

**BEFORE THE**  
**ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE**

In the matter of the Application of )  
Southline Transmission, L.L.C., in )  
conformance with the requirements of )  
Arizona Revised Statutes 40-360, et seq., )  
for a Certificate of Environmental )  
Compatibility authorizing construction of )  
the non-WAPA-owned Arizona portions )  
of the Southline Transmission Project, )  
including a new approximately 66-mile )  
345-kV transmission line in Cochise )  
County from the Arizona-New Mexico )  
border to the proposed Southline )  
Apache Substation, the associated )  
facilities to connect the Southline )  
Apache Substation to the adjacent )  
AEPSCO Apache Substation, and )  
approximately 5 miles of new 138-kV )  
and 230-kV transmission lines and )  
associated facilities to connect the )  
existing Pantano, Vail, DeMoss Petrie, )  
and Tortolita substations to the )  
upgraded WAPA-owned 230-kV Apache- )  
Tucson and Tucson-Saguaro transmission )  
lines in Pima and Pinal counties )  
\_\_\_\_\_ )

Docket No. \_\_\_\_\_

Case No. \_\_\_\_\_

**APPLICATION FOR**  
**CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY**

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## LIST OF ACRONYMS AND ABBREVIATIONS

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AC	Alternating Current
ACC	Arizona Corporation Commission
ACSR	Aluminum Conductor Steel Reinforced
ADOA	Arizona Department of Administration
ADOT	Arizona Department of Transportation
AEPCO	Arizona Electric Power Cooperatives
AGFD	Arizona Game and Fish Department
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ATC	Available Transfer Capability
BA	Biological Assessment
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BO	Biological Opinion
BSETR	Buffalo Soldier Electronic Testing Range
CEC	Certificate of Environmental Compatibility
CLS	Conservation Land System
DC	Direct Current
DOE	Department of Energy
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
GIS	Geographic Information System
GMU	Game Management Unit
HS	Highly Safeguarded
KOP	Key Observation Point
kV	Kilovolt
MOA	Memorandum of Agreement
MTR	Military Training Visual Route
MW	Megawatt
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NOA	Notice of Availability
NST	National Scenic Trail
OHV	Off Highway Vehicle

PAR	Preferred Alternative Route
PEIS	Programmatic Environmental Impact Statement
RDEP	Restoration Design Energy Project
REDA	Renewable Energy Development Area
ROD	Record of Decision
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
SEZ	Solar Energy Zone
SWAT	Southwest Area Transmission Subregional Planning Group
TEP	Tucson Electric Power Company
WAPA	Western Area Power Administration
WECC	Western Electricity Coordinating Council

## EXECUTIVE SUMMARY

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### INTRODUCTION

Southline Transmission, L.L.C. (“Southline” or “Applicant”), a wholly-owned indirect subsidiary of Hunt Power, L.P., requests from the Arizona Power Plant and Transmission Line Siting Committee (“Siting Committee”) and the Arizona Corporation Commission (“Commission”) a Certificate of Environmental Compatibility (“CEC”) for authority to construct portions of the proposed Southline Transmission Project (“Project”) in Arizona.

Overall, the Project proposes an approximately 370-mile electric transmission line and associated facilities in southern New Mexico and Arizona. It includes two sections: (i) a new 249-mile double-circuit 345-kilovolt (“kV”) transmission line and associated facilities beginning in Doña Ana County, New Mexico and traveling west into Cochise County, Arizona (the “New Build Section”) and (ii) the upgrade of approximately 121 miles of two existing Western Area Power Administration (“WAPA”) 115-kV line segments<sup>1</sup> to double-circuit 230-kV line segments located in Cochise, Pima, and Pinal counties, Arizona, and short segments of new transmission lines and associated facilities needed to interconnect the upgraded WAPA lines to existing substations (the “Upgrade Section”). An overview map of the entire Project is provided at Exhibit A-1.

The Arizona portion of the Project includes (i) approximately 67 miles of the New Build Section (including less than 1 mile of associated facilities) and (ii) the entire Upgrade Section (including the 121 miles of WAPA-owned facilities and approximately 5 miles of associated non-WAPA-owned facilities to connect the upgraded WAPA lines to existing substations). Because the portions of the Upgrade Section that are owned and operated by WAPA would be constructed, owned, and operated by a federal agency, Southline does not believe a CEC is required for those facilities. Thus, approximately 72 miles of the Arizona portion of the Project—described in detail below—is before the Siting Committee in this Application (the “CEC Proposed Route”).

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<sup>1</sup> These two existing WAPA 115-kV line segments are known as the Apache-Tucson line and the Tucson-Saguaro line.

The Project would provide up to approximately 1,000 megawatts (“MW”) of bidirectional transmission capacity and would interconnect with 12 existing substations in Arizona. The Project would address four primary needs: (i) reliability, (ii) existing congestion, (iii) ability to meet electrical demand growth, and (iv) development of renewable generation. The need for an adequate, economical, and reliable supply of power addressed by the Project outweighs its effect on the environment and ecology of Arizona in a manner that serves the broad public interest.

The Project is sponsored by Southline, a subsidiary of Hunt Power. Hunt Power develops and invests in entrepreneurial electric utility opportunities and is part of a larger privately-owned group of entities managed by the Ray L. Hunt family that engages in oil and gas exploration and production, refining, power, real estate, ranching, and private equity investments. Black Forest Partners, L.P. is the project manager and created the Project’s concept in 2008 as a transmission solution to minimize land use challenges and strengthen the existing electricity grid in Arizona and New Mexico, while enabling the development of renewable energy projects.

The Project contemplates a public-private endeavor between Southline and WAPA, subject to negotiations and WAPA stakeholder approval, pursuant to which (i) WAPA would construct and continue to own and operate upgrades to its existing Apache-Tucson and Tucson-Saguaro 115-kV transmission lines that would form the majority of the Upgrade Section, and (ii) Southline would construct, own, and operate the approximately 5 miles of new transmission lines and associated facilities needed to connect the WAPA-owned portion of the Upgrade Section to existing substations owned and operated by Arizona load-serving utilities and the approximately 67 miles of the New Build Section in Arizona. WAPA would work cooperatively with Southline and affected property owners to obtain land rights for both sections of the Project. WAPA is one of four power marketing administrations within the U.S. Department of Energy whose role is to market and transmit wholesale electricity from multi-use water projects. WAPA’s service area covers a 15-state region in the central and western United States and includes more than 17,000 circuit miles of transmission facilities that carry electricity from hydropower generation facilities operated by the Bureau of Reclamation, the U.S. Corps of Engineers, and the International Boundary and Water Commission.

Because the Upgrade Section—other than the facilities needed to interconnect the upgraded WAPA lines to existing substations—would be constructed, owned, and operated by WAPA, a federal agency, and would involve the upgrade of existing federal facilities, Southline believes that a CEC is not required for those facilities.<sup>2</sup> Accordingly, WAPA is not an applicant in this proceeding, and Southline requests that the Siting Committee disclaim jurisdiction over the 121-mile WAPA-owned Apache-Tucson and Tucson-Saguaro lines and associated WAPA-owned facilities included in the Upgrade Section of the Project pursuant to Arizona Administrative Code Rule R14-3-203(D). Southline represents that the WAPA-Southline public-private endeavor will not result in Southline constructing, owning, or operating any portion of the upgraded WAPA facilities. To the extent this Application contains information concerning the WAPA facilities, it is solely to provide context to the Siting Committee.

A Final Environmental Impact Statement (“EIS”) has been issued for the Project, which is provided at Exhibit B-1.<sup>3</sup> Because the Project would require substantial Bureau of Land Management (“BLM”) right-of-way (“ROW”) as well as the use of existing WAPA facilities, it was necessary for Southline to obtain route approval from those agencies.<sup>4</sup> Those agencies co-led the formal National Environmental Policy Act (“NEPA”) process and issued a Final EIS for the overall Project in 2015. As part of the NEPA EIS process, Southline proposed alternative routes that were designed to follow existing linear features thereby mitigating environmental impacts. After considering a range of alternatives, including no action, the BLM and WAPA each issued a Record of Decision (“ROD”) approving a route, referred to in the Final EIS as the “Agency Preferred Alternative Route.”<sup>5</sup>

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<sup>2</sup> See A.R.S. §§ 40-360 Definitions at 8, 10, and 11; A.R.S. § 40-360.03.

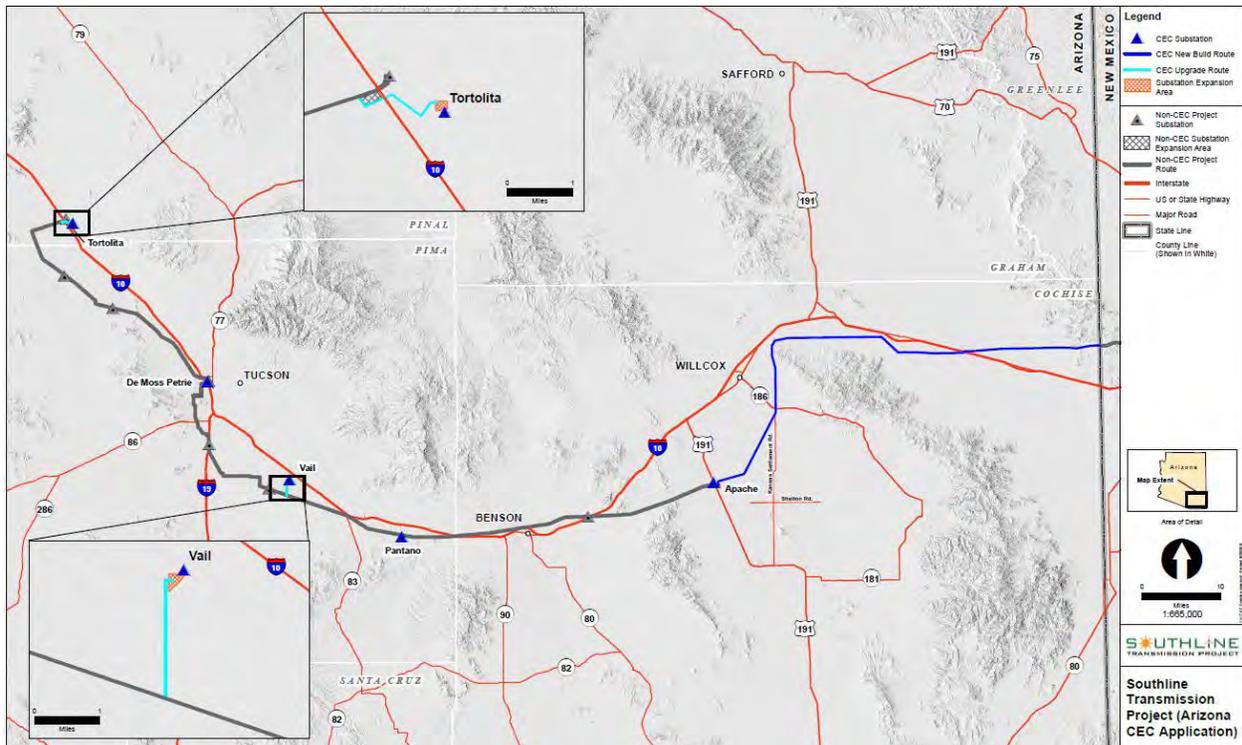
<sup>3</sup> A summary of the Final EIS is provided at Exhibit B-5 for the Siting Committee’s convenience. Exhibit B-2 contains the Final Scoping Report for the overall Project.

<sup>4</sup> Approximately 223 miles of the 370-mile route of the overall Project (60 percent) is either on federally-owned land or is managed by a federal agency, including 98 miles on BLM land and 121 miles along WAPA’s existing system.

<sup>5</sup> A copy of the BLM and WAPA ROD is provided at Exhibits B-3 and B-4, respectively.

## CEC PROPOSED ROUTE

The route for which Southline seeks Siting Committee approval in this Application—the “CEC Proposed Route”—follows the route approved in the WAPA and BLM RODs. The CEC Proposed Route consists of approximately 67 miles of the New Build Section (the “CEC New Build Route”) and approximately 5 miles of the Upgrade Section (the “CEC Upgrade Route”). Further, five existing substations associated with the CEC Proposed Route would be expanded internally or with adjacent new Southline facilities to accommodate the new interconnections: the Arizona Electric Power Cooperatives (“AEPSCO”) Apache Substation, AEPSCO Pantano Substation, the Tucson Electric Power Company (“TEP”) Vail Substation, the TEP DeMoss Petrie Substation, and the TEP Tortolita Substation (collectively the “CEC Substations”). For convenience, a general overview of the facilities for which Southline seeks a CEC is shown on the map below; more detailed maps depicting these facilities are included at Exhibit A.



## **I. CEC New Build Route**

The CEC New Build Route is the Arizona portion of the New Build Section located entirely within Cochise County and consists of (i) approximately 66 miles of new double-circuit 345-kV transmission line in a new 200-foot-wide ROW, which would terminate at a new substation to be owned by Southline near the existing AEPCO Apache Substation,<sup>6</sup> and (ii) less than 1 mile of 115-kV or 230-kV transmission line and associated facilities needed to connect the proposed Southline Apache Substation to the AEPCO Apache Substation. See Exhibit A for an overview of the Project.

The CEC New Build Route enters Arizona at the New Mexico border approximately five miles north of Interstate-10. The route parallels an existing El Paso natural gas pipeline for approximately 43 miles in a westerly direction until heading south to parallel an existing AEPCO 230-kV transmission line to the proposed new Southline Apache Substation and then heads west and northwest for less than 1 mile terminating at the existing AEPCO Apache Substation. As detailed in Table 2-11 of the Final EIS, virtually all of the CEC New Build Route parallels existing transmission lines, pipelines, or roads.

## **II. CEC Upgrade Route**

The CEC Upgrade Route consists of approximately 5 miles of new non-WAPA owned 138-kV and 230-kV transmission lines and associated facilities that would interconnect the upgraded WAPA 230-kV Apache-Tucson and Tucson-Saguaro transmission lines to four existing substations owned and operated by other Arizona load-serving utilities: (a) approximately one mile of 230-kV transmission line and associated facilities to interconnect the existing AEPCO Pantano Substation; (b) approximately two miles of 230-kV transmission line and associated facilities to interconnect the TEP Vail Substation; (c) less than one mile of 138-kV transmission line and associated facilities to interconnect the TEP DeMoss Petrie Substation; and (d)

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<sup>6</sup> The existing Apache Substation is owned and operated by AEPCO. Southline proposes to construct a new substation (“Southline Apache Substation”) located near the AEPCO Apache Substation that would connect the New Build Section to the AEPCO Apache Substation and the Upgrade Section. See Application at Section 4.b.i.(3) for additional details.

approximately 1.5 miles of 230-kV transmission line and associated facilities to interconnect the TEP Tortolita Substation.<sup>7</sup> See Exhibit A for an overview of the Project.

### **III. Routing Concept**

The CEC Proposed Route balances the need for the Project with limiting environmental and ecological impacts. It also provides the best scenario for mitigating potential adverse impacts to resources.

Southline actively and continuously worked with stakeholders to avoid sensitive areas in Arizona as discussed in detail below, and in certain instances agreed to mitigation measures to address their concerns. For example, Southline worked with the Arizona Game and Fish Department (“AGFD”) to address concerns with potential Project impacts on Crane Lake at the Willcox Playa Wildlife Area. Southline and the AGFD negotiated a September 1, 2015 Memorandum of Agreement<sup>8</sup> under which Southline agreed to relocate the lake and make other improvements. Southline agreed to present the Work Plan included in the Memorandum of Agreement to the Siting Committee as the joint recommendation of Southline and the AGFD as conditions to the CEC requested by this Application. Southline has also agreed to address concerns by a group of Arizona wine producers that would have been impacted by Crane Lake mitigation routing adjustments. A final Work Plan addressing these concerns is expected to be completed by the end of this year.<sup>9</sup>

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<sup>7</sup> See Application at Section 4.b.i.(3) for additional details on the Pantano, Vail, DeMoss Petrie, and Tortolita substations.

<sup>8</sup> The draft Memorandum of Agreement is attached hereto as Exhibit J-3a. As agreed therein, Southline recommends the Work Plan be included as conditions to its CEC. While the parties are still negotiating the Work Plan, it will be finalized prior to the hearing on November 29, 2016, so the Siting Committee can incorporate the Work Plan as conditions to Southline’s CEC.

<sup>9</sup> Although not part of the CEC Proposed Route, Southline also addressed stakeholder concerns with the historic Tumamoc Hill area located in the Upgrade Section. Specifically, Southline worked with WAPA, the BLM, cooperating agencies, and other stakeholders, which led to a routing alternative that reduced impacts to historic and environmentally sensitive areas and minimized instances where the route transects property and instead parallels property lines.

## **PROJECT HISTORY**

### **I. Generally**

Southline began working with regional planning groups in 2009 to analyze transmission needs in southern Arizona and New Mexico. Over the next two years Southline developed a preliminary line design informed by regional plans and preliminary routing possibilities. In Arizona, regional planning discussions and studies suggested that an upgrade of the existing WAPA Apache-Saguaro line could help improve the regional system, but the need for WAPA or the Arizona entities to do so on their own was not sufficient to implement the upgrade at that time. Southline proposed to combine the upgrade of the WAPA line with a new connection to the New Mexico transmission system to create potential bidirectional use by enabling access and delivery of renewable resources in one direction combined with the additional access to markets and existing sources in the other direction. Early regional planning led to defining the proposed project scope of the Upgrade and New Build Sections, their respective end points, and interconnections.

The Project was designed to minimize land and resource impacts by developing a route along existing corridors and by upgrading existing transmission lines where feasible—an innovative approach that respects the region’s communities and natural and cultural resources. Because of that design philosophy, more than 85 percent of the overall proposed route parallels or upgrades existing linear corridors with 98 percent of the Arizona portion of the Project doing so. A more detailed discussion of the Project’s design philosophy is included at Exhibit J-1.

Early on, Southline conducted proof of concept technical studies and held public meetings to share information and receive input on the preliminary routing options. These meetings with residents, local governments, non-governmental organizations, agencies, transmission providers, and other stakeholders informed the Project scope and route development.

In December 2009, Southline filed a ROW application with the BLM, proposing to construct, operate, and maintain a high-voltage electric transmission line on land managed by the BLM. As a result, the BLM initiated the NEPA process. Thereafter, Southline initiated the Western Electricity Coordinating Council (“WECC”) Path Rating Process and submitted a Statement of Interest to WAPA for consideration of the Project.

Southline's proposal triggered WAPA's NEPA analysis, so the BLM and WAPA joined as NEPA co-lead agencies.

## **II. Environmental Review and Public Outreach**

The Project underwent a six-year year, comprehensive environmental study process that included impact analyses, significant public involvement, detailed reviews of alternative routes, and mitigation planning. This process included input and expertise from Arizona citizens, organizations, and governmental entities.

Southline conducted informal stakeholder meetings and workshops prior to the formal NEPA scoping period. It hosted public meetings in Willcox, Tucson, and Marana, Arizona (on September 27-29, 2011) and Benson, Arizona (on November 10, 2011). Additionally, Southline met with local Arizona jurisdictions such as city administrators, county commissioners, and supervisors, as well as Arizona state officials and representatives from local community organizations within the Project area. It also held a routing workshop in Tucson on September 28, 2011. These meetings provided early public notification of the Project and initiated work with interested stakeholders on routing options. Southline used information from its stakeholder outreach to develop its proposed project scope and alternative routes. Additional details on the pre-NEPA outreach conducted by Southline are included at Exhibit J-2.

On April 4, 2012, a Notice of Intent published in the Federal Register initiated the NEPA process for the Project and began the formal public scoping period.<sup>10</sup> Three public scoping meetings and one agency scoping meeting were held in Arizona. The meetings were designed to allow attendees to view informational displays, hear a presentation on the Project and a summary of the NEPA process, allow members of the public to ask agency staff questions about the proposed action and the EIS process, and submit written or verbal comments onsite. An interactive geographic information system ("GIS") mapping station was available for meeting attendees to view the Project area and provide comments about specific locations within the study area. One

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<sup>10</sup> *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Southline Transmission Line Project in New Mexico and Arizona (DOE/EIS-0474) and Possible Land Use Plan Amendments*, Bureau of Land Management, U.S. Department of the Interior, Western Area Power Administration, U.S. Department of Energy, 77 FR 20,411 (Apr. 4, 2012).

hundred thirty-three comments were received from these meetings. Additional details regarding the NEPA scoping process and outreach are included at Exhibit J-2 and can be found in Sections 1.12 and 5.2 of the Final EIS.

Twenty-one American Indian tribes and 33 federal, state, and local agencies were invited to participate as cooperating agencies in preparation of the EIS. Seventeen agencies accepted, affording the BLM and WAPA the benefit of each agency's particular expertise and guidance. Arizona cooperating agencies that were active participants included the AGFD, the Arizona State Land Department ("ASLD"), Cochise County, Greenlee County, Graham County, and the City of Sierra Vista.

On April 11, 2014, a Notice of Availability of the Draft EIS published in the Federal Register<sup>11</sup> initiated the 90-day Draft EIS comment period. Another six public meetings were held during this comment period, three of which were in Arizona. A total of 1,029 substantive comments were received on the Draft EIS. All substantive comments collected during the NEPA process were considered in the development and approval of the selected route. Additional details regarding the Draft EIS public involvement are included at Exhibit J-2, and a catalog of the comments received can be found in Table 8-1 of the Final EIS.

The Final EIS was issued in 2015.<sup>12</sup> The BLM and WAPA published their respective RODs, selecting and approving the Agency Preferred Alternative Route identified in the Final EIS as the best route for the Project.<sup>13</sup> The Arizona portion of the Agency Preferred Alternative Route is approximately 188 miles long (*i.e.*, 67 miles of New Build Section and 121 miles of Upgrade Section). Approximately 67 miles of the Arizona total are associated with the New Build Section and are included in the CEC New Build Route for which Southline seeks approval. Another approximately 5 miles

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<sup>11</sup> *Notice of Availability of the Proposed Southline Transmission Line Project Draft Environmental Impact Statement and Draft Resource Management Plan Amendment, New Mexico and Arizona*, Bureau of Land Management, Western Area Power Administration, U.S. Department of Energy, 79 FR 20,224 (Apr. 11, 2014).

<sup>12</sup> A complete copy of the Final EIS is attached hereto as Exhibit B-1.

<sup>13</sup> The BLM and WAPA RODs are attached hereto as Exhibits B-3 and B-4, respectively.

of new non-WAPA-owned transmission line associated with the Upgrade Section represents the CEC Upgrade Route for which Southline seeks approval.

Southline continues its public and stakeholder outreach efforts. Southline invited 33 affected jurisdictions, cooperating agencies, and potential intervenors to the Siting Committee pre-filing conference on October 3, 2016, including Cochise County, Pima County, Pinal County, Greenlee County, Graham County, City of Tucson, City of Sierra Vista, City of Willcox, Tohono O'odham Nation, ACC Staff, U.S. Army Corps of Engineers, Bureau of Reclamation, Department of Defense Clearinghouse, U.S. Environmental Protection Agency, Fort Huachuca Army Base, National Park Service, U.S. Forest Service (Coronado National Forest), U.S. Fish and Wildlife Service, Arizona Game and Fish Department, Arizona State Land Department, New Mexico Department of Game and Fish, New Mexico State Land Office, the BLM, WAPA, Arizona State Historic Preservation Office, Bureau of Indian Affairs, the Audubon Society, Wings over Willcox, AEPCO, TEP, Cascabel Working Group, Tumamoc Hill, and Arizona Wine Growers Association. Many of these groups and others attended the meeting.

Southline also met with the ACC Staff on the morning of October 3, 2016, to give an overview of the Project and answer questions.

### **PROJECT NEED AND BENEFITS**

From the beginning, Southline worked with the WECC, local utilities, and other regional transmission planning groups to design the Project to help solve regional transmission needs. The Project addresses four primary needs: (i) reliability, (ii) congestion mitigation, (iii) region's ability to meet electrical demand growth, and (iv) renewable generation development and public policy goal achievement. An analysis of each of these areas demonstrates that the need for an adequate, economical and reliable supply of power addressed by the Project balances the desire to minimize the effect of the Project on the environment and ecology of Arizona in a manner that serves the broad public interest.<sup>14</sup>

The need for the Project has been confirmed by the response to the Project's recent open solicitation. The open solicitation window to submit Expressions of Interest

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<sup>14</sup> See A.R.S. § 40-360.07(B).

for transmission capacity on the Project closed on June 30, 2016, with received submittals totaling in excess of the Project's capacity. Energy Strategies, the independent third-party solicitation manager, has screened and ranked the submittals, and bilateral negotiations are ongoing for transmission capacity on the Project.

The public interest served by the Project is properly viewed in its overall context. That is, while approximately 72 miles of transmission lines associated with the Project are before the Siting Committee, Southline's entire New Build and Upgrade Sections would function as an integrated whole. For example, although the majority of the Upgrade Section is not part of the CEC Proposed Route, approval of the Application would allow for the upgrade of approximately 121 miles of existing WAPA 115-kV lines to 230-kV lines, which would improve system reliability and provide additional transmission capacity to Arizona and the region. The needs satisfied by the Project for Arizona and the region are further described below.

## **I. Improve Reliability**

Currently, there is limited existing electrical transmission capacity in the southern Arizona and New Mexico region. The Upgrade Section of the Project would provide 1,000 MW of east-to-west and 430 MW of west-to-east capacity to the regional grid, compared to the existing 120 MW of bidirectional capacity of the current 115-kV lines. This additional capacity would provide redundancy helping the grid withstand events that might otherwise cause widespread transmission outages, thereby preventing an adequate supply of electric power within the State. For example, the Project would harden the system in the event of wildfires, storms, or other events; provide operations and maintenance flexibility; and increase the ability for the region to meet future load growth. Many of the existing transmission facilities in the region are approaching the ends of their useful lives, such as the WAPA 115-kV lines that are part of the Upgrade Section. The Project's Upgrade Section would replace decades-old facilities, which are subject to deterioration, with modern steel structures. Finally, the New Build Section would increase the limited transmission connections between the southern Arizona and New Mexico area and the rest of the western United States' transmission grid.

## **II. Mitigate Existing Congestion**

Transmission capacity in southern Arizona is currently fully utilized and congested. That congestion exacerbates the difficulties local utilities encounter in providing reliable and economical electric service. By adding additional capacity in Arizona, the Project would mitigate existing and anticipated future congestion. Reduced congestion also expands opportunities for Arizona utilities to import cost-effective power from regional market hubs like Palo Verde.

## **III. Increase Region's Ability to Meet Electrical Demand Growth**

While Commission Staff's Final Draft of the Ninth Biennial Transmission Assessment 2016-2025 found that the statewide demand forecast has declined since the Fifth Biennial Transmission Assessment,<sup>15</sup> the overall Arizona load growth rate is still projected to average approximately 2.18 percent per year for 2016-2025.<sup>16</sup> Most of the area is expected to continue to grow at a faster rate than the United States overall. This growth should increase the demand for electricity and, absent additional capacity, increase congestion of the electrical grid in southern Arizona and New Mexico.

The Project has been designed to reliably meet existing demand and existing transfer needs, as well as position utilities to meet future growth. How regional utilities meet future load growth will depend on the availability and cost of various resources, including both transmission and generation. As new transmission resources become available, utilities will have access to a broader range of potential resources. Absent adequate transmission facilities, utilities are limited to generation solutions for their resource needs, and the potential types and locations for such generation may be limited. Thus, the additional transmission capacity provided by the Project would unlock a range of resource solutions and potentially a greater universe of generation types and locations. For example, transmission that provides access to solar or wind generation zones would provide attractive options to a utility with growing resource

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<sup>15</sup> Arizona utilities reported a Ten-Year Forecast that was on average 4.3% lower than what was reported during the Eighth Biennial Transmission Assessment. *See* Final Draft of Biennial Transmission Assessment of 2016-2025, Docket No. E-00000D-15-0001 at 72 (July 22, 2016).

<sup>16</sup> *See* Final Draft of Biennial Transmission Assessment of 2016-2025, Docket No. E-00000D-15-0001 at 72 (July 22, 2016).

needs and increasing renewable portfolio standards (“RPSs”). Similarly, the availability of transmission capacity would provide access to purchased power resources.

#### **IV. Facilitate Renewable Generation Development and Achieve Public Policy Goals**

There will be an increased need for transmission capacity to serve and integrate renewable resources as western states attempt to meet existing and potentially increased renewable energy requirements. The current Arizona Renewable Energy Standard and Tariff (“REST”) plan provides that Arizona electric utilities should achieve annual percentages of renewable energy sources in their generation portfolios to accomplish a total of 15 percent renewable energy by 2025, and Chairman Little has filed a letter asking stakeholders to comment on whether a REST requirement of 30 percent by 2030 is achievable. The Project would provide access to renewable energy development zones in Arizona and New Mexico. The additional transmission capacity provided by the Project would facilitate the development of potential wind and solar generation in these zones. Not only would available capacity provide a path to market for new renewable generation, but the existence of that capacity availability may well be the factor that secures financing for these generation projects.

#### **CONCLUSION**

Southline requests a CEC for the approximately 67-mile CEC New Build Route and the approximately 5-mile CEC Upgrade Route. The approximately 72-mile CEC Proposed Route was thoroughly examined as part of the EIS process, which considered environmental impacts and conformance with land uses. Southline has provided the Siting Committee the entire Final EIS for consideration as part of this Application. The CEC Proposed Route, which was selected after close consultation with Arizona cooperating agencies, maximizes the use of the existing ROWs, consolidates existing linear development, and minimizes impacts to the environment and area stakeholders.

Southline appreciates the Siting Committee’s consideration of a CEC for the Project, one of the last major regulatory approvals required for the Project. As stated above, Southline respectfully requests the Siting Committee to disclaim jurisdiction over the WAPA-owned facilities that WAPA intends to upgrade as contemplated by the Project and requests that a CEC be approved for the CEC Proposed Route without

modification. Southline currently anticipates beginning construction in 2017, with operations phased into service beginning in 2019.

# APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY<sup>17</sup>

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

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

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

Doug Patterson  
Black Forest Partners, L.P.  
55 Main Street, 3rd Floor  
Tiburon, CA 94920  
(415) 787-4209

**3. Dates on which Applicant filed a Ten Year Plan in compliance with A.R.S. § 401-360.02, in which the facilities for which this application is made were described:**

Southline filed a Ten Year Plan in which this Project was described on January 30, 2015, and January 29, 2016.

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<sup>17</sup> Southline provides the following information pursuant to A.R.S. §§ 40-360.03 and 40-360.06 and ACC Rules of Practice and Procedure R14-3-219.

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**4. Description of the proposed facilities:**

**a. Description of electric generating plant:**

The Project does 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 electrical properties of the Project are as follows:

**CEC New Build Route**

Normal voltage	345,000 volts (345 kV)
Capacity-WECC Accepted Path Rating	East-to-West: 1,037 MW West-to-East: 971 MW
Circuit configuration	Double-circuit
Conductor size	1,272 kcmil ACSR* (two subconductors per phase)
Shield wire size**	7/16-inch extra-high-strength steel wire
Ground clearance of conductor***	30 feet

\* ACSR = aluminum conductor steel reinforced; kcmil = a thousand circular mils (a unit used to express large conductor sizes).

\*\* Shield wire size: one shield wire position to be occupied by optical ground wire about 0.5 inch in diameter with 48-96 optical fibers.

\*\*\* Design minimum at temperature of 100 degrees Celsius.

**CEC Upgrade Route**

Normal voltage	230,000 volts (230 kV)
Capacity-WECC Accepted Path Rating	East-to-West: 1,000 MW West-to-East: 430 MW
Circuit configuration	Double-circuit
Conductor size	1,272–kcmil ACSS* (1 subconductor per phase)
Shield wire size**	7/16-inch extra high-strength steel wire
Ground clearance of conductor***	28 feet

\* ACSS = aluminum conductor steel supported; kcmil = a thousand circular mils (a unit used to express large conductor sizes).

\*\*Shield wire size: one shield wire position to be occupied by optical ground wire about 0.5 inch in diameter with 48 optical fibers.

\*\*\* Design minimum at temperature of 200 degrees Celsius.

**(2) Description of proposed structures:**

The preliminary typical design characteristics of the Project are as follows:

**CEC New Build Route**

Two types of steel structures could be potentially used for the 345-kV transmission line: self-supporting steel lattice and steel monopole structures, as shown in Exhibits G-1 – G-5.

<b>Feature</b>	<b>Proposed</b>	<b>Optional</b>
Structure type	Self-supporting steel lattice structures (see Exhibits G-1 – G-3)	Tubular steel monopoles (see Exhibits G-4 – G-5)
Structure height	110–170 feet	90–150 feet
Span length <sup>†</sup>	700–1,400 feet	700–1,100 feet
Number of structures per mile <sup>**</sup>	4–7	5–7
ROW width <sup>**</sup>	200 feet	200 feet

<sup>†</sup> The span length range reflects the most recent information available, taking into account circumstances where it may be desirable to match the existing parallel spans, and is consistent with the average span length reflected in the Final EIS.

<sup>‡</sup> The range of structures per mile reflects the most recent information available, taking into account circumstances where it may be desirable to match the existing parallel spans, and is consistent with the average number of structures per mile reflected in the Final EIS.

\* 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.

The selection of a lattice or monopole structure would be primarily based on site-specific engineering design needs, economic and visual considerations, and delivery timing.

Lattice structures would be constructed of galvanized steel with a height ranging from 110 to 170 feet and a typical base width of approximately 25 feet. The exact height of the structure would be determined by topography and design requirements for conductor clearance; individual structure height is based on plan and profile calculations once a centerline is determined. The distance between structures would depend on site-specific characteristics but would generally range from 700 to 1,400 feet (or approximately four to seven structures per mile). 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. Each lattice structure would have four legs, each set on concrete foundations. Individual foundations would be designed based on specific geotechnical conditions and would be approximately 3 feet to 6 feet in diameter and 18 feet to 50 feet deep.

Monopole structures would be constructed of galvanized or self-weathering tubular steel and would range in height from 90 to 150 feet. The exact height of the structure would be determined by topography and design requirements for conductor clearance. The monopoles would have an approximate base diameter of 5 to 10 feet. Monopoles would be set on a concrete foundation. The foundation depth would be consistent with geotechnical conditions and would range from approximately 18 to 50 feet deep. The distance between each structure would depend on site-specific characteristics but is expected to range from 700 to 1,100 feet (or approximately five to seven structures per mile). 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.

### **CEC Upgrade Route**

The 230-kV double-circuit transmission line is proposed to be constructed using monopole structures (Exhibits G-6 - G-9). The monopole structures are expected to be constructed of galvanized or self-weathering tubular steel, with a height ranging from 100 to 140 feet. The exact height of the structure would be determined by topography and safety requirements for conductor clearance. Most tubular steel monopoles would have an approximate base diameter of 6 feet or less. The distance between structures

would depend on site-specific characteristics but is expected to be an average of 900 feet (or approximately five to six structures per mile). Spacing between the proposed 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 structure locations. Each structure would be either directly embedded or mounted in concrete.

Feature	Proposed
Structure type	Tubular steel monopoles (see Exhibits G-6 – G-9)
Structure height	100–140 feet
Span length	700–1,100 feet <sup>18</sup>
Number of structures per mile*	5–6
ROW width**	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. Through urban Tucson, between Del Bac and Rattlesnake substations, the ROW would likely remain at the existing 100-foot width.

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<sup>18</sup> These estimates represent an average for the Upgrade Section in general. These estimates may be different for the CEC Upgrade Route items given they have a shorter ingress/egress.

**(3) Description of proposed substations:**

The new substation facilities proposed under the CEC Proposed Route would be constructed to expand existing substations or interconnect new Southline facilities with five existing non-WAPA substations: Apache, Pantano, Vail, DeMoss Petrie, and Tortolita (the CEC Substations).

Substation improvements, which are needed to accommodate the new transmission lines and upgrades, would generally include new yard expansions, line and/or bus compensation equipment, shunt reactor or shunt capacitors, switches and breakers, and installation of new transformers, in addition to construction laydown areas.

A summary of the existing CEC Substations, land ownership, and respective owner/operator is provided in the table below.

Existing Interconnection Substation	Owner/Operator	Section	Land Status
Apache	AEPCO	New Build/ Upgrade	Private, Arizona State Land Department
Pantano	AEPCO	Upgrade	Arizona State Land Department
Vail	TEP	Upgrade	Private, Arizona State Land Department
DeMoss Petrie	TEP	Upgrade	Private
Tortolita	TEP	Upgrade	Arizona State Land Department

Additional details on the CEC Substations are provided below and can be found in the Final EIS at Section 2.4.2.

**Apache**

The AEPCO Apache Substation is an existing substation owned and operated by AEPCO, located southwest of Willcox Playa in Arizona. This substation is located at the east end of the existing WAPA Apache-Tucson 115-kV line. Existing access to the site would be used for construction, operation, and maintenance. Subject to final design

agreements among AEPCO, WAPA, and Southline, either the existing AEPCO 230-kV yard or the existing WAPA 115-kV yard within AEPCO's Apache Substation would be upgraded, including new circuit breakers and associated equipment and high-voltage switches. The existing 230-/115-kV power transformers may also be replaced.

The new Southline Apache Substation would be located near the AEPCO Apache Substation, southwest of Willcox Playa in Arizona. This substation would be located at the west end of the proposed 345-kV line (New Build Section) and the east end of the proposed upgrade of WAPA's existing Tucson–Apache 115-kV line to 230-kV (Upgrade Section). Existing access would be used for construction, operation, and maintenance.

The new 60-acre 345-/230-kV yard would be constructed to handle power on the new 345-kV line and power on the upgraded 230-kV line. Equipment that would be installed within the new yard would include circuit breakers and associated equipment, high-voltage switches, transmission line termination structures, bus work and supports, transformers, and a Static VAR Compensator. One circuit upgraded from 115- to 230-kV from the Adams Tap Substation, one 230-kV circuit from the Pantano Substation, and one tie line to the existing 115-kV/230-kV yard in the AEPCO Apache Substation would terminate at the new substation. Two 345-kV circuits from the Hidalgo Substation would terminate at the new 345-kV yard. Two transformers would be installed to connect the 230-kV and 345-kV yards. The maximum takeoff transmission line structure height would be 80 feet. A new control building would also be required.

Additional equipment, such as line and/or bus compensation equipment, a series reactor, a shunt reactor, or shunt capacitors, would be located within the footprint of the new substation. There would be approximately 70 acres of disturbance, 10 acres of which would be used for the transmission line construction and as a substation laydown yard that would be reclaimed, and the other approximately 60 acres of which would be the permanent disturbance for the new substation.

### **Pantano**

The existing Pantano Substation is owned and operated by AEPCO. Equipment may need to be modified or upgraded to accommodate the new interconnection.

A new Southline 230-kV substation would be built close to the existing Pantano Substation. The new substation would consist of three bays for five line positions but

would have enough room to expand ultimately to four bays or eight line positions. New 230-kV lines from the Apache and Vail Substations would be routed into this substation. This substation would also loop in the existing AEPCO 230-kV line from Apache to Bicknell and have a 230-kV tie to the existing Pantano facilities. Slightly expanded existing access to the site would be used for construction, operation, and maintenance. Equipment to be installed within the new yard would include circuit breakers and associated equipment, high-voltage switches, transmission line termination structures, and bus supports.

There would be approximately 25 acres of disturbance, 5 acres of which would be used for the transmission line construction and as a substation laydown yard and be reclaimed, and the other 20 acres of which would be the permanent disturbance for the substation expansion, including any new access.

### **Vail**

The existing Vail Substation is owned and operated by TEP, located between the Pantano Substation and suburban Tucson along the south side of Interstate-10. An additional approximately 23 acres for a new Southline 230-kV yard would be required. Existing access to the site would be used for construction, operation, and maintenance. Equipment to be installed within the new yard would include circuit breakers and associated equipment, high-voltage switches, transmission line termination structures, bus work and supports, and transformers. The expansion would be built to accommodate 230-kV line positions for the circuits from the Pantano and WAPA Tucson substations. In addition, two 345-/230-kV transformers and their associated positions would be installed. The maximum takeoff transmission line structure height would be 60 feet.

There would be approximately 27 acres of disturbance, 5 acres of which would be used for the transmission line construction and as a substation laydown yard and be reclaimed, and the other 22 acres of which would be the permanent disturbance for the substation expansion.

### **DeMoss Petrie**

The DeMoss Petrie Substation is an existing substation owned and operated by TEP, located on the north side of Grant Road, east of I-10 in Tucson. The DeMoss Petrie

Substation is directly adjacent to the WAPA Tucson Substation. The DeMoss Petrie Substation would interconnect to the WAPA Tucson Substation through a new 138-kV line. Existing access to the site would be used for construction, operation, and maintenance. Equipment to be installed within the existing yard would include circuit breakers and associated equipment, high-voltage switches, transmission line termination structures, and bus work supports. The new 138-kV line would be approximately 800 to 1,100 feet long outside the existing substation fence, depending on the final alignment; this would require two to five monopoles between the DeMoss Petrie and WAPA Tucson substations.

The DeMoss Petrie Substation would be expanded an additional 4.2 acres for two additional 138-kV line positions. All 4.2 acres would be permanently disturbed; no temporary disturbance is anticipated.

#### **Tortolita**

The existing Tortolita Substation is owned and operated by TEP, located on lands managed by the ASLD. The substation is east of Interstate-10 and south of Red Rock. A new 11.1-acre Southline 230-kV yard would accommodate a 230-kV line position from the WAPA Tucson Substation and a 500-/230-kV transformer position. The high side of the transformer would terminate into a new position in the existing 500-kV yard. Existing access to the site would be used for construction, operation, and maintenance. Equipment to be installed within the new yard would include circuit breakers and associated equipment, high-voltage switches, transmission line termination structures, bus work and supports, and transformers. The maximum takeoff transmission line structure height would be 60 feet.

There would be approximately 16.1 acres of disturbance, 5 acres of which would be used for the transmission line construction and as a substation laydown yard and be reclaimed, and the other 11.1 acres of which would be permanent disturbance for the substation expansion.

#### ***(4) Purpose for constructing the transmission line:***

The Project's goals are to meet the electric power supply needs in Arizona by improving reliability in southern Arizona and New Mexico, mitigating existing congestion, and increasing the ability to meet growing demand for electricity, and also to facilitate generation and public policy goals by increasing the capacity of the existing

electric transmission grid. Although only the CEC Proposed Route is before the Siting Committee, the Project as a whole would strengthen the regional transmission grid and thereby benefit Arizona. The Project's initial capacity on the Upgrade Section would be approximately 1,000 MW east-to-west and 430 MW west-to-east, compared to the existing line's 120 MW bidirectional capacity, which is fully utilized. The Project's initial capacity on the New Build Section would be approximately 1,037 MW east-to-west and 971 MW west-to-east.

### **Improve Reliability**

Reliability of the electrical grid in southern Arizona and New Mexico is affected by load growth, inadequate electrical transmission capacity, limited electrical connections in the area, and aging electrical transmission lines. The additional Project capacity would improve the regional transmission grid reliability.

The physical condition and limited capacity of the existing electrical infrastructure leads to highly utilized sections of the electrical system operating with low levels of redundancy to withstand unanticipated outages. In addition, utilities in the area have limited interconnections to power market hubs because of their location on the periphery of the WECC's grid and because of the limited existing electrical transmission capacity in the region. This Project will improve access to and delivery of electricity to end users in southern Arizona and New Mexico, providing long-term benefits to these users.

There are many older lines in the region that are obsolescent but are still in service through the use of heavy maintenance regimes. For example, the Upgrade Section of the Project is part of WAPA's South of Phoenix H-frame wood pole 115-kV transmission system that was built in the early 1950s and is well past its engineered lifespan. The Project's Upgrade Section would replace decades-old facilities, which are subject to deterioration, with modern steel structures.

The Project would improve system reliability in several ways. In particular, the Project would add bulk electric infrastructure to the existing grid, which would build redundant systems to resolve and allow flexibility for unanticipated and scheduled grid outages, respectively. Further, the Upgrade Section would be an integral part of the Project that would provide Arizona reliability benefits. Replacing aging wooden structures with steel structures would reduce maintenance and the incidence of failures.

Adding new equipment, including new conductors and insulators and related substation equipment, would increase reliability and system capacity. The Project would also reduce voltage limitations and reduce curtailment for local utilities.

### **Mitigate Existing Congestion**

Existing transmission capacity in southern Arizona and New Mexico is presently almost fully utilized and congested. The Energy Policy Act of 2005 required studies detailing national electrical transmission congestion as well as areas where renewable energy development has been inhibited by a lack of sufficient transmission facilities or capacity. Consequently, the Department of Energy (“DOE”) produced the “National Electric Transmission Congestion Studies” in 2006, 2009, and 2012.

The congestion in Arizona and New Mexico is demonstrated through the Available Transfer Capability (“ATC”), which is a measure of the contractual transfer capability remaining in a transmission network for further use over and above those already committed uses. Because there is no regional transmission operator, operators of the electrical grid in southern Arizona and New Mexico rely on a bilateral, contractual system to reserve transmission capacity and schedule operations, and available contractual capacity is indicated by the ATC. Therefore, contractual congestion is critically important, as that governs the ability to schedule power deliveries. The existing WAPA lines in the Upgrade Section of the Project are fully committed, with near zero ATC. This lack of available contractual capacity results in a congested condition, regardless of the electrical grid’s physical state. Southline studies have shown that the Project would increase the import capability of the region, demonstrated by the Project’s Accepted Path Rating of 1,000 MW east-to-west and 430 MW west-to-east in the Upgrade Section in Arizona.

The regional electrical grid faces challenges from severe demand spikes resulting from large temperature swings and from the increase of variable resources—especially during hot summer months. Because loads on power lines are constantly changing and utilities need to reserve capacity to meet required levels of reliability, the congested state of the electrical grid exacerbates the difficulties of local utilities to provide reliable service, even when increased electrical load can be anticipated. The poor physical condition of certain components of the transmission grid, coupled with this current state of congestion, makes the entire system itself vulnerable to cascading outages and potential regional blackouts.

By adding approximately 880 MW of east-to-west and 310 MW of west-to-east capacity in Arizona, the Project would mitigate existing and anticipated future congestion. Reduced congestion also expands opportunities for Arizona utilities to import cost-effective power from regional market hubs like Palo Verde.

### **Increase the Ability to Meet Region's Electrical Demand Growth**

While Commission Staff's Final Draft of the Ninth Biennial Transmission Assessment 2016-2025 found that the statewide demand forecast has declined since the Fifth Biennial Transmission Assessment,<sup>19</sup> the overall Arizona load growth rate is still projected to average approximately 2.18 percent per year for 2016-2025.<sup>20</sup> Most of the area is expected to continue to grow at a faster rate than the United States overall. This growth should increase the demand for electricity and, absent additional capacity, increase congestion of the electrical grid in southern Arizona and New Mexico.

The Project has been designed to reliably meet existing demand and existing transfer needs, as well as position utilities to meet future growth. How regional utilities meet future load growth will depend on the availability and cost of various resources, including both transmission and generation. As new transmission resources become available, utilities will have access to a broader range of potential resources. Absent adequate transmission facilities, utilities are limited to generation solutions for their resource needs, and the potential types and locations for such generation may be limited. Thus, the additional transmission capacity provided by the Project would unlock a range of resource solutions and potentially a greater universe of generation types and locations. For example, transmission that provides access to solar or wind generation zones would provide attractive options to a utility with growing resource needs and increasing RPSs. Similarly, the availability of transmission capacity would provide access to purchased power resources.

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<sup>19</sup> Arizona utilities reported a Ten-Year Forecast that was on average 4.3% lower than what was reported during the Eighth Biennial Transmission Assessment. *See* Final Draft of Biennial Transmission Assessment of 2016-2025, Docket No. E-00000D-15-0001 at 72 (July 22, 2016).

<sup>20</sup> *See* Final Draft of Biennial Transmission Assessment of 2016-2025, Docket No. E-00000D-15-0001 at 72 (July 22, 2016).

## **Facilitate Renewable Generation Development and Achieve Public Policy Goals**

Demand for transmission capacity to deliver renewable resources to loads will increase as western states attempt to meet their RPSs. Mandatory RPSs have been established to encourage the development of renewable energy sources and mandate that electricity producers obtain a minimum percentage of power from renewable energy resources before a certain date. Arizona's RPS is 15 percent by 2025. Further, in November 2006, the ACC adopted the final Arizona Renewable Energy Standard and Tariff ("REST") plan, which provided that Arizona electric utilities should achieve annual percentages of renewable energy sources in their generation portfolios to accomplish a total of 15 percent renewable energy by 2025. ACC Chairman Little filed a letter on September 14, 2016, asking stakeholders to comment on whether a REST requirement of 30 percent by 2030 is achievable.<sup>21</sup>

Two Federal planning efforts identified specific locations that are well suited for renewable energy and established design features that would apply to these types of projects on BLM-administered lands. These two efforts overlap the Project area in Arizona and New Mexico and include the Arizona BLM's Restoration Design Energy Project ("RDEP") and the Solar Energy Development Programmatic Environmental Impact Statement ("PEIS").

The RDEP ROD established 192,100 acres of renewable energy development areas ("REDAs") on BLM land throughout Arizona. In addition, the RDEP ROD established the Agua Caliente Solar Energy Zone ("SEZ") near Dateland in western Arizona. The BLM amended eight land use plans across Arizona to include the REDAs and RDEP SEZ. While these amendments only apply to BLM-managed lands, the RDEP examined all lands in Arizona.

The Solar Energy Development PEIS identified priority areas for utility-scale production of solar energy (*i.e.*, SEZs), including the Afton SEZ in New Mexico, exclusion areas for utility-scale solar energy development, and areas potentially available for utility-scale solar development outside exclusion areas and SEZs (variance areas). Land use plans in six western states (Arizona, California, Colorado, Nevada,

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<sup>21</sup> An Examination into the Modernization and Expansion of the Arizona Renewable Energy Standard and Tariff, Docket No. E-00000Q-16-0289 (Sept. 19, 2016).

New Mexico, and Utah) were also amended to establish programmatic and SEZ-specific design features for solar energy development on public lands.

The fully utilized and congested condition of the transmission grid limits the development of renewable energy generation projects. In Arizona in 2008, the Southeast Arizona Transmission Group described many of the local systems' needs and limitations and suggested the benefits of upgrading WAPA's existing 115-kV lines between the Apache and Saguaro substations. TEP and AEPCO further reinforced this in 2009, identifying this upgrade in their submission to the ACC BTA as one of the top three potential renewable transmission projects in their planning area.

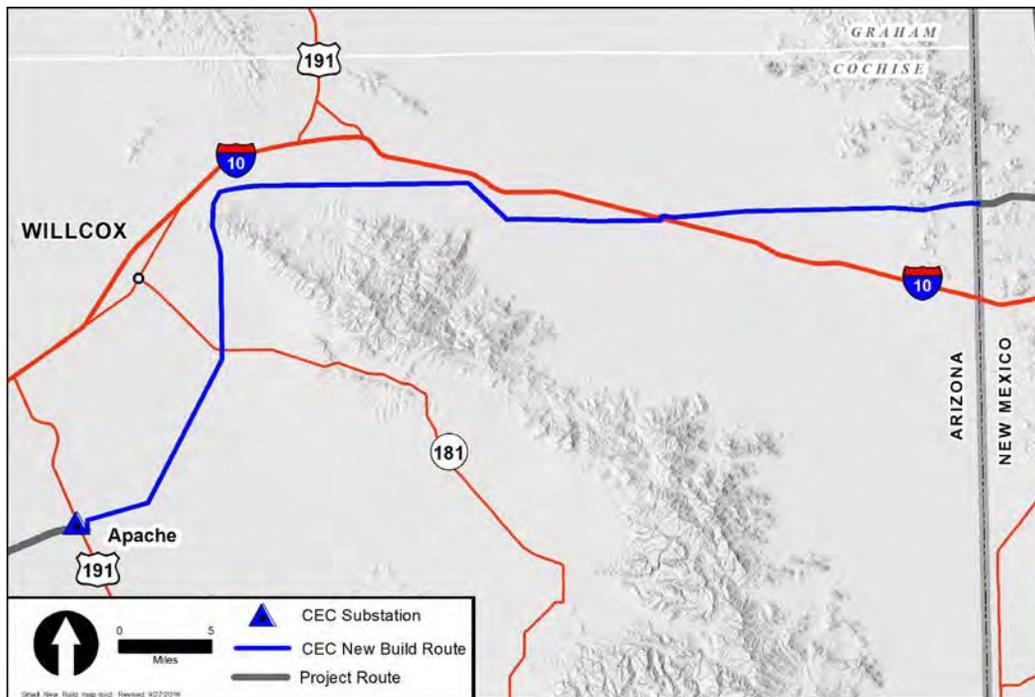
The Project would add up to about 880 MW of east-to-west and 310 MW of west-to-east capacity to the existing electrical grid in southern Arizona and New Mexico and relieve congestion by adding bulk electric infrastructure, including connection with up to 14 existing substations spread across the area, which would improve the local utilities' ability to access energy sources and markets. In doing so, the Project would be consistent with public policy goals promoting the increased use of renewable energy to meet RPSs and Arizona's REST requirement.

**ii. General Location:**

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

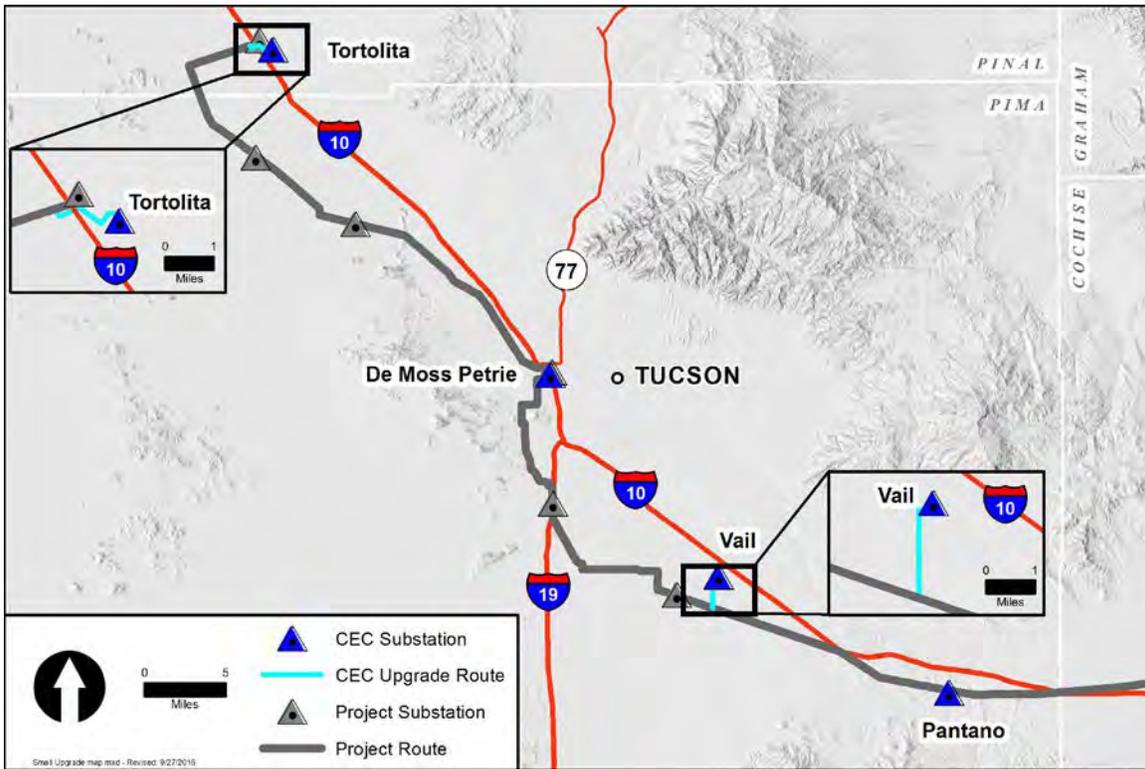
**CEC New Build Route**

The CEC New Build Route is approximately 67 miles in length and is located entirely within Cochise County as reflected below and at Exhibit A-2. The line enters Arizona at the New Mexico border approximately 5 miles north of Interstate-10. The route parallels an existing El Paso natural gas pipeline for approximately 43 miles (segments P5b, P6a, P6b, and P6c in the Final EIS) in a westerly direction until heading south to parallel an existing AEPCO 230-kV transmission line (segment P7 in the Final EIS) to the proposed Southline Apache Substation. The route then heads west and northwest for less than 1 mile (segment P8 in the Final EIS) to the existing AEPCO Apache Substation. As detailed in Table 2-11 of the Final EIS, virtually all of the CEC New Build Route parallels existing transmission lines, pipelines, or roads.



**CEC Upgrade Route**

The CEC Upgrade Route consists of approximately 5 miles of new non-WAPA-owned 138-kV and 230-kV transmission lines and associated facilities that would interconnect the upgraded WAPA 230-kV Apache-Tucson and Tucson-Saguaro transmission lines to four existing substations owned and operated by other Arizona load-serving utilities: (a) approximately one mile of 230-kV transmission line and associated facilities to interconnect the AEPCO Pantano Substation, (b) approximately two miles of 230-kV transmission line and associated facilities to interconnect the TEP Vail Substation, (c) less than one mile of 138-kV transmission line and associated facilities to interconnect the TEP DeMoss Petrie Substation, and (d) approximately 1.5 miles of 230-kV transmission line and associated facilities to interconnect the TEP Tortolita Substation. The CEC Upgrade Route is located in Pima and Pinal counties as reflected below and at Exhibit A.



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

**CEC New Build Route**

The straight line distance between the New Mexico-Arizona border where the CEC New Build Route begins and the AEPCO Apache Substation is approximately 52.3 miles.

**CEC Upgrade Route**

The straight line distance between the existing WAPA line that would be upgraded and the AEPCO Pantano Substation is 0.2 miles. The straight line distance between the existing WAPA line that would be upgraded and the TEP Vail Substation is approximately 1.92 miles. The straight line distance between the existing WAPA Tucson Substation and the TEP DeMoss Petrie Substation is 0.17 miles. The straight line distance between the existing WAPA line that would be upgraded and the TEP Tortolita Substation is approximately 1.23 miles.

***(3) Length of the transmission line route:***

**CEC New Build Route**

The CEC New Build Route is approximately 67 miles long, including less than 1 mile of 115-kV or 230-kV transmission line and associated facilities needed to connect the proposed Southline Apache Substation to the AEPCO Apache Substation.

**CEC Upgrade Route**

The CEC Upgrade Route consists of approximately 5 total miles of new 138-kV and 230-kV transmission lines needed to interconnect the Pantano, Vail, DeMoss Petrie, and Tortolita substations to the Upgrade Section.

***iii. Detailed Dimensions:***

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

**CEC New Build Route**

The nominal width of ROW required for the CEC New Build Route would be 200 feet.

**CEC Upgrade Route**

The nominal width of ROW required for the CEC Upgrade Route would be 150 feet, although in certain congested areas the ROW would be constrained to the existing 100 feet.

***(2) Nominal length of spans:***

**CEC New Build Route**

The nominal length of the spans between the proposed lattice structures in the CEC New Build Route would be 1,000 to 1,400 feet. In areas where the monopole structures are utilized the nominal length of the spans would be 800 to 1,100 feet.

**CEC Upgrade Route**

The nominal span length for the CEC Upgrade Route would be 700 to 1,100 feet.

**(3) Maximum height of supporting structures:**

**CEC New Build Route**

The maximum height of the proposed lattice structures in the CEC New Build Route would be approximately 170 feet. The maximum height of the optional monopole structures would be approximately 150 feet.

**CEC Upgrade Route**

The maximum height of the supporting structures in the CEC Upgrade Route would be approximately 140 feet.

**(4) Minimum height of conductor above ground:**

**CEC New Build Route**

The minimum design height of the conductor above ground in the CEC New Build Route would be 30 feet at 100 degrees Celsius conductor operating temperature, based on National Electric Safety Code (“NESC”) and Southline design standards. The exact height of each structure would be governed by topography and safety requirements for conductor clearance to grounded surfaces.

**CEC Upgrade Route**

The minimum design height of the conductor above ground in the CEC Upgrade Route would be 28 feet at 200 degrees Celsius conductor operating temperature, based on NESC and Southline design standards. The exact height of each structure would be governed by topography and safety requirements for conductor clearance to grounded surfaces.

***iv. Estimated costs of proposed transmission lines and substation:***

<b>ESTIMATED COSTS OF PROPOSED TRANSMISSION LINES AND SUBSTATIONS</b>		
<b>Project Components<sup>1</sup></b>	<b>Initial Cost<sup>2</sup></b>	<b>Annual Cost<sup>2</sup></b>
<b>Transmission Construction</b>	\$100,000,000	0
<b>Substation Construction</b>	\$165,000,000	0
<b>Right-of-Way Acquisition</b>	\$10, 000,000	\$150,000
<b>Total</b>	<b>\$275,000,000</b>	<b>\$150,000</b>

1 345-kV, 138-kV, 230-kV transmission lines and facilities  
2 Costs in 2016 U.S. Dollars

***v. Description of proposed route and substation locations:***

The CEC New Build Route and the CEC Upgrade Route are described *supra* at Section 4.b.ii.(1).

**CEC Substations**

A description of the CEC Substations is included in the following table.

<b>Substation</b>	<b>Location</b>
Apache	<p>Existing substation owned and operated by AEPCO; located southwest of Willcox Playa in Arizona.</p> <p>A new Southline substation to be built near the existing AEPCO Apache Substation, southwest of Willcox Playa in Arizona. This substation would be located at the west end of the proposed 345-kV line (New Build Section) and the east end of the proposed upgrade of WAPA's existing Tucson–Apache 115-kV line to 230-kV</p>
DeMoss Petrie	Existing substation owned and operated by TEP, located on the north side of Grant Road, east of I-10 in Tucson, near WAPA's Tucson substation.
Pantano	<p>Existing substation owned and operated by AEPCO, located south of Interstate-10 in Pima County approximately 6-miles west of the County line.</p> <p>A new Southline 230-kV substation consisting of three bays for five line positions (but ultimately would be able to expand to four bays or eight line positions), to be built close to the existing AEPCO Pantano Substation. This substation would also loop in the existing AEPCO 230-kV line from Apache to Bicknell and have a 230-kV tie to the existing Pantano facilities.</p>
Tortolita	Existing substation owned and operated by TEP; located on lands managed by the ASLD east of I-10 and south of Red Rock.
Vail	Existing substation owned and operated by TEP; located between the Pantano Substation and suburban Tucson along the south side of I-10.

***vi. Land Ownership:***

**Transmission Line ROW**

The requested ROW width for the CEC New Build Route line would be 200 feet. The anticipated ROW width for the CEC Upgrade Route 230-kV transmission line would be up to 150 feet. These ROW widths have 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.

Southline is also requesting ROWs for ancillary Project facilities and for access to the transmission line.

**Land Ownership in CEC Proposed Route ROW and CEC Substation Expansions and Interconnections**

<b>Land Ownership</b>	<b>Section</b>	<b>Acres</b>	<b>Percentage of Total</b>
Bureau of Land Management	New Build	437.6	24.5%
Department of Defense	New Build	0.5	.03%
Private	New Build / Upgrade	617.8	34.5%
Arizona State Land Department	New Build / Upgrade	732.8	40.97%

**5. Jurisdictions**

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

**CEC New Build Route**

The CEC New Build Route would be located in the state of Arizona in Cochise County. It would not pass through any cities, specifically avoiding Willcox.

**CEC Upgrade Route**

The CEC Upgrade Route would be located in the state of Arizona in Pima and Pinal Counties. It would also pass through an area within the City of Tucson jurisdiction.

***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 Project is not contrary to any existing zoning ordinances or master plans of any affected areas of jurisdiction.

## **6. Description of the environmental studies Applicant has performed:**

This Project has been the subject of a six-year, comprehensive environmental study process that included impact analyses, significant public involvement, and detailed reviews of numerous alternative routes and mitigation planning.

The following environmental studies were performed by Southline, the BLM, and WAPA:

- Draft EIS (2013)
- Final EIS (2015)

The Final EIS was prepared to analyze and disclose the potential effects of the proposed Project. The BLM and WAPA served as joint lead federal agencies in preparing the EIS.

In accordance with NEPA, applicable regulations, and other applicable authorities, the BLM and WAPA analyzed the environmental impacts of the Project and a reasonable range of alternatives.

Twenty-one American Indian tribes and 33 agencies at the federal, state, and local level were invited to participate as cooperating agencies in preparation of the EIS. Sixteen agencies accepted, affording the BLM and WAPA the benefit of each agency's particular special expertise and guidance. Arizona cooperating agencies, who participated actively in the NEPA process, included the AGFD, the ASLD, Cochise County, Greenlee County, Graham County, and the City of Sierra Vista.

Further, the various parties conducted significant and comprehensive public and stakeholder engagement during the NEPA process. The BLM and WAPA informed the public about the public scoping period for the Project by a Notice of Intent published in the Federal Register on April 4, 2012. Six public scoping meetings were held, three of which were in Arizona. One hundred and thirty-three comments were received from these meetings.

Additionally, during, before, and after the NEPA process, Project representatives met with local stakeholders, municipalities, and boards of supervisors in Cochise, Pima, Pinal, Greenlee, and Graham counties to inform them of general project planning activities and seek their input.

A Notice of Availability, published in the Federal Register on April 11, 2014, informed the public of the Draft EIS and initiated a 90-day comment period. Another six public meetings were held during the Draft EIS comment period, three of which were in Arizona.

Further, property owners in the area east of Willcox Playa in Cochise County, and south of Tucson International Airport along Old Vail Connection Road in Pima County, were sent letters in December 2014 notifying them of new route variations in those areas.

A total of 1,029 substantive comments were received on the Draft EIS. All substantive comments collected during the NEPA process were considered in development and approval of the selected route.

Then in 2015, the WECC approved the Project's path rating, and the BLM and WAPA issued the Final EIS. The BLM and WAPA published their respective RODs in 2016 selecting and approving the Agency Preferred Alternative Route. As described above, the CEC Proposed Route is a subset of the Agency Preferred Alternative.

### ***7. Rationale for selection of CEC Proposed Route:***

The Project was designed from the outset to utilize or parallel linear infrastructure features, thus minimizing its environmental impact. Consistent with that design philosophy, virtually all of the CEC Proposed Route parallels existing linear infrastructure. Additionally, the CEC Proposed Route results from extensive public and stakeholder outreach efforts that have guided the Project route selection to minimize impacts to sensitive areas. Southline conducted extensive public outreach efforts, both before and as part of the NEPA process. Southline continues these public outreach efforts today.

The Final EIS evaluated a range of alternatives, including alternatives to the transmission line option, new generation facilities, reliance on the existing transmission system, and alternative transmission technologies. Alternatives that were (i) ineffective (i.e., did not meet the agencies' purpose and need), (ii) technically or economically infeasible, (iii) inconsistent with the basic policy objectives for management of the area (e.g., resource management plans), (iv) remote or speculative (i.e., could not be analyzed), or (v) substantially similar in design or effects to another alternative being analyzed, were eliminated from detailed analysis. The result of the EIS analysis was an

agency preferred route that balances Arizona's need for an adequate, reliable, and economical supply of electricity with environmental and ecological considerations in a manner that serves the broad public interest.

A detailed description of routes and technology/design alternatives eliminated from analysis is provided at Section 2.9 of the Final EIS.

### ***Conclusion***

Southline respectfully submits that the CEC Proposed Route for the Southline Transmission Project is 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. Further, Southline respectfully submits that the Project facilities that are owned wholly by WAPA are not subject to Commission jurisdiction. Accordingly, Southline requests that the Siting Committee disclaim jurisdiction over the WAPA-owned Project facilities and approve the requested CEC for the Project without modification.

RESPECTFULLY SUBMITTED this 14th day of October, 2016.

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*ATTORNEYS FOR SOUTHLINE  
TRANSMISSION, L.L.C.*

I HEREBY CERTIFY that on this the 14th day of October 2016, 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 Street  
Phoenix, Arizona 85007

COPY of the foregoing was hand-delivered  
this 14th day of October 2016, to:

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

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By: \_\_\_\_\_