative routes and mitigation planning.

Exhibit B-1 contains the environmental studies, including the PP EA and DOE Draft EA, performed for the Nogales Interconnection Project. The DOE Draft EA was prepared to analyze and disclose the potential effects of the proposed Facilities. In accordance with NEPA, applicable regulations, and other relevant authorities, the DOE EA assesses both the individual and cumulative environmental impacts of the project.[8] Exhibit B-2 contains the environmental studies prepared by UNSE for the Nogales Tap to Kantor Upgrade Project. Separate biological wealth studies were conducted for the Nogales Interconnection Project and Nogales Tap to Kantor Upgrade Project, attached as Exhibits C-1 and C-2, respectively. These studies contain information pertaining to rare and endangered species and any habitats for these species in the vicinity of the proposed CEC Transmission Facilities. Additional environmental analyses in support of the project are attached in Exhibits D through F, H, and I.

Further, the Applicants conducted significant and comprehensive public and stakeholder engagement during the route development process. Applicants' route development process began with a public outreach effort by Nogales Transmission on February 5, 2015, with a public open house and informational meeting and a separate

[8] The DOE Draft EA was circulated for public review on July 5, 2017 and included a 30-day public comment period that will end on August 3, 2017.

roundtable discussion with local non-government organizations ("NGOs"). At these initial meetings, Nogales Transmission presented Nogales Interconnection Project a route that was previously approved by the Commission in 2001 in ACC Docket Number L-00000-C-01-0111-00000.

Based on feedback received during the public open house and NGO meeting, Nogales Transmission added several new route segments to the Nogales Interconnection Project. These segments increased corridor sharing or addressed specific landowner concerns and were presented in an agency and stakeholder meeting and site visit on September 17, 2015, to which representatives from 20 different agencies, tribes, and nongovernmental organizations were invited. Based on comments received at the agency meeting and continued outreach with landowners, additional route segments were included for analysis in the PP EA. Based on the results of the PP EA and input from the various stakeholders, agencies, and public, Nogales Transmission proposed four alternative routes for the project in its Presidential Permit application, each selected with the goal of minimizing impacts by following existing infrastructure and developed corridors where possible.

Public meetings in support of this Application for the Facilities were also held in Sahuarita and Nogales on June 21 and 22, 2017, once it had been determined that the Nogales Tap to Kantor Substation section of the Vail to Valencia 138-kV transmission line would need to be upgraded. As noted in Exhibit J-2, public meeting attendees were generally supportive of the Facilities and Applicants' preferred routes.

7. Rationale for alternatives selection:

Based on Applicants' public outreach and environmental studies, Applicants selected a preferred route for each component of the Facilities that balances the need for an adequate, reliable, and economical supply of electricity with environmental and ecological considerations in a manner that serves the broad public interest.

Based on the studies and analyses conducted, Applicants believe that all of the routes proposed are "environmentally compatible," as determined in past ACC siting decisions. Each of the proposed routes presented in this Application would meet the purpose and need for the Facilities. Applicants request that the Committee approve a 1,000-foot certificated corridor (500 feet on either side of the centerline, except in certain circumstances where constraints prevent a full 1,000-foot corridor) for the Nogales Interconnection Project and Nogales Tap to Kantor Upgrade Project, as illustrated on

Exhibits A-4(a) through A-4(g) to this application. Rationale for each proposed route is presented as follows.

Nogales Interconnection Project

Alternative Route 3 (Applicants' preferred route)

While Applicants' preferred route for the Nogales Interconnection Project is about 10 percent longer than the shortest route for that portion of the Facilities, there are several advantages to selecting this route. Overall, Alternative Route 3 would require less ground disturbance and would be the most economically feasible. First, as shown on Figure 1, this is a straighter route, requiring fewer turning and dead-end structures; each turning and/or dead-end structure is considerably more costly than tangent structures. Second, Alternative Route 3 reduces the overall number of poles required because approximately three miles of the transmission line would be constructed as double-circuit. Third, it requires the least amount of new access road (2.26 miles) of any of the routes and only requires limited upgrades to access roads (2.6 miles) because it has relatively easier access for construction than the other alternatives.

Further, the location of Route Segment Variation 10, along existing parcel boundaries that are not yet developed, allows for easier access for construction with less potential conflicts with existing users, thereby resulting in improved safety. Two of the other routes place facilities within fairly narrow existing road ROW adjacent to dense industrial development, with potential safety implications.

Finally, Alternative Route 3 results from extensive public and stakeholder outreach efforts that have guided the Nogales Interconnection Project route selection to minimize impacts to sensitive areas.

Alternative Route 1

There are no known environmental advantages of Alternative Route 1 over the preferred route and it is 0.38 miles longer than the Applicant's preferred route.

Alternative Route 2

Other than being 0.2 miles shorter in length than the Applicant's preferred route and thereby having slightly less ground disturbance, there are no known environmental advantages of Alternative Route 2.

Alternative Route 4

Other than being the shortest alternative route and thereby having slightly less ground disturbance, there are no known environmental advantages of Alternative Route 4.

Nogales Tap to Kantor Upgrade Project

Alternative Route 1 (West of Wilmot Road) (Applicants' preferred route)

This is Applicants' preferred Route for the Nogales Tap to Kantor Upgrade Project for the following reasons. First, the route is preferable for safety and reliability reasons. As shown on Figures 3-6, UNSE cannot safely reconstruct or operate the existing transmission line within the existing ROW without de-energizing the existing line. De-energizing the line during the nine-month construction period is not feasible because the Vail to Valencia line is the sole source of power to Santa Cruz County. The only backup to this radial line are gas-fired generators at the Valencia Substation, which can only be effectively used intermittently during low load periods.

Second, Pima County is currently widening Wilmot Road from Interstate 10 south to Sahuarita Road. The widening is occurring on the east side of the road corridor, which places the pavement and shoulder in close proximity (as near as four feet) to UNSE's existing ROW and structures, limiting UNSE's ability to reconstruct the transmission line west of the current route and east of the new road ROW boundary. Figures 5-6 depict the road widening project in relation to UNSE's facilities.

Third, development along the east side of Wilmot Road has increased since the 1950s, when the line was first built. This development is located east of the existing line, preventing relocation further to the east. North of Sahuarita Road, there is a proposed master-planned community (Andrada Wilmot 180) in Section 6, and one mile of existing rural residential development in Section 7. The addition of the Wilmot Road widening project within these sections prevents relocating the new transmission line east of Wilmot Road and west of the existing transmission line. South of Sahuarita Road, there are three miles of existing rural residential development within Sections 18, 19, and 30 that are in extremely close proximity to the UNSE facilities. This development prevents UNSE from relocating further to the east. Relocating to the west would place the rebuilt facilities within about 60 feet of the edge of the unimproved Wilmot Road. As development continues in this area, Pima County will likely widen Wilmot Road south of Sahuarita Road, causing similar concerns as those discussed above.

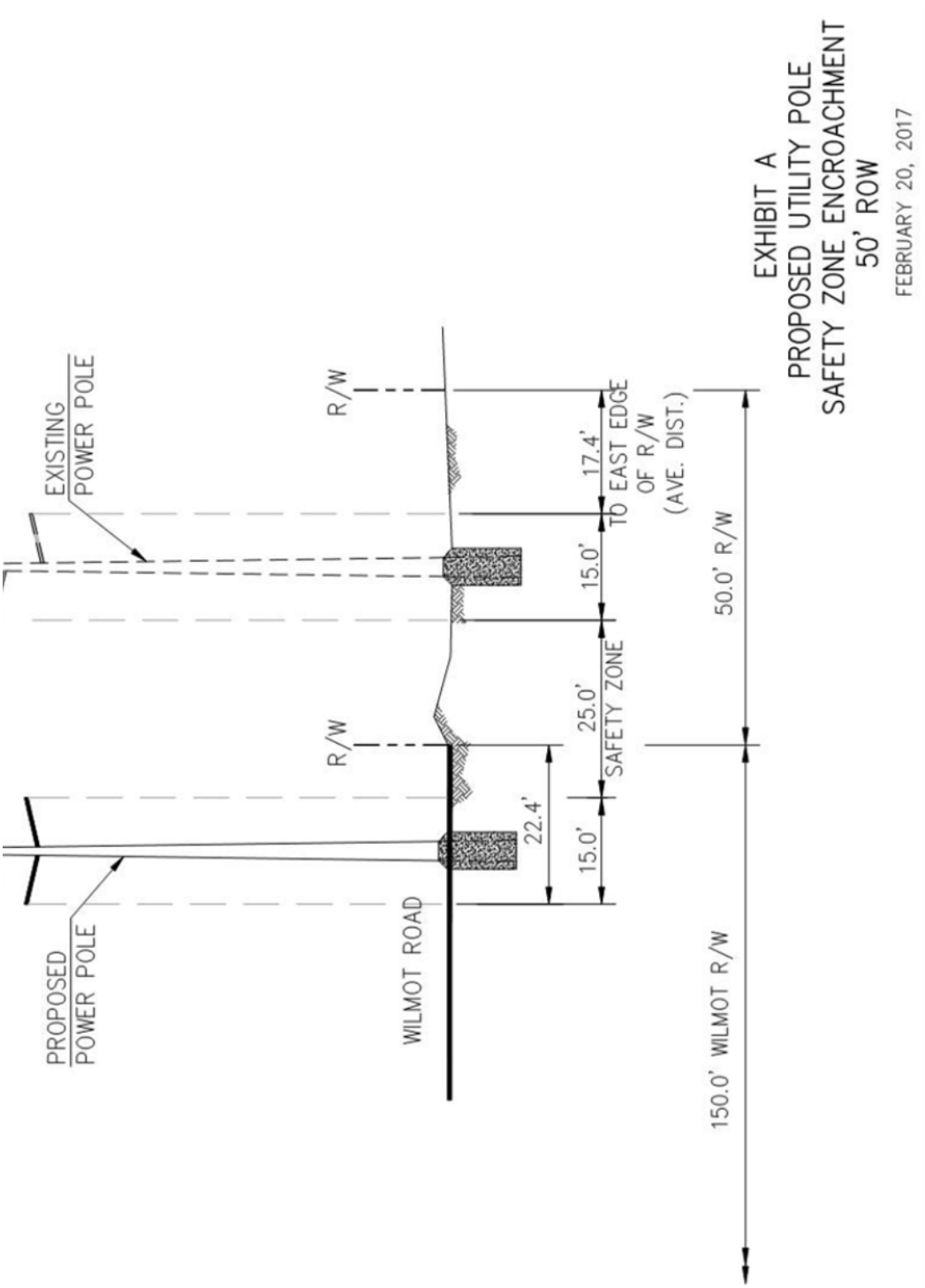
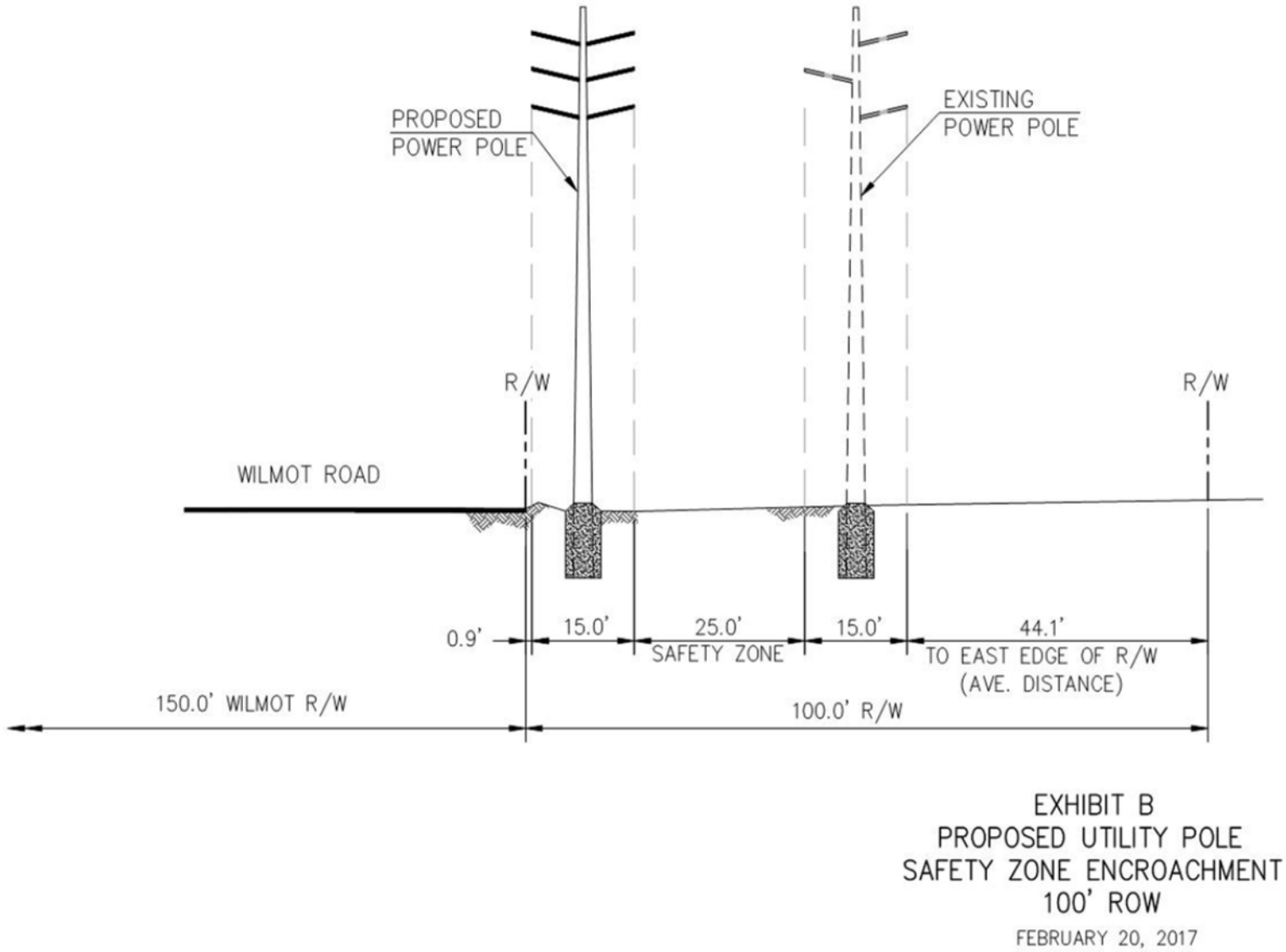


Figure 3 - Overview of Nogales Tap to Kantor Upgrade Project Existing ROW

Figure 4 - Overview of Nogales Tap to Kantor Upgrade Project Existing ROW



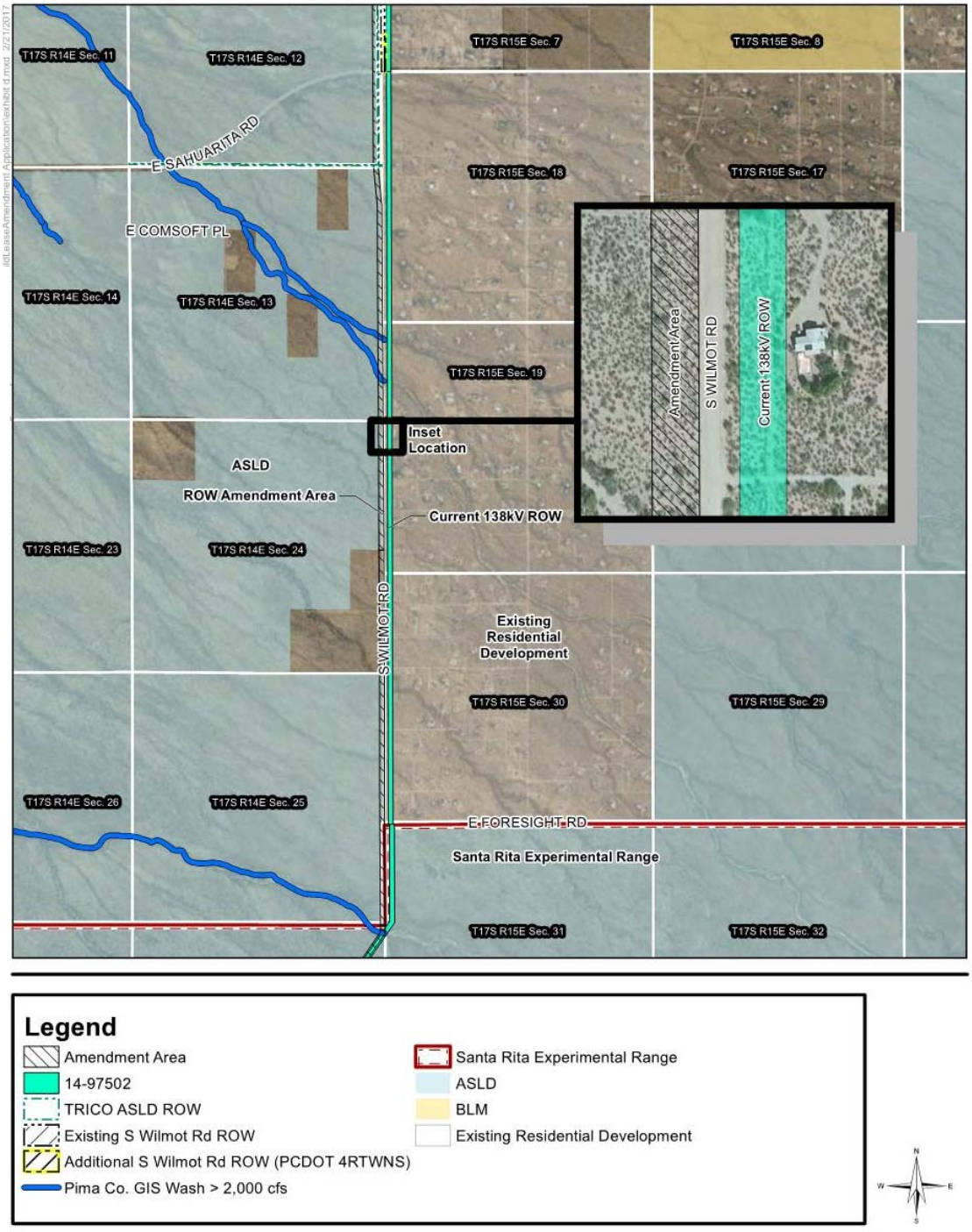


Figure 5 - Pima County Road Widening Project in Relation to UNSE Facilities

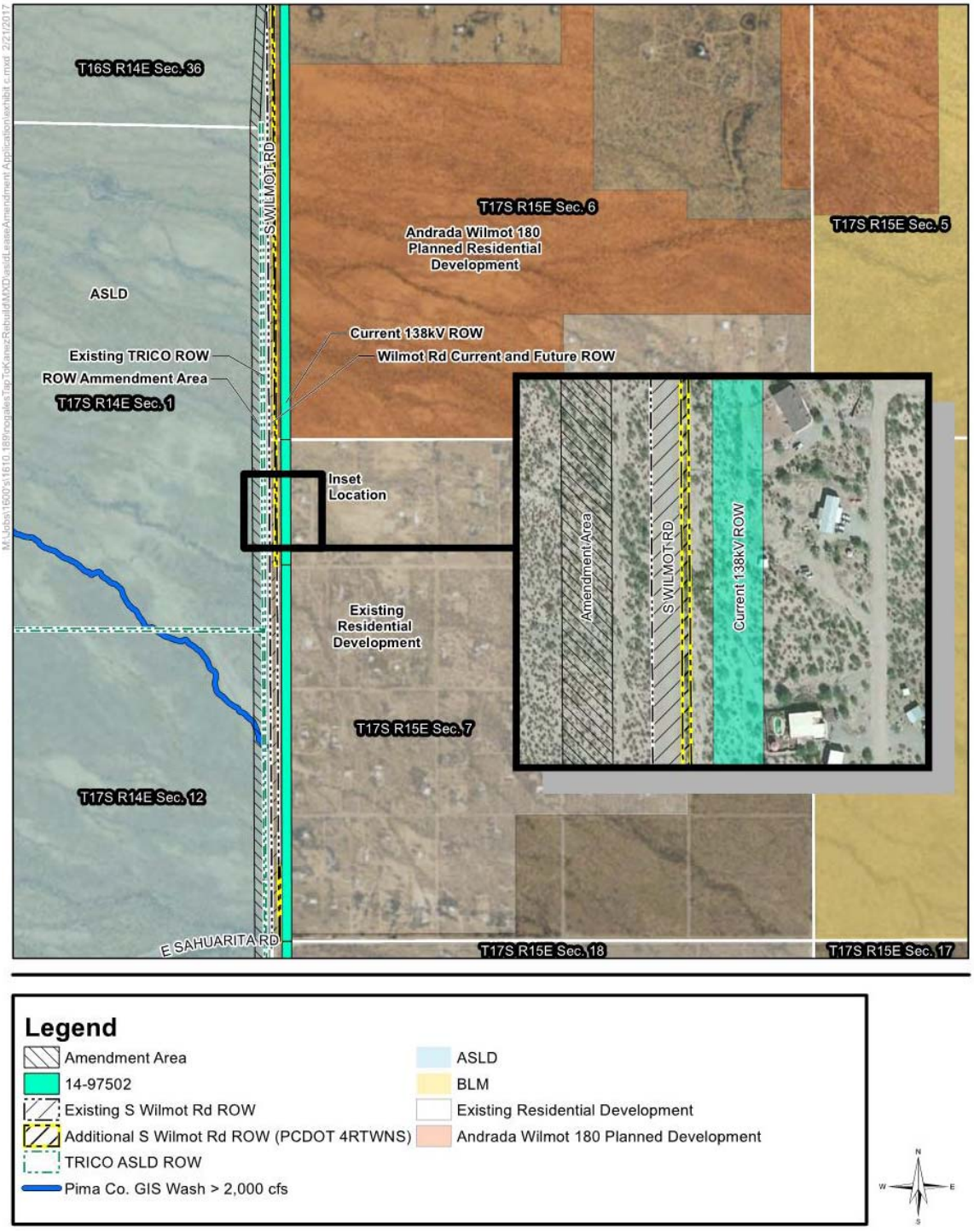


Figure 6 - Pima County Road Widening Project in Relation to UNSE Facilities (Continued)

Alternative Route 2 (East of Wilmot Road)

This is not Applicants' preference for the Nogales Tap to Kantor Upgrade Project for the following reasons. First, it is a more costly route because it would require outages to construct some portions of the line. Second, line construction would be in close proximity to the energized line and would be less safe to construct. In addition, after construction, the line would be very close to the Wilmot Road route, increasing the chance of vehicle strikes, which could impact both safety and reliability of the line.

Alternative Route 3 (Use of existing right-of-way only)

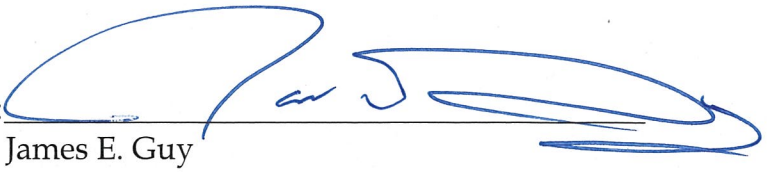
This is not Applicants' preference for the Nogales Tap to Kantor Upgrade Project for the following reasons. First, it is the most costly route because it would require outages to construct some portions of the line. Second, line construction would be in close proximity to the energized line and would be less safe to construct. In addition, after construction, the line would be very close to the Wilmot Road route, increasing the chance of vehicle strikes, which could impact both safety and reliability of the line.

Conclusion

Applicants respectfully submit that the proposed routes for the Facilities are in the broad public interest when judged in light of the decision-making factors set forth in A.R.S. § 40-360-06 and against the balancing test contained in A.R.S. § 40-360-06. The preferred and alternative routes included in the Application would meet the purpose and need of these Facilities, which is to respond to an interconnection request for a project to connect with Mexico.

Applicants request that the Committee grant and the ACC approve Certificates of Environmental Compatibility for construction of the CEC Transmission Facilities, including a 1,000-foot certificated corridor (500 feet on either side of the centerline, except in certain circumstances where constraints prevent a full 1,000-foot corridor), for the construction of (a) the proposed approximately three-mile extension of the Vail to Valencia 138-kV transmission line, (b) the proposed Gateway Substation, (c) the proposed Gateway to Valencia 138-kV transmission line, (d) the proposed approximately two-mile Gateway to U.S.-Mexico Border 230-kV transmission line, and (e) the approximately 27.5-mile upgrade of the Nogales Tap to Kantor 138-kV transmission line.

RESPECTFULLY SUBMITTED this 26th day of July, 2017.

By: 

James E. Guy
(*request to appear pro hac vice in process*)
Texas State Bar No. 24027061
Erin E. Morrissey
(*request to appear pro hac vice in process*)
Texas State Bar No. 24086362
EVERSHEDS SUTHERLAND (US) LLP
600 Congress Avenue, Suite 2000
Austin, Texas 78701-3238
jamesguy@eversheds-sutherland.com
erinmorrissey@eversheds-sutherland.com
(512) 721-2700 (Telephone)
(512) 721-2656 (Facsimile)

J. Matthew Derstine
SNELL & WILMER L.L.P.
One Arizona Center
400 East Van Buren Street
Phoenix, Arizona 85004
mderstine@swlaw.com
(602) 382-6000 (Telephone)
(602) 382-6070 (Facsimile)

Attorneys for Nogales Transmission, L.L.C. and UNS Electric, Inc.

I HEREBY CERTIFY that on this the 26th day of July 2017, I delivered to the Arizona Corporation Commission the original and twenty-five (25) copies of this Application for a Certificate of Environmental Compatibility at the following location:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Copies of the foregoing hand-delivered

this 26th day of July, 2017 to:

Chairman Thomas Chenal
Arizona Power Plant and Transmission Line Siting Committee
Attorney General's Office
1275 West Washington Street
Phoenix, Arizona 85007

Andy M. Kvesic
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Elijah Abinah
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

By: