APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE PROPOSED COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

DOCKET NO. 48358

Submit seven (7) copies of the application and all attachments supporting the application. If the application is being filed pursuant to 16 Tex. Admin. Code § 25.101(b)(3)(D) (TAC) or 16 TAC § 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 LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

Note: As used herein, the term "joint application" refers to an application for proposed transmission facilities for which ownership will be divided. All applications for such facilities should be filed jointly by the proposed owners of the facilities.

1. **Applicant (Utility) Name:** LCRA Transmission Services Corporation (LCRA TSC)
   
   Certificate Number: 30110
   
   Street Address: 3700 Lake Austin Boulevard
   Austin, TX 78703
   
   Mailing Address: P.O. Box 220
   Austin, TX 78767-0220

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.**

   LCRA TSC is the sole applicant for the Cooks Point 138-kV Transmission Line Project in Burleson County, Texas (Proposed Project). Following approval from the Public Utility Commission of Texas (Commission or PUCT) and LCRA TSC’s construction and energization of the Proposed Project, LCRA TSC anticipates that Bluebonnet Electric Cooperative (BBEC) will acquire an ownership interest in the Proposed Project (not to exceed a fifty percent undivided equity interest), subject to any and all necessary regulatory approvals.

   In conjunction with the Proposed Project, Bryan Texas Utilities (BTU) will separately construct a new 138-kV transmission line from BTU’s existing Steele Store Substation to the new Cooks Point Substation, in order to accomplish looped transmission service to the area to be served by the Proposed Project. If completed prior to September 1, 2021, BTU’s 138-kV transmission line project will not be subject to the Commission’s certification jurisdiction.

3. **Person to Contact:** Justin Stryker
   
   Title/Position: Regulatory Case Manager
   
   Phone Number: (512) 730-6803
   
   Mailing Address: P.O. Box 220
   Mail Stop DSC D140
   Austin, TX 78767-0220
   
   Email Address: justin.stryker@lcra.org

May 31, 2018
4. Project Description:
Name or Designation of Project

Cooks Point 138-kV Transmission Line Project in Burleson County, Texas (Proposed Project)

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.

The Proposed Project is a new single circuit 138-kilovolt (kV) transmission line located in Burleson County. This new transmission line will connect a new load-serving electric substation located in the vicinity of the Cooks Point community in northern Burleson County (near the intersection of State Highway (SH) 21 and Farm-to-Market Road (FM) 1362) to either the existing BBEC Lyle Wolz Substation or BBEC Lyons Substation, depending on the route approved for the project. The entire project will be approximately 17 to 23 miles in length, depending on the final route approved. LCRA TSC will install new transmission equipment at the new Cooks Point Substation, as well as at either the Lyle Wolz Substation or Lyons Substation.

Please see Figure 1-1 in the Environmental Assessment and Alternative Route Analysis for LCRA Transmission Services Corporation’s Proposed Cooks Point 138-kV Transmission Line Project in Burleson County, Texas (EA), incorporated by reference for all purposes and included as Attachment 1 to this Application, which shows the general
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

siting area for the Cooks Point Substation and the location of the Proposed Project endpoints.

The project is not located within a CREZ Zone, nor does it include any HVDC facilities as part of its scope.

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.).

LCRA TSC will design, procure, construct, operate, and maintain all transmission line facilities including conductors, wires, structures, hardware, and rights-of-way (ROW). LCRA TSC will also design, operate, construct, and maintain the transmission facilities at the new proposed electric load-serving Cooks Point Substation, where the north end of the new transmission line will be connected.

To connect each end of the new transmission line to the existing electric grid, LCRA TSC will install terminal equipment at the existing BBEC Lyle Wolz Substation or at the existing BBEC Lyons Substation, depending upon the route approved.

LCRA TSC anticipates that, upon completion of the Proposed Project, it will sell up to a fifty percent undivided equity interest in the project to BBEC, subject to any and all necessary regulatory approvals.

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.

LCRA TSC submitted the Proposed Project to the Electric Reliability Council of Texas (ERCOT) Regional Planning Group (RPG) for review and received comments on the Proposed Project from several stakeholders, all of which were supportive of the project. Following RPG review, ERCOT staff determined that the Proposed Project would not result in any violation of North American Electric Reliability Corporation (NERC) or ERCOT performance requirements and classified the Proposed Project as “Tier 4 Neutral,” based on its objective of meeting the reliability needs of BBEC and LCRA TSC planning criteria for load-serving substation reliability. Correspondence with ERCOT regarding the Proposed Project is included as Attachment 2.

The project scope as described to the ERCOT RPG involved construction of a new single-circuit 138-kV line from the existing BBEC Lyle Wolz Substation to a new proposed substation in the vicinity of Cooks Point. Subsequent investigation by LCRA TSC and BBEC determined that an alternative endpoint from the existing BBEC Lyons
SUBSTATION TO THE NEW COOKS POINT SUBSTATION WOULD ALSO MEET THE NEED IDENTIFIED FOR THE PROPOSED PROJECT. LCRA TSC PROPOSES BOTH ENDPOINTS AS ALTERNATIVES IN THIS APPLICATION.

5. CONDUCTOR AND STRUCTURES:

CONDUCTOR SIZE AND TYPE: Drake 795 Kcmil 26/7 ACSR

NUMBER OF CONDUCTORS PER PHASE: Two (2) conductors per phase

CONTINUOUS SUMMER STATIC CURRENT RATING (A): 1840 A

CONTINUOUS SUMMER STATIC LINE CAPACITY AT OPERATING VOLTAGE (MVA): 440 MVA

CONTINUOUS SUMMER STATIC LINE CAPACITY AT DESIGN VOLTAGE (MVA): 440 MVA

TYPE AND COMPOSITION OF STRUCTURES: LCRA TSC proposes to use 138-kV single-circuit steel and/or concrete pole structures for typical tangent, angle, and dead-end structures. If ordered otherwise by the PUCT, or in constrained areas such as, but not limited to, line crossings, and in proximity to airports or heliports, LCRA TSC could use alternative structure types including H-frames.

HEIGHT OF TYPICAL STRUCTURES: The heights of typical structures proposed for the project range from 75 to 110 feet above ground.
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

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.

LCRA engineers selected single-circuit steel and/or concrete poles as the structure type for the Proposed Project. Single-circuit steel and/or concrete poles are the least-cost structure alternative, generally require a smaller footprint, and are typically the most favored structure type by landowners. The determination of material type (pre-stressed concrete or steel) will be made during the detailed design phase of the project, considering factors such as engineering constraints, cost, and schedule. Please refer to Figures 1-2 through 1-4 in the EA for drawings of the typical structures proposed to be used in this project.

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

This is not a joint application.

6. **Right-of-way:**
   - **Miles of Right-of-Way:** Approximately 17 to 23 miles
   - **Miles of Circuit:** Approximately 17 to 23 miles
   - **Width of Right-of-Way:** The typical ROW width for the Proposed Project is estimated to be 80 feet.

   **Percent of Right-of-Way Acquired:** 0%

   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.

   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 Proposed Project area is located within Burleson County, Texas, and includes the City of Caldwell and portions of some unincorporated communities, including Lyons, May 31, 2018
Cooks Point, Harmony, Birch, Hogg, Chriesman, Center Line, Tunis, Frenstat, San Antonio Prairie, Davidson, and Deanville.

Land in the area of the Proposed Project is subject to a variety of uses, including commercial and residential development, particularly in and near the City of Caldwell; scattered rural residential areas; transportation facilities; railroads; parks and recreation areas; rural agricultural areas; pastureland; woodlands; and a significant amount of petroleum and natural gas infrastructure associated with the Eagle Ford and Woodbine shale formations.

The Proposed Project area is situated within the Blackland Prairie and Oak Woods and Prairies physiographic regions of Texas. The region’s topography is characterized as gently rolling to nearly level in some areas and as hilly in other areas. The area is interspersed by drainages and small creeks that ultimately flow into the Brazos River, which forms the eastern edge of Burleson County. Elevations in the study area range between approximately 230 feet above mean sea level (AMSL) in the northeastern part of the study area near the Brazos River to approximately 550 feet on the hilltops in the northwestern portion of the study area.

A detailed discussion regarding natural, human, and cultural resources in the area of the Proposed Project is set forth in the Section 2.0 of the EA.

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.

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.

The existing electric load-serving substations listed below are potentially associated with the Proposed Project.

1. BBEC’s Lyle Wolz Substation
2. BBEC’s Lyons Substation
3. BTU’s Steele Store Substation

The proposed Cooks Point Substation will connect to the existing electric grid at either the Lyle Wolz Substation or Lyons Substation via the proposed transmission line, depending on the route approved. In association with the Proposed Project, BTU will
construct a 138-kV line from its Steele Store Substation that will connect to the new Cooks Point Substation. There are no HVDC converter stations associated with the Proposed Project.

Attachment 3 to this Application provides documentation demonstrating that BBEC, as the owner of the Lyle Wolz and Lyons substations, is aware of the Proposed Project and has agreed to the installation of the required facilities associated with the interconnection of the Proposed Project.

8. **Estimated Schedule:**

<table>
<thead>
<tr>
<th>Estimated Dates of:</th>
<th>Start</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-of-way and Land Acquisition</td>
<td>October 2019</td>
<td>December 2020</td>
</tr>
<tr>
<td>Engineering and Design</td>
<td>July 2019</td>
<td>April 2020</td>
</tr>
<tr>
<td>Material and Equipment Procurement</td>
<td>August 2019</td>
<td>March 2021</td>
</tr>
<tr>
<td>Construction of Facilities</td>
<td>June 2020</td>
<td>May 2021</td>
</tr>
<tr>
<td>Energize Facilities</td>
<td></td>
<td>May 2021</td>
</tr>
</tbody>
</table>

9. **Counties:**

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

All of the routes and route segments proposed in association with the Proposed Project are located within Burleson County, Texas.

Please refer to the maps located in Appendices C and D in the EA for the location of alternative route segments.

10. **Municipalities:**

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

If approved, some portions of Routes 1, 2, 3, 5, 7, 9, 17, 25, and 26 would be constructed within the city limits of Caldwell.
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.

Authority for LCRA TSC to provide transmission service within Burleson County is contained in, among other dockets, Docket No. 24419.

11. Affected Utilities:
Identify any other electric utility served by or connected to facilities in this application.

BBEC owns the existing Lyle Wolz and Lyons substations, which are the proposed end point alternatives to which the facilities proposed for construction in the Application would connect. BBEC will be served by and connected to the proposed Cooks Point Substation.

Upon completion of a 138-kV transmission line to its existing Steele Store Substation, BTU will connect to the proposed Cooks Point Substation. Please refer to Attachment 2 regarding the impacts of the Proposed Project to BBEC and BTU.

Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project.

See the response to Question 7 above. In addition, LCRA TSC and BBEC have been engaged with the City of Caldwell, a municipally owned utility, regarding the potential routing of the Proposed Project near the vicinity of the City of Caldwell. Although the City of Caldwell is not connected to the ERCOT grid, the Application contains several route alternatives located near or through the city that could provide backup service to the city in the event of an emergency (such as during Hurricane Ike in 2008).

Distribution facilities owned and operated by BBEC, BTU, and the City of Caldwell will be crossed and/or paralleled by one or more routes proposed in the Application.

Include any other electric 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.

Existing 69-kV transmission lines owned by Entergy Texas, Inc. (Entergy), which are not operated within ERCOT, traverse the study area. LCRA TSC evaluated route alternatives for the Proposed Project utilizing and paralleling the Entergy transmission lines. Entergy
has not agreed to sell LCRA TSC the existing lines or allow LCRA TSC to utilize the existing ROW for the Proposed Project. The Application includes several alternative routes that cross and/or parallel the existing Entergy transmission lines.

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.

LCRA TSC will finance the facilities included in the Application in a manner similar to that which has been used for projects previously constructed by LCRA TSC. Such financing may include a combination of tax-exempt commercial paper, tax-exempt private revolving note, or taxable commercial paper, and, subsequent to project completion, fixed-rate debt. Interest on the debt may be capitalized until the Project is in service, at which point it is intended that both the principal and interest will be serviced with Transmission Cost of Service revenues.

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.

<table>
<thead>
<tr>
<th>Right-of-way and Land Acquisition</th>
<th>Transmission Facilities*</th>
<th>Substation Facilities*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design (Utility)</td>
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<td></td>
</tr>
<tr>
<td>Engineering and Design (Contract)</td>
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<td></td>
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<tr>
<td>Procurement of Material and Equipment (including stores)</td>
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<td></td>
</tr>
<tr>
<td>Construction of Facilities (Utility)</td>
<td></td>
<td></td>
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<tr>
<td>Construction of Facilities (Contract)</td>
<td></td>
<td></td>
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<tr>
<td>Other (all costs not included in the above categories)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Estimated Total Cost</strong></td>
<td><strong>See Attach. 4</strong></td>
<td><strong>See Attach. 4</strong></td>
</tr>
</tbody>
</table>

*Please refer to Attachment 4 to this Application for Transmission and Substation Facilities estimated costs for each alternative route presented in this 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.

   The Proposed Project is needed to provide electric service to a new load-serving substation (the Cooks Point Substation). The Cooks Point Substation is planned to serve an area remote from BBEC’s existing facilities at the edge of its service territory, and is needed to ensure that electric service needs for present and future customers within the study area are met in a reliable, efficient, and cost-effective manner. BBEC and LCRA TSC utilize good utility practice and industry standards for evaluating and implementing solutions to address distribution and transmission planning needs. For making these evaluations, BBEC and LCRA TSC have developed distribution and transmission planning criteria. In evaluating the electric reliability of the project area, BBEC and LCRA TSC observed future violations of their distribution and transmission planning criteria as a result of load growth in the area. These criteria violations are addressed specifically in detail below.

   Absent this project, and based on the load forecast for this area, BBEC distribution system criteria violations include:

   (1) an inability to maintain voltages that meet ANSI C84.1 Range A limits under normal operating conditions,
   (2) exceeding optimum conductor loading levels on distribution feeders, and
   (3) the need for an excessive number of voltage regulators.

   Absent this project (and the companion BTU transmission project connecting the Steele Store Substation to the proposed Cooks Point Substation), LCRA TSC transmission system criteria violations include:

   (1) the interruption of more than 20 MW of peak load due to the loss of a single transmission element.

   LCRA TSC and BBEC examined the load-serving capabilities of the existing distribution system and determined that a distribution system-only alternative was not adequate to address the distribution system violations identified above and to reliably serve the expected load levels at Lyle Wolz and Lyons Substations beyond 2020. As a result, LCRA TSC and BBEC considered multiple transmission alternatives to address the load growth in the Burleson County area and the transmission and distribution system criteria violations. Each transmission alternative considered by LCRA TSC and BBEC would provide a transmission source for a new load-serving substation in the Cooks Point area. Each alternative would provide reliable looped transmission service to the Cooks Point Substation when that substation is connected with the new BTU transmission line from Steele Store to Cooks Point (which addresses the transmission system criteria violation.
The new Cooks Point Substation and associated transmission line will avoid, for the Near-Term Transmission Planning Horizon, the need for BBEC to rebuild the 11.5 mile 138-kV Gay Hill-Lyons transmission line by 2023, which ERCOT identified as a reliability project in the 2017 Regional Transmission Plan (RTP) report. The ERCOT RTP steady-state contingency analysis results, based on NERC Reliability Standards and ERCOT planning criteria, show the loading on the Gay Hill-Lyons transmission line exceeds its emergency conductor rating in 2023 for the N-1 contingency loss of the Giddings-Winchester transmission line. Within the 2017 RTP, ERCOT confirmed that adding a transmission line from Lyle Wolz to Cooks Point to Steele Store would mitigate the reliability constraint. Construction of the Proposed Project from the existing Lyons Substation to Cooks Point would provide the same mitigation.

The looped transmission service between Steele Store and either Lyle Wolz or Lyons substations will support transmission system performance in the area of the Proposed Project by providing another source into existing BBEC, LCRA TSC, and BTU transmission networks and avoiding load loss during two overlapping single contingencies (i.e., a NERC TPL Category P6 Event). A NERC TPL Category P6 Event is two single element outages that occur one after the other and which, when combined, may lead to a loss of consequential system load. The addition of another networked transmission source to the Burleson County transmission system provides greater operational flexibility for maintaining reliable transmission service during future planned or forced maintenance outages. For planning year 2021, the expected worst case consequential load loss event is 113 MW. The 113 MW represents load at five substations that are de-energized upon the outage of the Giddings-Winchester and Lyle Wolz-Gay Hill transmission lines. The Proposed Project, along with construction of BTU’s line from Cooks Point to Steele Store, would reduce the worst case potential load loss from 113 MW to 54 MW (due to the outages of Giddings-Winchester and Lyle Wolz-Lexington) if it were to connect from Lyle Wolz to Cooks Point. If the Proposed Project were to connect from Lyons to Cooks Point, rather than Lyle Wolz, it would reduce the worst case potential load loss from 113 MW to 91 MW (due to the outages of Giddings-Winchester and Lyons-Lyle Wolz).

In addition, depending on the PUCT-approved route for the transmission line, the Proposed Project may also provide geographically diverse emergency back-up capability to the City of Caldwell in the event electric transmission service to the City is unavailable from the Midcontinent Independent System Operator (MISO) grid during extreme weather events (as occurred in 2008 resulting from Hurricane Ike). For example, if a route is approved that is located in close proximity to the City of Caldwell’s electrical

\[\text{NERC Glossary of Terms (eff. Nov. 17, 2001).}\]
infrastructure, the City could be temporarily interconnected with the ERCOT grid via the Proposed Project while service is unavailable from MISO, subject to the necessary regulatory approvals.

**Describe the existing transmission system and conditions addressed by this application.**

The Proposed Project area is contained wholly within Burleson County, Texas. Within Burleson County, BBEC provides service to its members via two load-serving substations: Lyle Wolz (LW) and Lyons (LN). Lyle Wolz Substation has two 138/24.9-kV power transformers with eight 24.9-kV distribution feeders (LW10, LW20, LW30, and LW50 normally on the T1 transformer; LW110, LW120, LW140, and LW150 normally on the T2 transformer). Lyons Substation has one 138/24.9-kV power transformer with three 24.9-kV distribution feeders (LN20, LN30, and LN50). Distribution feeders LW20 and LN50 provide service to the Proposed Project area. Both the Lyle Wolz and Lyons substations are connected to the same 138-kV transmission loop that begins at Winchester Substation located in southwest Fayette County and culminates at Gay Hill Substation located in southeast Washington County. The transmission facilities on this loop are owned by both LCRA TSC and BBEC. In total, this 138-kV transmission loop is approximately 66 miles long. Along this loop, BBEC serves load at six substations, in order: Giddings, Lincoln, Lexington, Lyle Wolz, Lyons, and Gay Hill. Lincoln Substation, located in Lee County, is the most recent substation facility constructed along this loop. Lincoln Substation was energized in October 2017 to serve new industrial pipeline pumping load. Load forecasts for the substations within the Proposed Project area reflect increasing oil and gas production associated with the Eagle Ford and Woodbine formations as well as groundwater production from the Carrizo and Simsboro aquifers related to the San Antonio Water System (SAWS) Vista Ridge pipeline.

Other transmission service providers within the Proposed Project area include BTU and Entergy. BTU, operating within ERCOT, owns the 138-kV Snook Substation in northeast Burleson County. At present, the BTU facilities in Burleson County are not directly connected to the BBEC and LCRA TSC facilities in the Proposed Project area. In conjunction with the Proposed Project, BTU is constructing a 138-kV transmission line from its existing Steele Store Substation in Brazos County to the new Cooks Point Substation, which will create a new tie line between the BTU and LCRA TSC and BBEC transmission systems. Northwest of the Proposed Project area, and outside of Burleson County, Oncor Electric Delivery Company (Oncor) has several 69-kV, 138-kV, and 345-kV transmission facilities located in adjacent Milam County.

Within Burleson County, Entergy owns 69-kV lines that provide electric service to the City of Caldwell. The Entergy facilities in Burleson County are part of the MISO interconnection and are not synchronously connected to the ERCOT grid. As a result, the
existing Entergy lines are not available for the provision of electric service to BBEC members or to provide electric service to the new proposed Cooks Point Substation.

Refer to Figure 1 – Proposed Project Area Map below for an overview of the existing transmission system (i.e. > 60-kV) in Burleson County and the surrounding area.
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

Figure 1 - Proposed Project Area Map

As a distribution service provider with a PUCT-designated service territory, BBEC is obligated to provide electricity to members within its territory. In order to maintain...
adequate levels of reliability, BBEC has established and adheres to a set of criteria for its electric system performance.

As a NERC-registered Transmission Owner, Transmission Operator, and Transmission Planner, LCRA TSC provides reliable electric service in adherence with the NERC Reliability Standards as well as service reliability requirements set forth by ERCOT and the PUCT. As such, LCRA TSC operates and maintains its facilities within reliability-based criteria that are consistent with industry standard practices.

Without construction of the Proposed Project, the following BBEC and LCRA TSC distribution and transmission planning criteria violations will occur.

**BBEC Distribution System Planning Criteria:**

Section 1.1 Normal Conditions: Under normal operating conditions, the primary distribution system shall be planned to maintain +/- 5% of a nominal 120 volt basis (114-126 volts) at the member’s meter base (ANSI C84.1-1977 Range A limits and REA Bulletin 169-4).

Section 2.1 A loading level of 60% of emergency ratings shall be used as a general guideline for optimum conductor loading. A loading level of 100% of normal ratings shall be used as a general guideline for critical conductor loading.

Section 5.1 Voltage regulators on the distribution system shall be limited to one set in the substation and two cascaded line units on any distribution line.

**LCRA TSC Transmission System Planning Criteria:**

Section III. B. 2) Reliability to radial-supplied station(s), exceeding 20 MW of peak load, shall be addressed by the most technically and economically feasible of the alternatives described below:

- Looped transmission service to the radial station may be provided by a separate transmission circuit configuration; or
- Looped transmission service to the radial station may be provided by a double circuit transmission configuration; or
- Limit a radial station load to 20 MW and provide the added capacity requirements from available area stations.

As outlined in the ERCOT RPG submittal for this project (see Attachment 2), the Proposed Project addresses the electric system reliability needs discussed above and the associated distribution and transmission planning criteria violations as follows:

- Providing the transmission infrastructure needed to reliably serve the new Cooks Point Substation identified by BBEC as necessary to meet distribution criteria and maintain reliable service to the northern part of Burleson County;
• Adding a 138-kV networked transmission source into an area of Burleson County with no existing ERCOT transmission service that is forecasted to experience significant load growth;

• Improving the voltage performance and increasing the load-serving capability of the existing transmission system in Burleson County;

• Addressing the steady-state and stability criteria violations (identified for this evaluation) in 2021 and 2022 using NERC and ERCOT reliability performance criteria;

• Reducing the risk of consequential load loss in the LCRA TSC/BBEC and BTU transmission systems under overlapping single contingency conditions in 2021;

• Subject to final route selection, providing the potential to serve approximately 14 MW of load at the City of Caldwell from the ERCOT transmission system during an emergency event;

• Increasing operational flexibility during planned or forced outages by adding another networked transmission source into the Project Area.

For projects that are planned to accommodate load growth, provide historical load data and load projections for at least five years.

BBEC performs a distribution system load forecast annually. This load forecast provides the basis for determining the performance of the distribution system over a given 10-year planning horizon. BBEC reviews historical growth patterns, anticipated load additions, and scheduled load transfers to derive forecasts for each substation and associated feeders. The load forecast is supported by historical growth patterns and documentation of new load additions. The load forecast is also developed to support ERCOT’s Annual Load Data Request (ALDR). The ALDR process solicits information from distribution service providers within ERCOT and is used as the basis for the load that is included within the power flow base cases, which are used to perform steady-state analysis. These load projections allow for planning over the near-term (years 1-5) and long term (years 6-10) planning horizons.
Below is a summary of the summer and winter peak historical load and forecast for the study area by transformer and distribution feeder, absent the Cooks Point Substation (the “base case”):

### Table 4 - Load Projections without Cooks Point Substation (kW)

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<thead>
<tr>
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### Table 5 - Load Projections with Cooks Point Substation (kW)

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The following table summarizes summer and winter peak historical load and the forecast for the study area by transformer and distribution feeder with the Cooks Point Substation in service beginning in 2021:
These load levels were utilized for the distribution and transmission system analyses used by LCRA TSC and BBEC to evaluate project alternatives and were also reported to ERCOT via the ALDR process.

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.

LCRA TSC utilized steady-state power flow analysis to evaluate the existing transmission system's ability to serve the forecasted load additions throughout the near term planning horizon. For modeling purposes, LCRA TSC included the forecasted load additions at the Lyle Wolz and Lyons substations. The ERCOT Steady State Working Group power flow cases (15SSWG_2021_SUM and 15SSWG_2022_SUM) were utilized for this analysis. Based on its analysis, LCRA TSC observed two areas of concern for the transmission system within the study area.

Without the Proposed Project, the first area of reliability concern observed by LCRA TSC is associated with an N-1 overload of the Gay Hill-Lyons transmission line (which is currently rated at 128 MVA). As part of the analysis conducted for the RPG submittal, loading of the Gay Hill-Lyons transmission line was found to reach 97.6 percent of its rating in 2021/2022 upon the N-1 loss of the Giddings-Winchester transmission line. As part of the ERCOT 2017 RTP, this same overload condition was found to have increased to 103 percent in 2023. This overload can be addressed by upgrading 11.5 miles of the Gay Hill-Lyons transmission line to a higher rating. However, a line upgrade would not address BBEC's load-serving needs, nor would it provide any improved transmission topology (i.e., adding a new networked transmission source into the existing transmission system). The ERCOT 2017 RTP confirms that adding a transmission line from Lyle Wolz to Cooks Point that will be connected to a new BTU transmission line from Steele Store to Cooks Point will mitigate this reliability concern. Construction of the Proposed Project from the existing Lyons Substation to Cooks Point would provide the same mitigation.

The second reliability concern observed by LCRA TSC without the Proposed Project relates to the amount of load that would be lost during overlapping single contingencies (i.e., NERC TPL Category P6). A NERC TPL Category P6 Event is two single element outages that occur one after the other and which, when combined, may lead to a loss of consequential system load. Overlapping single contingencies that lead to a significant loss of customer load limit both operational flexibility and system maintainability. Reducing consequential load losses associated with overlapping single contingencies leads to a more reliable transmission system that can withstand additional outages and also provides significantly greater flexibility associated with system maintenance and construction activities. By 2021, based on reasonable forecasted load growth, overlapping outages of the Giddings-Winchester transmission line and Lyle Wolz-Gay Hill transmission line would lead to a 113 MW load loss at five substations. Adding the Proposed Project from Lyle Wolz or Lyons to Cooks Point (with the interconnection of
the BTU transmission line from Steele Store to Cooks Point) will reduce the amount of consequential load loss for the worst case set of overlapping contingencies. A connection at Lyle Wolz will reduce the worst case amount of consequential load loss from 113 MW to 54 MW, while a connection at Lyons will reduce this amount to 91 MW.

Multiple transmission alternatives were evaluated in order to recommend a project that fulfills the BBEC load-serving need while also fulfilling local area transmission system needs. These transmission alternatives are summarized in greater detail in response to Question 15 of this Application.

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.

The distribution study performed by BBEC in association with the Proposed Project is included as Attachment 5.

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.

The Proposed Project is not related to a Competitive Renewable Energy Zone.

For all projects, provide any documentation of the review and recommendation of a PURA §39.151 organization.

LCRA TSC presented the Proposed Project (including all transmission alternatives considered and noted in the response to Question 15 of this Application) for review by ERCOT staff and the ERCOT RPG on July 8, 2016. All comments submitted in the ERCOT RPG process regarding the Proposed Project support the project. Following its review, ERCOT staff designated the Proposed Project as a Tier 4 Neutral Project on July 7, 2017. ERCOT staff determined that the Proposed Project will not result in any violations of NERC or ERCOT performance requirements. The documentation associated with ERCOT’s review and determination is provided as Attachment 2 to this Application.
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.

Alternatives to the construction of this project (not routing options)

BBEC performed and LCRA TSC considered and evaluated a distribution system-only alternative to address the electrical service and reliability needs of the Burleson County area. The alternative considered was designed to resolve distribution planning criteria violations on feeders LW20 at Lyle Wolz and LN50 at Lyons in conjunction with the forecasted load growth. BBEC modeled the existing system with previously approved projects and the forecast loads. System performance was assessed versus the applicable criteria. The following violations were found:

1. **System voltages below 5 percent of nominal voltage beginning in 2017.** The BBEC Distribution System Planning Criteria for voltage levels under normal conditions (ANSI C84.1 Range A) will be violated for LW20 and LN50 beginning in Winter 2017 and Winter 2018, respectively. LW20 can no longer support adequate voltage levels once 12.9 MW is reached on the feeder. LN50 can no longer support adequate voltage levels once 15.9 MW is reached on the feeder. The distribution system voltage will no longer meet the existing planning criteria for distribution system voltage by 2021.

2. **Primary conductor loading exceeding 60 percent of emergency rating beginning in 2018.** The BBEC Distribution System Planning Criteria for optimum conductor loading will be exceeded for LN50 by 116 percent by Summer 2021 and for LW20 by 101 percent by Summer 2022. Although BBEC does not currently utilize or have material or design specifications for 795 AAC conductor, replacing the existing 336 ACSR on LW20 and LN50 with 795 AAC was given consideration in system modeling as a potential distribution solution. Based on current load projections, although 795 AAC provides increased conductor capacity as compared to 336 ACSR, this option will no longer meet the existing planning criteria for distribution system voltage by 2021.

3. **Cascading voltage regulators are currently maxed out for LW20.** The BBEC Distribution System Planning Criteria for voltage regulation (one set in the substation; no more than two on any distribution line) is maxed out on LW20. LW20 cannot accommodate additional voltage regulators due to voltage regulation at the substation and two cascaded voltage regulation units on the
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

distribution line. System modeling of current load projections reflects a second set of voltage regulators will be required for LN50 by Winter 2019, thereby maxing out voltage regulation on LN50.

These violations can be addressed by distributions system improvements through 2020. After this timeframe, the distribution system improvements no longer provide acceptable results. The distribution system-only solution involves multiple projects implemented through 2020 in order to reliably serve load on feeders LW20 and LN50. Extensive use and upgrade of existing facilities are required. This alternative consists of the following scope:

- Upgrade 5.6 miles of existing single phase #4 ACSR to three phase 1/0 ACSR
- Upgrade 14 miles of existing three phase distribution lines to 336 ACSR
- Convert 257 miles of existing distribution lines from 12.47 kV to 24.9 kV
- Install 578 A voltage regulator on LN50
- Relocate and upgrade existing voltage regulators on LW20
- Install 3,300 kVAR of shunt capacitor banks

In summary, BBEC considered a range of distribution system improvements to address the electric system reliability needs in the project area, including conductor upgrades, voltage conversions, voltage regulator additions, voltage regulator relocations, and capacitor bank additions. With the improvements evaluated, the distribution system-only alternative temporarily resolves the planning voltage criteria. However, the distribution system voltage will no longer meet the existing planning criteria for distribution system voltage by 2021. With an anticipated timeframe of four years to complete the distribution system improvements, the improvements would not be sufficient by the time of completion. No additional economically viable distribution system-only options are available for providing voltage support to LW20 and LN50 as the project area continues to experience growth. Accordingly, BBEC and LCRA TSC determined that a new load-serving substation is needed in the northeastern portion of the BBEC service territory in the vicinity of the Cooks Point community. The proposed Cooks Point Substation is projected to serve 16 MW of load in 2021 and 21 MW in 2023.

Based on the inability of the distribution system-only alternative to adequately serve the project load levels in the project area beyond 2020, BBEC and LCRA TSC considered and evaluated several transmission alternatives. Each alternative considered would provide a transmission source for a new load-serving substation in the Cooks Point area. Each alternative considered would provide looped transmission service at Cooks Point (with the interconnection of BTU’s new transmission line from Steele Store to Cooks
Point). The following six transmission alternatives were included in the LCRA TSC project submittal to ERCOT RPG:

1. Construct a new 138-kV transmission line from Steele Store to Cooks Point and Cooks Point to Snook (BTU).

   This alternative does not provide a new transmission source into the LCRA TSC and BBEC 138-kV transmission loop to alleviate load loss associated with NERC P6 contingencies. This alternative does not avoid the need to rebuild the Gay Hill-Lyons transmission line in the Near-Term Transmission Planning Horizon. This alternative does not provide the potential ability for emergency backup service to the City of Caldwell. BTU reviewed this alternative during the ERCOT RPG process and did not support this option.

2. Construct a new 138-kV transmission line from Lyle Wolz to Cooks Point and Cooks Point to Minerva (Oncor)

   This alternative involves a greater length of new line construction than the recommended option and provides less benefit in terms of alleviating the loss of load associated with NERC P6 contingencies. Oncor reviewed this alternative during the ERCOT RPG process and did not support this option.

3. Construct a new 138-kV transmission line from Lyle Wolz to Cooks Point and Cooks Point to Sandow (Oncor)

   This alternative involves a greater length of new line construction than the recommended option and provides less benefit in terms of alleviating the loss of load associated with NERC P6 contingencies. Oncor reviewed this alternative during the ERCOT RPG process and did not support this option.

4. Construct a new 138-kV transmission line from Steele Store to Cooks Point and Cooks Point to Minerva (Oncor)

   This alternative involves a greater length of new line construction than the recommended option. This alternative does not provide a new transmission source into the LCRA TSC and BBEC 138-kV transmission loop to alleviate load loss associated with NERC P6 contingencies. This alternative does not avoid the need to rebuild the Gay Hill-Lyons transmission line in the Near-Term Transmission Planning Horizon. This alternative does not provide the potential ability for emergency backup service to the City of Caldwell. Oncor reviewed this alternative during the ERCOT RPG process and did not support this option.
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

5. Construct a new 138-kV transmission line from Steele Store to Cooks Point and Cooks Point to Sandow (Oncor)

This alternative involves a greater length of new line construction than the recommended option. This alternative does not provide a new transmission source into the LCRA TSC and BBEC 138-kV transmission loop to alleviate load loss associated with NERC P6 contingencies. This alternative does not avoid the need to rebuild the Gay Hill-Lyons transmission line in the Near-Term Transmission Planning Horizon. This alternative does not provide the potential ability for emergency backup service to the City of Caldwell. Oncor reviewed this alternative during the ERCOT RPG process and did not support this option.

6. Construct a new 138-kV transmission line from Lyle Wolz to Cooks Point and Cooks Point to Steele Store (BTU)

This alternative provides a new transmission source into the LCRA TSC and BBEC 138-kV transmission loop to alleviate load loss associated with NERC P6 contingencies. This alternative avoids the rebuild of Gay Hill-Lyons transmission line in the Near-Term Transmission Planning Horizon. This alternative provides the potential ability for emergency backup service to the City of Caldwell (depending on the route selected for the project). BBEC, BTU, Oncor, and the City of Caldwell all supported this alternative during the ERCOT RPG review process. This alternative was identified by ERCOT staff during the 2017 RTP as a transmission element that will mitigate a reliability constraint identified within the Proposed Project area.

LCRA TSC initially considered project alternatives connecting the proposed Cooks Point Substation to the south at Lyons instead of Lyle Wolz. The Lyons alternative was not formally submitted by LCRA TSC as part of the ERCOT RPG review process due to the electrical similarity of a project terminating at Lyons and the fact that more load is served by BBEC at the Lyle Wolz Substation than the Lyons Substation. Subsequent to LCRA TSC's submission of the project to the ERCOT RPG, LCRA TSC determined that alternative routes terminating the Proposed Project at the existing Lyons Substation would also address the project needs.

Distributed Generation (DG) is not a viable option in this instance because it cannot be readily sited, controlled, or dispatched with an adequate level of certainty. Also, a DG alternative does not provide a new transmission source into the LCRA TSC and BBEC 138-kV transmission loop to alleviate load loss associated with NERC P6 contingencies. A DG alternative does not avoid the need to rebuild the Gay Hill-Lyons transmission line in the Near-Term Transmission Planning Horizon. A DG alternative does not provide the potential ability for emergency backup service to the City of Caldwell.
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.

Refer to Figure 1 above for a geographical representation. Figure 2 below is an electrical schematic illustrating the Proposed Project in relation to LCRA TSC and BBEC facilities as well as BTU facilities.

![Figure 2 - Electrical Schematic of Proposed Project and Surrounding System](image-url)
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.

LCRA TSC retained URS Corp. (URS) to prepare the EA, included as Attachment 1 to the Application. The objective of the EA was to provide information in support of this Application in addressing the requirements of Section 37.056 (c)(4)(A)-(D) of the Texas Utilities Code, the PUCT Certificate of Convenience and Necessity (CCN) Application form, and PUCT Substantive Rule 25.101. By examining existing environmental conditions, including the human and natural resources that are located in the area of the Proposed Project, the EA evaluates the environmental effects that could result from the construction, operation, and maintenance of the Proposed Project. The EA will also be used in support of any additional local, state, or federal permitting activities that may be required for the Proposed Project.

To assist URS in its evaluation, LCRA TSC provided information regarding the project endpoints, the need for the project, engineering and design requirements, construction practices, and ROW requirements for the Proposed Project.

Selecting the Study Area

URS, with input and assistance from LCRA TSC, delineated the study area within which to review the existing environment and subsequently to locate geographically diverse alternative routes. The boundaries of the study area were determined by the existing project endpoints (Lyle Wolz and Lyons substations), the new Cooks Point Substation siting area, other existing ROW (e.g., roadways, railroads, and existing transmission lines), and existing cultural and land use features across the study area.

The study area, shown in Figure 2-1 of the EA, is approximately 17 miles long by 20 miles wide, and encompasses an area of approximately 314 square miles (201,085 acres).

Routing Constraints

Once the study area was defined, data related to land use, aesthetics, ecology, and cultural resources were collected by URS through: conducting ground reconnaissance; reviewing available maps and aerial photography; reviewing previous studies conducted in the area; contacting a variety of local, state, and federal agencies; and considering criteria established in Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code, the PUCT’s CCN Application form, PUCT Substantive Rule 25.101, and input from the public open house.
meetings. Using this information, the locations of sensitive features and other constraints were identified.

Selection of Potential Routing Segments

Preliminary alternative route segments were identified by evaluation of the constraints mapped for the study area and then by identifying routing opportunity areas such as existing corridors and other linear features. Through application of the PUCT’s routing criteria, as described above, 84 preliminary alternative route segments were identified and developed into potentially viable preliminary alternative routes for comparative purposes. These preliminary alternative route segments were further evaluated based on information received from government agencies, the public meetings, and additional public input. Ultimately, 26 primary alternative routes were identified for comparison. These routes were evaluated using 42 land use and environmental criteria. Impacts were evaluated by URS for each identified primary alternative route. Additional forward-progressing alternate routes may also be formed by configuring the various segments in different ways.

Specific discussion regarding selection of the study area, identification of constraints, the selection of potential preliminary alternative route segments, and the alternative route analysis is set forth in the EA in Sections 2.0, 3.0 and 4.0.

Selection of the alternative route the applicant believes best addresses the requirements of PURA and P.U.C. Substantive Rules

LCRA TSC identified Route 7 as the primary alternative route that it believes best addresses the requirements of PURA and the PUCT’s Substantive Rules. LCRA TSC’s response is informed by a number of considerations, including that Route 7:

- Has the lowest estimated cost of the 26 primary alternative routes included in the Application (approximately $35,178,000);
- Is generally consistent with the route preferences indicated by the City of Caldwell and Burleson County in resolutions passed in support of the Proposed Project, an expression of community values (see Attachment 1, Appendix A);
- Has the third shortest length of the 26 primary alternative routes included in the Application (approximately 17.8 miles) and is only 0.7 mile longer than the shortest route;
- Parallels and is adjacent to existing corridors (public roads/highways, existing transmission lines, and apparent property boundaries) for approximately 85 percent of its total estimated length (15.1 of 17.8 miles);
APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE COOKS POINT 138-KV TRANSMISSION LINE PROJECT IN BURLESON COUNTY, TEXAS

- Connects to BBEC’s existing transmission system at the Lyle Wolz Substation, which would benefit BBEC as the primary distribution service provider serving the proximate area by providing BBEC additional system planning flexibility (as compared to a connection at the Lyons Substation);

- Connects to Substation Site 2, which is situated in an area with less petrochemical pipeline congestion as compared to Substation Site 1;

- Traverses potential endangered species (Houston Toad) habitat for only 0.4 mile;

- Does not cross any recorded cultural resources sites and has only two additional recorded cultural resources sites located within 1,000 feet of the route centerline.

Apart from identifying Route 7 as the route that best meets the PUCT’s routing criteria for the purpose of completing this portion of the Application, LCRA TSC did not rank the alternative routes.

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 16 TAC § 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.

LCRA TSC held a public open house meeting for the Proposed Project on January 30, 2018, at the City of Caldwell Civic Center in Caldwell, Texas. LCRA TSC mailed written notices of the meeting to all owners of property within approximately 300 feet of each preliminary alternative route segment centerline. Additional letters were sent to elected officials and other interested parties. This resulted in the mailing of 1,216 meeting notices. In addition, notice of the public open house meeting was published on January 18 and January 25, 2018, in the Burleson County Tribune.

The public notices announced the location, time, and purpose of the meeting. A copy of the published newspaper notice is located in Appendix B of the EA.

The meeting was intended to solicit comments from interested persons and public officials concerning the Proposed Project. The meeting had the following objectives:

- Promote a better understanding of the Proposed Project, including the purpose, need, potential benefits and impacts, and PUCT certification process;
- Inform the public with regard to the routing procedure, schedule, and route approval process; and
- Gather the values and concerns of the public and community leaders.
The meeting was configured in an informal information station format rather than a formal speaker/audience format, with each station assigned to a particular aspect of the project or routing process and staffed with LCRA TSC or URS personnel. These stations included maps, illustrations, photographs, and text explaining each topic. In addition, LCRA TSC and URS provided GIS computer stations to show the extent of the project, the proposed preliminary alternative route segments, Burleson County Appraisal District parcel boundaries, and recent aerial photography of the project area. GIS-trained staff members were also available to answer detailed questions, such as the approximate distance from a proposed preliminary route segment centerline to the nearest corner of a habitable structure or other features of interest to the public. Attendees were encouraged to visit each station so that the entire process could be explained in the logical sequence of project development. The information station format is typically advantageous because it allows attendees to process information in a more relaxed manner, to focus on their particular area of interest, and to ask specific questions. Furthermore, the one-to-one discussions with LCRA TSC or URS personnel typically encourage more interaction from those attendees who might be hesitant to participate in a more formal speaker-audience format.

A total of 159 people signed in at the public open house meeting. In some cases, only one spouse or family member signed in when more than one may have been present. All attendees were offered a questionnaire, a preliminary route segment map, LCRA TSC ROW guide, State of Texas Landowner’s Bill of Rights, and a frequently asked questions document (see Appendix B of the EA). Some attendees handed in completed questionnaires at the meeting (totaling 44), while others took questionnaires with them, acquired questionnaires from neighbors, or accessed questionnaires from the LCRA Project website. A total of 34 additional completed questionnaires were sent to LCRA TSC following the open house meeting. Thus, a total of 78 questionnaires were received by LCRA TSC at or following the public open house meeting. Additionally, LCRA TSC received public comments in the form of letters or emails.

Additional information concerning the public involvement program and summarizing the questionnaire results is located in Section 3.3, pages 3-2 through 3-5, of the EA. A representative copy of the questionnaire provided for the Proposed Project is included in Appendix B of the EA.
19. Routing Maps:

Routing maps should include 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).

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.

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.

Base Maps

Appendix C of the EA, entitled Primary Alternative Routes, produced at a scale of 1 inch = 1,400 feet, is provided in map pockets in the EA. These maps were produced using a USGS topographic base. They depict the study area for the project, locations of radio transmitters and other electronic installations, airstrips, parks and recreational areas, irrigated pasture/cropland, historical sites, environmentally sensitive areas and other constraints. The maps also contain the alternative routes for the project. For their protection, locations of archaeological sites are not shown on the maps.

Appendix D of the EA, entitled Habitable Structures and Other Land Use Features in the Vicinity of the Primary Alternative Routes, consists of aerial photography produced at a scale of 1 inch = 1,400 feet, and is provided in a map pocket in the EA. The aerial photo-based maps include parcel boundaries identified from a review of the tax appraisal district records and combined, as appropriate, to reflect instances where multiple parcels are owned by a single individual or group in the study area. The locations of all known
habitable structures located within 300 feet of the centerline of primary alternative routes on properties directly affected by the project are also identified in Appendix D. The habitable structures and other land use features map (Appendix D of the EA) was produced using aerial imagery flown in October 2017.

Base maps include sufficient cultural and natural features to permit location of the alternative routes in the field, and they depict existing electric transmission lines (based on information available to URS), major public roads, and railroads located within the study area, as applicable.

**Directly Affected Property Maps**

Attachment 6 to this application includes 11 maps (utilizing aerial photography) titled *Location of Directly Affected Parcels and Habitable Structures*, that identify directly affected properties, tract IDs, and the location of habitable structures (including labels) within approximately 300 feet of the centerline of the transmission line alternatives and approximate parcel boundary lines. These maps show the location of each proposed route segment identified, and the locations of all major public roads.

Attachment 8 to this application is a list that cross-references each habitable structure, or group of habitable structures, and directly affected properties identified on the maps provided in Attachment 6 with a list of tract IDs and corresponding landowner names and addresses. Landowner names and addresses were obtained from the Burleson County Appraisal District.

**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.*

Upon approval of the Application by the PUCT, the following permits/approvals would be required and obtained prior to the commencement of construction:

- Where the approved route of the transmission line crosses a state-maintained road or highway, LCRA TSC will obtain a permit from the Texas Department of Transportation (TxDOT). If any portion of the transmission line will be accessed from a state-maintained road or highway, LCRA TSC will obtain a permit from TxDOT.

- Since more than one acre will be disturbed during construction of the project, a Storm Water Pollution Prevention Plan (SWPPP) will be necessary. Further, because more than five acres will be disturbed, a Notice of Intent (NOI) will be prepared by LCRA TSC for the Texas Commission on Environmental Quality (TCEQ). The controls specified in the SWPPP will be monitored in the field.

- Upon approval of the Application and prior to construction, a detailed Natural Resources Assessment (NRA) and Cultural Resources Assessment (CRA) will be
performed on the approved route. Depending on the results of these assessments, permits or regulatory approvals may be required from the U.S. Army Corps of Engineers (USACE) or U.S. Fish and Wildlife Service (USFWS). Such permits or regulatory approvals will be obtained by LCRA TSC prior to construction.

- After alignments and structure locations/heights are designed and engineered, LCRA TSC will make a final determination of the need for Federal Aviation Administration (FAA) notification, based on structure locations and designs. In some areas, if necessary, LCRA TSC could use lower-than-typical structure heights and could add marking and/or lighting to certain structures to avoid or accommodate FAA requirements.

- LCRA TSC will report the status of the Proposed Project to the PUCT on LCRA TSC’s Monthly Construction Progress Report, beginning with the first report following the filing of a CCN application, and in each subsequent monthly progress report until construction is completed and actual project costs have been reported. As required by the PUCT, LCRA TSC will submit locational and attribute data for the approved route after it is constructed.

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.

The locations of habitable structures within 300 feet of the centerline of each route segment are listed and described with the approximate distance from the route segment centerline and depicted in Appendix D of the EA. The total numbers of habitable structures for the 26 primary alternative routes are provided in the table below.
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<th>Primary Alternative Route</th>
<th>Total Number of Habitable Structures within 300 feet of the Centerline</th>
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<td>51</td>
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</table>
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.

   There are no known commercial AM radio transmitters located within 10,000 feet of any of the primary alternative routes. There are 12 known communication towers (FM radio transmitters, microwave towers, or other electronic communications towers) located within 2,000 feet of one or more of the primary alternative routes. A listing, description, and approximate distance from the centerline of each of the primary alternative routes are presented in Table 4-4 and in Appendix D of the EA, and the locations of these electronic installations are shown in Appendices C-D of the EA. For additional information on electronic installations, see Section 2.3.7.7 and Section 4.7.7 of the EA. None of the routes filed in this Application are anticipated to have any impact on the existing communication towers.

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.

   URS' review of federal and state aviation/airport maps and directories, aerial photo interpretation, and reconnaissance surveys identified the Caldwell Municipal Airport with a runway length of greater than 3,200 feet in length within 20,000 feet of the primary alternative routes. In addition, one private airstrip and the private Weber Ranch Airport with a runway length of 3,200 feet or less were identified within 10,000 feet of one or more of the primary alternate routes. There are no FAA-registered airports or military
airstrips with runways shorter than 3,200 feet within 10,000 feet of any of the primary alternative routes. One FAA-registered heliport, the Burleson County Hospital Heliport, was identified within 5,000 feet of one or more of the the primary alternative routes. Each airport/airstrip/heliport is listed and described with the approximate distance from the centerline of each of the primary alternative routes in Table 4-3 and Appendix D of the EA. These facilities are shown on Figures 2-6 and Appendices C-D of the EA. For additional information on airports/airstrips/heliports, see Section 2.3.7.6 and Section 4.7.6 of the EA.

No significant impacts to these airports/airstrips/heliports are anticipated from construction of the Proposed Project. Following approval of a route by the PUCT, LCRA TSC 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 FAA, could include changes in the line design and/or potential requirements to mark and/or light the structures.

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.

Based on URS’ review of aerial photography and field reconnaissance, no primary alternative route of the Proposed Project crosses any known cropland or pastureland irrigated by traveling irrigation systems, either rolling or pivot type.

25. Notice:
Notice is to be provided in accordance with 16 TAC § 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 copy of the written notice, with attachments, mailed to owners of directly affected land is included as Attachment 7 to the Application. A list of the names and addresses of those owners of directly affected land to whom notice was mailed by first-class mail is included as Attachment 8 to this Application. LCRA TSC determined the names of the landowners of record and their mailing addresses based on information obtained from the Burleson County Appraisal District.
B. Provide a copy of the written notice to utilities that are located within five miles of the routes.

A copy of the written notice sent to utilities located within five miles of the Proposed Project is included as Attachment 9 to this Application. LCRA TSC additionally sent notice of the Application to owners/operators of petrochemical pipelines parallel and adjacent to primary route segments included in the Application, as well as the railroad owners whose facilities are parallel and adjacent to any primary route segments. The names and addresses of utilities, pipeline owners/operators, and railroads to whom written notice was sent are included in Attachment 10, pages 1, 5, and 6, to this Application.

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/.

A copy of the written notice sent to county and municipal authorities and the Department of Defense Siting Clearinghouse is included as Attachment 9 to this Application. The names and addresses of county and municipal authorities to whom the written notices were sent are included in Attachment 10, page 2 to this Application. LCRA TSC additionally sent notice of the Application to the Texas Office of Public Utility Counsel, independent school district officials (identified in Attachment 10, page 3), the Department of Defense Siting Clearinghouse, and state and federal elected officials (identified in Attachment 10, page 4).

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 copy of the public notice that will be published in the Burleson County Tribune (a newspaper of general circulation in Burleson County where the transmission facilities are to be constructed) once for one week after the Application is filed with the PUC is included as Attachment 11 to the Application. Publisher's affidavits will be filed with the PUC showing proof of notice as soon as available after filing of the Application.

For a CREZ application, in addition to the requirements of 16 TAC § 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

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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.

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.

URS reviewed U.S. Geological Survey topographic maps, TxDOT county highway maps, recent aerial photography, and conducted field reconnaissance to identify parks and recreation areas within the study area. Based on this review, URS identified two parks or recreational areas, the Copperas Hollow Country Club and a TxDOT Rest Area, located within 1,000 feet of the centerline of one or more of the primary alternative routes.

For more information on parks and recreational areas see Sections 2.3.7.3 and Section 4.7.3 of the EA. No significant impacts to the use or enjoyment of the parks and recreation facilities located within the study area are anticipated from any of the primary alternative routes.

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.

URS conducted a literature review and records search at the Texas Historical Commission and The Texas Archeological Research Laboratory at the University of Texas at Austin to identify known historical and archaeological sites located within 1,000 feet of the centerline of each of the primary alternative routes. For more information regarding site descriptions and the evaluation of the historical and archaeological sites located within the study area, see Section 2.3.9 and Section 4.8 of the EA.

Based on URS' review, 14 historic resources are located within 1,000 feet of a primary alternative route, including six Official Texas Historical Markers and eight cemeteries. In addition, five archaeological sites are located within 1,000 feet of a primary alternative route. These sites are listed and described with the approximate distance from the
centerline for each of the primary alternative routes in Tables 4-5 and 4-6, and Appendix D of the EA. For the protection of these sites, they are not shown on the routing maps.

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 TAC §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 TAC §19.2(a)(21). Using the designations in 31 TAC §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

No part of any primary alternative route is located within the Coastal Management Program boundary, as defined in 31 TAC §503.1.

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 applicant shall file an affidavit confirming that the letter of transmittal and studies/assessments were sent to TPWD.

The EA describes the natural resources, cultural resources, land uses, and other sensitive areas that may occur within the study area. The EA also describes how the Proposed Project may impact such resources. Specifically, the EA includes data obtained from TPWD, including the Texas Natural Diversity Database (TXNDD) and information about Ecologically Significant Stream Segments (ESSS) in the study area.
LCRA TSC will provide a copy of the EA to TPWD within seven days after the Application is filed. A copy of the letter of transmittal of the EA to TPWD is provided as Attachment 12 to this Application. An affidavit confirming that the letter of transmittal and a copy of the EA were sent to TPWD will be filed with the PUC.

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.

A sworn affidavit is attached below.
AFFIDAVIT OF JUSTIN STRYKER

STATE OF TEXAS

Before me, the undersigned authority, Justin Stryker, being first duly sworn, deposes and states:

“My name is Justin Stryker. I am a Regulatory Case Manager for the Lower Colorado River Authority. I am over the age of twenty-one, and am competent to make the following affidavit:

On behalf of LCRA Transmission Services Corporation (LCRA TSC) and in my capacity as Regulatory Case Manager on the Cooks Point 138-kV Transmission Line Project, I am authorized to file and verify the CCN Application for LCRA TSC. I am personally familiar with the documents filed with this application, and I have complied with all the requirements contained in the application; furthermore, all such statements made and matters set forth herein with respect to LCRA TSC are true and correct.”

Justin Stryker
Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, a Notary Public in and for the State of Texas, this May day of 29, 2018.

Notary Public