

**APPLICATION OF AEP TEXAS INC. TO AMEND ITS
CERTIFICATE OF CONVENIENCE AND NECESSITY
FOR THE BRACKETTVILLE TO ESCONDIDO
138-KV TRANSMISSION LINE IN
KINNEY AND MAVERICK COUNTIES**

DOCKET NO. 50545

Submit seven (7) copies of the application and all attachments supporting the application: If the application is being filed pursuant to P.U.C. SUBST. R. 25.101(b)(3)(D) or P.U.C. SUBST. R. 25.174, include in the application all direct testimony. The application and other necessary documents shall be submitted to:

**Public Utility Commission of Texas
Attn: Filing Clerk
1701 N. Congress Ave.
Austin, Texas 78711-3326**

Application of AEP Texas Inc. to Amend its Certificate of Convenience and Necessity for the Brackettville to Escondido 138-kV Transmission Line in Kinney and Maverick Counties

Applicant AEP Texas Inc. (AEP Texas) request that all parties serve copies of all pleadings, discovery, correspondence, and other documents on the following representative:

Service Contact:

Jerry Huerta
State Bar No. 24004709
AEP Service Corp
400 W. 15th Street, Suite 1520
Austin, Texas 78701
(512) 481-3323 (Telephone)
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Attorney for AEP Texas Inc.

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1. **Applicant (Utility) Name:** AEP Texas Inc.
Certificate Number: 30028¹
Street Address: 539 North Carancahua
Corpus Christi, Texas 78401
Mailing Address: 539 North Carancahua
Corpus Christi, Texas 78401

2. **Please identify all entities that will hold an ownership interest or an investment interest in the proposed project but which are not subject to the Commission's jurisdiction.**
There are no entities that will hold an ownership interest or an investment interest in the proposed project but which are not subject to the Commission's jurisdiction.

3. **Person to Contact:** Randal E. Roper, PE
Title/Position: Regulatory Case Manager – AEP Texas Inc.
Phone Number: (512) 481-4572
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Legal Counsel: Jerry Huerta – AEP Service Corp
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Austin, Texas 78701
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¹ Certificate Number 30028 was assigned to AEP Texas Central Company, which with AEP Texas North Company, merged with their immediate parent company AEP Utilities, Inc. effective December 31, 2016. The merger was approved by the Public Utility Commission of Texas on December 1, 2016 in P.U.C. Docket No. 46050; SOAH Docket No. 473-16-4822 – *Application of AEP Texas Central Company, AEP Texas North Company, and AEP Utilities, Inc. for Approval of Merger.* As of January 2017, the merged company is doing business as AEP Texas.

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4. Project Description:

Name or Designation of Project:

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Provide a general description of the project, including the design voltage rating (kV), the operating voltage (kV), the CREZ Zone(s) (if any) where the project is located (all or in part), any substations and/or substation reactive compensation constructed as part of the project, and any series elements such as sectionalizing switching devices, series line compensation, etc. For HVDC transmission lines, the converter stations should be considered to be project components and should be addressed in the project description.

AEP Texas Inc. (AEP Texas) is proposing to construct a new 138-kV transmission line project that will begin at the existing AEP Texas Brackettville Substation located northeast of the City of Brackettville on Farm to Market (FM) Road 334 in Kinney County. The line will extend to the south until it reaches the AEP Texas Escondido Substation located in northeast Eagle Pass in Maverick County.

If the project will be owned by more than one party, briefly explain the ownership arrangements between the parties and provide a description of the portion(s) that will be owned by each party. Provide a description of the responsibilities of each party for implementing the project (design, Right-Of-Way acquisition, material procurement, construction, etc.).

Not applicable. The Project that is the subject of the application will be solely owned by AEP Texas.

If applicable, identify and explain any deviation in transmission project components from the original transmission specifications as previously approved by the Commission or recommended by a PURA §39.151 organization.

There are no transmission specifications that have been previously approved by the Commission for this Project. There have been no deviations in the Project components from the original transmission specifications previously recommended by ERCOT (a PURA § 39.151 organization).

5. Conductor and Structures:

Conductor Size and Type

The conductor to be used for the Project is 795 KCM ACSS 26/7 (Drake) with one optical ground wire (OPGW)

Number of Conductors per Phase

The Project will be constructed with one (1) conductor per phase.

Continuous Summer Static Current Rating (A)

The Continuous Summer Static Current Rating for the Project is 2039 Amps

Continuous Summer Static Line Capacity at Operating Voltage (MVA)

The Continuous Summer Static Line Capacity at Operating Voltage for the Project is 484 MVA

Continuous Summer Static Line Capacity at Design Voltage (MVA)

The Continuous Summer Static Line Capacity at Design Voltage for the Project is 484 MVA

Type and Composition of Structures

The Project will be constructed primarily using steel single-pole structures.

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Height of Typical Structures

Typical structures will range in height between 75 to 110 feet above grade.

Estimated Maximum Height of Structures

The estimated maximum height of structures for the Project is 125 feet above grade.

Explain why these structures were selected; include such factors as landowner preference, engineering considerations, and costs comparisons to alternate structures that were considered. Provide dimensional drawings of the typical structures to be used in the project.

Single-pole structures are the typical structure used by AEP Texas for 138-kV transmission line construction. Landowners overwhelmingly prefer single-pole construction from an aesthetic perspective and because the smaller footprint reduces the impact on their property as compared to an H-frame or lattice-structure construction.

Dimensional drawings of the structures are included as Figures 1-2 through 1-6 of the *Brackettville to Escondido 138-kV Transmission Line Project Environmental Assessment and Alternative Route Analysis*. This document, prepared by AEP Texas routing consultant POWER Engineers, Inc. (POWER), is also referred to in this application as the "EA," and is included as Attachment 1 of this application.

For joint applications, provide and separately identify the above-required information regarding structures for the portion(s) of the project owned by each applicant.

6. Right-of-way:

Miles of Right-of-Way

The miles of right-of-way for the 25 alternative routes range from approximately 44.86 miles for Route H to approximately 69.16 miles for Route U.

Miles of Circuit

The Project will be a single-circuit line; therefore, the number of miles of circuit is the same as the number of miles of right-of-way and ranges from 44.86 to 69.16 miles.

A table that shows the miles of right-of-way and the miles of circuit for each route is included as Attachment 2 of this application.

Width of Right-of-Way

The typical right-of-way is 100 feet wide.

Temporary easements might be required in some areas for additional working space during construction.

Percent of Right-of-Way Acquired

The percent of right-of-way that has been acquired for the Project is zero percent (0) for all routes.

For joint applications, provide and separately identify the above-required information for each route for the portion(s) of the project owned by each applicant.

Not applicable. This is not a joint application.

Provide a brief description of the area traversed by the transmission line. Include a description of the general land uses in the area and the type of terrain crossed by the line.

The area traversed by the alternative routes being evaluated (study area) for this Project extends from Brackettville in the north to Eagle Pass in the south and encompasses approximately 862 square miles within portions of Kinney and Maverick counties.

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The study area is located within the Blackland Prairies and Interior Coastal Plains sub-province of the Gulf Coastal Prairies Physiographic Province. Elevations within the study area range between approximately 1,200 feet above mean sea level (amsl) in the northern portion of the study area near Brackettville to approximately 750 feet amsl in the southern portions of the study area near Eagle Pass.

The study area is primarily rural with residential development concentrated in the cities of Brackettville and Eagle Pass. The predominant land use within the study area is rangeland and pastureland.

7. Substations or Switching Stations:

List the name of all existing HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the existing HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

AEP Texas Brackettville Substation – The northern portion of the Project will terminate at the existing AEP Texas Brackettville Substation, which is located northeast of the City of Brackettville on Farm to Market (FM) Road 334 in Kinney County.

AEP Texas Escondido Substation – The southern portion of the Project will terminate at the existing AEP Texas Escondido Substation, which is located in northeast Eagle Pass in Maverick County.

No existing HVDC converter stations are associated with the Project.

List the name of all new HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the new HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

No new substations or HVDC converter stations are associated with the Project.

8. Estimated Schedule:

<u>Estimated Dates of:</u>	<u>Start</u>	<u>Completion</u>
<i>Right-of-way and Land Acquisition</i>	March 2021	July 2022
<i>Engineering and Design</i>	May 2021	October 2021
<i>Material and Equipment Procurement</i>	October 2021	August 2022
<i>Construction of Facilities</i>	August 2022	July 2023
<i>Energize Facilities</i>	-----	July 2023

9. Counties:

For each route, list all counties in which the route is to be constructed.

All routes filed in this application and any route selected for the construction of this Project will be located in Kinney and Maverick Counties.

10. Municipalities:

For each route, list all municipalities in which the route is to be constructed.

Portions of routing links 3, 5, 6, and 7 are located within the incorporated boundary of the City of Brackettville. As a result, short portions of routes A, B, C, D, E, F, G, H, I, M, V, and X are located in the City of Brackettville.

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Routing Link 107 is located within the incorporated boundary of the City of Eagle Pass. All of the 25 alternative routes use routing Link 107 to terminate into Escondido Substation. As a result, short portions all of the 25 alternative routes are located within the City of Eagle Pass.

For each applicant, attach a copy of the franchise, permit or other evidence of the city's consent held by the utility, if necessary or applicable. If franchise, permit, or other evidence of the city's consent has been previously filed, provide only the docket number of the application in which the consent was filed. Each applicant should provide this information only for the portion(s) of the project which will be owned by the applicant.

Not Applicable. The transmission line routing does not utilize public right-of-way.

11. Affected Utilities:

Identify any other electric utility served by or connected to facilities in this application.

The transmission line that is the subject of this application will not be directly connected to any other electric utility.

Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project. Include any other utilities whose existing facilities will be utilized for the project (vacant circuit positions, ROW, substation sites and/or equipment, etc.) and provide documentation showing that the owner(s) of the existing facilities have agreed to the installation of the required project facilities.

No other electric utility is involved in the construction of this project. The Project does not utilize existing facilities owned by any other electric utility.

12. Financing:

Describe the method of financing this project. For each applicant that is to be reimbursed for all or a portion of this project, identify the source and amount of the reimbursement (actual amount if known, estimated amount otherwise) and the portion(s) of the project for which the reimbursement will be made.

The Project will be financed through a combination of debt and equity.

13. Estimated Costs:

Provide cost estimates for each route of the proposed project using the following table. Provide a breakdown of "Other" costs by major cost category and amount. Provide the information for each route in an attachment to this application.

	<u>Transmission Facilities</u>	<u>Substation Facilities</u>
<i>Right-of-way and Land Acquisition</i>		
<i>Engineering and Design (Utility)</i>		
<i>Engineering and Design (Contract)</i>		
<i>Procurement of Material and Equipment (including stores)</i>		
<i>Construction of Facilities (Utility)</i>		
<i>Construction of Facilities (Contract)</i>		
<i>Other (all costs not included in the above categories)</i>		
<i>Estimated Total Cost</i>		

Tables showing the estimated cost of the transmission facilities and substation facilities for this Project are included as Attachment 3 of this application.

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For joint applications, provide and separately identify the above-required information for the portion(s) of the project owned by each applicant.

Not applicable. This is not a joint application.

14. Need for the Proposed Project:

For a standard application, describe the need for the construction and state how the proposed project will address the need. Describe the existing transmission system and conditions addressed by this application. For projects that are planned to accommodate load growth, provide historical load data and load projections for at least five years. For projects to accommodate load growth or to address reliability issues, provide a description of the steady state load flow analysis that justifies the project. For interconnection projects, provide any documentation from a transmission service customer, generator, transmission service provider, or other entity to establish that the proposed facilities are needed. For projects related to a Competitive Renewable Energy Zone, the foregoing requirements are not necessary; the applicant need only provide a specific reference to the pertinent portion(s) of an appropriate commission order specifying that the facilities are needed. For all projects, provide any documentation of the review and recommendation of a PURA §39.151 organization.

The town of Eagle Pass and the surrounding area is served by two transmission line resources. One of the transmission lines is the Hamilton Road (Del Rio) to Escondido (Eagle Pass) 138-kV transmission line that was constructed approximately 60 years ago and is approximately 44 miles in length. The other transmission line is the Asherton (Carrizo Springs) to Escondido (Eagle Pass) 138-kV transmission line that is newer in age, but approximately 58 miles in length. In this specific area of Texas, the load growth has significantly increased to the point that the increased growth causes overload on the 138-kV transmission line from Hamilton Road to Escondido when the other transmission is out of service. With only two transmission feeds into the Eagle Pass area with either transmission line out for service for maintenance/repair issues it leaves only one transmission line source to the area. In addition, congestion also exists on the Hamilton Road to Escondido 138-kV transmission line under high wind-generation conditions as a result of the increase in renewable generation in the area. To improve the reliability to Eagle Pass and the surrounding area in Maverick County and reduce the congestion, the proposed project endorsed by ERCOT consist of the following improvements:

- Expand the existing Brackettville 138-kV substation to include new breakers and protection equipment for a new 138-kV transmission line;
- Expand the existing Escondido 138-kV substation to include new breakers and protection equipment for a new 138-kV transmission line; and
- Construct approximately 42 miles of new 138-kV line from the existing Brackettville substation to the existing Escondido substation.

A copy of the proposal submitted to the ERCOT RPG by AEPSC on behalf of AEP is included in this application as Attachment 4a. A copy of ERCOT's Independent Review is included in this application as Attachment 4b. A copy of the letter to AEP signifying the recommendation of the ERCOT Board of Directors is included in this application as Attachment 4c.

15. Alternatives to Project:

For a standard application, describe alternatives to the construction of this project (not routing options). Include an analysis of distribution alternatives, upgrading voltage or bundling of conductors of existing facilities, adding transformers, and for utilities that have not unbundled, distributed generation as alternatives to the project. Explain how the project overcomes the insufficiencies of the other options that were considered.

Transmission Alternatives

- Option 1:
 - Upgrade the existing 138 kV transmission line from Hamilton -Maverick - Eagle Hydro Tap - Escondido substation

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- Upgrade the existing 138 kV transmission line from West Batesville to Asherton substation
- Option 2:
 - Expand the existing West Batesville 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Expand the existing Escondido 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 48 miles of new 138 kV line from the existing West Batesville substation to the existing Escondido substation
- Option 3: (AEPSC proposed option)
 - Expand the existing Brackettville 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Expand the existing Escondido 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 42 miles of new 138 kV line from the existing Brackettville substation to the existing Escondido substation
- Option 4:
 - Expand the existing Odlaw 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Expand the existing Escondido 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 42 miles of new 138 kV line from the existing Odlaw substation to the existing Escondido substation
- Option 5:
 - Expand the existing Odlaw 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Expand the existing Rosita Creek 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 41 miles of new 138 kV line from the existing Odlaw substation to the existing Rosita Creek substation
- Option 6:
 - Expand the existing Blewett 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Expand the existing Rosita Creek 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 41 miles of new 138 kV line from the existing Blewett substation to the existing Rosita Creek substation
- Option 7:
 - Expand the existing Blewett 138 kV substation to include new breakers and protection equipment for a new 138 kV transmission line
 - Construct approximately 35 miles of new 138 kV line from the existing Blewett substation to the existing West Conoco Load substation
 - Upgrade approximately 5 miles of existing 138 kV line from West Conoco Load substation to West Conoco substation

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Ultimately, ERCOT determined that Option 3 most effectively resolved the reliability issues in the Maverick and Kinney County area.

Distribution Alternatives

Distribution alternatives were not considered a viable solution to address the transmission related reliability issues addressed by the Project.

Distributed Generation

AEP Texas is not a bundled utility and cannot own or control the amount or location of distributed generation.

16. Schematic or Diagram:

For a standard application, provide a schematic or diagram of the applicant's transmission system in the proximate area of the project. Show the location and voltage of existing transmission lines and substations, and the location of the construction. Locate any taps, ties, meter points, or other facilities involving other utilities on the system schematic.

A schematic of the transmission system in the proximate area of the Project is included with this application as Attachment 5.

17. Routing Study:

Provide a brief summary of the routing study that includes a description of the process of selecting the study area, identifying routing constraints, selecting potential line segments, and the selection of the routes. Provide a copy of the complete routing study conducted by the utility or consultant. State which route the applicant believes best addresses the requirements of PURA and P.U.C. Substantive Rules.

A copy of the complete environmental assessment and routing study that was prepared by POWER Engineers is included as Attachment 1 of this application. This study is titled *Brackettville to Escondido 138-kV Transmission Line Project Environmental Assessment and Alternative Route Analysis*. (EA). The EA presents the analysis that was conducted by POWER Engineers and the land use and environmental data for all of the routes that were considered for this Project.

The objective of the EA was to identify and evaluate an adequate number of geographically diverse alternative transmission line routes that comply with the routing criteria in PURA and the P.U.C.'s Substantive Rules, and ultimately recommend to AEP Texas the routes that POWER Engineers determined best address the requirements of PURA and the P.U.C.'s Substantive Rules from a land use and environmental standpoint. AEP Texas and POWER Engineers utilized a comprehensive transmission line routing and evaluation methodology to delineate and evaluate alternative transmission line routes.

As discussed below, the study approach utilized by POWER Engineers for this EA consisted of project scoping and study area delineation, data collection, constraint mapping, preliminary alternative route identification, review and adjustment of alternative routes following field review, consideration of open-house input, alternative route analysis and impact assessment, and finally the recommendation by POWER Engineers of alternative routing to AEP Texas, including the primary alternative routes determined to best address the requirements of PURA and the P.U.C.'s Substantive Rules from a land use and environmental perspective.

The first step in the selection of alternative routing options was to select a study area. This area needed to encompass the Project endpoints and include a sufficiently large area within which feasible and geographically diverse alternative routes could be delineated. The study area for this Project extends from Brackettville in the north to Eagle Pass in the south, and encompasses approximately 862 square miles within portions of Kinney and Maverick counties.

The study area for the Project was defined based on the Project endpoints. The study area is shown on Figure 2-1 of the EA.

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POWER Engineers used data in the delineation and evaluation of routes that were drawn from a variety of sources, including published literature (documents, reports, maps, aerial photography, etc.), and information from local, state and federal agencies. Recent (2016) National Agriculture Inventory Program color aerial photographs, Environmental Systems Research Institute (ESRI)-hosted imagery from the Texas Orthoimagery Program (2016), U.S. Geological Survey (USGS) 7.5 minute quadrangle topographic maps, Texas Department of Transportation (TxDOT) county highway maps, FWS National Wetlands Inventory maps, Texas Natural Diversity Database (TXNDD), Federal Emergency Management Agency maps, and ground reconnaissance surveys were used throughout the selection and evaluation of routes.

Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery was utilized for both refinement and evaluation of routes. Though the data collection effort was concentrated in the early stages of the Project, it was ongoing and continued throughout the evaluation process.

A constraint mapping process was used in the selection and refinement of possible alternative routes. The geographic locations of environmentally sensitive and other restrictive areas within the study area were located and considered during transmission line route delineation. These constraints were mapped on a topographic representation of the area created on a USGS 7.5 minute quadrangle topographic base maps, and on aerial photography. The environmental and land-use constraints topographic maps are included in Attachment 1 of this application as Figure 3-3, (located in a Map Pocket in the EA).

Using the constraint maps, electrical system maps, field inspections, and input from AEP Texas, POWER Engineers designated numerous preliminary routing link options that took into consideration environmental and land use constraints. These preliminary alternative routing link options are shown on Figure 3-1 of the EA. The principal criteria used to locate these preliminary routing link option alternatives were using or paralleling existing transmission facilities, paralleling existing road right-of-way, paralleling apparent property lines, and avoiding residential and commercial development.

In order to solicit public input about the Project, AEP Texas presented these preliminary alternative routing options to the public at two open-house meetings held in the area in July 2018.

After the public meeting, AEP Texas and POWER Engineers evaluated public comments (both written and verbally communicated at the public meetings), performed additional reviews to address areas of concern that were discussed at the public meetings, and discussed some revisions to the preliminary routing options. In response to the public input and landowner concerns, several links were modified to reduce impacts to habitable structures, and other constraints to the greatest extent practicable.

Based on information obtained from the public meetings, meetings and communications with local, state, and federal agencies, further field review, additional communications with property owners, and discussions with AEP Texas project team, POWER Engineers identified the primary alternative links.

The primary alternative links were then used by POWER Engineers with input from AEP Texas project team to develop the primary alternative routes for evaluation. POWER Engineers identified potentially affected resources and considered each during this route development process. In evaluating these identified primary alternative routes, POWER Engineers considered 43 environmental and land-use criteria. These criteria are listed in Table 2-1 of the EA.

POWER Engineers professionals with expertise in different environmental disciplines (wildlife biology, land use/planning, and archaeology) and the POWER Engineers project manager evaluated the primary alternative routes. Evaluations were based on environmental and land use conditions present along each primary alternative route. Each POWER Engineers staff person independently analyzed the environmental data for each primary alternative route from the perspective of their own technical discipline. The evaluators then met as a group and discussed their independent results. The group reached a consensus regarding the relationship and relative sensitivity among the major environmental factors, and ranked the top five primary alternative routes based strictly on the environmental and land use data and shared discussion. Based upon this ranking, POWER Engineers recommended a route that best addresses the requirements of PURA and P.U.C. Substantive Rules from an environmental and land use perspective, and the results are shown in Table 5-1 of the EA.

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The consensus opinion of POWER Engineers evaluators was to recommend Route H as the route that best address the requirements of PURA and P.U.C. Substantive Rules from an environmental and land use perspective.

AEP Texas considered all of the certification criteria in PURA and the P.U.C. Substantive Rules, input from the public, and the environmental and land use recommendation of its routing consultant, POWER Engineers. AEP Texas also evaluated each primary alternative route from an engineering, design, construction, operations, and maintenance perspective, and considered the estimated cost for each of the primary alternative routes. AEP Texas determined that Route H provides the best balance of routing characteristics and best addresses the requirements of PURA and P.U.C. Substantive Rules. Data and a discussion of these determinations are included with this application as Attachment 6.

18. Public Meeting or Public Open House:

Provide the date and location for each public meeting or public open house that was held in accordance with P.U.C. Proc. R. 22.52. Provide a summary of each public meeting or public open house including the approximate number of attendants, and a copy of any survey provided to attendants and a summary of the responses received. For each public meeting or public open house provide a description of the method of notice, a copy of any notices, and the number of notices that were mailed and/or published.

AEP Texas hosted two public open-house meetings in July of 2018 to solicit comments from landowners and other interested residents regarding the preliminary alternative links. A meeting was held on July 18th at the International Center for Trade in the City of Eagle Pass, and on July 19th at the Fort Clark Springs Service Club in the City of Brackettville.

A notice of the public open-house meetings was mailed to 347 landowners who own property located within 300 feet of the preliminary alternative routing links. This notice included a map of the study area depicting the preliminary alternative routing links, a question and answer sheet, and a diagram of typical 138-kV transmission line structures. An example of the notice letter and a copy of the attachments are provided in Appendix B of the EA.

A total of 34 individuals attended the public open house meeting in Eagle Pass according to the sign-in sheet, with 18 submitting questionnaire responses at the meeting. A total of 38 individuals attended the public open house meeting in Brackettville according to the sign-in sheet, with 14 submitting questionnaire responses at the meeting.

At the public meetings, each information station was devoted to a particular aspect of the routing study and was manned with personnel representing AEP Texas and/or POWER Engineers. Displays, maps, illustrations, and photographs were used to explain each particular topic that was presented. Large aerial photographic maps were used to present the routing links being considered to the attendees and obtain input. A geographic information system (GIS) station was also available for a detail view of property and additional discussion. Interested citizens and property owners were encouraged to visit each station in order so that the process could be explained in the general sequence of development. The information station format is advantageous because it allows attendees to process information in a relaxed manner and also allows them to focus on their particular interest and ask specific questions. Importantly, the one-on-one discussions with AEP Texas representatives and POWER Engineers staff encourage more interaction from those citizens who might be hesitant to participate in a speaker/audience format.

Additional information concerning the open-house meeting is contained in Appendix B of the EA, which is included as Attachment 1 of this application.

19. Routing Maps:

Base maps should be a full scale (one inch = not more than one mile) highway map of the county or counties involved, or other maps of comparable scale denoting sufficient cultural and natural features to permit location of all routes in the field. Provide a map (or maps) showing the study area, routing constraints, and all routes or line segments that were considered prior to the selection of the routes. Identify the routes and any existing facilities to be interconnected or coordinated with the project. Identify any taps, ties, meter points, or other facilities involving other utilities on the routing map. Show all existing transmission facilities located in the study area. Include the locations of radio transmitters and other electronic installations, airstrips, irrigated pasture or cropland, parks and recreational areas, historical and archeological sites (subject to the instructions in Question 27), and any environmentally sensitive areas (subject to the instructions in Question 29).

Routing maps are provided in the EA. Figure 3-3 (located in Map Pocket in the EA) is a topographic-based map (scale of 1 inch = 1 mile) that shows the study area, all routing links, routing constraints and other environmental and land use features, and existing transmission lines. Figure 5-1 (located in Map Pocket in the EA) is an aerial-based maps (scale of 1 inch = 1 mile) that shows the study area, all routing links, routing constraints and other environmental and land use features, and existing transmission lines. Figure 3-1 of the EA shows the preliminary alternative routing links that were presented at the open houses, and Figure 3-2 shows the primary alternative routing links evaluated for the Project.

Provide aerial photographs of the study area displaying the date that the photographs were taken or maps that show (1) the location of each route with each route segment identified, (2) the locations of all major public roads including, as a minimum, all federal and state roadways, (3) the locations of all known habitable structures or groups of habitable structures (see Question 19 below) on properties directly affected by any route, and (4) the boundaries (approximate or estimated according to best available information if required) of all properties directly affected by any route.

Figure 5-1 (located in Map Pocket in the EA) is an aerial-photograph based maps (scale of 1 inch = 1 mile) that shows the study area, all routing links, existing transmission lines, other environmental and land use features, and the locations of all known habitable structures or groups of habitable structures located within 300 feet of the route centerlines.

Aerial-photograph-based maps (scale of 1 inch = 2,000 feet) are included in this application as Attachment 7, Sheets 1 through 4, and show the approximate boundaries of all properties that are directly affected by all routes according to the best information available from county tax appraisal district records.

For each route, cross-reference each habitable structure (or group of habitable structures) and directly affected property identified on the maps or photographs with a list of corresponding landowner names and addresses and indicate which route segment affects each structure/group or property.

A cross reference table that shows the landowner name and address, the property identification number and the habitable structure identification number from the landownership maps in Attachment 7, Sheets 1 through 4, and the routing links associated with the landowners and habitable structures is included as Attachment 8 of this application.

20. Permits:

List any and all permits and/or approvals required by other governmental agencies for the construction of the proposed project. Indicate whether each permit has been obtained.

AEP Texas will coordinate with all of the appropriate local, state, and federal agencies with jurisdiction regarding the construction of the transmission facilities associated with this Project. AEP Texas and/or POWER Engineers have initiated contact with and provided information about the Project to various agencies. Some input from these agencies have been incorporated in this application; however, requests for permits and/or approvals will not be submitted to the appropriate agencies until the final alignment of the approved route is determined. None of the following potential permits, approvals, requirements, easements, or clearances has been obtained.

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- Floodplain development permits and road crossing permits might be required by the counties in which the approved route is located, depending on the location of the transmission line structures.
- Permits for crossing roads, highways, and/or other properties owned or maintained by Texas Department of Transportation will be obtained as necessary.
- Cultural resource clearance will be obtained from the Texas Historical Commission for the proposed Project right-of-way as necessary.
- A Storm Water Pollution Prevention Plan (SWPPP) might be required by the Texas Commission on Environmental Quality (TCEQ). AEP Texas or its contractor will submit a Notice of Intent to the TCEQ at least 48 hours prior to the beginning of construction; and will have the SWPPP on site at the initiation of clearing and construction activities.
- A Miscellaneous Easement from the Texas General Land Office will be obtained as necessary for any right-of-way that crosses a state-owned riverbed or navigable stream.
- Notification to the Federal Aviation Administration (FAA) might be required depending on the alignment of the approved route, structure locations, and structure designs. Requirements to alter the design of the structures or potential requirements to mark and/or illuminate the line will be coordinated with the FAA.
- Permits or other requirements associated with possible impacts to endangered/threatened species will be coordinated with the U.S. Fish and Wildlife Service as necessary.
- Permits or other requirements associated with possible impacts to waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (USACE) will be coordinated with the USACE as necessary. None of the routing links for this Project crosses property that is owned by the USACE, and no easements on USACE property will be necessary.

21. Habitable structures:

For each route list all single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline if the proposed project will be constructed for operation at 230kV or less, or within 500 feet of the centerline if the proposed project will be constructed for operation at greater than 230kV. Provide a general description of each habitable structure and its distance from the centerline of the route. In cities, towns or rural subdivisions, houses can be identified in groups. Provide the number of habitable structures in each group and list the distance from the centerline of the route to the closest and the farthest habitable structure in the group. Locate all listed habitable structures or groups of structures on the routing map.

General descriptions of the habitable structures that are within 300 feet of the centerline of each route and the distances from the centerlines are provided in Section 5 of the EA and in Tables 5-2 through 5-26 of the EA. The habitable structures that are located within 300 feet of the routes are shown on Figure 5-1 (located in Map Pocket in the EA) and on Attachment 7, Sheets 1 through 4. Details regarding the number of habitable structures that are within 300 feet of the centerline of the alternative routes are included in Table 4-1 and in Section 4.2.1 of the EA.

The number of habitable structures that are within 300 feet of the centerlines of the 25 alternative routes ranges from 13 on Routes Q and T to a high of 59 on Route B.

22. Electronic Installations:

For each route, list all commercial AM radio transmitters located within 10,000 feet of the center line of the route, and all FM radio transmitters, microwave relay stations, or other similar electronic installations located within 2,000 feet of the center line of the route. Provide a general description of each installation and its distance from the center line of the route. Locate all listed installations on a routing map.

For each alternative route, the number of commercial AM radio transmitters within 10,000 feet of right-of-way centerline and the number of electronic installations (including commercial FM transmitters, cellular telephone towers, microwave relay stations, or other similar electronic installations) within 2,000 feet of the right-of-way centerline are provided in Table 4-1 of the EA. General descriptions of the electronic installations and the distances from the centerlines of the routes are provided in Section 4.2.6 of the EA and in Tables 5-2 through 5-26 of the EA, and are shown on Figures 3-3 and 5-1 (located in Map Pockets in the EA).

There are no commercial AM radio tower located within 10,000 feet of the centerlines of all of the 25 alternative routes.

The number of FM radio transmitters, microwave relay station, or other similar electronic installations located within 2,000 feet of alternative routes ranges from four (4) on Routes E, F, G, K, O, and U to nine (9) on Route R.

None of the alternative routes would have a significant impact on electronic installations or operations in the study area.

23. Airstrips:

For each route, list all known private airstrips within 10,000 feet of the center line of the project. List all airports registered with the Federal Aviation Administration (FAA) with at least one runway more than 3,200 feet in length that are located within 20,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 100:1 horizontal slope (one foot in height for each 100 feet in distance) from the closest point of the closest runway. List all listed airports registered with the FAA having no runway more than 3,200 feet in length that are located within 10,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 50:1 horizontal slope from the closest point of the closest runway. List all heliports located within 5,000 feet of the center line of any route. For each such heliport, indicate whether any transmission structures will exceed a 25:1 horizontal slope from the closest point of the closest landing and takeoff area of the heliport. Provide a general description of each listed private airstrip, registered airport, and heliport; and state the distance of each from the center line of each route. Locate and identify all listed airstrips, airports, and heliports on a routing map.

According to Federal Aviation Administration (FAA) Regulations, Title 14 Code of Federal Regulations, Part 77, notification of the construction of the proposed transmission line will be required if structure heights exceed the height of an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public or military airport having at least one runway longer than 3,200 feet (FAA, 1975).

If a runway is less than 3,200 feet, notification would be required if structure heights exceed the height of an imaginary surface extending at a slope of 50 to 1 for a distance of 10,000 feet. Notification is also required for structure heights exceeding the height of an imaginary surface extending outward and upward at a slope of 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area for heliports. In addition, FAA Regulations require notification of the construction of any object that is greater than 200 feet above ground level and within three miles of an airport with a runway more than 3,200 feet in length. Typical structure heights for this Project will be approximately 75 feet to 110 feet, depending on location and design.

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Following P.U.C. approval of a route for the proposed transmission line, AEP Texas will make a final determination of the need for FAA notification, based on specific route location and structure design. The result of this notification, and any subsequent coordination with the FAA, could include changes in the line design and/or potential requirements to mark and/or light the structures.

General descriptions of the airports, airstrips, and heliports are provided in Section 4.2.5. Table 4-1 of the EA identifies the number of airports, airstrips, and heliports for each of the alternative routes. The airports are shown on Figures 3-3 and 5-1 (located in Map Pockets in the EA); and the distances from the centerlines of the routes are provided in Tables 5-2 through 5-26 in the EA.

There are two public FAA registered airports with at least one runway longer than 3,200 feet located within the study area. Routes A, B, F, G, X, and Y are located within 20,000 feet of both of these FAA registered airports. Routes C, D, E, H, I, K, L, and V are located within 20,000 feet of one of these FAA registered airports. Routes J, M, N, O, P, Q, R, S, T, U, and W are not located within 20,000 feet of either these FAA registered airports.

There are no FAA-registered airports where there is not a runway more than 3,200 feet in length located within 10,000 feet of any of the alternative routes.

The number of private airstrips located within 10,000 feet of the alternative routes ranges from zero (0) for Routes M, N, and O to four (4) for Route V.

There are also no heliports located within 5,000 feet of any of the alternative routes.

24. Irrigation Systems:

For each route identify any pasture or cropland irrigated by traveling irrigation systems (rolling or pivot type) that will be traversed by the route. Provide a description of the irrigated land and state how it will be affected by each route (number and type of structures etc.). Locate any such irrigated pasture or cropland on a routing map.

None of the alternative routes cross any land with known traveling irrigation systems.

25. Notice:

Notice is to be provided in accordance with P.U.C. Proc. R. 22.52.

- A. Provide a copy of the written direct notice to owners of directly affected land. Attach a list of the names and addresses of the owners of directly affected land receiving notice.

A sample copy of the written direct notice and enclosures that were mailed to owners of directly affected land is provided in Attachments 9a through 9f. A list of the names and addresses of these landowners is provided in Attachment 9g.

- B. Provide a copy of the written notice to utilities that are located within five miles of the routes.

A sample copy of the written notice to utilities that are located within five miles of the proposed Project is provided in Attachment 10a. The list of the names and addresses of these utilities is provided in Attachment 10b.

- C. Provide a copy of the written notice to county and municipal authorities, and the Department of Defense Siting Clearinghouse. Notice to the DoD Siting Clearinghouse should be provided at the email address found at <http://www.acq.osd.mil/dodsc/>.

Sample copies of the written notice to county and municipal authorities are provided as Attachment 11a. The list of the names and addresses of these authorities is provided in Attachment 11b. Verification of notice to the DoD Siting Clearinghouse is provided in Attachment 11c.

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D. Provide a copy of the notice that is to be published in newspapers of general circulation in the counties in which the facilities are to be constructed. Attach a list of the newspapers that will publish the notice for this application. After the notice is published, provide the publisher's affidavits and tear sheets.

A sample copy of the notice to be published in newspapers of general circulation in the counties in which the proposed facilities are to be constructed is provided in Attachment 12a. A list of the newspapers that will publish the notice for this application is provided as Attachment 12b.

In addition to the notices described above, 16 Tex. Admin. Code § 22.52 requires AEP Texas to provide notice of this application to the Office of Public Utility Counsel. A copy of that notice is included in this application as Attachment 13.

For a CREZ application, in addition to the requirements of P.U.C. Proc. R. 22.52 the applicant shall, not less than twenty-one (21) days before the filing of the application, submit to the Commission staff a "generic" copy of each type of alternative published and written notice for review. Staff's comments, if any, regarding the alternative notices will be provided to the applicant not later than seven days after receipt by Staff of the alternative notices. Applicant may take into consideration any comments made by Commission staff before the notices are published or sent by mail.

Not Applicable. This is not a CREZ application.

26. Parks and Recreation Areas:

For each route, list all parks and recreational areas owned by a governmental body or an organized group, club, or church and located within 1,000 feet of the center line of the route. Provide a general description of each area and its distance from the center line. Identify the owner of the park or recreational area (public agency, church, club, etc.). List the sources used to identify the parks and recreational areas. Locate the listed sites on a routing map.

POWER Engineers performed a review of federal and state databases, and county and local maps to identify parks and/or recreational areas within the study area. Reconnaissance surveys were also conducted to identify any additional park or recreational areas that are located within the study area.

None of the alternative routes cross any parks or recreational areas, or are located within 1,000 feet of any park or recreational area.

27. Historical and Archeological Sites:

For each route, list all historical and archeological sites known to be within 1,000 feet of the center line of the route. Include a description of each site and its distance from the center line. List the sources (national, state or local commission or societies) used to identify the sites. Locate all historical sites on a routing map. For the protection of the sites, archeological sites need not be shown on maps.

To identify the historical and archeological sites in the study area, POWER Engineers researched the available records and literature at the Texas Archeological Research Laboratory, J.J. Pickle Research Campus, at the University of Texas at Austin. In addition, the Texas Historical Commission's Archeological Sites Atlas (TASA) files were used to identify listed and eligible National Register of Historical Places (NRHP) properties and sites, NRHP districts, cemeteries, Official Texas Historical Markers, State Archeological Landmarks, and any other potential cultural resources such as National Historic Landmarks, National Monuments, National Memorials, National Historic Sites, and National Historical Parks to ensure the completeness of the study. To identify areas with a high probability for the occurrence of cultural resources, POWER Engineers used 7.5-minute topographic maps and aerial photography.

General descriptions of the historical and archeological resources are provided in Section 4.4 of the EA. The distances from the centerline of the alternative routes is shown in Tables 5-2 through 5-26 of the EA. For the protection of the sites, archeological sites are not shown on the maps.

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Because a cultural resource survey has not been conducted for most of the alternative routes, additional cultural resources sites that have not yet been recorded or evaluated might also exist within these corridors. Consequently, the potential of impacting undiscovered cultural resources exists along many of the alternative routes. To assess this potential, high probability areas (HPA) for additional, unrecorded prehistoric resources were identified by a professional archeologist by reviewing aerial, soil, and topographic maps. Topography, availability of water and other natural resources are all taken into consideration to determine HPA, as well as the effects of geologic processes on archeological deposits.

Water crossings, stream confluences, closed depressions capable of holding water, stream terraces, wide floodplains, and areas near previously recorded sites are all typical HPA, as well as lithic resource outcroppings, and the locations of other resources. HPA are defined using these considerations were mapped using GIS and the length of each alternative route across the HPA was tabulated for use in comparison of the alternative routes. The TASA was also reviewed to identify areas where prehistoric resources have been documented in the vicinity of the study area.

None of the alternative routes cross or are located within 1,000 feet of any NRHP listed property. No cemeteries are crossed or located within 1,000 feet of any of the 25 alternative routes.

There are 48 archeological sites and two cemeteries located within 1,000 feet of the 25 alternative route centerlines. Nine of the archeological sites are crossed by alternative route rights-of-way. Forty-one of the sites are recorded as prehistoric sites, four are recorded as historic sites, two of the sites have both prehistoric and historic components, and one site has no descriptive information. The 48 recorded archeological sites located within 1,000 feet of the primary alternative route centerlines are briefly described in Table 2-8 and listed in Table 4-4 along with their distances from the route centerlines.

The number of recorded archeological sites crossed by alternative route rights-of-way range from zero on nine of the alternative routes to six on Route M. The number of additional archeological sites within 1,000 feet of the alternative routes centerlines ranges from one on five of the routes to 27 on Route D. The numbers for each route are shown on Table 4-1 of the EA. None of the sites have been formally assessed for listing on the NRHP.

No adverse impacts are anticipated for any of the previously recorded cultural resources from any of the alternative routes. It is anticipated that potential impacts to these sites will be mitigated through careful selection of routing alternatives and/or engineering design and construction measures that will protect the sites.

All of the 25 alternative routes cross HPA for potential archeological sites or other prehistoric cultural resources. The length of right-of-way across HPA range from 24.49 miles for Route C to 43.14 miles for Route U.

The numbers of cultural resource sites crossed or within 1,000 feet of each route and the length of right-of-way across HPA are shown on Table 4-1 of the EA.

28. Coastal Management Program:

For each route, indicate whether the route is located, either in whole or in part, within the coastal management program boundary as defined in 31 T.A.C. §503.1. If any route is, either in whole or in part, within the coastal management program boundary, indicate whether any part of the route is seaward of the Coastal Facilities Designation Line as defined in 31 T.A.C. §19.2(a)(21). Using the designations in 31 T.A.C. §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

This application does not include facilities located within the coastal management program boundary as defined in 31 T.A.C. § 503.1.

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29. Environmental Impact:

Provide copies of any and all environmental impact studies and/or assessments of the project. If no formal study was conducted for this project, explain how the routing and construction of this project will impact the environment. List the sources used to identify the existence or absence of sensitive environmental areas. Locate any environmentally sensitive areas on a routing map. In some instances, the location of the environmentally sensitive areas or the location of protected or endangered species should not be included on maps to ensure preservation of the areas or species. Within seven days after filing the application for the project, provide a copy of each environmental impact study and/or assessment to the Texas Parks and Wildlife Department (TPWD) for its review at the address below. Include with this application a copy of the letter of transmittal with which the studies/assessments were or will be sent to the TPWD.

Wildlife Habitat Assessment Program
Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

The EA that was conducted by POWER Engineers is included with this application as Attachment 1. Data used by POWER Engineers in the delineation and evaluation of alternative routes were drawn from a variety of sources, including published literature (documents, reports, maps, aerial photography, etc.), and information from local, state, and federal agencies. Recent (2014) National Agriculture Inventory Program color aerial photographs, 2010-2011 Environmental Systems Research Institute (ESRI) aerial photography, U.S. Geological Survey (USGS) 7.5 minute quadrangle topographic maps, Texas Department of Transportation (TxDOT) county highway maps, FWS National Wetlands Inventory maps, Texas Natural Diversity Database (TXNDD), Federal Emergency Management Agency maps, and ground reconnaissance surveys were also used throughout the selection and evaluation of alternative routes. Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery was utilized for both refinement and evaluation of alternative routes. The data collection effort, although concentrated in the early stages of the Project, was an ongoing process and continued up to the point of final alternative route option selections.

A copy of the letter of transmittal of the application, including the EA for this Project, to the TPWD is included in this application as Attachment 14a. An affidavit verifying that the application and EA were sent to TPWD is included in this application as Attachment 14b.

30. Affidavit:

Attach a sworn affidavit from a qualified individual authorized by the applicant to verify and affirm that, to the best of their knowledge, all information provided, statements made, and matters set forth in this application and attachments are true and correct.

The sworn affidavit of the AEP Texas project manager for this Project is included with this application as Attachment 15.